THE AGENCY'S PROGRAMME AND BUDGET FOR 2001

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OVERVIEW

Introduction

1. The year 2001 is a transitional year — for two reasons. First, the programme and budget proposals are for one year only. This is to permit the synchronization of the Agency's cycle with those of other organizations in the United Nations system as of the 2002–2003 biennium. The purpose of doing so is to permit better resource planning with UNOV and UNIDO, and better programme co-ordination with bodies such as FAO, WHO and UNEP. Moreover, starting with the 2002–2003 cycle, the biennial programming concept will be implemented in full, and this will be complemented by biennial budgeting as soon as the amendment to Article XIV of the Statute enters into force.

2. Second, the Agency is in the process of developing a new result based approach to programme formulation which is expected to be fully implemented for the 2002–2003 biennium, and which will reflect the 'three pillars' concept. The current document incorporates the initial steps in the transition to this new approach.

3. The programme proposed for the year 2001 reflects — to the extent possible — the priorities indicated in the Medium Term Strategy (MTS) and the comments made thereon by Member States. The MTS will be reflected more fully in the programme and budget for the 2002–2003 biennium.

4. The ever increasing demands on the programme are such that the overall level of the proposed budget is set not by the cost of the full programme of priority work that the Agency is requested by the Member States to carry out, but rather by the limitation imposed by the prevailing principle of zero real growth. Consequently, there has been a significant increase in the dollar amount of proposed Unfunded Regular Programme Activities (URPAs).

Programme Formulation

5. As mentioned above, the Agency is developing a new approach to programme planning and formulation, a result based approach in which:

   — programme formulation is closely tied to a set of predefined objectives and expected results;

   — resource requirements are derived from and linked to the expected results;

   — actual results are assessed against performance indicators.

6. As an initial step in the implementation of this new approach to programme formulation, several features are being incorporated for the first time in the programme and budget document:

   — First, a 'rationale' has been provided at the major programme, programme and subprogramme levels and, in some cases, at the project level. Explanations are given as

to why the Agency is carrying out the activities listed in the programme and, to the extent possible, which target groups in Member States will benefit from the outputs. An assessment is given, where relevant, of the appropriateness of the Agency being the lead organization in the proposed activities.

— Second, performance indicators are given at the programme and subprogramme levels; and for Programme L (Safeguards), they are given also at the project level. This reflects progress from the 1999–2000 programme, for which such indicators were provided (for the first time) at the programme level only.

— Finally, the prioritization of the Agency's activities has been based on:

- statutory responsibilities and legal commitments;
- decisions of the Policy-making Organs and other expressions of priority attached by Member States to various activities, including comments by Member States on the Draft Programme and Budget for 2001;
- recommendations of standing and other review and advisory bodies (Senior Expert Group, PPAS evaluation groups) with precedence obviously being given to the statutory and policy considerations referred to above.

7. The proposals contained in this document are the result of external and internal reviews of the Agency's programmes and an assessment of future demands for Agency services and of the needs and interests of Member States. As noted above, the MTS has provided useful guidance.

8. The programme narratives follow the same general format throughout the document, with the rationale, objective, key programme trends and key resource trends being given for all major programmes, and, with the addition of performance indicators, also for programmes and subprogrammes. In the case of Programme L (Safeguards), however, it was felt desirable, given the size of the projects relative to those in other programmes and the interest expressed by Member States in receiving more detailed information on safeguards activities, that project descriptions be provided as well. For this purpose, an appendix containing project information has been added to the narrative of Programme L.

Programme Highlights

Major Programme 1: Nuclear Power and Fuel Cycle

9. Within Major Programme 1, the highest priority has been given to Programme B (Nuclear Fuel Cycle and Waste Management Technology), with an increase in resources ($255 000) compared to 2000. It is followed in terms of priority by Programme A (Nuclear Power), where the 2000 level in resources is maintained, and then by Programme C (Comparative Assessment for Sustainable Energy Development), for which resources have been reduced. This is in line with the recommendation of the PPAS evaluation of this major programme. The specific areas which are strengthened in Programme B are spent fuel management (including technical co-operation activities in this field), and disposal of radioactive waste. In the nuclear power area (Programme A), increased emphasis is given to the optimization of the overall performance of nuclear power

plants and life management and decommissioning. Continuing priority is given to work on seawater desalination and the identification of reactor design features which contribute to non-proliferation goals. A special effort is made to co-ordinate international programmes on innovative reactors, particularly in relation to small and medium sized reactors. In Programme C on comparative assessment, there is a shift in emphasis from energy modelling and databanks to energy, economy and environment analysis.

Major Programme 2: Nuclear Sciences and Applications

10. A review of Major Programme 2 has been initiated and will be fully reflected in the 2002–2003 programme and budget. For 2001, and as indicated by the PPAS evaluation of this major programme, the following four areas will be emphasized: food and agriculture, human health, hydrology and the environment.

11. In order to concentrate efforts on research and development of the highest priority, the overall number of CRPs has been reduced. The emphasis given to isotope hydrology (Subprogramme F.4) is reflected in an increased resource allocation. Programmes F (Marine Environment and Water Resources) and G (Applications of Physical and Chemical Sciences) have been restructured to better distribute the activities.

12. In Programme D (Food and Agriculture), the areas of insect and pest control (Subprogramme D.4) and plant breeding and genetics (Subprogramme D.2) have been accorded significantly greater resources. In Marine Environment and Water Resources, activities within Subprogramme F.1 aimed at addressing the development of underwater gamma spectrometry for remote monitoring of areas impacted by radioactive releases will be strengthened. It is anticipated in Programme G that activities related to assisting Member States in the field of industrial applications will increasingly be incorporated in the technical co-operation programme. Increasing emphasis has been placed on disseminating information on quality assurance in nuclear measurements through CD-ROMs and the Internet.

Major Programme 3: Nuclear, Radiation and Waste Safety

13. The emphasis will continue to shift from the development of standards to the application of these standards through the rendering of services and support for technical co-operation activities. Given that most of the individual projects include activities under both headings — development and application of standards — there is no net change in resources resulting from this shift. In the area of nuclear safety (Programme H), increased attention is given to strengthening regulatory authorities, and the development of safety assessment tools and their inclusion in safety review services. Also, additional assistance will be rendered in enhancing the capabilities of Member States to assess operational safety and safety culture. The increased resources allocated to these topics result in an overall increase in Programme H of $236 000. Research reactor safety will continue to receive emphasis; the slight reduction of resources in this area results from the recent completion of a particular CRP.

14. As a response to General Conference resolutions, the focus in radiation safety (Programme I) is on the safety of radiation sources and security of radioactive materials, and the provision of services relating to the safe transport of radioactive material. Increased resources in the amounts of $152 000 and of $72 000 respectively have been allocated to activities related to the “Action

Plan on the Safety of Radiation Sources and the Security of Radioactive Material", and in the area of radiation emergencies.

15. In the waste safety area (Programme J), the emphasis will continue to be on the completion of Safety Standards publications covering the safe disposal of solid wastes. Additional effort is required to respond to the continued international concern for protection of the environment and to the need for Agency guidance on all safety aspects of decommissioning in view of the increasing number of nuclear power and research reactors reaching the end of their useful lives. Increased resources of approximately $81 000 have been allocated to the safe decommissioning of installations with radioactive substances; however, the overall resource level in Programme J remaining unchanged compared to the 2000 budget.

Major Programme 4: Nuclear Verification and Security of Material

16. The highest priority of Programme L (Safeguards) for 2001 will be the implementation of existing safeguards agreements; priority will also be given to the integration of safeguards measures performed under the Additional Protocol with the measures carried out under existing safeguards agreements. These activities are part of the Agency's efforts to further improve the effectiveness and efficiency of the safeguards system.

17. The year 2001 will also be the first full year in which the Additional Protocol is expected to be in force for a significant number of States. This, together with the workload associated with traditional safeguards activities, will place a significant strain on the financial and human resources of Programme L and this situation will continue until the assurances provided by the Additional Protocol are sufficient to allow the full implementation of safeguards integration measures on a large scale with a consequent reduction in traditional measures.

18. As part of the effort to modernize safeguards equipment, the Agency will continue in 2001 to acquire and install equipment for: (a) upgrading obsolete surveillance systems with digital technology; and (b) providing remote monitoring capabilities where and when economically justified. Safeguards equipment is of major importance to enable the Agency to monitor, communicate, control, measure and report accurately and efficiently. However, owing to the constraints of a zero real growth budget, only items indispensable for performing fundamental verification activities, corresponding to roughly 40% of the total equipment requirement of $19.3 million for the safeguards programme, have been included in the regular budget request. Consequently, the acquisition of the remaining high and medium priority equipment ($11.8 million), most of which is listed under Unfunded Regular Programme Activities (URPAs), will continue to rely on voluntary contributions from Member States and potential savings during programme implementation.

19. Programme M (Security of Material) will continue to assist Member States in the protection of nuclear and other radioactive material from unlawful or unauthorized activities that could pose a non-proliferation threat, or endanger health and safety. This assistance will be provided through exchange of information and the provision of standards and guides, training, expert assistance and equipment. Member States will also be provided with the knowledge and tools to detect and respond to such incidents. The regular budget estimate ($1 082 000) has been kept at the 2000 level and is sufficient to cover only the minimum staff to carry out the programme and maintain the necessary interaction with Member States. Thus, the programme will require an increase in extrabudgetary resources for 2001.

Major Programme 5: Management of Technical Co-operation for Development

20. Key trends for this major programme include:

    — Better identification and prioritization of the needs and interests of Member States requiring more proactive efforts by the Secretariat with national authorities and other donors, relative to those at the level of individual institutions.

    — A major influence on the skills demanded of staff due to the new management focused approach introduced at the end of 1999 pursuant to which the Technical Co-operation Department will continue to focus on the overall management of the programme and the delivery of outputs. A full partnership between staff in the different Departments will be pursued in the context of a matrix management structure.

    — The conception and design, at the regional level, of an increasing number of activities which, when implemented, have an impact at the national level. Furthermore, an increasing number of resources used for programme delivery will be sought from within the region where the programme is being delivered, including, for example, experts, training facilities and services. This requires additional knowledge of regional capabilities and the ability on the part of the Secretariat to play the role of a facilitator.

Major Programme 6: Policy Making, Management and Support Services

21. While not a programme restructuring as such, it is important to note that the financial resources required for the immediate offices of the Deputy Directors General (DDsG) with responsibility for Major Programmes 1 through 5 have been reallocated from Programme O (Executive Management) to the corresponding major programmes. This change, which is made as part of the Agency's move to full programme budgeting, will also increase transparency by showing the full costs of delivery of those programmes. The details of the related budgetary transfers are set out in the table at the end of this overview (columns 2 and 3). It will be noted that the name of this major programme has been changed slightly from "Policy Making, Co-ordination and Support" to "Policy-making, Management and Support Services" to better reflect the activities carried out under it.

22. The main programme developments under this major programme are the creation of the Division of Conference and Document Services, to improve efficiency and co-ordination, and improvements in Agency-wide information technology systems, both under Programme T (Information Management and Support Services). Particular emphasis under Programme R (Administration) will be placed on increasing the number of women in the Professional and higher categories and improving representation from under-represented and non-represented countries. Financial resources for these activities are provided by transfers between programmes and subprogrammes, and savings within this major programme.

23. In Subprogramme Q.1 (Legal Activities), increased emphasis will be given to the preparation by Member States of national nuclear legislation, including that relating to the implementation of international conventions. In addition, there will be continued involvement in the development of

Safety Standards, and continued legal support will be provided in connection with the implementation of strengthened safeguards.

Resource Highlights

24. As explained in the Introduction to the Overview, the policy of zero real growth is maintained for the regular budget for the Agency's programmes as a whole. There have, however, been shifts in resources both between and within the major programmes. Proposed increases in nuclear safety ($130 000), technical co-operation ($90 000) and nuclear energy ($50 000) are to be funded from reductions of $86 000 in Major Programme 2 (Nuclear Sciences and Applications) and $184 000 in Major Programme 6 (Policy-Making, Management and Support Services). The details of the changes are set out below.

25. The resources proposed for Major Programme 1 (Nuclear Power and Fuel Cycle) have been increased by $50 000 compared with 2000. This amount, supplemented by $205 000 due to a decrease in Programme C, has been allocated to Programme B. Thus, the total increase in Programme B compared with 2000 amounts to $255 000. These adjustments reflect the priority ranking of the three programmes as recommended in the PPAS review.

26. As a result of rationalization and improved efficiency, a reduction has been made in the number of CRPs and the allocations for continuing CRPs in Major Programme 2. This has made possible a reduction of $86 000 in the requirements for this major programme.

27. Resources for Major Programme 3 show an increase of $130 000 compared with 2000. This amount, coupled with a reduction of $168 000 for Programme K, allowed the allocation of additional resources to Programme H ($236 000) for the enhancement of regulatory activities and to Programme I ($62 000) for strengthening activities in the areas of the safety of radiation sources and the security of radioactive material and radiation emergencies.

28. The regular budget resources required for Major Programme 4 remain unchanged from the 2000 approved budget, while activities listed under URPAs have been increased vis-à-vis the 2000 estimates by $1.3 million to $14 901 000. Extrabudgetary contributions from Member State Support Programmes are expected to increase by $3.4 million compared with the 2000 level; the total support would be $7 921 000.

29. The resource requirements for Programme U (Verifications in Iraq Pursuant to UNSC Resolutions) are estimated at $10 650 000 for 2001, $7 650 000 above the provision in the Agency's budget for 2000. This refers to the work the Agency carries out on the basis of UNSC Resolution 1284 and other relevant resolutions. This full cost estimate is consistent with figures provided for 1999 and 2000 in document GOV/INF/1999/4 of 24 February 1999. The funding of this extrabudgetary activity for 2001 is subject to new arrangements to be agreed upon by the United Nations Security Council and, therefore, there is no assurance that the total amount will be received. It should be noted that showing this cost estimate as part of the Agency's total extrabudgetary requirements departs from the present budget practice of only showing estimates that are relatively assured (in the 2000 budget, for example, only $3 million are indicated as part of the current arrangement with the United Nations). Furthermore, unlike the usual extrabudgetary resources, which are relied on owing to a lack of regular budget resources, this programme is meant to be covered fully by Iraq, through UNSC funds, regardless of the Agency's

regular budget funding status. Therefore, it was felt that it was important to show the full cost of the Agency's mandate in Iraq, as an exception to the current policy on presentation of the budget.

30. While the level of regular budget resources allocated to Major Programme 5 has remained essentially constant over the past few years, the number of countries receiving assistance has increased significantly. An increase of $90 000 in resources is foreseen in the year 2001 in order to accommodate this increasing workload to serve immediate priority needs while maintaining the level of effectiveness already attained.

31. There will be an overall reduction of some $2.4 million in the resources for Major Programme 6. This comprises: a technical reduction of $2.2 million — as set out in the table below — due to the transfer of the allocations for the offices of the DDsG responsible for Major Programmes 1 through 5 to their respective major programmes, and a reduction of $184 000 compared with the 2000 level in the resources for the major programme due to new efficiency and economy measures being introduced in Programme T (Information Management and Support Services), resulting in a net allocation to Major Programme 6 of $65 654 000.

32. Notwithstanding the reduced scope for efficiency gains and savings in administrative and operating costs, the search to identify such gains continues, as is evidenced by the following additional savings: (1) a reduction in the cost of Translation Services by approximately $270 000 compared with the 2000 approved budget, through the more efficient use of modern technology, and (2) net savings of approximately $100 000 in Library Services, as a result of economy measures. These savings have been utilized for additional staff related costs in Q.1 (Legal Activities), and activities under Subprogramme R.2 (Personnel Management) aimed at increasing the number of women in the Professional and higher categories and improving representation from under-represented and non-represented countries. Also, through the reduction in charges for translation services, Major Programmes 3, 4 and 5 were able to redeploy some resources to other programmatic activities.

33. Even though the resource request under Major Programme 6 represents only a relatively small reduction compared with the 2000 level, there are some important activities that could not be accommodated within the major programme resources owing to the constraints imposed by zero real growth. These other requirements have been listed under URPAs and include: $350 000 for the Equipment Replacement Fund 2005; $1 500 000 for the Agency’s annual share of UNIDO’s ten year preventive maintenance and replacement programme; and $250 000 for enhancements to the new Agency Financial Information Management System (AFIMS).

Summary of Budgetary Requirements

34. The proposed budget figures are shown in the table below, which also gives details of the budgetary adjustments arising from the transfer referred to in paras. 21 and 31 of the cost of the DDsG offices from Programme O to Major Programmes 1 to 5.

2001 Proposed Regular Budget

US$

Major Programme	2000 Budget			Incr./(Decr.) over 2000	2001 proposed estimates at 2000 prices	Price increase %	2001 proposed estimates at 2001 prices
	Approved GC(43)/6	DDsG Offices	After adjustment				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Nuclear Power and Fuel Cycle	12 514 000	468 000	12 982 000	50 000	13 032 000	1.3	13 198 000
2 Nuclear Sciences and Applications	32 118 000	544 000	32 662 000	(86 000)	32 576 000	1.5	33 076 000
3 Nuclear, Radiation and Waste Safety	14 600 000	397 000	14 997 000	130 000	15 127 000	1.5	15 350 000
4 Nuclear Verification and Security of Material	81 568 000	321 000	81 889 000	—	81 889 000	1.3	82 983 000
5 Management of Technical Co-operation for Development	12 851 000	499 000	13 350 000	90 000	13 440 000	1.5	13 641 000
6 Policy-making, Management and Support Services	68 067 000	(2 229 000)	65 838 000	(184 000)	65 654 000	1.8	66 845 000
Total regular budget for Agency programmes	221 718 000	—	221 718 000	—	221 718 000	1.5	225 093 000
Unfunded Regular Programme Activities [1/]	17 668 000	—	17 668 000	1 535 000	19 203 000		19 203 000
Extrabudgetary resources [1/]	16 256 000	—	16 256 000	11 475 000 [2/]	27 731 000		27 731 000
Total	255 642 000	—	255 642 000	13 010 000	268 652 000		272 027 000

1/ Price adjustments are not applied to Unfunded Regular Programme Activities or to extrabudgetary funded activities.

2/ Includes increase of $7 650 000 from $3 000 000 in 2000 to $10 650 000 in 2001 for Programme U — see para. 29.

Explanatory Notes on the Programme and Budget for 2001

1. In accordance with Article XIV.A of the Statute, the Agency's programme and budget estimates for the year 2001 are submitted to the General Conference by the Board of Governors, which requests the General Conference to adopt the draft resolutions set forth in Annex I.

Regular Budget

2. The budget estimates for the year 2001 have been based on an exchange rate of 12.70 Austrian schillings to one United States dollar, the same as used for the 2000 approved budget. In line with the split appropriation and assessment system, the US dollar is used to enable the estimates to be presented in a single currency, even though they are, mainly, Austrian schilling based with only a small element linked to the US dollar. Presenting the budget estimates at the same US dollar/Austrian schilling rate of exchange for a number of consecutive years facilitates comparison of estimates for different years.

3. The regular budget for 2001, adjusted to reflect the price levels applicable for 2001, amounts to $229 984 000. Of this total, the resources for *Agency programmes* amount to $225 093 000; while the remainder of $4 891 000 is for reimbursable work to be performed for others. When estimated at 2000 prices, the regular budget for 2001 is $226 509 000, or $182 000 above the level of the budget for 2000. $221 718 000 of this total, however, is foreseen for Agency programmes, which is the same level as 2000; the balance of $4 791 000 represents reimbursable work for others. As usual, the amount shown for reimbursable work for others will be offset completely by income from the services provided to other international organizations or other Funds.

4. To facilitate comparisons, in the paragraphs describing key programme trends and financial resources for the individual programmes, the proposed resource levels, as well as increases or decreases compared with the 2000 budget, are stated in real terms, i.e. at 2000 prices.

Programme Structure

5. The structure at the major programme level is the same as for the 2000 budget. There have, however, been important changes in the programme and subprogramme structure reflecting the priorities referred to in para. 6 of the Overview. Subprogramme F.5 (Industrial Applications) has been transferred to Programme G (now called Applications of Physical and Chemical Sciences) and merged with Subprogramme G.5, now titled Radioisotopes and Radiation Technology. Also, Conference Services, previously R.4, has been merged with T.4 (previously Publishing Services) as Conference and Publishing Services. For purposes of comparison, the budgetary allocations in the 2000 budget for programmes, subprogrammes and projects affected by these changes have been adjusted and are referred to in tables and texts as the 2000 adjusted budget.

Unfunded Regular Programme Activities (URPAs)

6. The activities listed under URPAs are those which: are closely linked to statutory obligations; are directly or indirectly in response to decisions or resolutions of the Policy-making Organs; are in response to recommendations by standing advisory groups; or are essential to support the Agency's operational activities. The aggregate resources requirement for URPAs for 2001, $19 203 000, compares with $17 668 000 in the 2000 budget, an increase of $1 535 000.

7. Approximately 78%, or $14 901 000, of the total requirement for URPAs in 2001 are related to activities in Major Programme 4 which, although of considerable importance, could not be accommodated within the regular budget. The equipment requirement listed in URPAs under this major programme amounts to approximately $11 200 000. This amount includes resources for upgrading obsolete surveillance systems with digital technology, for acquisition of equipment to provide remote monitoring capabilities, and for acquiring computer and communications equipment.

8. Notwithstanding the importance of the activities listed under URPAs, they could not be accommodated within the expected level of regular budget funding owing to the imbalance between that level and the overall volume of programmatic requirements. The activities listed under URPAs are included in this document to draw this situation to the attention of Member States and with a view to attracting extrabudgetary funds. To the extent that savings may be achieved in programme implementation, it may also be possible to fund such activities from the relevant appropriation of the regular budget. These URPAs are listed separately for adoption by the Board, so that they may be implemented without further formalities or delay should regular budget savings materialize or voluntary contributions be made available in the course of the implementation period.

9. The activities listed under URPAs are shown in the tables presenting the resources by programme, subprogramme and project. A summary table is included as Annex V.

Extrabudgetary Resources

10. The estimated extrabudgetary funds for year 2001 activities amount to $27 731 000, an increase of $11 475 000 over the year 2000. The estimate comprises two distinct sources of funds: (a) contributions from Member States or organizations other than those in the United Nations system (see Table 4); and (b) contributions from the United Nations system organizations. The latter amount to just under $14 000 000, or 50% of the total, and include the activities undertaken jointly with FAO and UNEP under Programmes D (Food and Agriculture) and F (Marine Environment and Water Resources), respectively, as well as activities pertaining to the Iraq Action Team pursuant to UNSC Resolutions.

11. The budget tables include, at the project level, amounts of extrabudgetary resources expected to be available for the Agency to carry out its programme in 2001, but do not include reference to prospective donors. This information is summarized in Table 3. Table 4 provides details by donor country. In the latter table, the heading "Member State not yet identified" signifies that although funds have been promised by a particular Member State, a written commitment has not yet been received.

12. The increase in the requirement for extrabudgetary funding, referred to in para. 10, is due largely to requirements for Programme U (Verification in Iraq Pursuant to UNSC Resolutions). The amount included for the latter, $10 650 000, for the first time provides for implementation of the entire programme estimated for 2001.

Technical Co-operation Programme

13. The provision of technical assistance by the Agency to its developing Member States is financed from the Technical Co-operation Fund (TCF), which receives its income mainly in the form of voluntary contributions, for which a target is set each year by the Board of Governors. The target figure for voluntary contributions to the TCF for 2001 has yet to be established by the Board of Governors. The tentative forecast for the technical co-operation programme for 2001, however, amounts to $70 997 000, as indicated in Table 3, and comprises: (a) $65 000 000 for estimated core project funding and $1 800 000 for other activities (miscellaneous and programme reserve); (b) $4 097 000 for the estimated implementation levels of extrabudgetary (footnote-a/) activities; and (c) $100 000 under UNDP projects.

14. Following consultations with the External Auditor about current procedures for reporting the cost of the fellowship programme at the Agency's laboratory at Seibersdorf, a new procedure has been adopted. Since the fellowships are in the nature of a reimbursable activity on behalf of the Technical Co-operation Fund, they will in future be handled in a manner similar to that for other reimbursable activities such as the Radiation Protection or Translation Services carried out by the Agency. The new procedure will involve an increase of $200 000 in reimbursable work for others but will have no other budgetary significance.

Working Capital Fund

15. The General Conference approved a Working Capital Fund of $18 000 000 for 2000 and no change is proposed for 2001. There are indications, however, that this level of funding may no longer be adequate for the purpose intended. These indications include the high level of programme implementation evident from 1999 actual expenditure and also the impact of delays in receipt of Member States' contributions. This matter will need to be examined further in connection with the preparation of the programme and budget for the next biennium.

Comparison with Actual 1999 Expenditures

16. To facilitate comparison with the budget estimates for 2001, actual expenditures for 1999 are presented in Table 1 at the same exchange rate, i.e. 12.70 Austrian schillings to 1.0 United States dollar, as used in preparing the present programme and budget proposals. They are not, therefore, identical with the figures for actual expenditure which appear in the Accounts, and the Programme and Budgetary Performance Report (PBPR) for 1999, for which different exchange rates were applied. In accordance with established procedures, in those documents the disbursements are recorded at the United Nations exchange rate for the month in which they were incurred and unliquidated obligations are reported at the exchange rate for December of the year in question. Actual 1999 expenditures have also been adjusted in accordance with the programme structure proposed for 2001, reflecting in particular the transfer of the costs of the offices of the

Deputy Directors General from Major Programme 6 to the major programmes for which they are responsible i.e. Major Programmes 1 to 5 as appropriate.

Major Items of Expenditure in the Regular Budget

17. The largest item of expenditure is, of course, staff costs, which accounts for approximately 70% of the regular budget. In order to take into account the actual requirements in individual programmes as accurately as possible, the projection of staff costs is based on the cost (grade and step) of present incumbents and the forecast of staff turnover. While programme implementation makes it desirable to fill vacant posts with minimum delay, some delays in recruitment cannot be avoided. The time that posts are expected to be vacant during the budget year (lapse and lag) is taken into account and the budget estimate for posts is reduced accordingly.

18. Common Staff Costs (CSCs) include various non-salary costs which are related to the employment of a staff member. The largest item of CSCs is the Agency's contribution to pension funds (mostly United Nations Joint Staff Pension Fund, but also including the Austrian Pension Insurance Scheme and other national or private pension schemes), which at present corresponds to approximately 48% of the total. The second largest item is health insurance, which corresponds to approximately 12%. The other items included in the CSCs at the Agency comprise: accident and unemployment insurance; dependency, end of service and housing allowances; grants in respect of assignment, repatriation and dependants education; travel on recruitment, repatriation, etc.; removal of household effects; commutation of accrued annual leave; contribution to interagency activities; and other miscellaneous activities.

19. In the United Nations, in contrast to the practice in the Agency, contributions to interagency activities (e.g. Joint Inspection Unit, Consultative Committee on Administrative Questions) are not listed under CSCs. The amount involved for the Agency was around $400 000 in 1999, and has been significantly above this figure in other years. A study by the Secretariat into the possibility of allocating these costs outside the CSCs is being conducted.

20. Programme S (General Services) covers VIC operating costs and cost of supplies and equipment required for the day-to-day operation of the organization (e.g. minor office supplies and furniture). Direct costs incurred by programmes (specific equipment such as personal computers, staff travel and travel by consultants and meeting participants, and research contracts) are charged to programmes on an individual basis.

21. The allocations for translation, printing and some data processing services are apportioned between users on the basis of utilization patterns. Requests for services beyond existing capacity and budget limits will be outsourced and market rates will be charged to users.

Staffing Table Changes

22. No posts additional to the approved staffing table for 2000 — authorizing a total of 1791 established posts — are foreseen under the proposals for 2001. Based on an internal review, it was concluded that four P-3 posts and two GS posts, no longer needed in the language Sections of the Division of Conference and Document Services, can be moved to the post reserve. The requirement for two new Professional posts — specialists for operational safety and for safety culture — will be accommodated through transfer from the post reserve. The financial resources

required to fund the new posts have been moved from the item of expenditure "temporary assistance" to "salaries — established posts — P". In addition, some posts have been reclassified according to the ICSC reclassification standards for Professional posts, including the conversion of six General Service posts to Professional posts as a result of programmatic requirements. The staffing table, adjusted accordingly, is included as Table 69.

Price Adjustments for 2001

23. The methodology applied to estimate the price adjustments in the present document follows the policy of "semi-full budgeting", which has been recognized by the United Nations and its various review bodies, e.g. the Joint Staff Inspection Unit. In this methodology, the trends and expectations for salaries and related expenditures, which depend on index movements, are taken into account. For all other items, the actual increases recorded during the past year are recovered. For the year 2001, the proposed average price adjustment over the 2000 approved budget level is 1.5%.

24. In estimating future price adjustments for salaries, the actual movement of salaries in the past year is compared with the increases that had been assumed in the budget for that year and differences are taken into account, together with the forecast of the ICSC for the following year. The methodology differs for Professional category and General Service category salaries.

25. For Professional salaries, an adjustment of 1% over the 2000 budget has been applied based on the following: (a) while current information available from the ICSC suggests that an adjustment of 1.5% may be appropriate for 2000, only 1.4% has been included for that year in price levels in the draft programme and budget for 2001; however, no adjustment is proposed to capture this minor shortfall; (b) for 2001, an adjustment of 1% is included since, based on the cost of living forecast, a post adjustment increase of that amount would arise in 2001. More accurate adjustment rates for Professional staff salaries will be known only during the first quarter of 2001, following the report on an ICSC cost of living survey in Vienna to be carried out later this year.

26. General Service staff salaries are based on the Consumer Price Index in Austria and "Tariflohn" (the Austrian minimum salary scale adjustment factor). Recent CPI and Tariflohn movements indicate that interim adjustments of 1.75% and 1.6% respectively are appropriate for 2000 and 2001. Since 2% was applied to calculate the estimates for the year 2000, the net adjustment for General Service salaries will be 1.3%.

27. The challenge, by the Staff Association, to the gradual discontinuance (upon decision of the ICSC) of the language factor component that had been included in salaries of General Service staff up to 1996 has been rejected by the ILO Administrative Tribunal in Geneva. The ruling of the Tribunal, which became available in February 2000, means the saving of an estimated $3 000 000 which would otherwise have had to be reflected as a price increase in the 2001 budget estimates.

28. With regard to Common Staff Costs (CSCs), the actual amounts expended have been increasing since 1997, as shown in the table below, owing to the increase in US dollar related costs, including higher contributions following an increase in the Professional pensionable remuneration scale. The CSC percentage of salary costs has also increased from 40.9% to 42.2% owing to the fact that total salary costs have been decreasing in dollar terms as a result of the strengthening of the US dollar against the Austrian schilling. In view of these trends and the underfunding in the

budgetary provision compared with actual expenditure for 1999, it is considered necessary to increase the CSC budgetary provision by 0.5% from 39.5% to 40% for 2001. The proposed overall price adjustment of 1.5 % reflects this CSC percentage increase.

Actuals	1995	1996	1997	1998	1999
Total Common Staff Costs	**43 684.2**	**44 430.9**	**43 831.8**	**44 036.8**	**44 719.9**
Total salaries at year end	122 370.1	121 540.2	108 830.2	108 454.7	105 411.3
Actual CSC% (at actual exchange rate)	35.7%	36.6%	40.3%	40.6%	42.4%
Exchange rate US$=ATS	10.03	10.51	12.04	12.40	12.8671
Actuals CSC% (at US$=ATS 12.7)	38.8%	38.8%	40.9%	41.0%	42.2%

29. For staff travel and non-staff travel, a review of the relevant price movements suggests that a price increase of 3.3%, or in excess of $500 000, would be justifiable. It is proposed, however, not to include the increase but rather to absorb it through more efficient planning and procurement of travel.

30. Increases in equipment (leased and purchased) and supplies and materials are based on price experience over the previous twelve months. Actual prices movements indicate that increases of 1.1%, 1.4% and 2.4% respectively are appropriate.

31. An increase in ceiling rates for hospitality, as a result of price increases granted from August 1999 after 8 years of no change, will be phased in, resulting in an increase of $10 600 (5.3%) in representation and hospitality for 2001.

32. Since 1991, interpretation services have been provided by UNOV to the Agency, which is charged with actual costs. On the basis of increases in these charges, a price increase of 5.1% is appropriate for this item.

33. The item of expenditure ‘contracts’ includes contractual consultant services, sample analytical services, and external editing and translation. The external wage index indicates that an average increase of 3.1% is appropriate over all contract areas for most programmes.

34. Since, for items other than staff costs, the actual increases experienced in the previous year are applied to the next budget (i.e. with a two year delay), the question of comparing projections with actual increases does not arise. The 1998 actual increases were applied to the 2000 budget and now the 1999 actual increases will be applied to 2001.

Report on the Budget to the General Assembly of the United Nations

35. In accordance with Article XVI of the Agency’s relationship agreement with the United Nations (INFCIRC/11, part I), the budget will be reviewed by the Advisory Committee on Administrative and Budgetary Questions (ACABQ), which will report on the administrative aspects thereof to the General Assembly of the United Nations.

List of Abbreviations

ACSS	Advisory Commission for Safety Standards
AFIMS	Agency's Financial Information Management System
AFRA	African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology
AGM	Advisory Group meeting
AGRIS	Agricultural Information System
AIRS	Advanced Incident Reporting System
ANS	American Nuclear Society
ANSR	Annual Nuclear Safety Review
AMS	Accelerator Mass Spectrometry
A & M data	Atomic and Molecular data
ALADDIN	A Labeled Atomic Data Interface
AQCS	Analytical Quality Control Service
ARCAL	Regional Co-operative Arrangements for the Promotion of Nuclear Science and Technology in Latin America
AS	Austrian Schilling
ASCOT	Assessment of Safety Culture in Organizations Team
ASSET	Assessment of Safety Significant Events Team
ASTM	American Society for Testing and Materials
ATMES	Atmospheric Transport Model Evaluation Study
ATWR	Advanced Technologies for Water Cooled Reactors
AWCR	Advanced water cooled reactor
BSS	Basic Safety Standards for Radiation Protection
CANDU	Canada deuterium-uranium [reactor]
CDM	Core discharge monitor
CEG	Contact Expert Group
CHECIR	Chernobyl Centre for International Research
CIAMDA	Computer Index of Atomic and Molecular Data
CINDA	Computer Index of Neutron Data
COM	Computer Output Microfiche
CONCERT	Concertation of European Regulators
CRP	Co-ordinated research project
CS	Consultants' services
C/S	Containment and surveillance
CT	Computed tomography
CTBT	Comprehensive Test Ban Treaty
DDG-MT	Office of the Deputy Director General for Management
DDG-NA	Office of the Deputy Director General for Nuclear Sciences and Applications;
DDG-NE	Office of the Deputy Director General for Nuclear Energy
DDG-NS	Office of the Deputy Director General for Nuclear Safety
DDG-SG	Office of the Deputy Director General for Safeguards
DDG-TC	Office of the Deputy Director General for Technical Co-operation
DECADES	Databases and Methodologies for Comparative Assessment of Different Energy Sources for Electricity Generation
DNA	Deoxyribonucleic acid
EC	European Commission
EDA	Engineering Design Activities (ITER)
EEDB	Energy and Economic Database
ELISA	Enzyme linked immunosorbent assay
ENDF	Evaluated Nuclear Data File
ENPEP	Energy and Power Evaluation Programme
ENSDF	Evaluated Nuclear Structure Data File

ERF	Equipment Replacement Fund
ERS	Emergency Response System
ESR	Electron spin resonance
ESTRO	European Society for Therapeutic Radiology and Oncology
ETEX	European Tracer Experiment
EURATOM	European Atomic Energy Community
EXFOR	Experimental Exchange Format
EXPO	Office of External Relations and Policy Co-ordination
FAO	Food and Agriculture Organization of the United Nations
FBR	Fast breeder reactor
FCCC	Subsidiary Bodies to the Framework Convention on Climate Change
FENDL	Fusion Evaluated Nuclear Data Library
FR	Fast reactor
FUMEX	Fuel modelling at extended burnup
GC-IRMS	Gas chromatography isotopic ratio mass spectrometry
GCR	Gas cooled reactor
GEF	Global Environment Fund
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Pollution
GPA	Global Plan of Action for the Protection of the Marine Environment from Land-based Activities
GS	General Service category
HRAG	Human Resources Advisory Group
HTGR	High temperature gas cooled reactor
HWR	Heavy water moderated reactor
IA	Office of Internal Audit
IASAP	International Arctic Seas Assessment Project
IBRD	International Bank for Reconstruction and Development (World Bank)
ICGFI	International Consultative Group on Food Irradiation
ICPMS	Inductively coupled plasma mass spectrometer
ICRP	International Commission on Radiological Protection
ICRU	International Commission on Radiation Units and Measurements
ICSC	International Civil Service Commission
ICTP	Abdus Salam International Centre for Theoretical Physics
IDAS	International Dose Assurance Service
IEA	International Energy Agency (OECD)
IEC	International Electrotechnical Commission
IFMAP	Irradiated Fuel Management Programme
IFRC	International Fusion Research Council
IGCP	International Geological Correlation Programme
IIASA	International Institute for Applied Systems Analysis
ILCA	International Livestock Centre for Africa
ILO	International Labour Organisation
ILRAD	International Laboratory for Research and Animal Diseases
IMO	International Maritime Organization
INAA	Instrumental neutron activation analysis
INDAG	International Nuclear Desalination Advisory Group
INDC	International Nuclear Data Committee
INES	International Nuclear Event Scale
INIS	International Nuclear Information System
INSAG	International Nuclear Safety Advisory Group
INSARR	Integrated Safety Assessment of Research Reactors
INTURGEO	International Uranium Geology Information System
INWAC	International Radioactive Waste Management Advisory Committee
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPERS	International Peer Review Service
IPPC	International Plant Protection Convention

IPSN	Institut de protection et de sûreté nucléaire
IRC	Information Review Committee
IRMA	Immunoradiometric assay
IRPA	International Radiation Protection Association
IRRT	International Regulatory Review Teams
IRS	Incident Reporting System
IRSRR	Incident Reporting System for Research Reactors
ISI	In-service inspection
ISIS	IAEA Safeguards Information System
ISO	International Organization for Standardization
ITER	International Thermonuclear Experimental Reactor
ITER-EDA	ITER Engineering Design Activities
IUGS	International Union of Geological Sciences
IWG	International Working Group
IWG-ATWR	International Working Group on Advanced Technologies for Water Cooled Reactors
IWG-GCR	International Working Group on Gas Cooled Reactors
IWG-FR	International Working Group on Fast Reactors
IWG-HWR	International Working Group on Advanced Technologies for Heavy Water Moderated Reactors
IWG-LMNPP	International Working Group on Life Management of Nuclear Power Plants
IWG-LWR	International Working Group on Advanced Technologies for Light Water Reactors
IWG-NPPCI	International Working Group on Nuclear Power Plant Control and Instrumentation
JAERI	Japan Atomic Energy Research Institute
JNFL	Japan Nuclear Fuel Company Limited
JPO	Junior Professional Officer
Kd	Radionuclide distribution coefficient
LEU	Low enriched uranium
LMFBR	Liquid metal fast breeder reactor
London Convention	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972)
LWR	Light water reactor
MAED	Model for Analysis of Energy Demand
MBA	Material balance area
MEL	Marine Environment Laboratory, Monaco (IAEA)
MOSCAMED	Medfly Programme, Guatemala
MOX	Mixed oxide
MTBF	Division of Budget and Finance
MTCD	Division of Conference and Document Services
MTGS	Division of General Services
MTLG	Legal Division
MTMS	Office of Management Services
MTPE	Office of Programme Support and Evaluation
MTPI	Division of Public Information
MTPR	Division of Personnel
NAAL	Agency's Laboratories, Seibersdorf
NAFA	Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture
NAHU	Division of Human Health
NAML	IAEA Marine Environment Laboratory, Monaco
NAPC	Division of Physical and Chemical Sciences
NCS	Nucleonic control system
NDA	Non-destructive assay
NDE	Non-destructive evaluation
NDT	Non-destructive testing
NEA	OECD Nuclear Energy Agency
NEFW	Division of Nuclear Fuel Cycle and Waste Technology
NENP	Division of Nuclear Power
NESI	Division of Scientific and Technical Information

NFCIS	Nuclear Fuel Cycle Information System
NNW State	Non-nuclear-weapon State
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NSNI	Division of Nuclear Installation Safety
NSRW	Division of Radiation and Waste Safety
NSSCS	Safety Co-ordination Section (Nuclear Safety)
NUPAT	Nuclear Power Planning Advisory Team
NUSS	Nuclear Safety Standards
NUSSAC	Nuclear Safety Standards Advisory Committee
NWAL	Network of Analytical Laboratories
OECD	Organisation for Economic Co-operation and Development
OIE	Office international des épizooties
OLR	On-load reactor
OLADE	Organización Latinoamericana de Energía
OPEC	Organization of the Petroleum Exporting Countries
OSART	Operational Safety Review Team
PAHO	Pan American Health Organization
PARC	Pan-African Rinderpest Campaign
PBPR	Programme and Budgetary Performance Report
PCC	Programme Co-ordination Committee
PCR	Polymerase chain reaction
PDI	Person-day of inspection
PET	Positron emission tomography
PIXE/RBS	Proton induced X ray emission/Rutherford back scattering
PHWR	Pressurized heavy water reactor
PLAIRIE	Planned actual routine inspection effort
PMO	Policy-making Organs
PPAS	Programme Performance Assessment System
Pre-OSART	Pre-Operational Safety Review Team
PRIS	Power Reactor Information System
PSA	Probabilistic safety assessment
PSS	Procurement Services (Management)
RADEV	International Reporting System on Unusual Events with Radiation Sources
RADWASS	Radioactive Waste Safety Standards
RAPAT	Radiation Protection Advisory Team
RASSAC	Radiation Safety Standards Advisory Committee
RB	Regular Budget
RBMK	Light water cooled, graphite moderated reactor
RCA	Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (for Asia and the Pacific)
RCM	Research Co-ordination Meeting
RCS	Records and Communication Services (Management)
RDS	Reference Data Series
RIA	Radioimmunoassay
ROPME	Regional Organization for the Protection of the Marine Environment
RPS	Radiation Protection Services (Nuclear Safety)
SAGSI	Standing Advisory Group on Safeguards Implementation
SAGSTRAM	Standing Advisory Group on the Safe Transport of Radioactive Materials
SAGTAC	Standing Advisory Group on Technical Assistance and Co-operation
SAL	Safeguards Analytical Laboratory
SEC	Secretariat of the Policy-making Organs
SG	Safety Guide
SGCP	Division of Concepts and Planning
SGIT	Division of Information Treatment
SGOA	Division of Operations A
SGOB	Division of Operations B
SGOC	Division of Operations C

SGOP	Divisions of Operations
SGTS	Division of Technical Services
SGSEE	Effectiveness Evaluation Section (Safeguards)
SGSPR	Programme and Resources Section (Safeguards)
SIDA	Swedish International Development Agency
SIR	Safeguards Implementation Report
SIRSAG	Standing International Radiation Safety Advisory Group
SIT	Sterile insect technique
SM	Symposium
SPET	Single photon emission tomography
SPM	Specialists' meeting
SS	Safety Standards document number
SSAC	State System of Accounting for and Control of Nuclear Material
SSDL	Secondary Standard Dosimetry Laboratory
SSRC	Safety Series Review Committee
TA	Temporary assistance (staff)
TCF	Technical Co-operation Fund
TC	Technical Co-operation
TCM	Technical Committee meeting
TCPA	Division for Africa, and East Asia & the Pacific
TCPB	Division for Europe, Latin America and West Asia
TCPC	Division of Planning, Co-ordination and Evaluation
TCS	Section for Common Technical Services (Safeguards)
TECDOC	Publication in the Agency's Technical Document Series
TED	Section for Equipment Development Support (Safeguards)
TESS	Technical and Engineering Services (Administration)
TIM	Section for Equipment Installation and Maintenance (Safeguards)
Tlatelolco Treaty	Treaty for the Prohibition of Nuclear Weapons in Latin America
TLD	Thermoluminescence dosimetry
TRANSART	Transport Safety Advisory Review Team
TRANSSAC	Transport Safety Standards Advisory Committee
TRS	Technical Reports Series
TTR	Section for Safeguards Training (Safeguards)
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFSTD	United Nations Financing System for Science and Technology
UNIDO	United Nations Industrial Development Organization
UNIPEDE	International Union of Producers and Distributors of Electrical Energy
UNJSPF	United Nations Joint Staff Pension Fund
UNOV	United Nations Office at Vienna
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
UNSRC	United States Nuclear Regulatory Commission
URPA	Unfunded Regular Programme Activities
US-EPA	United States Environmental Protection Agency
VALORAGUA	Hydro/Thermal System Simulation Model
VAMP	Validation of Environmental Model Predictions
VIC	Vienna International Centre
WAMAP	Waste Management Advisory Programme
WANO	World Association of Nuclear Operators
WASSAC	Waste Safety Standards Advisory Committee
WASP	Wien Automatic System Planning Package
WATRP	Waste Management Assessment and Technical Review Programme
WEC	World Energy Council
WHO	World Health Organization
WMO	World Meteorological Organization

WTO	World Trade Organization
WWER	Water cooled and moderated reactor
XRF	X ray fluorescence

THE PROGRAMME BUDGET

THE REGULAR BUDGET

By Programme and Major Programme

Table 1

	Programme / Major Programme	1999 actual expenditure	2000 adjusted budget	Programme increase/(decr.)	%	2001 estimates at 2000 prices	Price incr. %	2001 with price increase
1.	**NUCLEAR POWER AND FUEL CYCLE**							
A.	Nuclear Power	4 684 751	4 579 000	-	-	4 579 000	1.2	4 636 000
B.	Nuclear Fuel Cycle and Waste Management Technology	5 375 908	5 508 000	255 000	4.6	5 763 000	1.2	5 835 000
C.	Comparative Assessment for Sustainable Energy Development	2 981 473	2 895 000	(205 000)	(7.1)	2 690 000	1.4	2 727 000
	Major Programme 1	13 042 132	12 982 000	50 000	0.4	13 032 000	1.3	13 198 000
2.	**NUCLEAR SCIENCES AND APPLICATIONS**							
D.	Food and Agriculture	10 749 450	10 878 000	(30 000)	(0.3)	10 848 000	1.4	11 004 000
E.	Human Health	6 105 341	6 143 000	(39 000)	(0.6)	6 104 000	1.9	6 218 000
F.	Marine Environment and Water Resources	5 850 107	5 866 000	57 000	1.0	5 923 000	1.6	6 020 000
G.	Applications of Physical and Chemical Sciences	9 715 295	9 775 000	(74 000)	(0.8)	9 701 000	1.4	9 834 000
	Major Programme 2	32 420 193	32 662 000	(86 000)	(0.3)	32 576 000	1.5	33 076 000
3.	**NUCLEAR, RADIATION AND WASTE SAFETY**							
H.	Nuclear Safety	5 836 604	5 884 000	236 000	4.0	6 120 000	1.7	6 224 000
I.	Radiation Safety	3 563 363	3 696 000	62 000	1.7	3 758 000	1.3	3 805 000
J.	Radioactive Waste Safety	2 249 657	2 239 000	-	-	2 239 000	1.3	2 267 000
K.	Co-ordination of Safety Activities	2 939 034	3 178 000	(168 000)	(5.3)	3 010 000	1.5	3 054 000
	Major Programme 3	14 588 658	14 997 000	130 000	0.9	15 127 000	1.5	15 350 000
4.	**NUCLEAR VERIFICATION AND SECURITY OF MATERIAL**							
L.	Safeguards	80 138 433	80 807 000	-	-	80 807 000	1.3	81 890 000
M.	Security of Material	935 544	1 082 000	-	-	1 082 000	1.0	1 093 000
U.	Verification in Iraq Pursuant to UNSC Resolutions (Extrabudgetary Funding Only)	-	-	-	-	-	-	-
	Major Programme 4	81 073 977	81 889 000	-	-	81 889 000	1.3	82 983 000
5.	**MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT**							
N.	Management of Technical Co-operation for Development	13 142 851	13 350 000	90 000	0.7	13 440 000	1.5	13 641 000
	Major Programme 5	13 142 851	13 350 000	90 000	0.7	13 440 000	1.5	13 641 000
6.	**POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES**							
O.	Executive Management	2 615 474	3 014 000	7 000	0.2	3 021 000	1.4	3 064 000
P.	Services for Policy-making Organs	6 528 478	6 461 000	(340 000)	(5.3)	6 121 000	1.9	6 237 000
Q.	Legal Activities, External Relations and Public Information	6 420 493	6 888 000	91 000	1.3	6 979 000	1.7	7 095 000
R.	Administration	11 829 572	11 970 000	40 000	0.3	12 010 000	1.9	12 234 000
S.	General Services	22 618 399	22 770 000	(94 000)	(0.4)	22 676 000	1.8	23 080 000
T.	Information Management and Support Services	14 558 292	14 735 000	112 000	0.8	14 847 000	1.9	15 135 000
	Major Programme 6	64 570 708	65 838 000	(184 000)	(0.3)	65 654 000	1.8	66 845 000
	Agency Programmes	218 838 519	221 718 000	-	-	221 718 000	1.5	225 093 000
	Plus: Reimbursable Work for Others	5 066 745	4 609 000	182 000	3.9	4 791 000	2.1	4 891 000
	Total Regular Budget	223 905 264	226 327 000	182 000	0.1	226 509 000	1.5	229 984 000
	Less: Miscellaneous Income:							
	Reimbursable Work for Others		4 609 000	182 000	3.9	4 791 000	2.1	4 891 000
	Other Miscellaneous Income		4 478 000	(269 000)	(6.0)	4 209 000	0.9	4 246 000
	Assessment on Member States		217 240 000	269 000	0.1	217 509 000	1.5	220 847 000

THE REGULAR BUDGET

Summary of Income

Table 2

	1999 Actuals	2000 with price adjustments	Increase (decrease)	2001 with price adjustments
(+) Assessed contributions on Member States	213 162 777	217 240 000	3 607 000	220 847 000
(+) Miscellaneous income				
(a) Reimbursable work for others				
Data processing services	1 193 894	854 000	(30 000)	824 000
Printing services	1 480 460	982 000	216 000	1 198 000
Medical services	651 806	766 000	14 000	780 000
Library services	1 170 693	1 292 000	(56 000)	1 236 000
Radiation protection and Monitoring Services	90 005	93 000	1 000	94 000
Translation services	56 861	54 000	1 000	55 000
Nuclear Fusion Journal	423 026	568 000	(64 000)	504 000
Laboratory services	-	-	200 000	200 000
Sub-total	5 066 745	4 609 000	282 000	4 891 000
(b) Other				
Attributable to specific programmes				
Publications of the Agency - INIS	82 959	164 000	(99 000)	65 000
Publications of the Agency - other	453 666	550 000	(75 000)	475 000
Laboratory income	160 852	160 000	(30 000)	130 000
INIS - Direct Access income	6 808	60 000	(20 000)	40 000
Amounts recoverable under Safeguards agreements	322 972	400 000	30 000	430 000
Programme support income	123 404	57 000	(38 000)	19 000
Other Service income	3 285	2 000	-	2 000
Sub-total	1 153 946	1 393 000	(232 000)	1 161 000
Not attributable to specific programmes				
Investment and interest income	3 947 446	2 550 000	-	2 550 000
Gain (Loss) on exchange of currencies	(2 157 217)	-	-	-
Other	508 673	535 000	-	535 000
Sub-total	2 298 902	3 085 000	-	3 085 000
Sub-total	3 452 848	4 478 000	(232 000)	4 246 000
Total Miscellaneous Income (a) + (b)	8 519 593	9 087 000	50 000	9 137 000
(=) TOTAL	221 682 370	226 327 000	3 657 000	229 984 000

TOTAL RESOURCES FOR IMPLEMENTATION IN 2001

Table 3

	Programme / Major Programme	Regular Budget estimates at 2001 prices	Funds from other UN organizations a_/	Other extra-budgetary resources	TC Programme b_/	Total
1.	**NUCLEAR POWER AND FUEL CYCLE**					
A.	Nuclear Power	4 636 000	-	686 000	3 301 000	8 623 000
B.	Nuclear Fuel Cycle and Waste Management Technology	5 835 000	-	605 000	4 422 000	10 862 000
C.	Comparative Assessment for Sustainable Energy Development	2 727 000	-	-	829 000	3 556 000
	Major Programme 1	13 198 000	-	1 291 000	8 552 000	23 041 000
2.	**NUCLEAR SCIENCES AND APPLICATIONS**					
D.	Food and Agriculture	11 004 000	2 572 000	659 000	11 039 000	25 274 000
E.	Human Health	6 218 000	-	-	11 356 000	17 574 000
F.	Marine Environment and Water Resources	6 020 000	626 000	330 000	4 955 000	11 931 000
G.	Applications of Physical and Chemical Sciences	9 834 000	-	13 000	8 846 000	18 693 000
	Major Programme 2	33 076 000	3 198 000	1 002 000	36 196 000	73 472 000
3.	**NUCLEAR, RADIATION AND WASTE SAFETY**					
H.	Nuclear Safety	6 224 000	-	2 078 000	6 413 000	14 715 000
I.	Radiation Safety	3 805 000	-	100 000	6 387 000	10 292 000
J.	Radioactive Waste Safety	2 267 000	-	250 000	1 433 000	3 950 000
K.	Co-ordination of Safety Activities	3 054 000	-	126 000	-	3 180 000
	Major Programme 3	15 350 000	-	2 554 000	14 233 000	32 137 000
4.	**NUCLEAR VERIFICATION AND SECURITY OF MATERIAL**					
L.	Safeguards	81 890 000	-	6 875 000	-	88 765 000
M.	Security of Material	1 093 000	-	1 046 000	814 000	2 953 000
U.	Verification in Iraq Pursuant to UNSC Resolutions (Extrabudgetary Funding Only)	-	10 650 000	-	-	10 650 000
	Major Programme 4	82 983 000	10 650 000	7 921 000	814 000	102 368 000
5.	**MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT**					
N.	Management of Technical Co-operation for Development	13 641 000	-	310 000	10 477 000 c_/	24 428 000
	Major Programme 5	13 641 000	-	310 000	10 477 000	24 428 000
6.	**POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES**					
O.	Executive Management	3 064 000	-	-	-	3 064 000
P.	Services for Policy-making Organs	6 237 000	-	-	-	6 237 000
Q.	Legal Activities, External Relations and Public Information	7 095 000	-	805 000	665 000	8 565 000
R.	Administration	12 234 000	-	-	-	12 234 000
S.	General Services	23 080 000	-	-	-	23 080 000
T.	Information Management and Support Services	15 135 000	-	-	60 000	15 195 000
	Major Programme 6	66 845 000	-	805 000	725 000	68 375 000
	Agency Programmes	225 093 000	13 848 000	13 883 000	70 997 000	323 821 000
	Plus: Reimbursable Work for Others	4 891 000	-	-	-	4 891 000
	Total Budget	229 984 000	13 848 000	13 883 000	70 997 000	328 712 000
	SOURCE OF FUNDS:					
	Assessment on Member States	220 847 000	-	-	-	220 847 000
	Income from reimbursable work for others	4 891 000	-	-	-	4 891 000
	Other miscellaneous income	4 246 000	-	-	-	4 246 000
	Other UN organizations	-	13 848 000	-	100 000 d_/	13 948 000
	Technical Co-operation Fund	-	-	-	66 800 000	66 800 000
	Extrabudgetary Programme	-	-	13 883 000	4 097 000 e_/	17 980 000
	Total Budget	229 984 000	13 848 000	13 883 000	70 997 000	328 712 000

a_/ Funds from FAO, UNEP, UN, but excluding UNDP (see d_/).

b_/ TC Fund, UNDP and the expected footnote a_/ project funding.

c_/ Amount consists mainly of the programme reserve and miscellaneous expenses and costs for human resources development.

d_/ UNDP only.

e_/ The $ 4 097 000 shown in Table 4 as expected from donors will be used to finance footnote a_/ projects.

EXTRABUDGETARY RESOURCES 2000 - 2001 a_/

(as estimated on 15 March 2000)

Table 4

		Unused balances as at 1 January 2000	2000 Estimate	2001 Estimate
1. NUCLEAR POWER AND FUEL CYCLE				
Programme A - Nuclear Power				
Canada	NENP	30 386	-	-
Germany	NENP	90 932	-	-
Japan	NENP	-	-	-
Korea, Republic of	NENP	8 921	-	-
United States of America	NENP	115 726	10 000	-
Project on "Technical and Economic Feasibility of Nuclear Desalination"	NENP	64 358	-	-
Member States not yet identified	NENP	-	330 000	686 000
	NENP	310 323	340 000	686 000
Programme B - Nuclear Fuel Cycle and Waste Management Technology				
Contact Expert Group	NEFW	54 068	100 000	100 000
Japan	NEFW	259 813	480 000	-
Spain	NEFW	36 571	80 000	-
United States of America	NEFW	97 885	17 000	-
Member States not yet identified	NEFW		40 000	505 000
	NEFW	448 337	717 000	605 000
Programme C - Comparative Assessment for Sustainable Energy Development				
France	NE/PESS	13 087	-	-
United States of America	NE/PESS	93 902	-	-
	NE/PESS	106 989	-	-
Major Programme 1		865 649	1 057 000	1 291 000

EXTRABUDGETARY RESOURCES 2000 - 2001 a_/

(as estimated on 15 March 2000)

Table 4

		Unused balances as at 1 January 2000	2000 Estimate	2001 Estimate
2. NUCLEAR SCIENCES AND APPLICATIONS				
Programme D - Food and Agriculture				
Austria	NAFA	3 032	-	-
Belgium	NAFA	57 160	200 000	200 000
European Union (EU)	NAFA	-	236 000	236 000
France	NAFA	19 707	-	-
Germany	NAFA	86 266	68 000	68 000
International Consultative Group on Food Irradiation (ICGFI)	NAFA	200 162	155 000	155 000
Italy	NAFA	25 974	-	-
Netherlands	NAFA	52 947	-	-
Sweden	NAFA	1 838	-	-
World Phosphate Institute (IMPHOS)	NAFA	34 934	-	-
United States of America	NAFA	520	-	-
	NAFA	482 540 b_/	659 000 b_/	659 000 b_/
Programme E - Human Health				
Germany	NAHU	92 389	-	-
Italy	NAHU	3 096	-	-
Japan	NAHU	78 108	-	-
United States of America	NAHU	132 788	-	-
	NAHU	306 381	-	-
Programme F - Marine Environment and Water Resources				
Australia/EU	NAML	7 631	8 000	-
European Union (EU)	NAML	-	133 000	-
France	NAML	14 351	-	-
Germany	NAML	4 470	-	-
Intergovenmental Oceanographic Commission (IOC)	NAML	-	50 000	-
Italy	NAML	5 575	-	-
Japan	NAML	733 009	-	-
Principality of Monaco	NAML	194 279	138 000	150 000
Regional Organization for the Protection of the Marine Environment (ROPME)	NAML	9 994	-	-
Sweden	NAML	68 458	-	-
United Kingdom	NAML	48 845	-	-
United States of America	NAML	116	-	-
Member States not yet identified	NAML	-	60 000	180 000
	NAML	1 086 728 b_/	389 000 b_/	330 000 b_/
Programme G - Applications of Physical and Chemical Sciences				
Italy	NAPC	54 103	-	-
Japan	NAPC	139 269	8 000	8 000
South Africa	NAPC	5 000	5 000	5 000
United Kingdom	NAPC	318	-	-
	NAPC	198 690	13 000	13 000
Major Programme 2		2 074 339	1 061 000	1 002 000

EXTRABUDGETARY RESOURCES 2000 - 2001 a_/

(as estimated on 15 March 2000)

Table 4

		Unused balances as at 1 January 2000	2000 Estimate	2001 Estimate
3. NUCLEAR, RADIATION AND WASTE SAFETY				
Programme H - Nuclear Safety				
Australia	NSNI	38 614	-	-
Canada	NSNI	439	-	-
Italy	NSNI	36 290	-	-
Japan	NSNI	1 475 027	135 000	93 000
Netherlands	NSNI	11 484	-	-
Slovakia	NSNI	47 206	-	132 000
Spain	NSNI	38 396	60 000	-
Sweden	NSNI	28 376	-	-
United Kingdom	NSNI	62 041	-	-
United States of America	NSNI	676 607	55 000	-
Member States not yet identified	NSNI	-	1 686 000	1 853 000
"Extrabudgetary Project on the Safety of WWER and RBMK Nuclear Power plants"	NSNI	32 296	-	-
	NSNI	2 446 776	1 936 000	2 078 000
Programme I - Radiation Safety				
France	NSRW	71 402	100 000	-
Japan	NSRW	89 538	-	-
United States of America	NSRW	126 173	-	-
Member States not yet identified	NSRW	-	118 000	100 000
	NSRW	287 113	218 000	100 000
Programme J - Radioactive Waste Safety				
France	NSRW	40 664	-	-
Japan	NSRW	-	250 000	-
Korea, Republic of	NSRW	2 032	-	-
United States of America	NSRW	23 529	-	-
Member States not yet identified	NSRW	-	-	250 000
	NSRW	66 225	250 000	250 000
Programme K - Co-ordination of Safety Activities				
Japan	NSSCS	140 440	128 000	-
United States of America	NSSCS	50 000	-	-
Member States not yet identified	NSSCS	-	-	126 000
	NSSCS	190 440	128 000	126 000
Major Programme 3		2 990 554	2 532 000	2 554 000

EXTRABUDGETARY RESOURCES 2000 - 2001 a_/

(as estimated on 15 March 2000)

Table 4

		Unused balances as at 1 January 2000	2000 Estimate	2001 Estimate
4. NUCLEAR VERIFICATION AND SECURITY OF MATERIAL				
Programme L - Safeguards				
Canada		186 729	407 000	387 000
Finland		52 954	-	20 000
France		1 317 406	143 000	490 000
Germany		366 419	382 000	1 237 000
Japan		94 597	127 000	143 000
United Kingdom		94 151	-	-
United States of America		4 615 857	2 336 000	4 459 000
Member States not yet identified		-	279 000	139 000
	SG	6 728 113	3 674 000 c_/	6 875 000 c_/
Programme M - Security of Material				
Finland	SGOC	-	120 000	124 000
Germany	SGSM	167 811	200 000	200 000
Japan	SGTS	49 060	-	-
Sweden	SGTS	1 105	-	-
United Kingdom	SGTS	51 965	-	-
United States of America	SGTS	687 504	573 000	674 000
United States of America	SGIT	76 867	-	48 000
		1 034 312	893 000	1 046 000
Programme U - Verification in IRAQ Pursuant to UNSC Resolutions				
Canada		22 771	-	-
Finland		366 647	-	-
France		94 914	-	-
United Kingdom		16 022	-	-
		500 354 b_/	- b_/	- b_/
Major Programme 4		8 262 779	4 567 000	7 921 000

EXTRABUDGETARY RESOURCES 2000 - 2001 a_/

(as estimated on 15 March 2000)

Table 4

		Unused balances as at 1 January 2000	2000 Estimate	2001 Estimate
5. MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT				
Programme N - Management of Technical Co-operation For Development				
Germany	TCPB	86 000	70 000	70 000
Germany	TCPC	19 909	-	-
Japan	TCPA	24 036	72 000	-
Japan	TCPB	2 241	-	-
United States of America	TCPA	14 540	-	-
United States of America	TCPB	23 868	-	-
United States of America	TCPC	4 172	-	-
Member States not yet identified		-	-	240 000
		174 766	142 000	310 000
Major Programme 5		174 766	142 000 b_/	310 000 b_/
6. POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES				
Programme O - Executive Management		-	-	-
Programme P - Services for Policy-making Organs				
United Kingdom		8 554	-	-
		8 554	-	-
Programme Q - Legal Activities, External Relations and Public Information				
Australia	EXPO	7 499	-	-
Japan	MTPI	542 416	619 000	-
United States of America	MTPI	(777)	-	-
Member States not yet identified	MTPI	-	90 000	805 000
	MTPI	549 138	709 000	805 000
Programme R - Administration				
Germany	MTBF	4 359	-	-
		4 359	-	-
Programme S - General Services		-	-	-
Programme T - Information Management and and Support Services		-	-	-
Major Programme 6		562 051	709 000	805 000
AGENCY'S PROGRAMMES b_/		14 930 138	10 068 000 d_/	13 883 000 d_/

EXTRABUDGETARY RESOURCES 2000 - 2001 a_/

(as estimated on 15 March 2000)

Table 4

	Unused balances as at 1 January 2000	2000 Estimate	2001 Estimate	
Technical Assistance and Co-operation				
For TC Projects b_/ d_/				
Australia	380 994	404 000	307 000	
Chile	17 098	10 000	10 000	
China	215 984	133 000	50 000	
Colombia	1 180	-	-	
Czech Republic	265	41 000	-	
France	506 974	150 000	150 000	
Germany	37 405	-	-	
Indonesia	37 300	-	-	
Japan	540 518	270 000	270 000	
Korea, Republic of	328 624	59 000	59 000	
Malaysia	64 748	10 000	10 000	
New Zealand	12 906	-	-	
Netherlands	31 840	-	-	
OPEC Fund	6 802	100 000	100 000	
Philippines	35 001	5 000	5 000	
Spain	233 064	403 000	403 000	
Sri Lanka	5 059	-	-	
Thailand	27 080	-	-	
United Kingdom	224 854	25 000	100 000	
United States of America	2 003 046	2 333 000	2 333 000	
Member States not yet identified	-	300 000	300 000	
	4 710 742	4 243 000	4 097 000	e_/

Note: Most contributions still require parliamentary approval.

a_/ In addition to the cash resources indicated above, Member States make contributions in kind consisting of cost-free experts and consultants, stipends for fellowships, training courses, etc.

b_/ Does not include contributions from the UN organizations. See Table 3.

c_/ The total does not include any funds received or expected for Unfunded Regular Programme Activities.

d_/ Firm commitments have already been received in some but not all cases. It is expected that the total level finally received will be approximately as shown.

e_/ These figures are not included in the total extrabudgetary resources since they are incorporated in the TC resources shown in Table 3.

Major Programme 1
Nuclear Power and Fuel Cycle

Major Programme Rationale

Major Programme 1 is the core scientific and technological programme supporting the Agency's central objective which is embodied in the Statute, namely "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity" and "to foster scientific and technical information on peaceful uses of atomic energy".

The process of charting the strategies, priorities and objectives of Major Programme 1 has been guided by the resolutions of the General Conference and the decisions of the Board of Governors, the recent reviews of the Senior Expert Group (SEG) and PPAS, and has also taken stock of the new realities and challenges, in particular with regard to the present and future generation of nuclear power plants, dealing with the problems of the fuel cycle and radioactive waste and defining the role of nuclear energy for sustainable energy development and climate protection.

Dealing primarily with nuclear power and nuclear fuel cycle technology development and implementation, Major Programme 1 constitutes an important component of the "Technology pillar" of the Agency's Medium Term Strategy. The programme is the main place to accumulate and maintain a core competence, necessary for the implementation of the other important undertakings of the Agency such as Safety, Safeguards and Technical Cooperation.

As the organization within the United Nations system dealing with the peaceful uses of nuclear energy, the Agency has been assigned a mandate to assist Member States in the implementation of their national programmes for nuclear power utilization, the associated fuel cycle and the management of radioactive waste. The Agency continues to be asked to support Member States who are interested in introducing economically sound and environmentally safe nuclear power programmes for sustainable energy development. It is also asked to co-ordinate international projects in the area of nuclear power, fuel cycle, waste management and comparative assessment of different energy sources.

Major Programme Objectives

To maintain a core competence in the area of nuclear energy technology and to support Member States interested in the peaceful utilization of nuclear power and its safe and economic use for sustainable energy development, particularly the developing countries.

This major programme consists of three programmes

A. Nuclear Power
B. Nuclear Fuel Cycle and Waste Management Technology
C. Comparative Assessment for Sustainable Energy Development

Key Major Programme Trends

Among the general trends valid for most of the Member States using nuclear power or developing the nuclear fuel cycle, three will be of particular importance to Major Programme 1:

— The large majority of countries which have developed and are using nuclear power for electricity generation will continue to do so. Optimization of nuclear power plant performance and plant life management, and/or decommissioning will be of primary importance to them. Maintaining the nuclear

infrastructure, including human resources and knowledge preservation, and development of innovative nuclear power technology will play an important role in keeping the nuclear option open as an important energy source for the future, alongside other energy sources.

— The appropriate solution to the back end of the nuclear fuel cycle, in particular the safe storage of spent fuel, disposal of high level waste, the decommissioning of nuclear facilities and resolution of plutonium issues in a manner acceptable and useful to society constitutes yet another area where this major programme can serve Member States.

— Providing Member States with a consistent and balanced view, based on the economics, safety, risk and sustainability of nuclear power versus the other electricity generating technologies, while addressing key problems such as air quality, regional acidification, climate change and health consequences, will serve them in their decision making processes and assist them in building their own analytical capacity. Achieving the requisite role for the Agency among the other United Nations organizations and the international community in the context of Agenda 21, will require that a high level of competence be maintained in this area.

Key Major Programme Resource Trends

The total resources for Major Programme 1 amount to $13 032 000, which reflects an increase of $50 000 over 2000 levels. The formulation of the programme and the attribution of priorities within the programme areas follow the recommendations of the PPAS review of Major Programme 1 which were that the level of funding must not be decreased and that any saving achieved through efficiency and through mergers must be retained within the major programme. Within this area, resources for Programme A have been maintained at 2000 levels. Resources for Programme B show an increase of $255 000, or 4.6%, over 2000 levels to strengthen activities in waste disposal, spent fuel management, and international solutions for the back end of the fuel cycle and waste management. Programme C shows a corresponding reduction in resources of $205 000, or 7.1%, compared with 2000 levels.

MAJOR PROGRAMME 1

NUCLEAR POWER AND FUEL CYCLE

Summary of total resources for 2001 by programme

Table 5

	Programme / Major Programme	Staffing P	Staffing GS	Regular Budget estimates at 2001 prices	URPA	Funds from other UN organizations	Other extra-budgetary resources	TC Programme a_/
A.	Nuclear Power	15.8	10.4	4 636 000	121 000	-	686 000	3 301 000
B.	Nuclear Fuel Cycle and Waste Management Technology	20.8	10.8	5 835 000	120 000	-	605 000	4 422 000
C.	Comparative Assessment for Sustainable Energy Development	10.4	5.9	2 727 000	50 000	-	-	829 000
	Major Programme 1	47.0	27.1	13 198 000	291 000	-	1 291 000	8 552 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Programme Rationale

Global electricity demand is projected to more than triple in the next 50 years. Nuclear power, which currently produces about 16% of the world's electricity and avoids about 8% of global carbon emission compared to fossil fuel generation, may maintain its role or play a larger role in the future energy mix. As stressed by the SEG and the PPAS review of Major Programme 1, the Agency is the appropriate forum for the exchange of information on developments in nuclear power and the right organization for the co-ordination of international activities in this field.

The programme seeks to assist Member States in planning and implementing nuclear power programmes in an integrated manner through international co-operation on advances in technology and developments in safety, reliability and economic competitiveness, in strengthening human and technical infrastructures, and in optimizing nuclear power plant overall performance and plant life through the application of best practices in technology and engineering.

Some developing Member States without nuclear infrastructures are showing interest in implementing nuclear power programmes, in particular using small and medium sized reactors (SMRs), and have requested Agency assistance in integrated planning and implementation. The development of SMRs will also facilitate the expanded use of nuclear energy for non-electrical applications, such as seawater desalination.

Nearly ten thousand reactor-years of nuclear power plant operating experience have been accumulated, forming the basis for technology improvement in current designs and future development of advanced reactors with enhanced safety characteristics and emerging nuclear energy systems.

As nuclear power plants age, plant life optimization and decommissioning aspects are becoming increasingly important. With the ageing of the work force, many Member States are increasingly requesting Agency assistance in preserving knowledge on the design, construction and operation of nuclear power plants and the competence of the nuclear power industry.

Programme Objective

To have state-of-the-art guidance and best practices in designing and implementing national nuclear power programmes, promoting comprehensive management of nuclear power plants for excellence in overall performance implemented in Member States; and to maintain a forum for information exchange in all areas of nuclear power engineering and technology development, including evolutionary and innovative reactors of all types and their applications.

Programme Performance Indicators

- Extent to which Agency recommendations on improvement of infrastructure and overall nuclear power plant performance are implemented.
- Interest in international co-operation in the implementation and development of SMRs, including their use for seawater desalination.
- Utilization of publications, software and databases by Member States.
- Requests for direct service missions from Member States.

This programme consists of two subprogrammes

A.1. Nuclear Power Planning, Implementation and Performance
A.2. Nuclear Power Reactor Technology Development

Key Programme Trends

On the basis of recommendations made by the SEG, and the PPAS review on Major Programme 1 and Subprogramme A.1, the seven projects under Subprogramme A.1 in the previous cycle have been integrated into four projects covering nuclear power planning and implementation, optimization of nuclear power plant overall performance, and nuclear power plant life management including decommissioning. Activities related to quality assurance/quality management have been incorporated into all four projects.

In order to reflect the resolution adopted by the General Conference and the objectives formulated in the Medium Term Strategy, as well as recommendations of the SEG and PPAS review on Major Programme 1, eight projects under Subprogramme A.2 in the previous cycle have been rationalized into five projects in 2001, with emphasis on SMR development, technology developments for advanced reactors, transmutation of actinides and long lived fission products, and nuclear desalination.

Rationalization will result in a reduction in the number of technical meetings. Internet forums and/or e-mail consultancies will be increasingly organized, while the number of CRPs will increase in accordance with the recommendation of the PPAS review on Major Programme 1.

Key Programme Resource Trends

The proposed resources for Programme A in 2001 are $4 579 000, reflecting the same level as 2000. The newly proposed ‘matrix management system’ will provide for more efficient use of scarce human resources with higher flexibility in responding properly to the changing needs of Member States. Extrabudgetary resources of $686 000 are expected to support the activities of this programme.

PROGRAMME A: NUCLEAR POWER

Summary of Regular Budget Estimates by Subprogramme

Table 6

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
A.1	Nuclear Power Planning, Implementation and Performance	2 621 000	(7 000)	(0.3)	2 614 000	1.3	2 647 000
A.2	Nuclear Power Reactor Technology Development	1 958 000	7 000	0.4	1 965 000	1.2	1 989 000
Programme A - Nuclear Power		4 579 000	-	-	4 579 000	1.2	4 636 000

A.1. Nuclear Power Planning, Implementation and Performance

Subprogramme Rationale

The global nuclear power trends envisage future growth occurring mostly in Member States in the Asia and Pacific region. Some developing Member States without adequate nuclear infrastructure are showing interest in the introduction of nuclear power in their electricity grids through the use of small and medium sized reactors (SMRs). Economic liberalization, privatization and deregulation are driving efforts to achieve excellence in overall nuclear power plant (NPP) performance in a competitive manner with due regard to safety. As NPPs and work forces age, plant life optimization, including decommissioning, and preservation of knowledge and competence in the nuclear power sector are becoming increasingly important. In response to this global environment, the focus and the scope of activities have been adjusted as recommended by the SEG and the PPAS review on Major Programme 1 and Subprogramme A.1, the MTS and various International Working Groups (IWGs). It has also been recognized that the Agency is the only intergovernmental organization with the necessary mandate, constituency and technical expertise to assist decision makers, utility executives and experts in Member States in effectively addressing evolving needs.

Subprogramme Objective

To achieve planning and implementing nuclear power programmes in Member States in an integrated manner by systematically improving the overall performance and competitiveness of NPPs, and by optimizing plant service life with due regard to safety through the application of technological and engineering best practices, including quality assurance/quality management.

Subprogramme Performance Indicators

- Demand for Agency publications, software and databases on NPP overall performance and operational lifetime, including economic competitiveness in a deregulated electricity market and the extent of their utilization by end users.
- Extent to which Agency recommendations and guidance are followed by and incorporated in Member State strategies and programmes on nuclear power programme planning and implementation.
- Use of Agency assistance for improvement of NPP operational lifetime.

The subprogramme consists of four projects

A.1.01. *Nuclear Power Planning and Implementation* — to assist Member States in planning and implementing nuclear power programmes (with focus on SMRs) in an integrated manner, applying technological and engineering best practices, including quality assurance/quality management, and utilizing relevant databases.

A.1.02. *Optimization of NPP Overall Performance* — to systematically improve the overall performance and competitiveness of NPPs with due regard to safety through the application of technological and engineering best practices including quality assurance/quality management and the utilization of relevant databases.

A.1.03. *NPP Life Management Including Decommissioning* — to optimize plant service life, including decommissioning, through the application of technological and engineering best practices including quality assurance/quality management and the utilization of relevant databases.

A.1.04. *Support to Technical Co-operation Activities* — to provide technical support for the Agency's technical co-operation programme.

Key Subprogramme Trends

On the basis of the recommendations of the SEG, PPAS reviews and the MTS, some adjustments have already been made in the changes for the 2000 programme and budget by regrouping tasks following the PPAS review of Subprogramme A.1. Further adjustments have been made in the scope and focus of some tasks. Full implementation of the recommendations in terms of the objectives and structure of the subprogramme is proposed for the 2001 programme cycle, where:

— Most of tasks under 1999–2000 projects on "Management of NPP Operations in a Competitive Environment" and on "NPP Control and Instrumentation" will be completed at the end of the year 2000, while some relevant issues related to competitiveness will be further addressed. Some important issues related to ongoing modernization of I&C systems and training simulators will be included in the project on "Optimization of NPP Overall Performance" and substantial modernization and replacement of I&C systems into the project on "NPP Life Management Including Decommissioning" as appropriate.

— 1999–2000 projects on "Nuclear Power Programme Planning and Economic Analysis" and on "Nuclear Power Programme Implementation" have been merged into one project on "Nuclear Power Planning and Implementation".

— The project on "NPP Life Management" will be strengthened with the inclusion of activities on decommissioning as recommended by the PPAS review of Major Programme 1.

— Activities related to performance based quality assurance programmes, quality/project management and economic analysis will be strengthened and incorporated into all three projects as appropriate.

The other trends in the subprogramme are:

— Rationalization of meetings, including reduction in number, as well as utilization of some innovative approaches such as Internet forums and the convening of consultancies through electronic media.

— An increase in the number of CRPs as well as in the support of technical co-operation activities.

Key Subprogramme Resource Trends

The proposed resources for the Subprogramme A.1 amount to $2 614 000, reflecting a slight decrease of $7 000, or 0.3%, compared with the 2000 budget.

The termination/reduction of activities in some areas and merging of some projects provides for an increase of resources in projects relating to optimization of NPP overall performance and service life, as well as for strengthening quality assurance/quality management activities in all subprogramme areas.

Further utilization will be made of the 'matrix management system', using multidisciplinary teams. This will provide for more efficient use of human resources, enhanced synergy and co-operation, and higher flexibility in responding quickly to the evolving needs of Member States.

Subprogramme Rationale

Subprogramme A.2 provides the core technical competence for the Agency in nuclear power reactor technology development and reactor design for electricity production and heat applications. Most projects in Subprogramme A.2 have been rated as 'high priority' by the SEG.

Through its established standing International Working Groups (IWGs) and Advisory Group on nuclear desalination, Subprogramme A.2 maintains up-to-date information about advanced reactor technology developments and their applications, as well as about major development needs.

The Agency is the international organization that, in co-operation with other international organizations such as the OECD/NEA and the European Commission, could provide a global forum for the co-ordination of international activities in information exchange and co-operative research in the following context:

- Ways must be found to reduce capital and operational costs of nuclear energy to ensure its competitiveness relative to alternative energy sources while meeting stringent safety targets.

- Energy demand is growing, mainly in developing countries as a result of their increasing population and the need to improve their standard of living. Small and medium sized reactors (SMRs) are being designed and developed to meet the specific requirements of developing countries with their smaller grids, limited capacity to finance large projects and need for proliferation resistance and user friendly features such as easier operation and maintenance.

- Most of the primary energy produced is consumed in the form of heat. To make full use of the nuclear option, the utilization of nuclear heat for various industrial processes is under evaluation. In particular, nuclear desalination of seawater is increasingly being considered as an important option to cope with water shortages in many Member States.

Subprogramme Objective

To achieve increased exchange of non-commercial information and co-operative research in nuclear power technology development and its applications, including sharing and preservation of technical knowledge, among universities, research centres, design organizations and utilities, and the transfer of nuclear technology under Agency auspices, so that limited national resources are more effectively used through international co-operation to meet the needs of Member States for an environmentally benign, sustainable energy source for electricity generation, heat production and transmutation of actinides.

Subprogramme Performance Indicators

- Contributions in kind from Member States (e.g. cost free participants in activities and meetings).

- Expressions of interest by Member States in participating in co-ordinated research projects in nuclear power technology development and assessments of new applications (e.g. desalination, actinide transmutation).

- Demand for Agency publications and access to relevant databases.

This subprogramme consists of five projects

A.2.01. *Small and Medium Sized Reactor (SMR) Development* — to increase the exchange of information on issues common to SMRs of all reactor types, specifically high temperature gas cooled reactors (HTGRs), for improving economics, safety and fuel utilization.

A.2.02. *Advanced Technologies for Water Cooled Reactors* — to increase the exchange of information on the development of advanced technologies for improving economics and fuel utilization of water cooled reactors while meeting internationally recognized safety objectives.

A.2.03. *Nuclear Systems for Utilization and Transmutation of Actinides and Long Lived Fission Products* — to increase the exchange of information on the development of technologies for fast reactor systems as well as for emerging systems for energy production with reduced actinide generation and for the transmutation of actinides and long lived fission products.

A.2.04. *Nuclear Desalination* — to increase the exchange of information on the introduction of nuclear desalination and other applications of nuclear energy.

A.2.05. *Support to Technical Co-operation Activities* — to provide technical support to the Agency's technical co-operation programme.

Key Subprogramme Trends

The eight projects in Subprogramme A.2 in the previous cycle have been integrated into five projects in 2001 to reflect the importance of the development of SMRs, advanced technologies for water cooled reactors, development of nuclear systems for utilization and transmutation of actinides and long lived fission products, and the nuclear desalination of seawater. Furthermore, to improve efficiency, the projects have been rationalized as follows:

- 1999–2000 Projects A.2.01 on SMR Development and A.2.04 on Gas Cooled Reactors and new activities on innovative reactors have been combined into Project A.2.01 on SMR Development in response to the recommendation of the PPAS on Major Programme 1.

- 1999–2000 Projects A.2.02 and A.2.05 on Light Water Reactors (LWRs) and Heavy Water Moderated Reactors (HWRs) have been combined into Project A.2.02 on Advanced Technologies for Water Cooled Reactors to facilitate advanced technology development activities in common technology areas.

- 1999–2000 Projects A.2.03 and A.2.07 on Liquid Metal Cooled Reactors and Emerging Nuclear Energy Systems, respectively, have been combined into Project A.2.03 on Nuclear Systems for Utilization and Transmutation of Actinides and Long Lived Fission Products because of the common technical issues in plutonium utilization and the development of technologies for the transmutation of long lived fission products and actinides.

- 1999–2000 Project A.2.06 on Cogeneration and Heat Applications has been modified to Project A.2.04 on Nuclear Desalination, reflecting the view of the PPAS on Major Programme 1.

High priority will be given to the co-ordination of programmes on the development of evolutionary and innovative reactors, particularly in the SMR area. Priority will also be given to nuclear seawater desalination, and to identifying reactor design features which contribute to non-proliferation goals.

An overall trend in Subprogramme A.2 is the further reduction of meetings and consultancies, greater reliance on in-house expertise, and increased use of advances in information technology. At the same time, the number of CRPs has been increased. Specifically, and in line with the 1998 General Conference resolution and objectives formulated in the MTS, the high priority given to SMR technology development is reflected in the holding of an international seminar on "Status and Prospects for Small and Medium Sized Reactors" under task A.2.01.1.

Key Subprogramme Resource Trends

The proposed resources for Subprogramme A.2 amount to $1 965 000, reflecting a slight increase of $7 000, or 0.4%, compared with the 2000 budget.

PROGRAMME A: NUCLEAR POWER
Summary of Regular Budget Estimates by Project
Table 7

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
A.1.	Nuclear Power Planning, Implementation and Performance									
A.1.01	Nuclear Power Planning and Implementation	A.1.01, 02	Cont.	NENP	692 000	(98 000)	(14.2)	594 000	1.3	602 000
A.1.02	Optimization of Nuclear Power Plant Overall Performance	A.1.03, 05	Cont.	NENP	627 000	134 000	21.4	761 000	1.2	770 000
A.1.03	Nuclear Power Plant Life Management Including Decommissioning	A.1.04, 05	Cont.	NENP	593 000	193 000	32.5	786 000	1.1	795 000
-	Management of Nuclear Power Plant Operations in a Competitive Environment (Phased Out)	A.1.06	-	NENP	294 000	(294 000)	(100.0)	-	-	-
A.1.04	Technical Support for TC Activities in A.1	A.1.07	Cont.	NENP	415 000	58 000	14.0	473 000	1.5	480 000
	Sub-total A.1.				2 621 000	(7 000)	(0.3)	2 614 000	1.3	2 647 000
A.2.	Nuclear Power Reactor Technology Development									
A.2.01	Small and Medium Sized Reactor (SMR) Development	A.2.01, 04	Cont.	NENP	477 000	7 000	1.5	484 000	1.2	490 000
A.2.02	Advanced Technologies for Water-Cooled Reactors	A.2.02, 05	Cont.	NENP	542 000	-	-	542 000	1.3	549 000
A.2.03	Nuclear Systems for Utilization and Transmutation of Actinites and Long-Lived Fission Products	A.2.03, 07	Cont.	NENP	459 000	5 000	1.1	464 000	1.3	470 000
A.2.04	Nuclear Desalination	A.2.06	Cont.	NENP	404 000	1 000	0.2	405 000	1.2	410 000
A.2.05	Technical Support for TC Activities in A.2	A.2.08	Cont.	NENP	76 000	(6 000)	(7.9)	70 000	-	70 000
	Sub - total A.2.				1 958 000	7 000	0.4	1 965 000	1.2	1 989 000
Programme A - Nuclear Power					4 579 000	-	-	4 579 000	1.2	4 636 000

PROGRAMME A: NUCLEAR POWER
List of Projects and Estimated Total Resources for 2001
Table 8

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
A.1.	Nuclear Power Planning, Implementation and Performance							
A.1.01	Nuclear Power Planning and Implementation	NENP	1.9	1.2	602 000	-	-	-
A.1.02	Optimization of Nuclear Power Plant Overall Performance	NENP	2.3	2.6	770 000	14 000	-	-
A.1.03	Nuclear Power Plant Life Management Including Decommissioning	NENP	2.5	1.3	795 000	10 000	15 000	-
A.1.04	TC Activities in A.1 Technical Support Projects	NENP	2.2	1.1	480 000	-	-	-
		TC	-	-	-	-	-	3 108 000
	Sub-total A.1.		8.9	6.2	2 647 000	24 000	15 000	3 108 000
A.2.	Nuclear Power Reactor Technology Development							
A.2.01	Small and Medium Sized Reactor (SMR) Development	NENP	1.6	0.3	490 000	97 000	286 000	-
A.2.02	Advanced Technologies for Water-Cooled Reactors	NENP	2.2	1.3	549 000	-	107 000	-
A.2.03	Nuclear Systems for Utilization and Transmutation of Actinites and Long-Lived Fission Products	NENP	1.4	1.3	470 000	-	37 000	-
A.2.04	Nuclear Desalination	NENP	1.2	1.1	410 000	-	241 000	-
A.2.08	TC Activities in A.2 Technical Support Projects	NENP	0.5	0.2	70 000	-	-	-
		TC	-	-	-	-	-	193 000
	Sub - total A.2.		6.9	4.2	1 989 000	97 000	671 000	193 000
Programme A - Nuclear Power			15.8	10.4	4 636 000	121 000	686 000	3 301 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

B. Nuclear Fuel Cycle and Waste Management Technology

Programme Rationale

There are various concerns, essentially proliferation risks and safety and environmental impacts, relating to the nuclear fuel cycle and the management of radioactive waste and spent fuel, as well as the increasing need to have sustainable energy. These call for providing Member States with information and advice on the present status and state of the art of, and prospects for, the fuel cycle and waste management. For wastes from sources other than the nuclear fuel cycle and reactors, similar concerns exist about safety, environment and sustainability.

The increased emphasis of the programme on nuclear fuel cycle and waste management, particularly the back end and related issues, has been derived from the recommendations and positions expressed by the General Conference, Board of Governors, Senior Expert Group (SEG) and the PPAS review of Major Programme 1. In addition, guidance was obtained from an analysis of Member State needs and directions of work laid out in the 1998–2003 Medium Term Perspective (MTP) and the Medium Term Strategy (MTS).

Programme Objective

To have the latest nuclear fuel cycle and waste management strategies adopted in an increasing number of Member States and related state of the art technologies in place in an increasing number of facilities; and to facilitate the planning and implementation of safe, sustainable, cost efficient and environmentally sound nuclear fuel cycle and waste management activities in Member States.

Programme Performance Indicators

- Extent to which Agency recommendations and guidance are followed by and incorporated in Member State strategies and programmes.
- Quality and quantity of information exchanged under the aegis of the Agency.
- Extent of integration of information, recommendations and guidance into the programmes and activities of international organizations.

This programme consists of two subprogrammes

B.1. Fuel Cycle and Materials
B.2. Waste Management and Technology

Key Programme Trends

In order to continue responding to the increasing demand for a more integrated approach in nuclear fuel cycle and waste management activities, particularly the back end, increased emphasis is being placed on:

— disposal of long lived and high level waste (demonstration, factors of concern in decision making, acceptance and consensus building);

— storage of spent fuel from power reactors and research reactors (prolonged storage, burnup credit, dry storage, repatriation).

Other activities to receive particular attention are:

— power reactor fuel performance and technology that have an impact on the back end of the fuel cycle (e.g. extended burnup, MOX fuel technology);

— use of plutonium fuel (advanced reactors and innovative fuel cycles, ex-weapons plutonium);

— transmutation of long lived waste components;

— management options, strategies and technologies for waste from all sources (with emphasis on decommissioning and spent sealed sources).

Key Programme Resource Trends

To accommodate the increased interest in issues dealing with the back end of the fuel cycle in Major Programme 1, the following measures have been taken. The resources for activities related to raw materials are somewhat decreased compared with the 2000 budget as a result of activities curtailed in 2001; on the other hand, the budget related to spent fuel management is significantly increased in response to the higher priority assigned to this area. In addition, the resources for technical co-operation support activities related to the nuclear fuel cycle have been increased, since there is greater interest from developing Member States in the area of spent fuel management. In 2001 there is a decrease in predisposal activities, partly as a result of the completion of research contracts for a CRP that is in its final year. Activities related to the disposal of radioactive wastes have been increased significantly with regard to the previous year in response to the greater priority assigned to that area by the SEG and the PPAS reviewon Major Programme 1, as well as by the MTP and MTS.

The proposed resources for this programme amount to $5 763 000, reflecting an increase of $255 000, or 4.6%, compared with the 2000 budget. This increase is a result of the strengthening of activities in the areas of waste and spent fuel management.

Extrabudgetary resources of $605 000 are expected to support activities of this programme.

PROGRAMME B: NUCLEAR FUEL CYCLE AND WASTE MANAGEMENT TECHNOLOGY
Summary of Regular Budget Estimates by Subprogramme
Table 9

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
B.1	Fuel Cycle and Materials	2 510 000	110 000	4.4	2 620 000	1.3	2 654 000
B.2	Waste Management and Technology	2 998 000	145 000	4.8	3 143 000	1.2	3 181 000
Programme B - Nuclear Fuel Cycle and Waste Management Technology		5 508 000	255 000	4.6	5 763 000	1.2	5 835 000

Subprogramme Rationale

Issues related to the raw materials of the fuel cycle — including supply and demand and environmental mitigation — and to the back end of the fuel cycle — covering spent fuel management, plutonium and innovative fuel cycles — are relevant to the environment, safety, non-proliferation and the economies of Member States. For this reason the SEG and the PPAS review for Major Programme 1 accorded a high priority to these areas.

Subprogramme Objective

To foster the use by Member States of state of the art technology in planning, developing and implementing nuclear fuel cycle activities.

Subprogramme Performance Indicators

- Implementation of state of the art fuel cycle technologies in an increasing number of facilities and Member States.
- Improvements in spent fuel storage and management conditions, particularly in developing countries.
- Increased use by constituencies of databases, codes and information systems.
- Greater satisfaction of constituencies with the quality and quantity of information provided and exchanged.

This subprogramme consists of five projects

B.1.01. *Raw Materials* — to improve and strengthen the practice of preventative measures through the establishment of guidelines for environmental impact assessment and mitigation and the promotion of good practices and modern technology; and to provide forecasts of supply and demand for nuclear raw materials and environmental activities.

B.1.02. *Fuel Performances and Technology* — to maintain and improve power reactor fuel performance and technologies for ensuring nuclear fuel cycle competitiveness and safety; and to assist developing countries and countries from the former Soviet Union and Eastern Europe in fuel technology development transfer in order to harmonize nuclear fuel design, fabrication and utilization.

B.1.03. *Spent Fuel Management* — to support Member States in their decision making process on selecting safe and reliable technologies in spent fuel storage; to improve existing spent fuel storage facilities and their operation with regard to environmental, safety, health and proliferation resistant aspects; to enhance capabilities in Member States for the use of burnup credit, repatriation programmes for research reactor fuel and regional/international solutions; and to support non-proliferation through conversions of research reactors from HEU to LEU fuel.

B.1.04. *Fuel Cycle Issues and Information Systems* — to assist Member States in dealing with various fuel cycle concerns and in selecting optimum fuel cycle options with up to date information on current and innovative fuel cycles, separated plutonium and other nuclear materials, including the related technologies, environmental, safety and health aspects, and proliferation and institutional considerations.

B.1.05. *Support for Technical Co-operation Activities* — to provide technical support to Agency technical co-operation programmes.

Key Subprogramme Trends

The 11 projects in the nuclear fuel cycle area in the 1999–2000 programme and budget are restructured in 2001 into 4 projects covering all nuclear fuel cycle activities in addition to a project for the support of technical co-operation activities:

- The first project addresses uranium resource and production reporting, together with the analysis of medium and long term supply and demand prospects (including the periodic joint report by the OECD/NEA and Agency). With the increased interest shown by Member States in environmental issues associated with the uranium cycle, particularly mining and milling, three environmental oriented tasks related to uranium deposits and uranium production technology will be implemented. These are aimed at defining the natural reference background situation of uranium deposits (before mining), providing guidance for conducting environmental impact assessments for mine development, and establishing criteria for assessing the sustainable development of uranium mining.

- The second project addresses performances and technology aspects of various fuel and reactor materials for all types of nuclear power and research reactors. Emphasis is placed, as recommended by the SEG, on advances in fuel performance/technology (including MOX fuel). A review of status and trends in water reactor fuel performance and technology will be carried out, with particular attention to issues that have consequences in terms of subsequent spent fuel and waste management. Within this area a CRP on hydrogen and hydride induced degradation of the mechanical and physical properties of zirconium based alloys, directed at laboratories in developing Member States, will be carried out and a CRP on modelling of transport of radioactive substances in the primary circuit of water reactors will be completed. An international fuel performance database will assist Member States in verifying their fuel performance codes. Four new tasks address issues of data processing technologies for water chemistry and corrosion control, fuel behaviour under transient/accident conditions, MOX fuel performance at high burnup and the development of advanced post-irradiation examination techniques. Co-ordination with other international and national organizations to avoid overlapping in nuclear fuel related areas will be continued.

- The third project, in response to the recommendation of the PPAS review of Major Programme 1, consolidates all activities related to spent fuel management. This provides greater flexibility and a clearer and simpler structure. The project covers specific aspects of spent fuel management for power and research reactors and the technologies of wet and dry storage.

- The fourth project addresses various issues emerging in the nuclear fuel cycle, as well as in databases and computer codes and in information systems. A review of nuclear fuel cycle options will be implemented. Nuclear fuel cycles with improved proliferation resistance are of importance for the mitigation of proliferation risks and the sustainability of nuclear power. In order to respond to the SEG's recommendations and Member State requests, technical aspects of improving proliferation resistance will be covered, as will spent fuel and separated plutonium in long term storage. A database on minor actinides will be initiated. In support of Programme C a new task will be started on emissions from nuclear fuel cycle facilities as compared with those from facilities associated with other energy sources.

Key Subprogramme Resource Trends

The proposed resources for the project on raw materials amount to $365 000, reflecting a decrease of $65 000, or 15%, compared with the 2000 budget, owing to curtailed activities in 2001, whereas the resources for the project on spent fuel management amount to $893 000, reflecting an increase of $195 000, or 28%, compared with the 2000 budget. The total resources needed for this subprogramme amount to $2 620 000, reflecting an increase of $110 000, or 4.4%.

Subprogramme Rationale

Radioactive wastes are the inevitable legacy of the operation of nuclear installations and applications of nuclear technology. Member States need accurate and authoritative information, a forum for information exchange and technology transfer, up to date guidance on available technologies, and support for research and technical assistance for managing radioactive waste arisings from all sources. The PPAS review considered that the subprogramme on waste technology responded appropriately to one of the fundamental and most important issues (radioactive waste management) associated with nuclear power and nuclear technology applications. The SEG considered that the tasks on decommissioning technologies and strategies, the treatment and conditioning of wastes from nuclear fuel cycle facilities, including nuclear power plants, and the project on radioactive waste disposal, were of high priority. Tasks dealing with the management of spent radioactive sources, particularly radium sources, have been initiated in response to General Conference Resolution GC(43)/RES/10. Activities on indicators for sustainable development for radioactive wastes support Agenda 21 of the United Nations Commission on Sustainable Development. As recognized by the PPAS review of Major Programme 1 and the Waste Technology Advisory Committee, the subprogramme is balanced in addressing waste management issues faced by Member States with nuclear energy programmes as well as those whose wastes arise only from applications of nuclear science and technology. Target groups include waste management organizations, nuclear utilities, government agencies, waste management specialists, and users of radioactive materials in both industrialized and developing Member States.

Subprogramme Objective

To have state of the art waste management strategies and technologies in place in an increasing number of facilities and Member States, particularly in the areas of the disposal of spent fuel, high level waste and long lived waste and decommissioning.

Subprogramme Performance Indicators

- Use of Agency guidance in waste management strategies and programmes and of state of the art technologies in an increasing number of Member States.
- Decrease in the amount of improperly stored and conditioned radioactive wastes in Member States as the result of the use of Agency guidance.
- Increased use of Agency waste management databases, registries and information systems by constituencies.
- Greater satisfaction of constituencies with the quality and quantity of information provided and exchanged.

This subprogramme consists of five projects

B.2.01. *Waste Arisings and their Minimization* — to assist Member States by providing information and guidance and supporting research on strategies, methods and technologies to assess and minimize waste arisings from a variety of sources, including decommissioning and environmental restoration programmes for contaminated sites.

B.2.02. *Technologies for Predisposal Management of Radioactive Waste* — to assist Member States by providing information, guidance and support on safe and cost effective technologies for

predisposal management of radioactive waste from nuclear power plants and their associated fuel cycle, and waste from applications of nuclear technologies.

B.2.03. *Technologies for Disposal of Radioactive Waste* — to assist Member States in assuring the development and acquisition of technology and means for the appropriate disposal of all types of radioactive waste by fostering research, promoting transfer of technology and facilitating information exchange between scientific and public communities.

B.2.04. *Waste Management Issues and Information Systems* — to assist Member States by: providing authoritative and up to date information on radioactive waste management; co-ordinating and implementing activities on sustainable development with regard to radioactive waste, within the United Nations system; and providing guidance on quality management procedures in the area of radioactive waste management; to organize international peer reviews, advisory missions and international forums on radioactive waste technology issues; and to assist Member States in transition with implementing radioactive waste management technologies.

B.2.05. *Support for Technical Co-operation Activities* – to assist developing Member States within the framework of the Agency's technical co-operation programme by organizing training courses and demonstrations of waste management technologies, carrying out advisory missions, and providing equipment and technical support for implementing waste management operations.

Key Subprogramme Trends

In response to the recommendation of the PPAS review of Major Programme 1, the three 1999–2000 subprogrammes in the waste management area have been consolidated into one. The number of projects has been reduced from 15 to 4 in addition to a project for the support of technical co-operation activities. This structure provides greater flexibility, as well as a clearer and simpler structure, and provides the potential to achieve administrative and management efficiencies.

- The first project addresses waste arisings, from all sources (nuclear power and fuel cycle installations, nuclear applications, decommissioning and environmental restoration of contaminated sites), and technologies for their minimization.

- The second project addresses predisposal management of wastes from nuclear power generation and its associated fuel cycle, as well as nuclear applications, and technologies for their treatment, conditioning and storage.

- The third project addresses technologies for disposal of radioactive wastes, including simple near surface burial, disposal in mined cavities, engineered near surface disposal, and deep geological disposal, particularly stressing regional and international co-operation and improving public understanding of radioactive waste disposal. This project is receiving increased emphasis compared with 2000 in response to recommendations of the Senior Expert Group and the highest priority given to it by the PPAS review of Major Programme 1.

- The fourth project deals with radioactive waste information and records management, including assurance of their quality, forums for information exchange, especially regarding waste management status and trends, international peer reviews and advisory missions, and support to United Nations organizations, such as the Commission on Sustainable Development, with regard to radioactive waste. Several quality management tasks are being phased out.

Key Subprogramme Resource Trends

The proposed resource level for this subprogramme amounts to $3 143 000, reflecting an increase of $145 000, or 4.8%, compared with the 2000 budget. In 2001, there will be a reduction in the project on technologies for predisposal management of radioactive waste, partly as a result of completion of research contracts for a CRP that is in its final year. The project on technologies for disposal of radioactive waste increases significantly (by

70.3%) over the previous year owing to the initiation of several new activities, e.g. to assist Member States in obtaining public acceptance of waste repositories and a project on multinational repositories as strongly recommended by the SEG and the PPAS review on Major Programme 1. The project on waste management issues and information systems will experience a small decrease owing to completion of several tasks dealing with quality management.

PROGRAMME B: NUCLEAR FUEL CYCLE AND WASTE MANAGEMENT TECHNOLOGY
Summary of Regular Budget Estimates by Project
Table 10

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
B.1.	Fuel Cycle and Materials									
B.1.01	Raw Materials	B.1.01, 02	Cont.	NEFW	430 000	(65 000)	(15.1)	365 000	1.4	370 000
B.1.02	Fuel Performances and Technology	B.1.03, 04	Cont.	NEFW	521 000	1 000	0.2	522 000	1.3	529 000
B.1.03	Spent Fuel Management	B.1.05, 06 B.1.07	Cont.	NEFW	698 000	195 000	27.9	893 000	1.3	905 000
B.1.04	Fuel Cycle Issues and Information Systems	B.1.08, 09 B.1.10	Cont.	NEFW	673 000	(49 000)	(7.3)	624 000	1.3	632 000
B.1.05	Technical Support for TC Activities in B.1	B.1.11	Cont.	NEFW	188 000	28 000	14.9	216 000	0.9	218 000
	Sub - total B.1.				2 510 000	110 000	4.4	2 620 000	1.3	2 654 000
B.2.	Waste Management and Technology	B.2, B.3, B.4								
B.2.01	Waste Arisings and Their Minimization	B.2.01, 02 B.2.03	Cont.	NEFW	554 000	(12 000)	(2.2)	542 000	1.3	549 000
B.2.02	Technologies for Predisposal Management of Radioactive Waste	B.3.01, 02 B.4.04	Cont.	NEFW	554 000	(63 000)	(11.4)	491 000	1.2	497 000
B.2.03	Technologies for Disposal of Radioactive Waste	B.3.03, 04	Cont.	NEFW	380 000	267 000	70.3	647 000	1.1	654 000
B.2.04	Waste Management Issues and Information Systems	B.3.05 B.4.01, 02 B.4.03	Cont.	NEFW	1 055 000	(52 000)	(4.9)	1 003 000	1.2	1 015 000
B.2.05	Technical Support for TC Activities in B.2	B.2.04 B.3.06 B.4.05	Cont.	NEFW	455 000	5 000	1.1	460 000	1.3	466 000
	Sub - total B.2.				2 998 000	145 000	4.8	3 143 000	1.2	3 181 000
Programme B - Nuclear Fuel Cycle and Waste Management Technology					5 508 000	255 000	4.6	5 763 000	1.2	5 835 000

PROGRAMME B: NUCLEAR FUEL CYCLE AND WASTE MANAGEMENT TECHNOLOGY
List of Projects and Estimated Total Resources for 2001
Table 11

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
B.1.	Fuel Cycle and Materials							
B.1.01	Raw Materials	NEFW	1.8	1.3	370 000	-	-	-
B.1.02	Fuel Performances and Technology	NEFW	2.3	1.5	529 000	22 000	-	-
B.1.03	Spent Fuel Management	NEFW	3.1	1.3	905 000	18 000	25 000	-
B.1.04	Fuel Cycle Issues and Information Systems	NEFW	3.1	0.6	632 000	-	250 000	-
B.1.05	TC Activities in B.1 Technical Support Projects	NEFW TC	1.6 -	0.7 -	218 000 -	- -	- -	- 2 182 000
	Sub - total B.1.		11.9	5.4	2 654 000	40 000	275 000	2 182 000
B.2.	Waste Management and Technology							
B.2.01	Waste Arisings and Their Minimization	NEFW	1.3	1.2	549 000	-	-	-
B.2.02	Technologies for Predisposal Management of Radioactive Waste	NEFW	1.9	1.2	497 000	-	-	-
B.2.03	Technologies for Disposal of Radioactive Waste	NEFW	1.7	0.8	654 000	80 000	-	-
B.2.04	Waste Management Issues and Information Systems	NEFW	2.1	1.5	1 015 000	-	330 000	-
B.2.05	TC Activities in B.2 Technical Support Projects	NEFW TC	1.9 -	0.7 -	466 000 -	- -	- -	- 2 240 000
	Sub - total B.2.		8.9	5.4	3 181 000	80 000	330 000	2 240 000
Programme B - Nuclear Fuel Cycle and Waste Management Technology			20.8	10.8	5 835 000	120 000	605 000	4 422 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

C. Comparative Assessment for Sustainable Energy Development

Programme Rationale

Decisions relating to energy supply investments have inherently long lifetimes, which can easily extend to half a century or more. Thus, investments in energy production capacities, and especially in energy conversion facilities, made during the first decade of the 21st century could still be operating through 2050 and beyond. Investment decisions in the past have been essentially based on the techno-economic performance of current technologies, available energy resources and expected fuel market price developments. When environmental considerations have been taken into account in the decision making process, then it has been by way only of policy constraints which have at best reflected the state of the art understanding of energy production and related health and environmental impacts.

Issues such as climate change and the unsustainability of current energy systems are now on the agendas of many national governments and international organizations (e.g. United Nations Framework Convention on Climate Change (FCCC), Agenda 21, United Nations Commission on Sustainable Development (UNCSD), where energy has become one of the most critical items. It is expected that these issues will increasingly be addressed together with traditional factors.

Comparative assessment represents a comprehensive methodological approach that enables decision and policy makers to evaluate their energy supply options as well as the impacts of different energy environment related policy scenarios. On a source-to-service basis, nuclear power is a comparatively clean energy supply option, though not without controversy. Comparative assessment helps to put the performance of nuclear power into a long term perspective with alternatives based on technical (technology options and resource availability), economic and environmental criteria. Without a full understanding of the life-cycle implications of energy investment decisions, sustainable energy development is impossible to accomplish.

The new programme approach proposed is the result of two PPAS evaluations of Programme C and Major Programme 1, the SEG and the Medium Term Strategy of the Agency.

Programme Objective

To build capacity in Member States for comprehensive energy systems analysis so as to enable them to make informed policy decisions about the role of nuclear power in their future energy development with due regard to environmental, social and economic costs and benefits; and to contribute to the activities carried out under Agenda 21, the UNCSD, FCCC and other international forums and ensure that nuclear power is given a full and fair hearing in the context of sustainable energy development.

Programme Performance Indicators

- Extent to which the Agency is viewed as a competent partner in the debate on sustainable energy development.
- Level of Member State interest in the activities of this programme as expressed in terms of services requested (participation in CRPs, training courses and workshops, requests for model and databank transfers).
- Usefulness and quality of the various studies/analyses conducted under the programme as reported by Member States.

This programme consists of two subprogrammes

C.1. Energy Modelling, Databanks and Capacity Building
C.2. Energy–Economy–Environment (3E) Analysis

Key Programme Trends

As a result of the 1998–1999 PPAS and SEG evaluations and recommendations, the four subprogrammes have now been consolidated into two subprogrammes. This restructuring streamlines the activities and simplifies programme co-ordination and management. The underlying rationale for the restructured programme is to co-ordinate tasks that are logically interdependent but were previously allocated across one or more subprogrammes. Consequently, the focus of Subprogramme C.1 is on capacity building and technical assistance for comparative assessment studies in Member States. A newly emerging component concerns energy investment decision making in deregulated and privatized energy markets. Methodologies based on centralized decision making may no longer be adequate, while the eventual inclusion of health and environmental costs and risks into the decision making process calls for additional training activities in Member States. Here the types of requests for assistance from Member States will determine the longer term trend of Subprogramme C.1.

The second group of activities involves analyses utilizing the data and models developed under Subprogramme C.1 and dissemination of the results to Member States and relevant international organizations. Hence, Subprogramme C.2 focuses primarily on the analysis and conceptualization of sustainable energy strategies for both the dissemination of evaluated information to Member States and the Agency's contribution to the processes of Agenda 21, the UNCSD, FCCC and the Intergovernmental Panel on Climate Change (IPCC). The assessment of the role of nuclear energy and its potential contribution to sustainable energy development is a key theme of this subprogramme. In addition, work will expand on the application of comparative assessment beyond nuclear energy and alternatives to include the comparative assessment of different nuclear technologies and fuel cycles as well as to become a template for comparing the costs and benefits of all kinds of nuclear applications with non-nuclear alternatives.

Key Programme Resource Trends

The resource level for this programme amounts to $2 690 000 — down from $2 895 000 in 2000 — which corresponds to a decline of 7.1%. Compared with previous years, there is a definite shift from the organization of meetings to CRPs as a means for programme delivery.

PROGRAMME C: COMPARATIVE ASSESSMENT FOR SUSTAINABLE ENERGY DEVELOPMENT

Summary of Regular Budget Estimates by Subprogramme

Table 12

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
C.1	Energy Modelling, Databanks and Capacity Building	1 777 000	(281 000)	(15.8)	1 496 000	1.4	1 517 000
C.2	Energy, Economy, Environment (3E) Analysis	1 118 000	76 000	6.8	1 194 000	1.3	1 210 000
Programme C - Comparative Assessment for Sustainable Energy Development		2 895 000	(205 000)	(7.1)	2 690 000	1.4	2 727 000

C.1. Energy Modelling, Databanks and Capacity Building

Subprogramme Rationale

Good analysis requires sound data and information, appropriate analytical tools and precise boundaries. Several Member States, particularly developing countries, lack expertise in these areas and seek Agency support to enhance their analytical capabilities for undertaking comparative assessment studies. Accordingly, Subprogramme C.1 is designed to provide the suitable data, information and analytical tools for informed decision making within Member States for the purpose of charting sustainable energy development strategies.

Subprogramme Objective

To enable Member States to elaborate their sustainable energy strategies, by providing them with: the necessary background information on energy demand and supply trends and energy resources; appropriate databases and analytical tools for undertaking comparative assessment studies; and training in model application, interpretation of results and translation into decision or policy making.

Subprogramme Performance Indicators

- Demand for Agency reports, publications and documents and their use.
- Requests from Member States for Agency databases and software models for comparative assessment, and the use of these tools for studies carried out by Member States and international organizations.
- Number of technical co-operation project requests in the area of comparative assessment and assessed level of effectiveness for those projects that are implemented.

This subprogramme consists of four projects

C.1.01. *Energy, Electricity, and Nuclear Power Economics: Status and Trends* — to provide an effective data and information service for Member States on energy, electricity and nuclear power status and projections, and on the competitiveness of nuclear power versus alternatives for use by Member States in elaborating their sustainable energy strategies.

C.1.02. *Databanks and Background Information for Comparative Assessment* — to develop and maintain databases, a prerequisite for the comparative analysis of economic, social, health and environmental issues, including wastes associated with different energy options and supply strategies.

C.1.03. *Development and Updating of Software for Comparative Assessment and Energy System Analysis* — to develop, maintain and enhance modelling tools for comparative assessment of energy options for integrated energy, electricity and nuclear power planning in the context of sustainable development (for use by Member States).

C.1.04. *Support to Technical Co-operation Activities* — to provide support to the Agency's technical co-operation activities.

Key Subprogramme Trends

This subprogramme has been restructured in the light of the PPAS and SEG recommendations and now includes the previous C.1, C.3.02, C.4 and parts of C.3.01. Future programme directions may be influenced by

the declining role of governments in energy investment decisions and the rising importance of environmental stewardship and energy supply security. Models may have to be adapted to meet these new realities.

Key Subprogramme Resource Trends

Because of the complete restructuring of Programme C, a comparison with past subprogramme resources offers little insight. The anticipated budget requirements for 2001 amount to $1 496 000. The trend from 2001 onwards depends on the extent to which Member States express needs in the area of analysis capacity building and may be affected by a shift in investment decision making from public to private sector institutions. Model development is resource intensive and, in the past, has been funded primarily by extrabudgetary funds. Experience indicates that model adaptation requires additional resources of at least $100 000 per year.

C.2. Energy–Economy–Environment (3E) Analysis

Subprogramme Rationale

In order to ensure that nuclear power is given a full and fair hearing at relevant international forums and in the sustainable energy debate, as well as to advise Member States in an objective manner on the appropriateness of nuclear power for their national energy mixes, the Agency conducts in-depth studies of the potential role of nuclear power versus non-nuclear alternatives. The results of these studies provide the basis of the Agency contributions to the efforts of international organizations and serve as inputs/examples to national workshops and training courses.

Subprogramme Objective

To contribute to the activities carried out under Agenda 21, the UNCSD, the FCCC and other international forums and ensure that nuclear power is given a full and fair hearing in the context of sustainable energy development; to identify performance criteria for nuclear energy that make it compatible with sustainable energy development; and to provide Member States and relevant international organizations with evaluated information on the potential role of nuclear and other energy options in sustainable energy and electricity supply strategies.

Subprogramme Performance Indicators

- Demonstrated interest of Member States in Agency programme activities related to sustainable development and climate change.

- Demonstrated interest of international organizations to co-operate with the Agency in giving adequate consideration to nuclear power as an appropriate option for mitigating climate change and for sustainable development.

This subprogramme consists of four projects

C.2.01. *Nuclear Energy in Sustainable Energy Strategies* — to assess the potential role of nuclear and other energy options in sustainable energy supply strategies, with particular emphasis on restructured energy markets and public concerns about nuclear power.

C.2.02. *International Co-operation and Co-ordination* — to contribute to the work of UNCSD-9, the IPCC and the Subsidiary Bodies to the FCCC, and to ensure that nuclear power is given a fair

hearing in the deliberations and activities of Agenda 21, UNCSD-9, the IPCC, the Subsidiary Bodies to the UNFCCC and interagency task forces on energy and sustainable development.

C.2.03. *Broadening the Scope of Comparative Assessment* — to introduce comparative assessment as a uniform template across the Agency for comparing alternative nuclear energy technologies and fuel cycles as well as various nuclear applications with non-nuclear alternatives.

C.2.04. *Safety Related Information on Wastes From Different Electricity Generation Systems* — to estimate and compile (in consultation with and, where appropriate, in collaboration with the United Nations Scientific Committee on the Effects of Atomic Radiation, the World Health Organization, the United Nations Environment Programme and the European Commission) safety related information on the wastes discharged or disposed of from different energy generation systems.

Key Subprogramme Trends

Following the recommendations of the PPAS and SEG evaluations, this subprogramme has been restructured to include the previous C.3.03, C.3.04, C.2 and parts of C.3.01. In addition, it includes a new project on broadening the scope of comparative assessment and co-ordination.

Key Subprogramme Resource Trends

The resource level for the subprogramme amounts to $1 194 000. Given the fundamental restructuring of the programme, a detailed comparison to the resources of the 1999–2000 cycle at the subprogramme level is not possible. If current trends of increased Agency involvement in United Nations led processes towards Agenda 21 and the mitigation of climate change continue, additional resources will be required.

PROGRAMME C: COMPARATIVE ASSESSMENT FOR SUSTAINABLE ENERGY DEVELOPMENT

Summary of Regular Budget Estimates by Project

Table 13

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
C.1	Energy Modelling, Databanks and Capacity Building									
C.1.01	Energy, Electricity and Nuclear Power Economics: Status and Trends	C.1.01, 02	Cont.	NE/PESS	641 000	(84 000)	(13.1)	557 000	1.4	565 000
C.1.02	Databanks and Background Information for Comparative Assessment	C.1.03, C.3.01	Cont.	NE/PESS	176 000	110 000	62.5	286 000	1.4	290 000
C.1.03	Development and Updating of Software for Comparative Assessment and Energy System Analysis	C.1.03 C.3.02 C.4.01	Cont.	NE/PESS	690 000	(288 000)	(41.7)	402 000	1.5	408 000
C.1.04	Technical Support for TC Activities in C.1	C.4.02	Cont.	NE/PESS	270 000	(19 000)	(7.0)	251 000	1.2	254 000
	Sub-total C.1				1 777 000	(281 000)	(15.8)	1 496 000	1.4	1 517 000
C.2	Energy, Economy, Environment (3E) Analysis									
C.2.01	Nuclear Energy in Sustainable Energy Strategies	C.3.01, 03 C.3.04	Cont.	NE/PESS	545 000	(205 000)	(37.6)	340 000	1.5	345 000
-	Health and Environmental Impacts and Risks of Energy Systems (Phased Out)	C.2.01	-	NSNI	151 000	(151 000)	(100.0)	-	-	-
C.2.02	International Co-operaton and Co-ordination	C.3.04	Cont.	NE/PESS	172 000	144 000	83.7	316 000	1.3	320 000
C.2.03	Broadening the Scope of Comparative Assessment	New	Cont.	NE/PESS	-	368 000	-	368 000	1.4	373 000
C.2.04	Safety-Related Information on Wastes from Different Energy Generation Systems	C.2.02	Cont.	NSRW	250 000	(80 000)	(32.0)	170 000	1.2	172 000
	Sub-total C.2				1 118 000	76 000	6.8	1 194 000	1.3	1 210 000
Programme C - Comparative Assessment for Sustainable Energy Development					2 895 000	(205 000)	(7.1)	2 690 000	1.4	2 727 000

PROGRAMME C: COMPARATIVE ASSESSMENT FOR SUSTAINABLE ENERGY DEVELOPMENT
List of Projects and Estimated Total Resources for 2001
Table 14

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
C.1	Energy Modelling, Databanks and Capacity Building							
C.1.01	Energy, Electricity and Nuclear Power Economics: Status and Trends	NE/PESS	1.8	0.8	565 000	-	-	-
C.1.02	Databanks and Background Information for Comparative Assessment	NE/PESS	1.4	0.6	290 000	-	-	-
C.1.03	Development and Updating of Software for Comparative Assessment and Energy System Analysis	NE/PESS	1.6	0.9	408 000	-	-	-
C.1.04	TC Activities in C.1 Technical Support Projects	NE/PESS	1.5	0.8	254 000	-	-	- 829 000
	Sub-total C.1		6.3	3.1	1 517 000	-	-	829 000
C.2	Energy, Economy, Environment (3E) Analysis							
C.2.01	Nuclear Energy in Sustainable Energy Strategies	NE/PESS	0.8	0.8	345 000	50 000	-	-
C.2.02	International Co-operaton and Co-ordination	NE/PESS	1.2	1.0	320 000	-	-	-
C.2.03	Broadening the Scope of Comparative Assessment	NE/PESS	2.1	0.9	373 000	-	-	-
C.2.04	Safety-Related Information on Wastes from Different Energy Generation Systems	NSRW	-	0.1	172 000	-	-	-
	Sub-total C.2		4.1	2.8	1 210 000	50 000	-	-
Programme C - Comparative Assessment for Sustainable Energy Development			10.4	5.9	2 727 000	50 000	-	829 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Major Programme 2
Nuclear Sciences and Applications

Major Programme Rationale

A major global challenge is how to achieve sustainable development and a higher quality of life for all people against a backdrop of continued population growth and rapid urbanization, and patterns of production and consumption which are damaging the health and integrity of the Earth's ecosystems on which we depend for our well-being.

Nuclear science and technology, appropriately integrated with other technologies to provide a mix adapted to individual sectors, addresses many of the current and emerging challenges and issues earmarked for priority action through General Conference Resolutions and Board of Governors decisions and by the United Nations system as a whole, e.g. the UN Conference on Environment and Development (1992), the Inter-Governmental Conference on the Protection of the Marine Environment (1995), the World Food Summit (1996) and the Conference on World Health Opportunity (1999).

While the capacity to engage in and benefit from nuclear science and technology is well established in industrialized countries, many developing countries lack access to those applications that are well proven as well as opportunities to participate in global and regional research and information exchange initiatives which aim to further enhance the contribution of nuclear sciences and applications to sustainable development objectives while strengthening national R&D capacities.

This Major Programme responds to these needs, providing the core scientific and technical support to Member States for non-power applications within Article III of the Agency's Statute and for the technology pillar described in the Medium Term Strategy.

Major Programme Objective

To assist Member States in the development and application of nuclear and isotope techniques for enhancing agricultural productivity and food security and improving human health, industrial development, drinking water supply and environmental monitoring and protection.

This major programme consists of four programmes

D. Food and Agriculture
E. Human Health
F. Marine Environment and Water Resources
G. Applications of Physical and Chemical Sciences

Key Major Programme Trends

Following the recommendations of the Medium Term Strategy, Senior Expert Group (SEG) and PPAS reviews, there will be shifts of emphasis to better respond to Member State needs and to contribute to sustainable development. The number of CRPs will be reduced by 20%, but the projects will be more strategically focused.

Recognizing the collaborative effort of the United Nations towards achieving sustainable food security, the programme on food and agriculture emphasizes nuclear and related biotechnological methods in the areas of crop improvement, and control of insect pests and animal diseases in support of agreements relevant to the World Food Summit. Also, in the area of food quality/safety, the FAO/IAEA Training and Reference Centre

for food quality and pesticide control will support training and research on the analysis of food contaminants to enhance food safety and international trade. In human health, the main thrust continues to be on cancer, infection, nutrition and prevention. The subprogramme on cancer therapy retains high priority, and the thermolumiscent dosimeter (TLD) service run jointly with the WHO will be strengthened. In the marine environment emphasis will be given to understanding, monitoring and assessing radionuclides in the western North Pacific Ocean, to remote monitoring of radionuclides in European coastal waters, and to radioecological and marine contaminant studies in various coastal areas. The water resources subprogramme will continue to aim at consolidating activities designed to respond to current challenges, and to integrate isotope methodology into overall water resources management and development. Work will continue on potential new applications of radiation technology in minimizing environmental pollution. The Agency's programmes in nuclear data and nuclear fusion will continue to nurture the advancement of applied nuclear physics in Member States. Collaboration with FAO, UNEP and WHO will be further enhanced in the fields of food and agriculture, environment and human health, respectively.

Key Major Programme Resource Trends

The proposed resource level for this major programme amounts to $32 576 000, reflecting a decrease of $86 000, or 0.3%, compared with the 2000 budget. Shifts are proposed within programmes. The food and agriculture programme has the highest resource allocation. The extrabudgetary contribution to IAEA-MEL is foreseen to be increased after 2000.

MAJOR PROGRAMME 2

NUCLEAR SCIENCES AND APPLICATIONS

Summary of total resources for 2001 by programme

Table 15

	Programme / Major Programme		Staffing P	Staffing GS	Regular Budget estimates at 2001 prices	URPA	Funds from other UN organizations	Other extra-budgetary resources	TC Programme a_/
D.	Food and Agriculture	NAFA	14.7	8.7	11 004 000	155 000	2 572 000	659 000	11 039 000
		NAAL	14.0	13.0					
E.	Human Health	NAHU	17.3	12.4	6 218 000	119 000	-	-	11 356 000
		NAAL	1.6	5.2					
F.	Marine Environment and Water Resources	NAML	10.2	18.2	6 020 000	125 000	626 000	330 000	4 955 000
		NAPC	4.4	4.0					
		NAAL	4.2	10.1					
G.	Applications of Physical and Chemical Sciences	NAPC	22.4	15.7	7 851 000	171 000	-	13 000	8 846 000
		NAAL	5.2	10.6					
		NA	-	-	1 983 000	-	-	-	-
		Lapse	1.0	-					
	Major Programme 2		95.0	97.9	33 076 000	570 000	3 198 000	1 002 000	36 196 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

D. Food and Agriculture

Programme Rationale

Agriculture's role in society is both basic and multifunctional. It provides our food and many raw products for industry, and in most developing countries it is the engine for economic growth and human development through creating on- and off- farm employment and trade, and hence incomes for poverty alleviation and raising levels of nutrition. With more than 800 million people chronically hungry and a further 80 million being added to the global population annually, agriculture must intensify, diversify and become more competitive to meet growing demands for food and raw materials and create opportunities in both urban and rural areas for employment, income generation and increased access to food. It must do so, however, in ways which use the land, water and biological resources upon which it depends in a sustainable manner.

Nuclear techniques provide more precise and specific diagnostic and monitoring methodologies and interventions which, when appropriately integrated with other methods, improve understanding of the processes and practices which underpin the production and transformation of resources into food and agricultural products. They are used in the same way to understand how to manipulate processes and practices to increase crop and livestock productivity, conserve natural resources and enhance food quality and safety. This programme provides the scientific and technical services and co-ordination requested by Member States to identify and apply nuclear methods which will provide a clearer definition of and better solution to specific constraints within these three high priority areas earmarked for inter-governmental action at the United Nations Conference on Environment and Development (UNCED) and the World Food Summit convened by FAO.

The strategic objectives and strategies for achievement in this major programme were developed through Member State participation in the Senior Expert Group (SEG), the PPAS review of individual subprogrammes and of Major Programme 2 and in thematic planning exercises, consultant group meetings and major conferences and seminars.

Programme Objective

To enhance capacities at national and international levels for identifying and alleviating constraints to sustainable food security by facilitating the development and adoption of nuclear and related biotechnologies.

Programme Performance Indicators

- Extent of interest by Member States and their institutions in participating in R&D activities and in using techniques and guidance formulated therefrom in national agricultural programmes and in technical co-operation projects supported by the Agency, other international organizations and bilateral donors.
- Number of CRPs and technical co-operation projects achieving objectives within specified budgets and time frames.
- Number of scientific publications produced by counterparts and staff in refereed journals.
- Member State use of the decision support systems provided.
- Agency and FAO Member State satisfaction with the programme.

The programme consists of five subprogrammes

D.1. Soil and Water Management and Crop Nutrition
D.2. Plant Breeding and Genetics
D.3. Animal Production and Health
D.4. Insect and Pest Control
D.5. Food and Environmental Protection

Key Programme Trends

In line with the recommendations of the recent PPAS reviews of Major Programme 2 and of each of its constituent subprogrammes, the objectives will increasingly be pursued through co-ordinated research which improves the technology element of scientific knowledge (including comparative assessments of nuclear and non-nuclear methods) and generates new knowledge with a strategic focus. Furthermore, this research will be pursued within a framework which recognizes the dimensions of the programme i.e. supporting intergovernmental undertakings, standards and agreements described in UNCED and the Global Plan of Action arising from the World Food Summit. These include inter alia: the United Nations Convention to Combat Desertification and Drought (under D.1 and in close collaboration with F.4) and the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources in Food and Agriculture (under D.2); and the OIE Animal Health Code, the International Plant Protection Convention, and the FAO/WHO Codex Alimentarius Food Standards (under D.3, D.4 and D.5, respectively) which underpin the Sanitary and Phytosanitary (SPS) Agreements of the Uruguay Round implemented by the WTO.

The role of the Seibersdorf Laboratory will be directed increasingly towards the provision of analytical quality assurance and reference services for assisting compliance with these international standards and agreements (particularly within D.5) and to providing support for the significant opportunities offered through application of molecular methods for crop improvement, and animal disease and insect pest control (within D.2, D.3 and D.4).

Local tailoring of well tested methods and concepts will be accomplished largely through technical co-operation projects, while strengthened decision support to Member States at both the technical and policy levels will be provided through enhanced analysis of results and experience, and by exploiting more forcefully the opportunities arising from new communication and computing technologies for unrestricted low cost access to information and interactive distance learning.

The need and opportunities for further improvement in technology and filling critical knowledge and information gaps, coupled with demand from Member States for services to technical co-operation projects, therefore form the basis of priority setting and resource allocation within the programme during 2001 and this will be reinforced in future biennia.

While not completely abandoning areas in which it has a comparative advantage, maintaining the programme's leadership role in international co-operation for agricultural development through research and technology transfer will consequently require adjustments to current resource allocations within and between the constituent subprogrammes. These adjustments take account of three broad but interrelated issues. First, the increasing maturity of food irradiation and of most nuclear techniques used to study soil nutrients and animal production, and the intention to make the International Consultative Group on Food Irradiation self-financing as of 2002. Second, the intention to strengthen work on water resource conservation and use efficiency, plant biotechnology, and outreach in general through enhanced and more integrated information products linked to the World Agriculture Information Centre based at FAO Headquarters. And third, current trends showing significantly reduced demand for technical co-operation projects in soils and food irradiation, continued high or increasing demand for activities in insect pest control and in animal production and health, and reduced utilization of the Seibersdorf Laboratory for training through fellowships and interregional training courses.

The basic structure of the programme remains as before, but the titles of individual subprogrammes are changed in accordance with recommendations of relevant PPAS reviews, the number of projects is reduced

from 21 to 15 and the number of CRPs from 41 to 33 compared with 2000. This was achieved through a process of consolidation of activities around strategic priority themes or programme elements and sharpening of project objectives to reflect the essential problem driven approach to the pursuit of goals.

It is recognized that the changes in the number of projects make it difficult to compare directly financial allocations to projects within specific subprogrammes approved for 2000 with the corresponding proposals for 2001, but the rationales and key trends provided for the programme as a whole and for individual subprogrammes provide the necessary information for the changes to resource levels proposed.

Key Programme Resource Trends

The funds allocated to this programme by the Agency and FAO are indicated together and total $13 420 000. The proposed resources for the Agency share of the programme amount to $10 848 000, reflecting a reduction of $30 000 compared with the 2000 budget. The Governing Body of FAO has approved its programme and budget for the period 2000–2001. Resource levels to be contributed to the Agency are expected to be the same for 2001 as for 2000, i.e. $2 572 000.

To best serve the memberships of the Agency and FAO, it is proposed to transfer staff and other resources within D.1 and D.5 for strengthening in particular work on insect pest control through D.4 and to a more limited extent plant biotechnology through D.2.

In keeping with the guidance provided by the PPAS review of Major Programme 2, the programme will implement approximately 20% fewer but more strategically focused CRPs in 2001 than in 2000. This does not produce a further dividend in non-staff travel costs since the programme already absorbed reductions totalling 20% during the previous biennium but direct and indirect savings made in meetings and associated staff costs during that period will continue to be utilized for enhancing programme effectiveness by increasing the value of contracts within some research projects and providing resources for individual contracts, consultancy services for strategic planning and developing improved information products. Details of these adjustments, which will be initiated during 2001 and, depending upon resource allocations to the programme from the Agency and FAO, will be reinforced during the next biennium, are provided within the descriptions for individual subprogrammes. The extrabudgetary contributions of $659 000 remain the same as in the year 2000.

PROGRAMME D: FOOD AND AGRICULTURE

Summary of Regular Budget Estimates by Subprogramme

Table 16

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
D.1	Soil and Water Management and Crop Nutrition	2 689 000	(205 000)	(7.6)	2 484 000	1.3	2 517 000
D.2	Plant Breeding and Genetics	2 436 000	122 000	5.0	2 558 000	1.1	2 586 000
D.3	Animal Production and Health	2 330 000	(15 000)	(0.6)	2 315 000	1.1	2 341 000
D.4	Insect and Pest Control	3 140 000	339 000	10.8	3 479 000	1.3	3 523 000
D.5	Food and Environmental Protection	2 855 000	(271 000)	(9.5)	2 584 000	1.0	2 609 000
	Total	13 450 000	(30 000)	(0.2)	13 420 000	1.2	13 576 000
Less:	FAO Budget Amount	2 572 000	-	-	2 572 000	-	2 572 000
Programme D - Food and Agriculture		10 878 000	(30 000)	(0.3)	10 848 000	1.4	11 004 000

Subprogramme Rationale

Demographic trends in developing countries in combination with low levels of per capita food consumption demand continued strong growth in food production and income generation to enhance food security. While land under production for crops and livestock is expanding in some regions where potential exists, the dominant trend is for intensified use of natural resources (land, water and biodiversity) to support the required productivity gains and increased diversification and specialisation of production systems. However, deforestation, overgrazing and poor farming practices are leading increasingly to erosion, desertification, salinisation and acidification of the land used for agriculture, to mining of the nutrients upon which plants and animals depend, and to shortages and pollution of water resources. Singly or in combination, these hinder present efforts to increase the competitiveness of the agricultural sector and its contribution to the economies of many countries and threaten its long term sustainability.

Current knowledge for achieving sustainable crop intensification through measures which both optimise the use of inputs and conserve resources within the diverse cropping systems and agro-ecological zones which exist in developing countries is inadequate. Isotope and nuclear techniques provide quantitative, precise, specific and dynamic information about such key components of productivity and sustainability as the sources, availability, uptake and losses of major nutrients and water as well as on critical processes such as organic matter turnover and soil erosion. They therefore help to identify and pilot test practices which take an integrated approach towards the management of soils, water and plant nutrients for increased productivity and which can be recommended subsequently to farmers, extension services and other decision makers for widespread adoption.

Subprogramme Objective

To assist Member States increase crop production and conserve resources by developing and fostering the better understanding and wider application of integrated soil, water and nutrient management practices through isotope and nuclear techniques.

Subprogramme Performance Indicators

- Number of institutions adopting ^{137}Cs for measurements of soil erosion and ^{15}N for selection of rhizobial inoculants for biofertilisers.
- Number of counterpart institutions demonstrating proficiency in ^{15}N measurements.
- Reports of CRP and technical co-operation project counterparts and results of reviews and evaluations indicating progress towards and attainment of specific objectives within specified timeframes and budgets.
- Quality and demand for publications produced by the Agency and publications by counterparts and staff in referred journals.
- Requests from Member States for technical co-operation projects involving the introduction or wider use of methodologies, protocols and cultivars developed through the project.

This subprogramme consists of three projects

D.1.01. *Development of Integrated Soil, Water and Nutrient Management Practices for Increasing Soil Fertility and Crop Yields* — to improve crop production in arid and semi-arid areas and in agroforestry systems by identifying and supporting the extension of sustainable soil, water and nutrient management practices using isotope and nuclear techniques.

D.1.02. *Development of Soil Management and Conservation Practices for Sustaining Crop Production and Environmental Protection* — to promote soil conservation and improved crop residue management by developing and encouraging the application of practices derived from measurements of soil erosion and organic matter turnover using isotope and nuclear methods.

D.1.03. *Support to Technical Co-operation Activities* — to provide sound and timely technical support for the planning and delivery of technical co-operation projects in soil and water management and crop nutrition.

Key Subprogramme Trends

Isotope and nuclear based methods for measuring biological nitrogen fixation and fertilizer use efficiency, for assessing sources and availability of phosphorus, and for measuring soil water are now largely mature, and by 2001 methods will be available for examining nutrient recycling from organic sources. As recommended by the PPAS on Major Programme 2, there is a need to increase awareness within Member States of the high potential of these methods through improved exchange and dissemination of information, and to guide their application and integration through country-specific technical co-operation projects for optimizing nutrient availability to enhance crop production. However, activities aimed at improving the quality and, most critically, to make ^{15}N measurement technology cheaper and more robust are essential to improve outreach and impact and therefore these aspects will also be strengthened. The focus of co-ordinated research within the subprogramme during 2001 and beyond will shift significantly towards meeting the twin challenges of arresting soil erosion and improving the efficiency of nutrient and water use in major cropping systems through nuclear techniques. This recognizes the strategic importance of these issues for food production and security, the results of ongoing work pointing to the significant advantages offered by the ^{137}Cs technique for measuring soil erosion and sedimentation and hence its potential for helping to identify remedial measures, and the fact that recent developments in both isotopic methods based on natural abundance and in non-nuclear methods for assessing water use efficiency by plants and for measuring soil water will require validation and comparative assessment. These activities will be pursued through six CRPs in 2001 — the same number as in 2000.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $2 484 000, representing a decrease of $205 000 for research through contracts and at Seibersdorf as compared with the adjusted 2000 budget.

D.2. Plant Breeding and Genetics

Subprogramme Rationale

While the development and wider adoption of improved soil, water and nutrient management practices are essential components of any agricultural development strategy, the need to improve, conserve and foster the sustainable utilization of plant genetic resources used for food and agriculture is recognized through the Convention on Biological Diversity, the World Food Summit and FAO's Global Plan of Action (GPA), all of which emphasize assisting Member States in building capacities to characterize, evaluate, improve and utilize sustainably their plant genetic resources.

Mutation techniques, which employ gamma rays, X-rays, fast neutrons, heavy ion beams or chemicals have proven value in developing new varieties with improved yield and tolerance to abiotic (e.g. drought and salinity) and biotic (e.g. blast resistance) stresses and have become the leading tool for genetic modifications of quality in food and industrial crops. Also, molecular markers which use radiolabelled nucleotides and autoradiography are now essential tools for the analysis and characterization of genomes and are increasingly being used to speed up identification of genes and selection of plant genotypes with agronomically useful characters.

Subprogramme Objective

To enable Member States raise yield potentials and adaptability of major and underexploited food and industrial crops to drought, salinity and other constraints through the integration of mutation techniques and supportive biotechnologies in national plant breeding programmes.

Subprogramme Performance Indicators

- Number of officially released improved germplasm with well characterized mutants for desired agronomic characters.
- Number of DNA probes and primers provided to and used by NARS.
- Reports of CRP and technical co-operation programme counterparts and results of reviews and evaluations indicating progress towards and attainment of specific objectives within specified timeframes and budgets.
- Quality and demand for publications produced by the Agency and publications by counterparts and staff in refereed journals.
- Requests from Member States for technical co-operation projects involving introduction or wider use of methodologies, protocols and cultivars developed through the project.

This subprogramme consists of three projects

D.2.01. *Induced Biodiversity for Breeding Crops with Increased Adaptability to Drought, Salinity and other Constraints* — to raise the yield potentials, quality and adaptability of food and industrial crops to drought, salinity and other constraints through development and application of mutation techniques and supportive biotechnologies.

D.2.02. *Genetic Characterization of Mutated Germplasm Using Molecular Markers* — to identify, isolate, characterize and transfer agronomically useful genes produced through mutation techniques using molecular marker methods.

D.2.03. *Support to Technical Co-operation Activities* — to provide sound and timely technical support for the planning and delivery of technical co-operation projects.

Key Subprogramme Trends

Induction of mutations in crop plants through exposure of their seeds to radiation and other mutagens has and will continue to bring substantial benefits to Member States either directly or indirectly through the use of mutated genes in cross breeding programmes. However, this is now a mature technology and consequently will be pursued in the future through technical co-operation projects. Also, and consistent with the PPAS assessment, research on plant in vitro systems at Seibersdorf will be reduced substantially. The major focus of R&D through the subprogramme (to be pursued through 5 CRPs in 2001 compared with 7 in 2000) is therefore on exploiting the considerable synergies offered by mutation techniques and modern biotechnologies for speeding up the selection of useful genotypes produced by mutation induction and for improved characterization, isolation and transfer of mutated genes into existing cultivars. One approach being followed is to develop reliable methods for inducing and selecting agronomically useful mutations in crops using tissue or cell culture. The other, and major new strategic thrust in the subprogramme is to validate and conduct comparative assessments of isotope and non-isotope based molecular marker methods for characterizing and cloning agronomically important mutated genes and for monitoring the successful transfer of these genes into existing germplasm. Both the PPAS of Major Programme 2 and the earlier subprogramme PPAS recommended that activities dealing with genetic analysis of crops using molecular methods should be expanded, not only because of their direct and more immediate role in facilitating plant breeding per se, but because of their strategic longer term importance for better characterizing biodiversity, understanding plant

genetics and protecting intellectual property rights. The subprogramme proposes to do this in 2001 and beyond through CRPs aimed at identifying, isolating and transferring genes linked to drought or salinity tolerance and resistance to plant diseases, and through expanded operations at Seibersdorf enabling provision of DNA fingerprinting services to Member States to assist national programmes to characterize, improve and protect plant genetic resources developed through mutation techniques.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $2 558 000, reflecting an increase of $122 000 compared with the 2000 budget, made possible through re-allocation of resources from other subprogrammes.

D.3. Animal Production and Health

Subprogramme Rationale

The World Food Summit identified intensification of livestock production systems as a key element for enhancing food security in many developing countries and for responding to the increased demand for livestock products as incomes rise in others. Arising from changing patterns of land use and crop production, livestock owners and government authorities are having to grapple with the challenge of increasing productivity without degrading the feed and genetic resources upon which production depends, while at ther same time ensuring that diseases, particularly those which spread rapidly across borders and impact on trade, are brought progressively under control or eradicated.

Isotope and related biotechnological techniques (RIA, ELISA and PCR), appropriately integrated with other methodologies, provide substantial added value to national and international efforts to enhance livestock productivity through more effective feed and genetic resource utilization, breeding management and disease control. This derives from their uniqueness in terms of high sensitivity, specificity, speed, throughput and/or low cost – one or all of which is essential or provides comparative advantages for developing, testing and disseminating effective knowledge-based practices and support systems amongst livestock owners and national and international bodies.

Subprogramme Objective

To assist Member States improve livestock productivity and disease management through the development and application of nuclear techniques and related biotechnologies.

Subprogramme Performance Indicators

- Number of artificial insemination centres using RIA in developing countries.
- Number of national veterinary laboratories using assays and internationally recognized QA procedures for animal disease diagnosis and control validated through CRPs.
- Approval by OIE of veterinary laboratory accreditation system.
- Reports of CRP and technical co-operation project counterparts, and results of reviews and evaluations indicating progress towards and attainment of specific objectives within specified timeframes and budgets.

- Quality and demand for publications produced by the Agency and publications by counterparts and staff in refereed journals.

- Requests from Member States for technical co-operation projects involving introduction or wider use of methodologies, protocols and cultivars developed through the project.

This subprogramme consists of three projects

D.3.01. *Technologies for Improved Management of Feed Resources and Livestock Breeding* — to reduce nutritional and reproductive constraints to livestock development in peri-urban and mixed crop–livestock systems by identifying them, formulating interventions and monitoring the benefits using isotopic methods.

D.3.02. *Improved Diagnosis of Selected Livestock Diseases and Monitoring of Control Programmes* — to strengthen diagnosis and surveillance for the prevention and progressive control of major livestock diseases through development and application of immunoassay and molecular methods.

D.3.03 *Support to Technical Co-operation Activities* — to provide sound and timely technical support for the planning and delivery of technical co-operation projects in animal production and health.

Key Subprogramme Trends

Research to develop RIAs for measuring reproductive hormones and to validate their application for monitoring reproductive efficiency in a variety of livestock species and to assess and alleviate constraints within national artificial insemination services will be phased out following successful completion in 2001. Future work on these aspects, together with efforts to establish regional capabilities to produce and distribute quality assured reagents and assays, will be pursued through technical co-operation projects which were given high priority by the PPAS review of Major Programme 2. Research until the end of the 2002–2003 biennium will focus on conducting comparisons between isotopic and non-isotopic methods to analyse feeds and understand the constraints to animal nutrition caused by plant tannins, and on developing approaches for more effective use of tanniferous feeds in production systems. Consistent with the recommendations of the subprogramme PPAS review, work will continue on developing and validating immunoassay and molecular methods for diagnosing priority livestock diseases in developing countries with emphasis until 2004 on foot-and-mouth and Newcastle diseases, and African swine fever. Technical co-operation projects, for which there is strong demand from Member States and a high level of integration with regional and global programmes funded by other bodies, will employ diagnostic and surveillance methods and strategies which have already been fully validated through previous co-ordinated research. These are designed to monitor and improve the effectiveness of national, regional and global control and eradication programmes and to promote regional self-sufficiency in production and quality assurance of required reagents and test protocols. The number of CRPs implemented through this subprogramme will be 7 in 2001 compared with 9 in 2000.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $2 315 000, reflecting a decrease of $15 000 compared with the 2000 budget.

Subprogramme Rationale

In most developing countries insect pests threaten food security through the losses caused to crops and livestock and the reduced opportunities available for more intensified and trade-oriented systems of production. In some countries, these losses are as high as 40%, but could well increase if present trends towards a general spread of pests continue due to expanded international trade in agricultural commodities and global climate change. One consequence is that insecticide use is increasing rapidly, and while these compounds are generally highly effective, their toxicity and lack of specificity coupled with the residues which they may leave in food and the environment all raise public concerns. The bottom line therefore is that future pest control has to be conducted in ways which do not impair biodiversity or degrade the environment and which place less reliance on pesticides. In effect, what is needed are more biologically and area-wide oriented approaches to pest management.

The sterile insect technique (SIT) which makes use of ionising radiation to reproductively sterilise but not otherwise affect the behaviour and mating vigour of insect pests, complements other integrated pest management (IPM) approaches and being species- specific, mitigates concerns about the adverse effects of chemicals on biodiversity. It has the additional advantage of appropriateness for establishing pest- free areas and areas of low pest prevalence, thereby providing better options for addressing the standards set by the International Plant Protection Convention administered by FAO and the technical barriers to trade and other phytosanitary issues covered by the Uruguay Round Agreements under the WTO.

Subprogramme Objective

To assist Member States with area-wide control or eradication of major insect pests of crops and livestock by developing and integrating SIT with other methods.

Subprogramme Performance Indicators

- Number of mass rearing centres and recipient SIT release projects using strains or referring to operational manuals and international standards developed by the subprogramme.
- Number of collaborators trained through interregional, regional and national training courses and workshops.
- Number of decision making groups requesting advice and information on the management of key insect pest problems using nuclear methods.
- Reports of CRP and technical co-operation project counterparts, and results of reviews and evaluations indicating progress towards and attainment of specific objectives within specified time frames and budgets.
- Quality and demand for publications produced by the Agency and publications by counterparts and staff in referred journals.
- Requests from Member States for technical co-operation projects involving the introduction or wider use of methodologies, protocols and cultivars developed through the project.

This subprogramme consists of three projects

D.4.01. *Area-wide Management of Crop Insect Pests Using SIT* — to provide support for the control and/or eradication of fruit flies and other major crop pests by area-wide management through developing and integrating SIT with other methods.

D.4.02. *Area-wide Management of Livestock Insect Pests Using SIT* — to provide support for the control and/or eradication against tsetse transmitted trypanosomosis and screwworm fly myiasis by area-wide management through the development and integration of SIT with other methods.

D.4.03. *Support to Technical Co-operation Activities* — to provide sound and timely technical support for the planning and delivery of technical co-operation projects.

Key Subprogramme Trends

Losses in production and trade in crops and livestock and their products due to major insect pests coupled with rising concerns about food safety and quality and biodiversity due to greater use of pesticides have led to demands at national and international levels for the development and introduction of area-wide and biological approaches for the control and eradication of these pests. Simultaneously, increasing numbers of Member States have benefited from insect pest intervention programmes which, through use of SIT, incorporate these concepts. This in turn has driven demand both for more technical co-operation projects and for further R&D to enhance the effectiveness of released sterile flies, and to explore opportunities for extending both SIT and related nuclear applications to other species of economically important insect pests. Against this background and recent guidance provided by both the Major Programme 2 and subprogramme PPAS reviews, traditional R&D on medfly mass rearing and routine development of genetic sexing strains at Seibersdorf will be scaled down since both the products and processes are now essentially available and can therefore be tailored to local needs through technical co-operation projects. Research on medfly female attractants and on mating behaviour will also be reduced or phased out, resulting in a reduction in the number of CRPs from 9 in 2000 to 8 in 2001. Research will, however, continue to be co-ordinated between Member States and Seibersdorf for developing both sexing and marker strains of medfly through molecular genetics, and greater impetus will be given to work on mass rearing and molecular genetics of tsetse flies through both co-ordinated research and technical co-operation projects. The subprogramme will also continue to co-ordinate research on other fruit flies of economic importance while exploring the technical and financial feasibility of establishing quarantine facilities at Seibersdorf to support this work, and it will introduce research using molecular markers to establish genetic relationships within major fly belts between old and new world screwworms and tsetse flies.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $3 479 000, reflecting an increase of $339 000 compared with the 2000 budget to cover the additional staff and associated costs at Seibersdorf for research and staff at Headquarters to provide technical support to Member States for technical co-operation projects.

D.5. Food and Environmental Protection

Subprogramme Rationale

Trade in food and agricultural commodities has become increasingly global following the GATT Uruguay Round of multilateral negotiations and establishment of the WTO. The Agreements on the Application of Sanitary and Phytosanitary Measures (SPS) and on Technical Barriers to Trade (TBT) being enforced by the WTO are of particular relevance to agriculturally related trade with demands for improved food safety leading to increased scrutiny and regulation of exports from developing countries in major food importing countries.

However, as stressed by the World Food Summit, ensuring food quality and safety are integral components of food security and consumer protection in all countries.

Irradiation is an effective method to control food-borne pathogens in solid food such as poultry, meat, seafood and spices without affecting product quality. It is also a broad spectrum control method for insect pests and is endorsed as a phytosanitary measure by regional plant protection organizations operating within the framework of the International Plant Protection Convention. Its role as a sanitary and phytosanitary treatment of food and agricultural commodities is therefore increasing and is likely to increase further as the use of major food fumigants such as methyl bromide is either prohibited or increasingly restricted. Additionally, nuclear analytical methods (GC with electron capture detector, RIA, gamma spectrometry and XRF) coupled with the use of isotopically-labelled compounds are essential components of the armoury used by food and environmental control organizations for analysing food and environmental samples for compliance with Codex and national environmental standards as well as for validating and improving sampling and analytical methods.

Subprogramme Objective

To strengthen compliance with international standards and codes of conduct for plant, animal and consumer protection through assistance to Member States in food irradiation and nuclear and related analytical methods.

Subprogramme Performance Indicators

- Acceptance of international guidelines on irradiation as phytosanitary treatment of food.
- Number of Member States with regulations harmonized according to the Codex Standard on irradiated foods.
- Number of Member States with laboratories accredited to analyse food contaminants.
- Reports of CRP and technical co-operation project counterparts, and results of reviews and evaluations indicating progress towards and attainment of specific objectives within specified time frames and budgets.
- Quality and demand for publications produced by the Agency and publications by counterparts and staff in refereed journals.
- Requests from Member States for technical co-operation projects involving introduction or wider use of methodologies, protocols and cultivars developed through the project.

This subprogramme consists of three projects

D.5.01. *Irradiation as a Sanitary and Phytosanitary Treatment of Food* — to strengthen national capacities for introducing irradiation as a sanitary and phytosanitary treatment of food and agricultural commodities, based on the principles of the Codex General Standard for Irradiated Foods and the International Plant Protection Convention.

D.5.02. *Analysis of Food Contaminants and Residues and Pesticide Products* — to strengthen analytical capabilities for food and environmental contaminants and residues and pesticide quality in compliance with relevant standards of the FAO/WHO Codex Alimentarius Commission and the FAO Code of Conduct on Distribution and Use of Pesticides.

D.5.03. *Support to Technical Co-operation Activities* — to provide sound and timely technical support for the planning and delivery of technical co-operation projects.

Key Subprogramme Trends

This subprogramme has provided leadership to the development of international standards, regulations and guidelines on food irradiation, and to implementing and improving public understanding of the process in Member States through its roles of co-ordinating research, acting as a forum for the development of technical and policy advice through expert consultations and providing the Secretariat for the International Consultative Group on Food Irradiation. Its efforts have brought food irradiation to its present advanced level of maturity and ever increasing commercialization and public acceptance. While there will be a continuing need to respond to requests from Member States, regional bodies and the public for decision support through information, advice and technical co-operation projects, R&D co-ordinated by the Agency will be phased out — a decision supported by the PPAS review of Major Programme 2. Consequently, this subprogramme will implement 7 CRPs in 2001 compared with 10 in 2000. Also, on the basis of the above rationale it is intended to make ICGFI self-financed when its present mandate expires and in the intervening period to reduce the Agency's contribution to secretariat services.

Resources will be increasingly channelled towards support for monitoring contaminants and residues in food and the environment. This responds to the trend of more globalized trade in food, increasing concerns about food safety, and recommendations arising from UNCED and FAO and WHO forums to strengthen and better co-ordinate United Nations and other assistance to developing Member States for meeting international standards on food and environmental protection. It recognizes the increasing opportunities offered by existing nuclear analytical methods, the role of isotopes in developing more robust and cost effective approaches and the need to encourage international harmonization. It further recognizes the existence of the Seibersdorf Laboratory and its core competencies in analytical methodologies, related quality assurance procedures and human resource development through training — the last of these being regarded by the PPAS as particularly important for technical co-operation projects and for which demand will probably increase.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $2 584 000, reflecting a decrease of $271 000 compared with the 2000 budget due to reduced funds for research contracts and staff requirements to co-ordinate research and provide support for technical co-operation projects in food irradiation and secretariat services for ICGFI.

PROGRAMME D: FOOD AND AGRICULTURE
Summary of Regular Budget Estimates by Project
Table 17

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
D.1.	Soil and Water Management and Crop Nutrition									
D.1.01	Development of Integrated Soil, Water and Nutrient Management Practices for Increasing Soil Fertility and Crop Yields	D.1.01	2005	NAFA NAAL FAO/NAFA FAO/NAAL	909 000	350 000	38.5	1 259 000	1.4	1 276 000
D.1.02	Development of Soil Management and Conservation Practices for Sustaining Crop Production and Environmental Protection	D.1.02	2004	NAFA NAAL FAO/NAFA FAO/NAAL	685 000	48 000	7.0	733 000	1.1	741 000
D.1.03	Technical Support for TC Activities in D.1	D.1.03	2003	NAFA NAAL FAO/NAFA FAO/NAAL	1 095 000	(603 000)	(55.1)	492 000	1.6	500 000
	Sub-total D.1.				2 689 000	(205 000)	(7.6)	2 484 000	1.3	2 517 000
D.2.	Plant Breeding and Genetics									
D.2.01	Induced Biodiversity for Breeding Crops with Increased Adaptability to Drought, Salinity and Other Constraints	D.2.01, 03	2005	NAFA NAAL FAO/NAFA FAO/NAAL	979 000	(85 000)	(8.7)	894 000	1.1	904 000
D.2.02	Genetic Characterization of Mutated Germplasm Using Molecular Markers	D.2.02	2006	NAFA NAAL FAO/NAFA FAO/NAAL	530 000	529 000	99.8	1 059 000	1.0	1 070 000
D.2.03	Technical Support for TC Activities in D.2	D.2.04	2003	NAFA NAAL FAO/NAFA FAO/NAAL	927 000	(322 000)	(34.7)	605 000	1.2	612 000
	Sub - total D.2.				2 436 000	122 000	5.0	2 558 000	1.1	2 586 000
D.3.	Animal Production and Health									
D.3.01	Technologies for Improved Management of Feed Resources and Livestock Breeding	D.3.01	2003	NAFA NAAL FAO/NAFA FAO/NAAL	439 000	101 000	23.0	540 000	1.3	547 000
D.3.02	Improved Diagnosis of Selected Livestock Diseases and Monitoring of Control Programmes	D.3.02, 03	2004	NAFA NAAL FAO/NAFA FAO/NAAL	914 000	149 000	16.3	1 063 000	0.9	1 073 000
D.3.03	Technical Support for TC Activities in D.3	D.3.04	2002	NAFA NAAL FAO/NAFA FAO/NAAL	977 000	(265 000)	(27.1)	712 000	1.3	721 000
	Sub-total D.3.				2 330 000	(15 000)	(0.6)	2 315 000	1.1	2 341 000

PROGRAMME D: FOOD AND AGRICULTURE
Summary of Regular Budget Estimates by Project
Table 17 (Contd.)

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
D.4.	Insect and Pest Control									
D.4.01	Area-Wide Management of Crop Insect Pests Using SIT	D.4.01, 02 D.4.03, 04	2005	NAFA NAAL FAO/NAFA FAO/NAAL	857 000	328 000	38.3	1 185 000	1.4	1 202 000
D.4.02	Area-Wide Management of Livestock Insect Pests Using SIT	D.4.01, 02 D.4.03, 04	2006	NAFA NAAL FAO/NAFA FAO/NAAL	831 000	295 000	35.5	1 126 000	1.1	1 138 000
D.4.03	Technical Support for TC Activities in D.4	D.4.05	2003	NAFA NAAL FAO/NAFA FAO/NAAL	1 452 000	(284 000)	(19.6)	1 168 000	1.3	1 183 000
	Sub - total D.4.				3 140 000	339 000	10.8	3 479 000	1.3	3 523 000
D.5.	Food and Environmental Protection									
D.5.01	Irradiation as a Sanitary and Phytosanitary Treatment of Food	D.5.01, 04	2003	NAFA NAAL FAO/NAFA FAO/NAAL	1 155 000	(880 000)	(76.2)	275 000	1.8	280 000
D.5.02	Analysis of Food Contaminants and Residues and Pesticide Products	D.5.02, 03	2005	NAFA NAAL FAO/NAFA FAO/NAAL	1 055 000	686 000	65.0	1 741 000	0.8	1 755 000
D.5.03	Technical Support for TC Activities in D.5	D.5.05	2002	NAFA NAAL FAO/NAFA FAO/NAAL	645 000	(77 000)	(11.9)	568 000	1.1	574 000
	Sub - total D.5.				2 855 000	(271 000)	(9.5)	2 584 000	1.0	2 609 000
	Total				13 450 000	(30 000)	(0.2)	13 420 000	1.2	13 576 000
	Less: FAO Budget Amount				2 572 000	-	-	2 572 000	-	2 572 000
Programme D - Food and Agriculture					10 878 000	(30 000)	(0.3)	10 848 000	1.4	11 004 000

PROGRAMME D: FOOD AND AGRICULTURE
List of Projects and Estimated Total Resources for 2001
Table 18

Project Codes			Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
D.1.	Soil and Water Management and Crop Nutrition								
D.1.01	Development of Integrated Soil, Water and Nutrient Management Practices for Increasing Soil Fertility and Crop Yields		NAFA	0.8	0.8	1 276 000	-	-	-
			NAAL	2.1	2.1				
			FAO/NAFA	0.1	0.1				
			FAO/NAAL	-	1.5				
D.1.02	Development of Soil Management and Conservation Practices for Sustaining Crop Production and Environmental Protection		NAFA	0.9	0.8	741 000	-	-	-
			NAAL	0.4	1.5				
			FAO/NAFA	0.1	-				
			FAO/NAAL	-	0.1				
D.1.03	TC Activities in D.1	Technical Support	NAFA	1.6	1.0	500 000	-	-	-
			NAAL	0.7	1.0				
			FAO/NAFA	-	0.5				
			FAO/NAAL	0.1	0.4				
		Projects	TC	-	-	-	-	-	1 541 000
			NAFA	3.3	2.6				
			NAAL	3.2	4.6				
			FAO/NAFA	0.2	0.6				
			FAO/NAAL	0.1	2.0				
	Sub-total D.1.			6.8	9.8	2 517 000	-	-	1 541 000
D.2.	Plant Breeding and Genetics								
D.2.01	Induced Biodiversity for Breeding Crops with Increased Adaptability to Drought, Salinity and Other Constraints		NAFA	0.8	0.3	904 000	-	200 000	-
			NAAL	0.6	0.6				
			FAO/NAFA	5.0	4.0				
			FAO/NAAL	1.0	0.1				
D.2.02	Genetic Characterization of Mutated Germplasm Using Molecular Markers		NAFA	0.8	0.4	1 070 000	-	-	-
			NAAL	1.1	0.6				
			FAO/NAFA	0.8	0.2				
			FAO/NAAL	-	1.2				
D.2.03	TC Activities in D.2	Technical Support	NAFA	1.8	0.8	612 000	-	-	-
			NAAL	0.5	0.4				
			FAO/NAFA	0.8	0.2				
			FAO/NAAL	-	0.7				
		Projects	TC	-	-	-	-	-	1 769 000
			NAFA	3.4	1.5				
			NAAL	2.2	1.6				
			FAO/NAFA	6.6	4.4				
			FAO/NAAL	1.0	2.0				
	Sub - total D.2.			13.2	9.5	2 586 000	-	200 000	1 769 000

PROGRAMME D: FOOD AND AGRICULTURE
List of Projects and Estimated Total Resources for 2001
Table 18 (Contd.)

Project Codes			Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
D.3.	Animal Production and Health								
D.3.01	Technologies for Improved Management of Feed Resources and Livestock Breeding		NAFA	0.4	0.3	547 000	-	-	-
			NAAL	0.2	0.3				
			FAO/NAFA	-	0.3				
			FAO/NAAL	0.1	-				
D.3.02	Improved Diagnosis of Selected Livestock Diseases and Monitoring of Control Programmes		NAFA	0.5	0.3	1 073 000	155 000	304 000	-
			NAAL	0.4	0.5				
			FAO/NAFA	0.6	0.3				
			FAO/NAAL	-	1.5				
D.3.03	TC Activities in D.3	Technical Support	NAFA	1.4	0.9	721 000	-	-	-
			NAAL	0.6	0.8				
			FAO/NAFA	0.6	0.6				
			FAO/NAAL	-	0.5				
		Projects	TC	-	-	-	-	-	2 075 000
			NAFA	2.3	1.5				
			NAAL	1.2	1.6				
			FAO/NAFA	1.2	1.2				
			FAO/NAAL	0.1	2.0				
	Sub-total D.3.			4.8	6.3	2 341 000	155 000	304 000	2 075 000
D.4.	Insect and Pest Control								
D.4.01	Area-Wide Management of Crop Insect Pests Using SIT		NAFA	0.4	0.5	1 202 000	-	-	-
			NAAL	1.3	1.8				
			FAO/NAFA	0.2	0.2				
			FAO/NAAL	-	1.3				
D.4.02	Area-Wide Management of Livestock Insect Pests Using SIT		NAFA	0.3	0.3	1 138 000	-	-	-
			NAAL	1.3	1.0				
			FAO/NAFA	0.2	0.3				
			FAO/NAAL	0.7	2.0				
D.4.03	TC Activities in D.4	Technical Support	NAFA	1.7	0.8	1 183 000	-	-	-
			NAAL	1.6	1.8				
			FAO/NAFA	0.8	0.7				
			FAO/NAAL	0.3	1.7				
		Projects	TC	-	-	-	-	-	4 870 000
			NAFA	2.4	1.6				
			NAAL	4.2	4.6				
			FAO/NAFA	1.2	1.2				
			FAO/NAAL	1.0	5.0				
	Sub - total D.4.			8.8	12.4	3 523 000	-	-	4 870 000

E. Human Health

Programme Rationale

Cancer, infection and malnutrition are amongst the world's most significant health problems. They can all be addressed by nuclear and related technologies — nuclear medicine, radiation medicine, dosimetry and the application of isotopes. Member States continue to acknowledge the Agency's capability to help them via a human health programme which evaluates and disseminates information on nuclear and related technologies for application in Member States.

Programme Objective

To enhance the capabilities of developing Member States to address important health problems through the development and application of nuclear and related techniques in areas where they confer advantages in comparison with conventional techniques or by themselves constitute the conventional technique.

Programme Performance Indicators

- Adoption of techniques, products and standards developed through the programme by counterparts and national agencies/ministries.
- Contribution of Agency work to international standard setting and guidelines.
- Number of analytical methods validated and proficiency testing procedures implemented by the Agency's Laboratories.
- Number of requests for participation in TLD dose verification and SSDL network services.
- Continued use by Member States of techniques, products, processes and knowledge transferred and applied through projects and training courses.
- Utilization of Internet site as an internal and external communications tool with sectoral ministries.
- Number of requests for scientific publications, training manuals, guidance documents and information, and attendance of staff at international scientific and policy making meetings.

This programme consists of four subprogrammes

E.1. Nuclear Medicine
E.2. Applied Radiation Biology and Radiotherapy
E.3. Dosimetry and Medical Radiation Physics
E.4. Nutritional and Health-related Environmental Studies

Key Programme Trends

Member State requests for technical co-operation in the field of human health continue to increase as has been the case for the last seven years. Activities related to radiation therapy retain high priority. The dosimetry services (TLD and SSDL) are intimately related to radiation therapy and have also been strengthened. The total number of CRPs has been reduced from 38 in 2000 to 29 in 2001.

Project E.2.02 from the previous budget cycle has been phased out; Projects E.2.02 and E.2.04 in this budget cycle are new.

Key Programme Resource Trends

The proposed resources for this programme amount to $6 104 000, reflecting a total decrease of $39 000, or 0.6%, compared with the 2000 budget.

PROGRAMME E: HUMAN HEALTH

Summary of Regular Budget Estimates by Subprogramme

Table 19

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
E.1	Nuclear Medicine	1 664 000	(19 000)	(1.1)	1 645 000	1.7	1 673 000
E.2	Applied Radiation Biology and Radiotherapy	991 000	(1 000)	(0.1)	990 000	3.0	1 020 000
E.3	Dosimetry and Medical Radiation Physics	1 634 000	6 000	0.4	1 640 000	1.5	1 665 000
E.4	Nutritional and Health-related Environmental Studies	1 854 000	(25 000)	(1.3)	1 829 000	1.7	1 860 000
Programme E - Human Health		6 143 000	(39 000)	(0.6)	6 104 000	1.9	6 218 000

Subprogramme Rationale

Nuclear medicine is a clinical speciality devoted to diagnostic, therapeutic and research applications of internally administered radioactive substances. It has been widely applied because of its non-invasive nature and its ability to provide information about organ function and to detect abnormalities at a very early stage, long before the onset of structural changes.

Because of its orientation towards high technology, the introduction of a nuclear medicine programme in Member States would be capital intensive and involve a need for considerable technical expertise. Continuous investment would be needed to maintain a sophisticated infrastructure. However, a set of basic instruments (e.g. gamma camera) or laboratory equipment along with radioisotopes is all that is needed to offer a wide variety of cost effective applications to effectively address major health problems.

No other international organization apart from the Agency has any specific mandate for the application of nuclear energy in the area of human health. Hence the role of the Agency is unique and almost indispensable in the promotion of nuclear medicine in developing countries.

Subprogramme Objective

To enhance the awareness and capabilities of Member States to employ in vitro and in vivo nuclear medicine technology efficiently, in a cost effective manner, for managing their important health problems, and for undertaking basic and clinical research in subjects relevant to national conditions.

Subprogramme Performance Indicators

- Effective exchange of technical information with end users in Member States through various scientific forums.
- Number of analytical, diagnostic and treatment methods tested, validated and introduced in routine health care in the Member States.
- Number of CRP participants and research contracts.
- Number of requests received for installing and upgrading gamma cameras.
- Number of presentations at international conferences of results of scientific research undertaken in the Member States as a part of CRPs.
- Qualitative and quantitative assessment of any significant changes in the health care of people using nuclear medicine procedures resulting from the Agency's activities.
- Number of national or regional research projects initiated by scientists in Member States to address health problems indigenously through research and development using nuclear medicine technology.

This subprogramme consists of five projects

E.1.01. *Radionuclide Based in vitro Molecular Methods for the Diagnosis and Management of Viral Hepatitis, Chagas Disease and Diabetes* — to strengthen Member State capability to apply new advances in robust nuclear based and related in vitro biomolecular and biotechnological methods for cost effective investigation and management of infectious, neoplastic, genetic and degenerative diseases.

E.1.02. *Therapeutic Applications of Unsealed Radioactive Sources in the Management of Liver Cancer, Thyroid Cancer and Coronary Artery Disease* — to update, promote and improve the scope of therapeutic applications of unsealed radioactive sources in the management of a spectrum of benign and malignant conditions including thyrotoxicosis, cancer thyroid, cancers of the liver and breast, tumours of neuroendocrine origin, colorectal cancer, bone metastases and coronary artery disease.

E.1.03. *Enhancing Cost Effectiveness of Health Care Using in Vivo Diagnostic Nuclear Medicine Techniques* — to support Member States in establishing uses of appropriate in vivo diagnostic nuclear medicine technology and their integration into the routine health care services for improved management of common and important clinical conditions in a cost effective manner vis-à-vis other complementary and/or competing diagnostic modalities.

E.1.04. *Quality Control of Gamma Cameras, SPECT and PET Systems; Development and Validation of an Internet Based Study Programme in Nuclear Medicine* — to ensure optimum performance of nuclear medicine instruments and establish standardized and uniform quality assurance protocols and programmes through regular, timely and appropriate upgrading and preventive maintenance of instruments and training of personnel; and to promote the concept of distance assisted training in nuclear medicine through the development and validation of a series of teaching resources on the Internet.

E.1.05. *Support to Technical Co-operation Activities* — to support the establishment of effective and efficient health care programmes in developing Member States using in vivo and in vitro nuclear medicine procedures through technically oriented and medically guided projects.

Key Subprogramme Trends

There will be a shift in emphasis from general to thematic projects in areas related to both the regular budget as well as technical co-operation.

In addition a shift will occur from basic infrastructure development to clinically oriented and problem solving projects. An overall clinical orientation to the entire subprogramme is envisaged through greater emphasis on strengthening Member State capabilities in the fields of radionuclide therapy, metabolic and receptor imaging, radioguided surgery, SPECT and PET imaging, novel immobilization techniques in radioimmunoassay, molecular methods in managing multi-drug resistance, genetic and infectious disorders, and the promotion of evidence based medicine.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 645 000, reflecting a decrease of $19 000, or 1.1%, compared with the 2000 budget.

Subprogramme Rationale

The incidence of cancer is predicted to increase worldwide from the current figure of 10 million per year (of which 5.7 million are in developing countries) to 15 million in 2015. Cancer can be cured in about 45% of patients with access to the best current treatment, of which radiation oncology is a major modality. There is a need for both improvement in cure rates attributable to radiotherapy and for making this technology accessible and achievable in developing Member States. The Agency is the only United Nations organization that provides comprehensive assistance to Member States in radiation therapy.

Subprogramme Objective

To assist developing countries in identifying and acquiring techniques for curative and palliative cancer treatment with radiation; to promote clinical quality assurance in all aspects of patient management; and to continually upgrade the Agency's available information on current techniques in radiation oncology to identify those with potential for wider dissemination.

Subprogramme Performance Indicators

- Four clinical trials completed and published.
- Two or more ongoing trials on resource sparing clinical protocols.
- Distance learning package validated for a country in Africa and South America.
- Number of countries adopting improved radiation oncology technology recommended by the Agency, measured by different parameters such as: increased number of patients treated (brachytherapy >50; teletherapy >500); improved QA (cure rates increase by 10% in cervical cancer; 30% in paediatric cancer); improved immobilization (treatment margins reducible from 2 cm to 0.5 cm.), etc.

This subprogramme consists of five projects

E.2.01. *Tumour Response to Chemical and Biological Modification of Radiation Therapy* — to increase the effectiveness of radiation therapy by determining the response of tumours to radiation therapy modified by radiobiological intervention or chemo-sensitization.

E.2.02. *Economics of Radiation Oncology* — to increase the cost effectiveness of radiation therapy by determining the costs of establishing treatment facilities using teletherapy or brachytherapy and the cost implications to Member States of continued support of this equipment to maintain quality control at optimum levels.

E.2.03. *Optimization of Radiotherapy Resources* — to produce effective radiotherapy protocols or guidance for use in treatment of advanced malignancies in developing Member States.

E.2.04. *Education in Radiation Oncology and Associated Disciplines* — to provide developing Member States and the Agency with materials and resources to economize on or expedite the training of clinical professionals in radiation oncology and associated disciplines.

E.2.05. *Support to Technical Co-operation Activities* — to support the Agency's technical co-operation programme.

Key Subprogramme Trends

The major trend is to foster the safe and economical practice of radiation oncology in response to a rapidly increasing demand for such services from Member States through both technical co-operation programmes and requests for information. This will be achieved by reducing high technology research already adequately covered by international NGOs.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $990 000, reflecting a decrease of $1 000, or 0.1%, compared with the 2000 budget.

E.3. Dosimetry and Medical Radiation Physics

Subprogramme Rationale

International harmonization in absorbed dose determination is essential to guarantee that the same physical quantity is determined worldwide in the various applications of ionizing radiation to human health. In all cases quality assurance programmes are an essential component in today's applications; key elements in quality assurance are detailed procedures for dose determination, and verification of the delivered radiation dose using independent quality audits. The Agency is the only organization that provides to developing Member States the link to international standards for measuring radiation and the quality assurance in the calibration of radiation therapy machines and industrial irradiation facilities.

Subprogramme Objective

To assure controlled radiation dosages in the medical use of radiation and nuclear technologies and in industrial applications in Member States through the IAEA/WHO Network of Secondary Standards Dosimetry Laboratories (SSDLs) and the IAEA/WHO Network for TLD-based quality assurance for radiotherapy dosimetry, and by providing remote quality control for dosimetry at radiation processing facilities, by developing and disseminating standards of measurement and codes of practice for dosimetry techniques among Member States; by developing and maintaining the IAEA/WHO database of radiotherapy centres, and by organizing education programmes in medical radiation physics.

Subprogramme Performance Indicators

- Increase in the percentage of active members of the SSDL Network participating in intercomparisons and audits.
- Decrease in the number of discrepancies in intercomparisons and audits of SSDLs resolved.
- Increase in the number of SSDLs updating their standards and expanding their services to end users.
- Increase in the number of dosimeters distributed for dose assurance services.
- Increase in the number of radiotherapy beams having their calibration checked (returned dosimeters).
- Decrease in the number of discrepancies in radiotherapy beam calibrations resolved.

- Increase in the number of Member States developing national dose quality audits under the Agency's support.

- Increase in the number of countries adopting the Agency's new standards of measurement and codes of practice for dosimetry.

The subprogramme consists of four projects

E.3.01. *Network of Secondary Standards Dosimetry Laboratories (SSDLs)* — to ensure international consistency in radiation dosimetry through a network of national laboratories in Member States having performance levels that follow the criteria of the international measurement system; to ensure the availability of radiation measurement standards through the development and dissemination of standards to the SSDLs.

E.3.02. *Quality Assurance and Dose Audits to End-users* — to ensure the correct calibration of radiation beams used in radiotherapy procedures and in radiation processing, through mailed dosimetry services to medical centres and industrial sites.

E.3.03. *Quality Assurance, Dosimetry and Education in Radiotherapy Physics* — to improve radiation dosimetry in Member States and achieve homogeneity in the dosimetry procedures used at hospitals, through the development of new standards and codes of practice for radiation measurement in Member States; to compile and disseminate information on the status of radiotherapy equipment and staffing by developing and maintaining the IAEA/WHO directory of radiotherapy centres; and to educate and train professionals in medical radiation physics.

E.3.04. *Support to Technical Co-operation Activities* — to provide support to Agency technical co-operation activities.

Key Subprogramme Trends

The increased interest in quality assurance in radiotherapy and diagnostic radiology (including mammography) produces requests for developing and disseminating new standards and codes of practice for radiation dosimetry, and for establishing audit teams for resolving discrepancies detected with the dosimetry services. The implementation of new tasks is compensated for by restricting high dose dosimetry activities to the operation of the IDAS laboratory service, without further scientific or developmental tasks. International harmonization is strengthened by synchronization of activities with other international organizations (WHO, ICRU, etc.).

Key Subprogramme Resource Trends

The largest percentage of the financial resources (55%) is used to provide dosimetry services to Member States and to provide support to Agency technical co-operation activities (30%). The remaining budget is for the development and standardization of dosimetry procedures, and for information exchange and dissemination. It is intended to update the equipment of the Agency's Dosimetry Laboratory in order to implement and maintain the new services.

The proposed resources for this subprogramme amount to $1 640 000, reflecting an increase of $6 000, or 0.4%, compared with the 2000 approved budget.

E.4. Nutritional and Health-related Environmental Studies

Subprogramme Rationale

Metabolic studies of nutritional disease and related clinical measurements and nuclear based techniques such as tracer techniques, radioimmunoassay and isotope dilution methods are widely recognized as indispensable for the management of malnutrition. These activities fall within the United Nations global strategy on human nutrition as formulated in regular consultations under the auspices of the United Nations Subcommittee on Nutrition to achieve a cohesive and integrated output. The Agency has been requested to provide the technical support for the subcommittee through its expertise in isotope techniques.

Non-radioactive pollutants as airborne particulate matter in the size range of <10 μm affect human health and require biomonitoring. International harmonization of methodologies is crucial for conducting measurements on radionuclides in the environment.

Subprogramme Objectives

To improve the sensitivity of nutrition monitoring techniques for identifying effective food and nutrition strategies; biomonitoring the environment to identify the origin of pollutants, and to study their impact on human health through the use of nuclear and isotopic techniques as unique and essential tools; to strengthen analytical quality assurance and harmonize the methodology of environmental radioactivity measurements.

Subprogramme Performance Indicators

- Increase in the number of laboratories using nuclear and isotopic techniques for projects addressing problems of micronutrient malnutrition and environmental pollution.
- Increase in the number of investigators in developing countries as a result of capacity building initiatives.
- Recognition by other United Nations agencies of the technical capabilities and competence of the Agency in the areas of nutritional and environmental research.
- Increase in the number of national and international projects reporting the use of isotopic methods to improve the sensitivity of nutrition monitoring techniques.
- Increase in the number of countries capable of identifying Helicobacter pylori infection in children using isotopic tools.
- Increase in the demand for publications produced by the Agency.
- Increase in the number of laboratories joining the ALMERA network of laboratories.

The subprogramme consists of four projects

E.4.01. *Applied Human Nutrition Assessment and Research Using Nuclear and Isotopic Techniques* — to work with the research community of the Member States to promote co-operation between the developing and the developed countries to improve the information and technology base for implementation of national and regional developmental programmes; and to use isotopic tools to improve the sensitivity of nutrition monitoring techniques and strengthen the diagnostic capability of clinical measurements related to nutritional disorders.

E.4.02. *Environmental Pollution Monitoring and Research Using Nuclear and Related Analytical Techniques* — to identify the source and evaluate the fate of key non-radioactive environmental

contaminants and provide the basis for improved health for human populations by the use of nuclear and related techniques (mainly NAA, PIXE, XRF and ICP-MS).

E.4.03. *Radionuclides in the Environment* — to provide for the assessment of radiological risk associated with radionuclides in the environment through accurate measurement of radionuclide concentrations in representative samples.

E.4.04. *Support to Technical Co-operation Activities* — to provide support to the Agency's technical co-operation programme.

Key Subprogramme Trends

- More effective use of joint United Nations resources devoted to nutritional and health related environmental studies.
- Development of functional networks to work on problems of common interest such as the alleviation of micronutrient malnutrition.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 829 000, reflecting a decrease of $25 000, or 1.3%, compared with the 2000 budget. The largest percentage of the financial resources (38.9%) is used for human nutrition assessment and research in Member States and for health related environmental studies (25.1%). The remaining budget is for providing support to Agency technical co-operation activities (20.6%) and for studying radionuclides in the environment (15.4%).

PROGRAMME E: HUMAN HEALTH
Summary of Regular Budget Estimates by Project
Table 20

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
E.1.	Nuclear Medicine									
E.1.01	Radionuclide Based in vitro Molecular Methods for Diagnosis and Management of Viral Hepatitis, Chagas Disease and Diabetes	E.1.01	2004	NAHU	560 000	(217 000)	(38.8)	343 000	2.0	350 000
E.1.02	Therapeutic Applications of Unsealed Radioactive Sources in the Management of Liver Cancer, Thyroid Cancer and Coronary Artery Disease	E.1.02	2005	NAHU	95 000	191 000	201.1	286 000	2.1	292 000
E.1.03	Enhancing Cost Effectiveness of Health Care Using In Vivo Diagnostic Nuclear Medicine Techniques	E.1.03	2004	NAHU	320 000	107 000	33.4	427 000	1.6	434 000
E.1.04	Quality Control of Gamma Cameras, SPECT and PET Systems; Development and Validation of an Internet Based Study Programme in Nuclear Medicine	E.1.04	2003	NAHU	288 000	(89 000)	(30.9)	199 000	1.5	202 000
E.1.05	Technical Support for TC Activities in E.1	E.1.05	Cont.	NAHU	401 000	(11 000)	(2.7)	390 000	1.3	395 000
	Sub-total E.1.				1 664 000	(19 000)	(1.1)	1 645 000	1.7	1 673 000
E.2.	Applied Radiation Biology and Radiotherapy									
E.2.01	Tumour Response to Chemical and Biological Modification of Radiation Therapy	E.2.01	2005	NAHU	287 000	(87 000)	(30.3)	200 000	4.5	209 000
E.2.02	Economics in Radiation Oncology	New	2003	NAHU	-	272 000	-	272 000	2.2	278 000
-	Advanced Techniques in Radiotherapy (Phased Out)	E.2.02	-	NAHU	182 000	(182 000)	(100.0)	-	-	-
E.2.03	Optimization of Radiotherapy Resources	E.2.03	Cont.	NAHU	286 000	(117 000)	(40.9)	169 000	3.6	175 000
E.2.04	Education in Radiation Oncology and Associated Disciplines	New	2003	NAHU	-	136 000	-	136 000	2.9	140 000
E.2.05	Technical Support for TC Activities in E.2	E.2.04	Cont.	NAHU	236 000	(23 000)	(9.7)	213 000	2.3	218 000
	Sub - total E.2.				991 000	(1 000)	(0.1)	990 000	3.0	1 020 000

PROGRAMME E: HUMAN HEALTH
Summary of Regular Budget Estimates by Project
Table 20 (Contd.)

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
E.3.	Dosimetry and Medical Radiation Physics									
E.3.01	Network of Secondary Standards Dosimetry Laboratories (SSDLs)	E.3.01	2003 Cont.	NAHU NAAL	419 000	51 000	12.2	470 000	1.7	478 000
E.3.02	Quality Assurance and Dose Audits to End-users	E.3.02	Cont.	NAHU NAAL	552 000	11 000	2.0	563 000	1.6	572 000
E.3.03	Quality Assurance, Dosimetry and Education in Radiotherapy Physics	E.3.03	2003 Cont.	NAHU NAAL	276 000	(27 000)	(9.8)	249 000	1.2	252 000
E.3.04	Technical Support for TC Activities in E.3	E.3.04	Cont.	NAHU NAAL	387 000	(29 000)	(7.5)	358 000	1.4	363 000
	Sub - total E.3.				1 634 000	6 000	0.4	1 640 000	1.5	1 665 000
E.4.	Nutritional and Health-related Environmental Studies									
E.4.01	Applied Human Nutrition Assessment and Research Using Nuclear and Isotopic Techniques	E.4.01	2003 Cont.	NAHU NAAL	773 000	(61 000)	(7.9)	712 000	1.8	725 000
E.4.02	Environmental Pollution Monitoring and Research Using Nuclear and Related Analytical Techniques	E.4.02	2004 Cont.	NAHU NAAL	434 000	24 000	5.5	458 000	1.5	465 000
E.4.03	Radionuclides in the Environment	E.4.03	2004 Cont.	NAHU NAAL	288 000	(6 000)	(2.1)	282 000	1.8	287 000
E.4.04	Technical Support for TC Activities in E.4	E.4.04	2002 Cont.	NAHU NAAL	359 000	18 000	5.0	377 000	1.6	383 000
	Sub - total E.4.				1 854 000	(25 000)	(1.3)	1 829 000	1.7	1 860 000
Programme E - Human Health					6 143 000	(39 000)	(0.6)	6 104 000	1.9	6 218 000

PROGRAMME E: HUMAN HEALTH
List of Projects and Estimated Total Resources for 2001
Table 21

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
E.1.	Nuclear Medicine							
E.1.01	Radionuclide Based in vitro Molecular Methods for Diagnosis and Management of Viral Hepatitis, Chagas Disease and Diabetes	NAHU	1.1	0.8	350 000	-	-	-
E.1.02	Therapeutic Applications of Unsealed Radioactive Sources in the Management of Liver Cancer, Thyroid Cancer and Coronary Artery Disease	NAHU	0.4	0.5	292 000	-	-	-
E.1.03	Enhancing Cost Effectiveness of Health Care Using In Vivo Diagnostic Nuclear Medicine Techniques	NAHU	0.7	0.7	434 000	-	-	-
E.1.04	Quality Control of Gamma Cameras, SPECT and PET Systems; Development and Validation of an Internet Based Study Programme in Nuclear Medicine	NAHU	0.5	0.6	202 000	-	-	-
E.1.05	TC Activities in E.1 Technical Support Projects	NAHU TC	2.8 -	1.2 -	395 000 -	- -	- -	- 4 445 000
	Sub-total E.1.		5.5	3.8	1 673 000	-	-	4 445 000
E.2.	Applied Radiation Biology and Radiotherapy							
E.2.01	Tumour Response to Chemical and Biological Modification of Radiation Therapy	NAHU	0.2	0.2	209 000	-	-	-
E.2.02	Economics in Radiation Oncology	NAHU	0.6	0.6	278 000	-	-	-
E.2.03	Optimization of Radiotherapy Resources	NAHU	0.5	0.3	175 000	-	-	-
E.2.04	Education in Radiation Oncology and Associated Disciplines	NAHU	0.3	0.5	140 000	-	-	-
E.2.05	TC Activities in E.2 Technical Support Projects	NAHU TC	1.6 -	0.6 -	218 000 -	- -	- -	- 3 561 000
	Sub - total E.2.		3.2	2.2	1 020 000	-	-	3 561 000

PROGRAMME E: HUMAN HEALTH
List of Projects and Estimated Total Resources for 2001
Table 21 (Contd.)

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
E.3.	Dosimetry and Medical Radiation Physics							
E.3.01	Network of Secondary Standards Dosimetry Laboratories (SSDLs)	NAHU	1.1	1.5	478 000	-	-	-
		NAAL	-	0.5				
E.3.02	Quality Assurance and Dose Audits to End-users	NAHU	1.3	1.5	572 000	-	-	-
		NAAL	-	0.7				
E.3.03	Quality Assurance, Dosimetry and Education in Radiotherapy Physics	NAHU	0.9	0.9	252 000	-	-	-
		NAAL						
E.3.04	TC Activities in E.3 Technical Support	NAHU	2.0	0.8	363 000	-	-	-
		NAAL	0.1	0.1				
	Projects	TC	-	-	-	-	-	2 147 000
		NAHU	5.3	4.7				
		NAAL	0.1	1.3				
	Sub - total E.3.		5.4	6.0	1 665 000	-	-	2 147 000
E.4.	Nutritional and Health-related Environmental Studies							
E.4.01	Applied Human Nutrition Assessment and Research Using Nuclear and Isotopic Techniques	NAHU	1.3	0.8	725 000	119 000	-	-
		NAAL	0.2	0.2				
E.4.02	Environmental Pollution Monitoring and Research Using Nuclear and Related Analytical Techniques	NAHU	1.0	0.5	465 000	-	-	-
		NAAL	0.3	1.5				
E.4.03	Radionuclides in the Environment	NAHU	0.1	-	287 000	-	-	-
		NAAL	0.7	1.6				
E.4.04	TC Activities in E.4 Technical Support	NAHU	0.9	0.4	383 000	-	-	-
		NAAL	0.3	0.6				
	Projects	TC	-	-	-	-	-	1 203 000
		NAHU	3.3	1.7				
		NAAL	1.5	3.9				
	Sub - total E.4.		4.8	5.6	1 860 000	119 000	-	1 203 000
		NAHU	17.3	12.4				
		NAAL	1.6	5.2				
Programme E - Human Health			18.9	17.6	6 218 000	119 000	-	11 356 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.
Note: Staffing figures exclude NAAL site related staff.

F. Marine Environment and Water Resources

Programme Rationale

Covering over 70% of the globe, the ocean is a shared resource for all nations. Its environmental quality, especially in the coastal zones which produce much of marine food resources, is vital to the sustainable use of the ocean with respect to human activities and needs. The Agency has a primary role in supporting and co-ordinating all efforts which monitor and assess the impacts of nuclear activities on the ocean with a view to providing assurance that levels of nuclear contamination are safe and acceptable.

Nuclear techniques are central to all activities which monitor and assess radioactivity in the marine environment but, in addition, they provide valuable research tools applicable to the growth of knowledge about key ocean processes controlling the fate and distribution of such radioactive contamination. In addition, these tools can provide additional information about a broad spectrum of marine pollutants from non-radioactive sources which are of direct relevance to both Agency programmes and collaborative programmes with other international organizations. Finally, many Member States need and request assistance in developing national capabilities in maintaining environmental quality in their own national waters.

The limited freshwater resources are under severe stress in many regions of the world owing to over-exploitation and water quality degradation resulting from human activities. Improved assessment of resource availability, particularly in arid regions, as well as effective management towards protection of the water quality are of the utmost significance for sustainable development of the resources. Nuclear techniques based on the environmental isotopes (both stable and radioactive), as well as artificial radioactive tracers, offer effective tools, with proven technological and economic benefits, for water resources assessment, development and management. More effective utilization and integration of isotope hydrology in the water sector, particularly in developing countries, requires additional financial resources and improved training. The achievements and continuing role of the Agency in water resources management through its isotope hydrology programme have been recognized by Member States in a number of General Conference resolutions, particularly GC(43)/RES/16.

Programme Objective

To develop and foster the ability of Member States to gain knowledge of the temporal and spatial trends of radioactivity in the oceans and of the controlling processes, and to use isotopic and other technologies to quantify and evaluate marine pollution; and to integrate appropriate isotope and nuclear techniques in the planning and resource management of freshwater resources and gain a better understanding of human induced hydroclimatic impact on the water cycle and its interaction with other environmental systems.

Programme Performance Indicators

- Qualitative and quantitative increase in the ability of Member States to use nuclear technologies to monitor, assess and describe radioactive and other pollutants in the oceanic environment.
- Extent of the use in Member States of isotope techniques transferred by the Agency in water resources management.

The programme consists of four subprogrammes

F.1. Measurement and Assessment of Radionuclides in the Marine Environment
F.2. Transfer of Radionuclides in the Marine Environment
F.3. Monitoring and Study of Marine Pollution
F.4. Development and Management of Water Resources

Key Programme Trends

The programme has been restructured by removing Subprogramme F.5 on industrial applications to make it more homogeneous. It now deals only with the aquatic regime; Subprogrammes F.1, F.2 and F.3 deal with the marine environment and F.4 with the solution of hydrological issues through the use of isotopes. Under F.1, F.2 and F.3, the emphasis on temperate and tropical regional studies on monitoring, modelling and radiological assessment of oceanic radioactivity will be maintained and extended. A new satellite linked in situ underwater gamma spectrometer will be developed for remote monitoring of areas impacted by radioactive releases. Key processes controlling the fate and transfer of radionuclides and other related marine pollutants will be studied to improve trend prediction and future assessment. The programme will be co-ordinated with other international organizations (UNEP, UNESCO). Technical co-operation to remedy groundwater pollution is also being enhanced in F.4 with joint programmes with the World Bank, HABITAT and other agencies. Separate tasks in F.4 address the issue of integration of isotope technology in the hydrology programmes of the Member States, and the issue of dam sustainability

Key Programme Resource Trends

The overall resources for the programme amount to $5 923 000, with a net decrease of $20 000 or 0.6% compared with the year 2000 budget for projects of the Marine Environment Laboratory, Monaco (F.1, F.2 and F.3), and an increase of $77 000, or 2.8%, in Development and Management of Water Resources (F.4). The increase in resources for F.4 reflects the importance of isotope technology in water resource management in Member States. Extrabudgetary support to the amount of $956 000 will continue to be an essential component of the funding required for IAEA-MEL activities.

PROGRAMME F: MARINE ENVIRONMENT AND WATER RESOURCES

Summary of Regular Budget Estimates by Subprogramme

Table 22

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
F.1	Measurement and Assessment of Radionuclides in the Marine Environment	1 430 000	170 000	11.9	1 600 000	1.8	1 629 000
F.2	Transfer of Radionuclides in the Marine Environment	937 000	68 000	7.3	1 005 000	1.8	1 023 000
F.3	Monitoring and Study of Marine Pollution	789 000	(258 000)	(32.7)	531 000	1.7	540 000
F.4	Development and Management of Water Resources	2 710 000	77 000	2.8	2 787 000	1.5	2 828 000
Programme F - Marine Environment and Water Resources		5 866 000	57 000	1.0	5 923 000	1.6	6 020 000

F.1. Measurement and Assessment of Radionuclides in the Marine Environment

Subprogramme Rationale

The provision of radionuclide data on regional and global scales will enable Member States to carry out assessment studies and evaluate trends in the contamination of the marine environment. Demand driven programmes of assistance in the quality management of laboratories, capacity building, design and implementation of monitoring programmes and the provision of training will further improve the understanding and protection of the marine environment. Owing to the expertise of the Marine Environment Laboratory in Monaco, the assistance of the Agency is being increasingly solicited by Member States, UNEP and IOC/UNESCO for the measurement and assessment of radionuclides in the marine environment.

Subprogramme Objective

To better understand the distribution and behaviour of natural and anthropogenic radionuclides in the marine environment and to develop a marine information system, a systematic approach for the design, implementation and operation of a relational database on marine radioactivity and oceanographic parameters; and to assist Member States with monitoring, modelling and assessing the present and future radionuclide levels in the marine environment, with quality management systems, the provision of reference materials, capacity building and training.

Subprogramme Performance Indicators

- Use made of technical assistance provided to Member States in co-operative marine radioactivity studies.
- Provision of data on the distribution of radionuclides in the marine environment from the Agency database on the basis of requests.
- Improvements in the performance of laboratories participating in intercomparison exercises.
- Use by Member States of the assistance provided by the implementation of technical co-operation projects.
- Demand for publications produced by the Agency and increase in the number of publications in reviewed journals.

This subprogramme consists of five projects

F.1.01. *Assessment of Marine Radioactivity: Case Studies and Emergency Response* — to assist Member States in radiological assessments related to emergency response, radioactive discharges and disposals, former nuclear weapons test sites and previous nuclear marine ship accident sites.

F.1.02. *Distribution of Radionuclides in the Marine Environment* — to assess the distribution of radionuclides in the marine environment and to develop a Marine Information System, a systematic approach for the design, implementation and operation of a relational database on marine radioactivity and oceanographic parameters.

F.1.03. *Development of Methods for Marine Radioactivity Measurements and Emergency Response* — to assist Member States with the development and use of in situ underwater spectrometry.

F.1.04. *Analytical Quality Control Services (AQCS) for Marine Radioactivity Measurements* — to ensure and improve the reliability of marine radioactivity measurements in Member State laboratories by organizing regular intercomparison exercises and by providing certified reference materials for radionuclides in the marine environment.

F.1.05. *Support to Technical Co-operation Activities* — to provide support to Agency Technical Co-operation activities.

Key Subprogramme Trends

The monitoring, modelling and radiological assessment of radionuclides discharged and/or disposed of into the marine environment will continue to be the main trend of this subprogramme. The main change is the completion in 2000 of Project F.1.04 (Worldwide Marine Radioactivity Assessment). This project will be replaced by a new project F.1.04 (Analytical Quality Control Services for Marine Radioactivity Measurements) in which more emphasis and resources will be given to the organization of intercomparison exercises and the preparation of reference materials for radionuclides in the marine environment. The programme will extend the use of in situ underwater gamma spectrometry for monitoring purposes by deployment of the monitor with satellite data transmission in the sea affected by radioactive discharges. Further, the development of a computer based marine information system on marine pollution and oceanographic data will continue. The programme will be carried out in co-operation with other international programmes. It is also intended to assist Member States to improve their capabilities in marine radioactivity monitoring and assessment by maintaining the AQCS programme, training and capacity building, to provide assistance in emergency response and marine database development and to provide information on worldwide background distribution of radionuclides in the marine environment.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 600 000, reflecting an increase of $170 000, or 11.9%, compared with the 2000 approved budget.

F.2. Transfer of Radionuclides in the Marine Environment

Subprogramme Rationale

Monitoring the quantities and distributions of radionuclides in the marine environment alone is not sufficient to assess the impact such contaminants may have on the ecosystem and humans. The physical, chemical and biological dynamics of the sea cause radionuclides and conventional contaminants to move through the environment, leading to the potential for transboundary exposure to pollutants. Furthermore, the use of radionuclides to trace the transport of analogue stable elements offers potential to discern the behaviour and fate of conventional contaminants and greenhouse gases such as CO_2 in the oceans. With the aim of maintaining sustainable development of marine resources, and in response to needs identified by the ACC subcommittee on oceans and coastal areas, and the United Nations Global Plan for Action for the Protection of the Environment, this subprogramme will assist Member States in understanding and assessing the processes involved in the transfer and transport of radionuclides, conventional contaminants and other key elements through the marine ecosystem.

Subprogramme Objective

To better understand the transfer, behaviour and fate of radionuclides and analogue elements in the marine environment, through the development and application of nuclear techniques for studying processes relevant to contaminant and material transport in the sea.

Subprogramme Performance Indicators

- Use made by Member States of technical co-operation projects on marine contaminant transport and assessment topics.
- Number of joint projects dealing with contaminant and element transfer, carried out with other organizations.
- Increase in scientific output and impact of information on marine transfer and transport processes.

This subprogramme consists of five projects

F.2.01. *Radionuclide Behaviour and Transfer Processes* — to provide Member States and United Nations inter-agency bodies such as GPA and GESAMP with process specific data on the transfer, behaviour and fate of artificial radionuclides and analogue elements in the marine environment.

F.2.02. *Nuclear and Isotopic Applications to Evaluate Carbon Flux Processes* — to apply nuclear and isotopic techniques to describe and quantify carbon fluxes within the overall marine CO_2 cycle, and the types, rates and time-scales of biogeochemical processes governing carbon transport from surface waters to bottom sediments.

F.2.03. *Impacts of Naturally Occurring and Technologically Enhanced Radioactivity in Coastal Environments* — within the context of Agenda 21 activities, to assess the significance of natural radioactivity in marine areas subject to enhancement of natural radionuclides from land based, non-nuclear industrial activities, and emanating from coastal and marine geochemical anomalies.

F.2.04. *Applied Radiotracer Methodologies in Marine Ecotoxicological Studies* — in support of Agenda 21 and the protection of marine food resources, to develop and apply experimental radiotracer techniques to bioavailability, transfer pathways, metabolism and depuration of environmentally important trace metals originating from land based sources.

F.2.05. *Support to Technical Co-operation Activities* — to provide support to Agency technical co-operation activities.

Key Subprogramme Trends

Major emphasis will continue to be placed on applications of nuclear techniques to study radionuclide and non-radioactive contaminant behaviour, transfer and transport processes, and ultimate fate in marine areas of major environmental importance. These studies will focus on temperate and tropical coastal regions where seafood forms a major part of the local diet and productive reef ecosystems are particularly sensitive to pollutant stress. Nuclear and isotopic techniques will continue to be used to delineate the interaction of carbon cycling and greenhouse gases such as CO_2 which affect climate change. Comparative studies on natural radioactivity and toxic trace elements originating from land based sources such as non-nuclear industrial and agricultural activities will also be emphasized in order to further support the GPA for protection of the marine environment. Within all components of the subprogramme, increased emphasis will be placed on the transfer of these applications to Member States through training programmes.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 005 000 reflecting an increase of $68 000, or 7.3%, compared with the 2000 approved budget.

F.3. Monitoring and Study of Marine Pollution

Subprogramme Rationale

The Agency has to respond to the needs of Member States in understanding the sources, distribution, fate and effects of non-radioactive marine pollutants in coastal environments and to ensure the ability of Member States to monitor such contaminants by providing technical assistance in marine analytical chemistry. These services are fundamental to the quality of marine pollution measurements and protection of the marine environment. The United Nations Global Plan of Action (GPA) for the protection of the marine environment from land based activities aims specifically at identifying and assessing the severity and impacts of contaminants. The attainment of such goals relies largely on the capacity of Member State laboratories to monitor and assess contamination of the marine environment. Partial activities under this subprogramme are carried out at the request of UNEP and IOC/UNESCO.

Subprogramme Objective

To apply isotopic and speciation techniques in monitoring and research on non-radioactive contaminants; to provide assistance, especially with respect to QA/QC services, to other United Nations bodies in implementing regional and global programmes on marine pollution; and to transfer information and technology to Member States and assist them with the implementation of sustainable development in coastal regions.

Subprogramme Performance Indicators

- Maintenance of or increase in the number of requests for technical assistance from United Nations bodies in implementing QA/QC programmes.
- Use by United Nations bodies and Member States of assistance from the Agency in capacity building and training.
- Improvement in the analytical performance of Member State laboratories participating in regional and global intercomparison exercises.
- Maintenance of or increase in the number of publications and research articles produced by the Agency in refereed journals and periodicals.

This subprogramme consists of five projects

F.3.01. *Isotopic Applications in Non-radioactive Marine Contaminant Studies* — to provide scientific data to Member States on the origins, behaviour and fate of non-radioactive contaminants from sea based and land based sources in support of the GPA for the protection of the marine environment from land based activities; and to produce isotopic data for a better understanding of oceanographic processes relevant to research on climate change.

F.3.02. *Reference Methods and Materials and Analytical Quality Control Services for Marine Pollution Programmes* — to assist Member States to obtain high quality validated data for marine pollution assessments at national, regional and global levels.

F.3.03. *Radiotracer Applications in Studies of Persistent Organic Pollutants, Organometallic Compounds and Marine Antifoulants in Coastal Environments* — to develop and use radiotracer methodologies to study the cycling and behaviour of agrochemical and industrial compounds, including persistent organic pollutants and marine antifoulants in coastal marine systems; and to generate data and develop recommendations for integrated management of coastal zones.

F.3.04. *Support to Technical Co-operation Activities* — to provide support to Agency technical co-operation activities.

F.3.05. *Support to Sustainable Development in Coastal Regions and to the United Nations Inter-Agency Programmes on Marine Pollution* — to provide technical and scientific support to assist Member States with capacity building, and the design and implementation of marine pollution monitoring and assessment programmes; to play an active role in supporting inter-agency co-operation in monitoring and protecting the marine environment in order to enhance implementation of common policies and international protocols and to ensure maximum co-operation with minimum duplication.

Key Subprogramme Trends

The main trends and objectives of the subprogramme in the previous cycle are retained. Strengthened co-ordination with United Nations agencies and regional organizations is expected. Accordingly, some broadening of activities is anticipated in response to the changing needs of United Nations bodies (i.e. *GPA* for the protection of the marine environment from land based activities; IMO regulations on the use of tributyltin as a marine antifoulant; Convention for Biological Diversity interests in biomarker studies). Overall, the enhanced use of isotopic and speciation techniques and improved QA/QC capacity will make it possible to provide better assistance to Member States with respect to information on contamination of the marine environment and support for the implementation of sustainable development in coastal regions to secure food resources.

Substantive achievements in research on the fate of pollutants, oceanographic processes and isotope analysis in the sedimentary record to reconstruct palaeoclimates and climate changes are expected from the application of recent technique developments and new equipment.

Improved assistance to Member States with capacity building and support to country based projects will be provided. Improved co-ordination between United Nations agencies and regional organizations will allow former links and activities with developing countries in Africa and South America to be revitalized.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $531 000, reflecting a decrease of $258 000, or 32.7%, compared with the 2000 budget.

Subprogramme Rationale

The limited but easily accessible freshwater resources in rivers, lakes and groundwater aquifers are dwindling as a result of over-exploitation or water quality degradation from human activities. Nuclear techniques based on the natural abundance or environmental isotopes (both stable and radioactive), as well as artificial radioactive tracers, offer effective tools, with proven technological and economic benefits, for water resources assessment, development and management. Fuller utilization and integration of isotope hydrology in the water sector, particularly in the developing countries, requires assistance of both financial and trained human resources. The achievements and continued role of the Agency in water resources management through its isotope hydrology programme have been recognized by the Member States in a number of General Conference resolutions particularly GC(43)/RES/16. Wider scale applications of the existing techniques will also require close collaboration with other United Nations organizations involved in the water sector (i.e. UNESCO, WMO, UNEP and WHO) to enable incorporation of the methodologies into the international programmes in hydrology through bilateral consultations and programming as well as using the existing mechanisms such as the ACC–interagency subcommittee on water resources.

Subprogramme Objective

To assist Member States in the sustainable management of water resources by integrating isotope hydrology techniques in their water sectors.

Subprogramme Performance Indicators

- Increased access to the Agency's website for retrieval of isotope reference data from 120 stations in 50 countries.
- Use of computer software for education and training in isotope hydrology, initiation of training courses in two countries, and formation of national isotope hydrology co-ordination committees in four countries.
- Analysis of 815 isotope reference samples from GNIP, distribution of 620 isotope reference materials to 150 laboratories in 30 countries, two laboratory intercomparisons, and publications of four procedural notes or manuals for isotope analyses.

This subprogramme consists of five projects

F.4.01. *Development and Adaptation of Isotope Hydrology Applications* — to develop and adapt isotope methodologies for the assessment and management of combined surface water and groundwater resources in catchments and groundwater fields used for domestic, industrial and agricultural water supply.

F.4.02. *Global Reference Data and Databases for Isotope Hydrology* — to provide global isotope data fundamental to the use of isotope techniques in hydrology worldwide.

F.4.03. *Capacity Building in the Integration of Isotope Applications in the Water Resources Sector* — to assist the Member States in integrating isotope hydrology in the water sector through training and other human resources development efforts and through co-operation with other international and bilateral donor agencies.

F.4.04. *Isotope Reference Materials and Analytical Quality Assurance* — to provide wider access to isotope analytical facilities by ensuring the quality and reliability of data produced by laboratories in Member States.

F.4.05. *Support to Technical Co-operation Activities* — to provide technical management and advice to the Member States in the transfer of isotope hydrology techniques through the Agency's technical co-operation programme.

Key Subprogramme Trends

The subprogramme has been restructured on the basis of internal and external programme reviews for a better delivery of both the regular and technical co-operation programmes.

Project F.4.01 has been revised and renamed as "Development and Adaptation of Isotope Hydrology Applications". Currently existing Projects F.4.02 dealing with water resources in regions of water scarcity and F.4.03 dealing with hydroclimatic changes and impact on catchment basins have been phased out and the continuing activities in these elements related to CRPs incorporated into Project F.4.01.

All of the five CRPs that are expected to be operational in 2001 have begun in prior years. CRPs expected to begin in the year 2000 have been critically reviewed and will be modified, where possible, to be fully compatible with the restructured 2001 programme. The ongoing CRPs in 2001 are expected to enhance Member State ability to apply isotopic techniques for combined surface water and groundwater resource management. The subjects of the CRPs incorporate the priorities identified in the technical co-operation programme.

The new Project F.4.02 will focus on the collection and management of global isotopic reference data and databases. These data are critical for the practice of isotope hydrology in both the developed and developing countries.

Project F.4.03 will now focus on integrating isotope hydrology in the water sector of Member States, as envisaged in a recent General Conference resolution, and is expected to complement the efforts made under the technical co-operation programme. This element includes such activities as the development of educational materials and training, integration of isotope hydrology in university curricula, and co-operation with other international organizations working in the water sector.

Key Subprogramme Resource Trends

Financial resources for this subprogramme amount to $2 787 000, reflecting an increase of $77 000, or 2.8%, on those approved for the year 2000. While the overall resources have been increased, the amount allocated to research and development efforts (CRPs) has been decreased by about $48 000, or 20.1%. A majority of the increased requirements are directed towards new tasks for the integration of isotope techniques in the water sector. By providing training and training tools for practising hydrologists and by introducing courses in university curricula, these new tasks are expected to build trained human resources in isotope hydrology in Member States.

PROGRAMME F: MARINE ENVIRONMENT AND WATER RESOURCES
Summary of Regular Budget Estimates by Project
Table 23

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
F.1	Measurement and Assessment of Radionuclides in the Marine Environment									
F.1.01	Assessment of Marine Radioactivity: Case Studies and Emergency Response	F.1.01	2005	NAML	340 000	(44 000)	(12.9)	296 000	2.0	302 000
F.1.02	Distribution of Radionuclides in the Marine Environment	F.1.02	Cont.	NAML	314 000	85 000	27.1	399 000	1.8	406 000
F.1.03	Development of Methods for Marine Radioactivity Measurements and Emergency Response	F.1.03	2004	NAML	324 000	44 000	13.6	368 000	1.9	375 000
F.1.04	Analytical Quality Control Services (AQCS) for Marine Radioactivity Measurements	-	2006	NAML	-	350 000	-	350 000	1.7	356 000
	Worldwide Marine Radioactivity Assessment (Phased Out)	F.1.04	2000	NAML	251 000	(251 000)	(100.0)	-	-	-
F.1.05	Technical Support for TC Activities	F.1.05	Cont.	NAML	201 000	(14 000)	(7.0)	187 000	1.6	190 000
	Sub-total F.1				1 430 000	170 000	11.9	1 600 000	1.8	1 629 000
F.2	Transfer of Radionuclides in the Marine Environment									
F.2.01	Radionuclide Behaviour and Transfer Processes	F.2.01	Cont.	NAML	283 000	(3 000)	(1.1)	280 000	2.1	286 000
F.2.02	Nuclear and Isotopic Applications to Evaluate Carbon Flux Processes	F.2.02	Cont.	NAML	232 000	7 000	3.0	239 000	1.7	243 000
F.2.03	Impacts of Naturally Occurring and Technologically Enhanced Radioactivity in Coastal Environments	F.2.03	Cont.	NAML	148 000	8 000	5.4	156 000	1.9	159 000
F.2.04	Applied Radiotracer Methodologies in Marine Ecotoxicological Studies	F.2.04	Cont.	NAML	164 000	39 000	23.8	203 000	1.5	206 000
F.2.05	Technical Support for TC Activities in F.2	F.2.05	Cont.	NAML	110 000	17 000	15.5	127 000	1.6	129 000
	Sub-total F.2				937 000	68 000	7.3	1 005 000	1.8	1 023 000

PROGRAMME F: MARINE ENVIRONMENT AND WATER RESOURCES
Summary of Regular Budget Estimates by Project
Table 23 (Contd.)

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
F.3	Monitoring and Study of Marine Pollution									
F.3.01	Isotopic Applications in Non-radioactive Marine Contaminant Studies	F.3.01	2004	NAML	252 000	(40 000)	(15.9)	212 000	1.4	215 000
F.3.02	Reference Methods and Materials and Analytical Quality Control Services for Marine Pollution Programmes	F.3.02	Cont.	NAML	199 000	(141 000)	(70.9)	58 000	1.7	59 000
F.3.03	Radiotracer Applications in Studies of Persistant Organic Pollutants, Organometallic Compounds and Marine Antifoulants in Coastal Environments	F.3.03	2005	NAML	78 000	31 000	39.7	109 000	1.8	111 000
F.3.04	Technical Support for TC Activities	F.3.04	Cont.	NAML	195 000	(136 000)	(69.7)	59 000	1.7	60 000
F.3.05	Support to Sustainable Development in Coastal Regions and to UN Inter-Agency Programmes on Marine Pollution	F.3.05	Cont.	NAML	65 000	28 000	43.1	93 000	2.2	95 000
	Sub-total F.3				789 000	(258 000)	(32.7)	531 000	1.7	540 000
F.4	Development and Management of Water Resources									
F.4.01	Development and Adaptation of Isotope Hydrology Applications	F.4.01	2004	NAPC NAAL	425 000	359 000	84.5	784 000	1.4	795 000
F.4.02	Global Reference Data and Databases for Isotope Hydrology	New	2004	NAPC NAAL	-	356 000	-	356 000	1.4	361 000
-	Water Resources in Regions of Water Scarcity (Phased Out)	F.4.02	2000	NAPC NAAL	369 000	(369 000)	(100.0)	-	-	-
F.4.03	Capacity Building in the Integration of Isotope Applications in the Water Resources Sector	New	2004	NAPC NAAL	-	411 000	-	411 000	1.2	416 000
-	Hydroclimatic Changes and Impact on Catchment and Surface Water Systems (Phased Out)	F.4.03	1999	NAPC NAAL	332 000	(332 000)	(100.0)	-	-	-
F.4.04	Isotope Reference Materials and Analytical Quality Assurance	F.4.04	Cont.	NAPC NAAL	702 000	(237 000)	(33.8)	465 000	1.7	473 000
F.4.05	Technical Support for TC Activities in F.4	F.4.05	2003	NAPC NAAL	882 000	(111 000)	(12.6)	771 000	1.6	783 000
	Sub-total F.4				2 710 000	77 000	2.8	2 787 000	1.5	2 828 000
Programme F - Marine Environment and Water Resources					5 866 000	57 000	1.0	5 923 000	1.6	6 020 000

PROGRAMME F: MARINE ENVIRONMENT AND WATER RESOURCES
List of Projects and Estimated Total Resources for 2001
Table 24

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
F.1	Measurement and Assessment of Radionuclides in the Marine Environment							
F.1.01	Assessment of Marine Radioactivity: Case Studies and Emergency Response	NAML	1.1	1.8	302 000	-	-	-
F.1.02	Distribution of Radionuclides in the Marine Environment	NAML	1.1	2.5	406 000	-	50 000	-
F.1.03	Development of Methods for Marine Radioactivity Measurements and Emergency Response	NAML	1.5	2.0	375 000	-	-	-
F.1.04	Analytical Quality Control Services (AQCS) for Marine Radioactivity Measurements	NAML	1.0	2.2	356 000	-	-	-
F.1.05	TC Activities in F.1 Technical Support Projects	NAML TC	0.8 -	1.2 -	190 000 -	- -	- -	- 225 000
	Sub-total F.1		5.5	9.7	1 629 000	-	50 000	225 000
F.2	Transfer of Radionuclides in the Marine Environment							
F.2.01	Radionuclide Behaviour and Transfer Processes	NAML	0.8	1.3	286 000	-	-	-
F.2.02	Nuclear and Isotopic Applications to Evaluate Carbon Flux Processes	NAML	0.7	1.1	243 000	125 000	-	-
F.2.03	Impacts of Naturally Occurring and Technologically Enhanced Radioactivity in Coastal Environments	NAML	0.5	0.8	159 000	-	-	-
F.2.04	Applied Radiotracer Methodologies in Marine Ecotoxicological Studies	NAML	0.7	1.0	206 000	-	50 000	-
F.2.05	TC Activities in F.2 Technical Support Projects	NAML TC	0.5 -	1.0 -	129 000 -	- -	- -	- -
	Sub-total F.2		3.2	5.2	1 023 000	125 000	50 000	-

PROGRAMME F: MARINE ENVIRONMENT AND WATER RESOURCES
List of Projects and Estimated Total Resources for 2001
Table 24 (Contd.)

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
F.3	Monitoring and Study of Marine Pollution							
F.3.01	Isotopic Applications in Non-radioactive Marine Contaminant Studies	NAML	0.9	1.3	215 000	-	60 000	-
F.3.02	Reference Methods and Materials and Analytical Quality Control Services for Marine Pollution Programmes	NAML	0.1	0.5	59 000	-	556 000	-
F.3.03	Radiotracer Applications in Studies of Persistant Organic Pollutants, Organometallic Compounds and Marine Antifoulants in Coastal Environments	NAML	0.2	0.7	111 000	-	120 000	-
F.3.04	TC Activities in F.3 Technical Support	NAML	0.2	0.4	60 000	-	-	-
	Projects	TC	-	-	-	-	-	633 000
F.3.05	Support to Sustainable Development in Coastal Regions and to UN Inter-Agency Programmes on Marine Pollution	NAML	0.1	0.4	95 000	-	120 000	-
	Sub-total F.3		1.5	3.3	540 000	-	856 000	633 000
F.4	Development and Management of Water Resources							
F.4.01	Development and Adaptation of Isotope Hydrology Applications	NAPC	1.0	1.3	795 000	-	-	-
		NAAL	0.7	0.5				
F.4.02	Global Reference Data and Databases for Isotope Hydrology	NAPC	0.7	0.4	361 000	-	-	-
		NAAL	0.1	2.1				
F.4.03	Capacity Building in the Integration of Isotope Applications in the Water Resources Sector	NAPC	0.6	0.7	416 000	-	-	-
		NAAL	0.8	0.7				
F.4.04	Isotope Reference Materials and Analytical Quality Assurance	NAPC	0.7	0.4	473 000	-	-	-
		NAAL	-	3.4				
F.4.05	TC Activities in F.4 Technical Support	NAPC	1.4	1.2	783 000	-	-	-
		NAAL	2.6	3.4				
	Projects	TC	-	-	-	-	-	4 097 000
		NAPC	4.4	4.0				
		NAAL	4.2	10.1				
	Sub-total F.4		8.6	14.1	2 828 000	-	-	4 097 000
		NAML	10.2	18.2				
		NAPC	4.4	4.0				
		NAAL	4.2	10.1				
Programme F - Marine Environment and Water Resources			18.8	32.3	6 020 000	125 000	956 000	4 955 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Note: Staffing figures exclude NAAL site related staff.

G. Applications of Physical and Chemical Sciences

Programme Rationale

Applications of nuclear technologies can foster sustainable development in fields such as energy production, industrial processes, mining, food, health care and environmental protection. Programme G addresses through the application of radiation and radioisotopes, several of the initiatives contained in Agenda 21, adopted by the United Nations Conference on Environment and Development in 1992. These include protection of the environment, the transfer of environmentally sound technology and sciences for sustainable development. As nuclear applications depend on nuclear instrumentation and data, this programme has been formulated to meet the needs of Member States in terms of the use and maintenance of nuclear instruments and the availability of nuclear data, necessary for emerging technologies such as nuclear medicine, environmental measurements, advanced nuclear fuel cycles, safeguards and waste management. The need for Agency assistance in the use and maintenance of nuclear instruments has been identified through requests by Member States for technical co-operation. Other activities proposed in this programme have been formulated on the basis of needs identified by the International Nuclear Data Committee and by the International Fusion Research Council with its Atomic and Molecular Data Subcommittee. These are standing advisory bodies composed of representatives of Member States. This international co-operation, facilitated by the Agency through this programme, has been recognized as being important for the purpose of avoiding duplication of effort and sharing knowledge among Member States. The Agency, with its expertise, long experience and technical co-operation activities, is considered to be best suited to fill the identified needs.

Programme Objective

To enhance the contribution of a wide spectrum of nuclear technologies in meeting the needs of Member States by: providing up to date nuclear and atomic data; supporting programmes based on research reactors and particle accelerators; improving capabilities in the development and use of radioisotope and radiation technology, radioanalytical measurements and nuclear instrumentation; encouraging environmentally friendly technologies based on the use of radiation; and providing a forum for the co-ordination of fusion research worldwide.

Programme Performance Indicators

- Demand for Agency data centre services as well as refinement and growth of shared international databases.
- Extent and the nature of problems solved through the use of research reactors and accelerators.
- Level of usage of radioisotope products, quality assured radioanalytical techniques and radiation based technologies.
- Quality and demand for publications produced by the Agency and by staff in refereed journals.

The programme consists of six subprogrammes

G.1. Nuclear and Atomic Data for Applications
G.2. Nuclear Instrumentation
G.3. Theoretical Physics
G.4. Utilization of Research Reactors and Particle Accelerators
G.5. Radioisotopes and Radiation Technology
G.6. Nuclear Fusion Research and Plasma Physics Applications

Key Programme Trends

Programme G now incorporates the former subprogramme F.5 (Industrial Applications), which has been merged with subprogramme G.5. The subprogrammes in Programme G provide support to elements of applied research in many nuclear research centres in the world. In all cases a number of tasks have been phased out and new tasks initiated. In subprogramme G.1, there is increasing emphasis on distributing information electronically through CD-ROMs and the Internet and on technology transfer through training. Quality assurance in nuclear measurements receives special emphasis in G.2 and G.5. The number of CRPs has been reduced from 33 to 28 to put greater emphasis on enhancing user capabilities and technical co-operation. The ICTP programme (G.3) continues to emphasize the training of scientists from developing Member States in basic sciences (necessary for any nuclear technology application) for which scientists from developed Member States play a key role. The application of nuclear techniques for humanitarian demining is proposed for Member State financial support.

Key Programme Resource Trends

The proposed resources for the programme amount to $9 701 000, reflecting a decrease of $74 000, or 0.8% compared with the 2000 budget. The Agency's contribution to ICTP, Trieste, (G.3) remains unchanged. Essentially all subprogrammes have reduced resources, but a major reduction is in the new subprogramme G.5, in which resources for industrial applications have been further reduced by $40 000 in view of the routine nature of the technologies and the shift in emphasis towards technical co-operation. The extrabudgetary contributions of $13 000 remain the same as in the year 2000.

PROGRAMME G: APPLICATIONS OF PHYSICAL AND CHEMICAL SCIENCES

Summary of Regular Budget Estimates by Subprogramme

Table 25

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
G.1	Nuclear and Atomic Data for Applications	2 244 000	(16 000)	(0.7)	2 228 000	1.3	2 257 000
G.2	Nuclear Instrumentation	2 008 000	(19 000)	(0.9)	1 989 000	1.4	2 016 000
G.3	Theoretical Physics (Contribution)	1 950 000	-	-	1 950 000	1.7	1 983 000
G.4	Utilization of Research Reactors and Particle Accelerators	624 000	1 000	0.2	625 000	1.0	631 000
G.5	Radioisotopes and Radiation Technology	2 424 000	(40 000)	(1.7)	2 384 000	1.3	2 415 000
G.6	Nuclear Fusion Research and Plasma Physics Applications	525 000	-	-	525 000	1.3	532 000
Programme G - Applications of Physical and Chemical Sciences		9 775 000	(74 000)	(0.8)	9 701 000	1.4	9 834 000

Subprogramme Rationale

The development and maintenance of nuclear technologies rely on numerical nuclear and atomic data to provide accurate descriptions of the underlying physical processes. The necessary data include reaction cross-sections for many combinations of target and projectile, energy and angular distributions of reaction products, properties of nuclear and atomic energy levels, and radioactive decay data. While the data are reasonably complete for some purposes, substantial work remains to be done in support of emerging technologies such as those relating to nuclear medicine, environmental measurements, advanced nuclear fuel cycles, nuclear safeguards and nuclear waste transmutation. In addition, rapid developments in the field of information technology have opened up new opportunities for improving the means of user access to the data. The activities in this programme have been formulated on the basis of the needs identified by the International Nuclear Data Committee (INDC) the Atomic and Molecular Data Subcommittee of the International Fusion Research Council (IFRC), and standing advisory bodies composed of representatives of Member States.

Subprogramme Objective

To contribute to the safe and economic application of nuclear technologies in Member States by ensuring convenient access to accurate and relevant nuclear and atomic data.

Subprogramme Performance Indicators

- Number of individual accesses to Agency nuclear and atomic online data services.
- Number of megabytes of data downloaded from Agency nuclear and atomic online data services.
- Number of megabytes of data in the shared international nuclear and atomic database.
- Number of data sets delivered on CD-ROM in response to individual requests.
- Number of new data products and scientific publications resulting from CRPs in nuclear and atomic data.

This subprogramme consists of five projects

G.1.01. *Data Centre Activities* — to operate the Agency's centre for the collection and dissemination of accurate and up to date nuclear and atomic data needed in nuclear technologies in Member States.

G.1.02. *International Data Centre Network Co-ordination and Co-operation Projects* — to co-ordinate worldwide networks of national and regional data centres; to promote the exchange of nuclear and atomic data needed for applications; and to maintain manuals and software for internationally agreed database formats and exchange procedures.

G.1.03. *Nuclear Data Assessment and Improvement for Applications* — to assess current nuclear data needs; to improve/develop data files for the most critical non-energy and energy applications, including medical applications, waste transmutation, fuel cycle development, material analysis and safeguards; and to maintain international standards and reference data.

G.1.04. *Establishment of International Atomic and Molecular Interaction Database* — to establish internationally recommended atomic, molecular, plasma–material interaction and material properties databases for use in fusion research and other plasma applications; and to describe the interaction of radiation with materials.

G.1.05. *Data User Support and Technology Transfer* — to improve the methods of providing information to data users and to provide training in the effective use of nuclear and atomic data.

Key Subprogramme Trends

Increased effort will be devoted to the development of Web based services to meet rapidly growing demand. In addition, work will begin on the development of hybrid methods for data dissemination that combine the advantages of the Web (presentation of up to date information) with CD-ROM based products (fast access to large volumes of data). Increased interaction with users outside the nuclear energy field will be facilitated through the establishment of new Web sites to serve the safeguards and medical physics communities, respectively. Work will also begin on the evaluation of nuclear data for the proliferation resistant Th–U fuel cycle. In G.1.04, a new initiative will focus on atomic aspects of the interaction of radiation with matter. In Project G.1.05, user support will be strengthened by initiating a new series of workshops with the ICTP on nuclear structure and decay data, and increased effort will be devoted to the establishment of regional mirror sites of Agency nuclear data services.

Development of the international database with numerical data on properties of irradiated nuclear graphite will continue. This database will be utilized in the design and safety analysis of new and existing graphite moderated power reactors.

Key Subprogramme Resource Trends

The regular budget for Subprogramme G.1 amounts to $2 228 000 representing a decrease of $16 000, or 0.7%, compared to the 2000 budget. Partly owing to the dissemination of information by electronic means, a further 10% savings will be achieved through reduced printing costs, following a 37% reduction in 1999–2000.

G.2. Nuclear Instrumentation

Subprogramme Rationale

All nuclear applications rely on nuclear instrumentation. There is a continuous refinement of electronics, detectors and software to obtain more reliable and precise information. In some developing Member States the instrumentation is old and in disrepair, owing to lack of training, equipment or spare parts, or loss of trained personnel. Furthermore, the continuing sophistication of nuclear instruments makes it difficult for their personnel to keep abreast of recent developments. Nuclear spectrometry techniques are widely used to analyse the compositions of materials, but many developing countries lack expertise in using these techniques. In addition, some countries need nuclear instruments for special purposes but are unsure as to what equipment and software would be appropriate or require assistance in designing and manufacturing such instruments. With its expertise in nuclear instrumentation, long experience and worldwide scope, the Agency is well suited to fill these needs, which have also been identified through requests for assistance from Member States in the framework of the technical co-operation programme. The recipients of this assistance are engineers, scientists, technicians and managers associated with nuclear instrumentation in Member States.

Subprogramme Objective

To improve the capability of laboratories in developing Member States to utilize and maintain nuclear instruments; to improve nuclear spectrometry software; and to help Member States develop nuclear instruments for special applications.

Subprogramme Performance Indicators

- Number and quality of new kits used in training programmes.
- Number and quality of new laboratory manuals produced by the Agency.
- New instruments developed for specific applications where commercial instruments are unavailable.
- Requests for software and publications.
- Request for technical co-operation projects.

This subprogramme consists of three projects

G.2.01. *Maintenance of Nuclear Instrumentation* — to improve the capacity of laboratories in developing countries to maintain, repair and service nuclear instruments, to improve instrument utilization and to facilitate assimilation of nuclear techniques.

G.2.02. *Nuclear Spectrometry* — to enhance the utilization of nuclear analytical methods in Member States and to help them develop nuclear instruments for special applications.

G.2.03. *Support to Technical Co-operation Activities* — to provide technical support to the Agency's technical co-operation projects in nuclear spectrometry techniques and in the maintenance and repair of nuclear instruments.

Key Subprogramme Trends

Tasks dealing with computer based troubleshooting tools, gamma ray spectrometry software development, quality assurance for XRF, comparison of nuclear and non-nuclear analytical methods, bulk hydrogen analysis using neutrons, comparison of PIXE spectrometry software, and interregional training courses are being phased out. New topics include quality assurance for nuclear spectrometry, neutron radiography, the metrological basis for XRF, development of an Internet page for spectrometry software and reference spectra, nuclear spectrometry file format specifications, positron emission tomography detectors, support for safeguards, and a worldwide proficiency test for XRF laboratories. Several tasks in the former Project Nuclear Instruments and Methods for Special Applications (G.2.03) have been phased out and this project has been discontinued, with the continuing tasks moved into G.2.02.

Key Subprogramme Resource Trends

The new activities have been slightly reduced in order to make resources available for other, higher priority projects. The result is that the budget for Subprogramme G.2 will decrease by $19 000, or 0.9%, to $1 989 000.

G.3. Theoretical Physics

Subprogramme Rationale

The overall mission of the Abdus Salam International Centre for Theoretical Physics (ICTP) was defined in the 1969 IAEA–UNESCO Agreement, approved by the Board of Governors, concerning the Centre's joint operation: to foster, through training and research, the progress of all branches of theoretical physics, with emphasis on responding to the needs of science in developing countries. Since 1996, UNESCO has served as the Centre's lead administrative agency.

Subprogramme Objective

To provide for the training of scientists from developing countries and a forum for exchange of knowledge between scientists from developing and developed countries.

Subprogramme Performance Indicators

- Number of scientists from developing countries using knowledge obtained in basic sciences to improve applications in their respective countries.

Key Subprogramme Trends

The activities under this subprogramme are carried out entirely by the ICTP at Trieste and cover fundamental and applied physics, including nuclear physics, and mathematics, high energy physics, solid state physics, climate change studies and specific areas of advanced science. Training is provided to about 4000 scientists each year from all over the world and in particular from developing countries. The Agency and the ICTP periodically organize workshops/training courses in areas of nuclear technology, notably nuclear data. This collaboration will be strengthened further by the development of a programme of activities in nuclear science and technology, fields that fall within the mandate and competence of the Agency.

Key Subprogramme Resource Trends

The Agency's financial contribution of $1 950 000 represents less than 10% of ICTP's resources.

G.4. Utilization of Research Reactors and Particle Accelerators

Subprogramme Rationale

Research reactors can be utilized for the production of isotopes, radiography, materials characterization, neutron beam research, medical therapy and training. Accelerators can be powerful tools for materials characterization, surface modification, isotope production, sterilization and medical therapy. There are 298 research reactors and hundreds of accelerators in use worldwide, but in many countries these expensive facilities are underutilized for a variety of reasons. With its expert staff, worldwide scope, and technical co-operation resources, the Agency is uniquely suited to help Member States improve the utilization of their research reactors and accelerators. The Agency can also help Member States in their choice of such facilities. The recipients of this assistance are engineers, scientists, technicians and managers.

A PPAS Evaluation Group conducted a review of all Agency activities dealing with research reactors and accelerators in 1999, including utilization, safety, fuel cycle, waste management and technical co-operation issues, and provided recommendations for future enhancements and focus of these activities.

Subprogramme Objective

To improve the utilization of research reactors and particle accelerators by facilitating more effective management and promoting a broad spectrum of applications.

Subprogramme Performance Indicators

- Increase in the implementation of Agency recommendations on the utilization of research reactor applications.
- Number of entries in the accelerator database and number of accelerator applications in use.
- Number of publications in international scientific journals by participants in Agency activities and by Agency staff.
- Number of inquiries to Agency website dealing with research reactor or accelerator utilization.

This subprogramme consists of three projects

G.4.01. *Optimization of Research Reactor Operation, Utilization and Maintenance* — to enhance research reactor utilization in Member States for many practical applications, such as isotope production, radiography, neutron beam research and material composition analysis.

G.4.02. *Utilization of Particle Accelerators* — to improve the maintenance and utilization of accelerator facilities, such as for surface modification, sterilization, therapy, isotope production and materials analysis.

G.4.03. *Support to Technical Co-operation Activities* — to provide technical support to Agency technical co-operation activities.

Key Subprogramme Trends

The following activities have been finalized and as such will be phased out: analysis of research reactor transients; neutron capture therapy; utilization of low power (<100 kW) research reactors; developments in accelerator technology; and the accelerator newsletter. In order to accommodate Member State needs, several new topics are being initiated. Reactor managers will be provided with information about possible new applications for their facilities. Internet use will increase for the dissemination of information. Activities dealing with ion beams (depth profiling, development of semiconductors, surface modification of insulators) will be increased. New tasks will facilitate educational activities at research reactors and accelerators, and the assessment of accelerators as sources of neutrons. An international symposium on the utilization of low energy accelerators will be organized.

Key Subprogramme Resource Trends

The total resources in this subprogramme will be almost unchanged, decreasing by just $1 000, or 0.2%, to $625 000.

Subprogramme Rationale

Many Member States, particularly those operating research reactors, accelerators and radiation processing facilities, have active programmes in the field of applications of radioisotopes and radiation. These programmes provide products and services to key areas, including health care, industry, resource exploitation, agriculture and research, as well as to support efforts for energy conservation and environmental protection. Many activities of this subprogramme are proposed for implementation in order to achieve the objectives of Agenda 21 for sustainable development.

Subprogramme Objective

To enhance the availability of radioisotopes and industrial and environmental applications of radiation technology through support to Member States by making optimum use of national nuclear facilities and infrastructure. The programme promotes co-operation among Member States in exchanging information on recent advances, assimilating new techniques, improving quality and expanding applications.

Subprogramme Performance Indicators

- Increased level of applications of radioisotopes, radioisotope products, radiation technology, industrial radiography and radioanalytical services.
- Introduction of new products and services in target sectors.
- Greater adaptation of international standards.

This subprogramme consists of eight projects

G.5.01. *Radioisotope Production and Processing* — to enhance the utilization and reliability of national radioisotope production and processing facilities with a view to meeting national demands for application in medicine and other fields.

G.5.02. *Radioanalytical Applications* — to support Member State efforts to expand the use of nuclear analytical techniques, including neutron activation analysis and radioimmunometric assays for applications in industry, medicine and the environment, veterinary sciences and other fields.

G.5.03. *Development, Production and Quality Assurance of Radiopharmaceuticals* — to support efforts in Member States for radiopharmaceutical production meeting international standards; and to cater to current needs of diagnostic and therapeutic applications in nuclear medicine.

G.5.04. *Analytical Quality Control Services* — to enhance the reliability of nuclear analytical measurements in Member State laboratories by providing reference materials, reference procedures, training and capability testing.

G.5.05. *Industrial and Environmental Applications of Radiation Technology* — to improve and upgrade industrial processes, the quality and safety of drinking water and detoxification of industrial waste through the utilization of radiation processing technology.

G.5.06. *Non-destructive Methods for Quality Control and In-Service Inspections* — to improve and ensure the safety and reliability of industrial machines, components and plants using NDT techniques through quality control of industrial goods and services.

G.5.07. *Radiotracers and Nucleonic Gauge Technologies for Industry and Environment* — to improve unit operation analysis and unit process optimization using radioisotopes and expanding their services to petroleum, chemical and petrochemical industries, mining and mineral processing and wastewater plants, to maximize the benefit to end users by implementing new tracer applications.

G.5.08. *Support to Technical Co-operation Activities* — to provide technical support to Agency technical co-operation activities.

Key Subprogramme Trends

Applications of radioisotopes and radiation continue to play a vital role in several key sectors of economic and social relevance to Member States. Many applications are considered now as mature techniques and so CRPs dealing with such subjects are being phased out, particularly those related to the use of radiation technology for the sterilization of medical products, sewage sludge treatment, rubber latex vulcanization, indigenous natural polymers, validation of protocols for corrosion evaluation in pipes by radiography and radiation tracer technology for engineering unit operation studies and unit process optimization. Similarly, two CRPs dealing with laboratory techniques for the radiolabelling of biomolecules with technetium-99 for receptor imaging have been discontinued.

New activities planned under the subprogramme represent important areas of recent development, including the initiation of the following CRPs: development of radioactive source production for intravascular therapy; in vitro evaluation of therapeutic agents; development of radioimmunometric assay kits for reproductive hormones; comparative in vitro evaluation of radiolabelled compounds for therapy; radiation synthesis of intelligent membranes; hydrogels and adsorbents for separation purposes; and unification of experimental RTD and numerical CFD tracing.

Key Subprogramme Resource Trends

Regular budget resources amount to $2 384 000 representing a decrease of $40 000, or 1.7%, compared to the 2000 budget. There is a net decrease in the areas related to applications in industry (G5.05, G5.06 and G5.07).

G.6. Nuclear Fusion Research and Plasma Physics Applications

Subprogramme Rationale

Nuclear fusion could become an abundant, affordable energy source, with good environmental compatibility. Excellent progress is being made in both magnetic confinement and inertial fusion energy research, and spin-off applications of plasmas and fusion technology are valuable to industry. Also new applications are emerging, such as pulsed neutron sources. The subprogramme has been renamed to reflect the larger emphasis being placed on nuclear fusion as compared with plasma physics and its strategy is aligned in accordance with the Long Term Guidance Report of the International Fusion Research Council (IFRC) to emphasize public information, co-operation between large and small laboratories, and Agency services such as the holding of technical meetings.

Fusion research uses complex technology and requires large technical and financial inputs. International co-operation can help avoid duplication of effort and can accelerate progress by sharing knowledge, human resources, and costs. The Agency is uniquely suited to facilitate international co-ordination among the 50 Member States engaged in plasma physics and fusion research and its support to the International Thermonuclear Experimental Reactor (ITER).

The Agency's activities are being co-ordinated with those of the OECD International Energy Agency and jointly sponsored activities are being initiated. The Agency also co-operates with the ICTP in fusion research activities.

Subprogramme Objective

To promote international collaboration in plasma physics and nuclear fusion research and development through research co-ordination and technical information exchange; to promote spin-off applications; and to help developing Member States improve their research capabilities.

Subprogramme Performance Indicators

- Publications by Agency staff and by participants in reports, TECDOCS and international scientific journals.
- Quantity and quality of public information disseminated about fusion research.
- Number of technical co-operation projects requested and quantifiable benefits resulting from technical co-operation projects.
- Number of cost free participants in meetings organized by the Agency.

This subprogramme consists of three projects

G.6.0l. *Plasma Physics and Fusion Research* — to enhance international collaboration in plasma physics and fusion research; to facilitate technical information exchange; promote new applications; and help developing Member States strengthen their research programmes.

G.6.02. *International Thermonuclear Experimental Reactor (ITER)* — to provide support for the ITER engineering design activities, including publications, meetings and financial management.

G.6.03 *Nuclear Fusion Journal* (see Shared Services 2.7. This activity is financially self-supporting)

Key Subprogramme Trends

The following topics are being phased out: engineering, industrial and environmental applications of plasma physics and fusion technologies, stellarator physics, public information brochure, status of fusion report and fusion–fission hybrid blanket heat removal. The following new topics are being initiated: information exchange on power plant design for inertial fusion energy; dense magnetized plasmas; and divertor concepts.

Key Subprogramme Resource Trends

The resources required for the new activities can be met by savings from completed activities. The net result is that the total subprogramme budget will remain unchanged.

PROGRAMME G: APPLICATIONS OF PHYSICAL AND CHEMICAL SCIENCES
Summary of Regular Budget Estimates by Project
Table 26

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
G.1.	Nuclear and Atomic Data for Applications									
G.1.01	Data Centre Activities	G.1.01	Cont.	NAPC	774 000	(59 000)	(7.6)	715 000	1.8	728 000
G.1.02	International Data Centre Network Co-ordination and Co-operation Projects	G.1.02	Cont.	NAPC	306 000	(6 000)	(2.0)	300 000	1.0	303 000
G.1.03	Nuclear Data Assessment and Improvement for Applications	G.103	Cont.	NAPC	554 000	18 000	3.2	572 000	1.4	580 000
G.1.04	Establishment of International Atomic and Molecular Interaction Database	G.1.04	Cont.	NAPC	264 000	29 000	11.0	293 000	-	293 000
G.1.05	Data User Support and Technology Transfer	G.1.05	Cont.	NAPC	346 000	2 000	0.6	348 000	1.4	353 000
	Sub - total G.1.				2 244 000	(16 000)	(0.7)	2 228 000	1.3	2 257 000
G.2.	Nuclear Instrumentation									
G.2.01	Maintenance of Nuclear Instrumentation	G.2.01	2005	NAPC NAAL	448 000	(39 000)	(8.7)	409 000	1.2	414 000
G.2.02	Nuclear Spectrometry	G.2.02	2005	NAPC NAAL	395 000	517 000	130.9	912 000	1.3	924 000
-	Nuclear Instruments and Methods for Specific Applications - (Phased Out)	G.2.03	-	NAPC NAAL	339 000	(339 000)	(100.0)	-	-	-
G.2.03	Technical Support for TC Activities in G.2	G.2.04	Cont.	NAPC NAAL	826 000	(158 000)	(19.1)	668 000	1.5	678 000
	Sub-total G.2.				2 008 000	(19 000)	(0.9)	1 989 000	1.4	2 016 000
G.3.	Theoretical Physics									
G.3.01	International Centre for Theoretical Physics (Contribution)	G.3.01	Cont.	NA	1 950 000	-	-	1 950 000	1.7	1 983 000
G.4.	Utilization of Research Reactors and Particle Accelerators									
G.4.01	Optimization of Research Reactor Operation, Utilization and Maintenance	G.4.01	Cont.	NAPC NAAL	275 000	(89 000)	(32.4)	186 000	1.1	188 000
G.4.02	Utilization of Particle Accelerators	G.4.02	Cont.	NAPC NAAL	226 000	99 000	43.8	325 000	0.9	328 000
G.4.03	Technical Support for TC Activities in G.4	G.4.03	Cont.	NAPC	123 000	(9 000)	(7.3)	114 000	0.9	115 000
	Sub - total G.4.				624 000	1 000	0.2	625 000	1.0	631 000

PROGRAMME G: APPLICATIONS OF PHYSICAL AND CHEMICAL SCIENCES

Summary of Regular Budget Estimates by Project

Table 26 (Contd.)

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
G.5.	Radioisotopes and Radiation Technology									
G.5.01	Radioisotope Production and Processing	G.5.01	2003	NAPC	344 000	(125 000)	(36.3)	219 000	0.9	221 000
G.5.02	Radioanalytical Applications	G.5.02	2004	NAPC NAAL	127 000	172 000	135.4	299 000	1.3	303 000
G.5.03	Development, Production and Quality Assurance of Radiopharmaceuticals	G.5.03	2003	NAPC	115 000	84 000	73.0	199 000	1.0	201 000
G.5.04	Analytical Quality Control Services	G.5.04	Cont.	NAPC NAAL	591 000	(61 000)	(10.3)	530 000	1.3	537 000
G.5.05	Industrial and Environmental Applications of Radiation Technology	F.5.01	2004	NAPC	333 000	(45 000)	(13.5)	288 000	1.4	292 000
G.5.06	Non-destructive Methods for Quality Control and In-Service Inspections	F.5.02	2004	NAPC	147 000	(78 000)	(53.1)	69 000	1.4	70 000
G.5.07	Radiotracers and Nucleonic Gauge Technologies for Industry and Environment	F.5.03	2004	NAPC	163 000	36 000	22.1	199 000	1.0	201 000
G.5.08	Technical Support for TC Activities in G.5	F.5.04 G.5.05	Cont.	NAPC NAAL	604 000	(23 000)	(3.8)	581 000	1.5	590 000
	Sub-total G.5.				2 424 000	(40 000)	(1.7)	2 384 000	1.3	2 415 000
G.6	Nuclear Fusion Research and Plasma Physics Applications									
G.6.01	Plasma Physics and Fusion Research	G.6.01	Cont.	NAPC	428 000	(2 000)	(0.5)	426 000	1.2	431 000
G.6.02	International Thermonuclear Experimental Reactor (ITER)	G.6.02	2001	NAPC	97 000	2 000	2.1	99 000	2.0	101 000
G.6.03	Nuclear Fusion Journal	G.6.03	Cont.	MTCD	[568 000]	-	-	[494 000]	-	[504 000]
	Sub-total G.6				525 000	-	-	525 000	1.3	532 000
			NAPC/NAAL		7 825 000	(74 000)	(0.9)	7 751 000	1.3	7 851 000
			NA		1 950 000	-	-	1 950 000	1.7	1 983 000
Programme G - Applications of Physical and Chemical Sciences					9 775 000	(74 000)	(0.8)	9 701 000	1.4	9 834 000

PROGRAMME G: APPLICATIONS OF PHYSICAL AND CHEMICAL SCIENCES
List of Projects and Estimated Total Resources for 2001
Table 27

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
G.1.	Nuclear and Atomic Data for Applications							
G.1.01	Data Centre Activities	NAPC	3.7	3.3	728 000	-	-	-
G.1.02	International Data Centre Network Co-ordination and Co-operation Projects	NAPC	1.2	1.5	303 000	-	-	-
G.1.03	Nuclear Data Assessment and Improvement for Applications	NAPC	2.4	1.2	580 000	9 000	-	-
G.1.04	Establishment of International Atomic and Molecular Interaction Database	NAPC	1.3	0.8	293 000	-	13 000	-
G.1.05	Data User Support and Technology Transfer	NAPC	1.9	2.1	353 000	-	-	-
	Sub - total G.1.		10.5	8.9	2 257 000	9 000	13 000	-
G.2.	Nuclear Instrumentation							
G.2.01	Maintenance of Nuclear Instrumentation	NAPC NAAL	0.7 0.3	0.2 1.4	414 000	-	-	-
G.2.02	Nuclear Spectrometry	NAPC NAAL	1.3 1.7	0.5 2.3	924 000	150 000	-	-
G.2.03	TC Activities in G.2 Technical Support	NAPC NAAL	0.9 1.1	0.3 2.8	678 000	-	-	-
	Projects	TC	-	-	-	-	-	941 000
		NAPC NAAL	2.9 3.1	1.0 6.5				
	Sub-total G.2.		6.0	7.5	2 016 000	150 000	-	941 000
G.3.	Theoretical Physics							
G.3.01	International Centre for Theoretical Physics (Contribution)	NA	-	-	1 983 000	-	-	-
G.4.	Utilization of Research Reactors and Particle Accelerators							
G.4.01	Optimization of Research Reactor Operation, Utilization and Maintenance	NAPC	0.7	0.6	188 000	-	-	-
G.4.02	Utilization of Particle Accelerators	NAPC NAAL	0.5 0.2	0.3 0.1	328 000	-	-	-
G.4.03	TC Activities in G.4 Technical Support	NAPC NAAL	0.8 0.1	0.1 0.1	115 000	-	-	-
	Projects	TC	-	-	-	-	-	1 640 000
		NAPC NAAL	2.0 0.3	1.0 0.2				
	Sub - total G.4.		2.3	1.2	631 000	-	-	1 640 000

PROGRAMME G: APPLICATIONS OF PHYSICAL AND CHEMICAL SCIENCES
List of Projects and Estimated Total Resources for 2001
Table 27 (Contd.)

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
G.5.	Radioisotopes and Radiation Technology							
G.5.01	Radioisotope Production and Processing	NAPC	0.3	0.6	221 000	-	-	-
G.5.02	Radioanalytical Applications	NAPC	0.8	0.7	303 000	-	-	-
		NAAL	0.1	0.1				
G.5.03	Development, Production and Quality Assurance of Radiopharmaceuticals	NAPC	0.4	0.3	201 000	-	-	-
G.5.04	Analytical Quality Control Services	NAPC	0.4	-	537 000	-	-	-
		NAAL	1.0	2.6				
G.5.05	Industrial and Environmental Applications of Radiation Technology	NAPC	0.9	0.6	292 000	12 000	-	-
G.5.06	Non-destructive Methods for Quality Control and In-Service Inspections	NAPC	-	0.3	70 000	-	-	-
G.5.07	Radiotracers and Nucleonic Gauge Technologies for Industry and Environment	NAPC	0.8	0.7	201 000	-	-	-
G.5.08	TC Activities in G.5 Technical Support	NAPC	1.9	0.7	590 000	-	-	
		NAAL	0.7	1.2				
	Projects		-	-	-	-	-	6 265 000
		NAPC	5.5	3.9				
		NAAL	1.8	3.9				
	Sub-total G.5.		7.3	7.8	2 415 000	12 000	-	6 265 000
G.6	Nuclear Fusion Research and Plasma Physics Applications							
G.6.01	Plasma Physics and Fusion Research	NAPC	1.5	0.9	431 000	-	-	-
G.6.02	International Thermonuclear Experimental Reactor (ITER)	NAPC	-	-	101 000	-	-	-
G.6.03	Nuclear Fusion Journal	MTCD	[1.0]	[3.0]	[504 000]	-	-	-
	Sub-total G.6		1.5	0.9	532 000	-	-	-
		NAPC	22.4	15.7	7 851 000	171 000	13 000	8 846 000
		NAAL	5.2	10.6				
		NA	-	-	1 983 000	-	-	-
		Lapse	1.0	-				
Programme G - Applications of Physical and Chemical Sciences			28.6	26.3	9 834 000	171 000	13 000	8 846 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.
Note: Staffing figures exclude NAAL site related staff.

Major Programme 3
Nuclear, Radiation and Waste Safety

Major Programme Rationale

The mandate for the major programme is given in Article III.A.6 of the Statute, namely: to establish or adopt, in consultation and, where appropriate, in collaboration with the competent organs of the United Nations and with the specialized agencies concerned, standards of safety for the protection of health and minimization of danger to life and property and to provide for the application of these standards. Additionally, the major programme has a mandate to encourage and assist research to foster the exchange of information and to encourage the exchange and training of scientists and experts.

The substance of the programme responds to the wishes and needs of Member States as expressed, in:

— Article III.A.6 of the Statute;

— Resolutions 10, 11, 12 and 13 of the 43rd General Conference;

— reviews in 1995, 1997 and 1999 conducted by government appointed experts;

— the Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety, held in August 1998; and

— the Conference on Strengthening Nuclear Safety in Eastern Europe, held in June 1999.

The substance of the programme is also consistent with the recommendations of the Senior Expert Group.

Major Programme Objective

To achieve and maintain a high level of nuclear, radiation and waste safety worldwide by strengthening the system of international binding agreements among States and servicing the implementation of those agreements, developing and updating standards in all areas of nuclear, radiation, transport and waste safety and providing for the effective application of safety standards in Member States.

This major programme consists of four programmes

H. Nuclear Safety
I. Radiation Safety
J. Radioactive Waste Safety
K. Co-ordination of Safety Activities

Key Major Programme Trends

Priority will be given to completing the revision of the existing corpus of safety standards as well as identifying and preparing new standards as required. The effort required for the preparation of standards will be less than in the 1999–2000 period and the emphasis will shift to the rendering of services and support for technical co-operation activities.

Key Major Programme Resource Trends

The proposed resources for this major programme amount to $15 127 000, reflecting an increase of $130 000, or 0.9 %, compared with the 2000 budget.

MAJOR PROGRAMME 3

NUCLEAR, RADIATION AND WASTE SAFETY

Summary of total resources for 2001 by programme

Table 28

	Programme / Major Programme	Staffing P	Staffing GS	Regular Budget estimates at 2001 prices	URPA	Funds from other UN organizations	Other extra-budgetary resources	TC Programme a_/
H.	Nuclear Safety	24.5	19.8	6 224 000	575 000	-	2 078 000	6 413 000
I.	Radiation Safety	12.0	11.3	3 805 000	390 000	-	100 000	6 387 000
J.	Radioactive Waste Safety	9.9	5.8	2 267 000	139 000	-	250 000	1 433 000
K.	Co-ordination of Safety Activities	10.3	10.2	3 054 000	-	-	126 000	-
	Major Programme 3	56.7	47.1	15 350 000	1 104 000	-	2 554 000	14 233 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

H. Nuclear Safety

Programme Rationale

Nuclear installations pose a potential hazard to health. It is therefore essential that the siting, design, construction and operation of installations be subject to standards of safety to protect humans and the environment. The need for Agency involvement derives from its obligation to:

- discharge the functions assigned to it by the Statute with regard to establishing standards of safety for nuclear installations and providing for the application of those standards; and
- to perform tasks assigned to it by the Convention on Nuclear Safety.

In the development of this programme, account has been taken of the findings of the International Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety held in 1998, the views expressed in a June 1999 PPAS evaluation report of the Agency's safety programme, the deliberations of the Contracting Parties to the Convention on Nuclear Safety in their meeting held in April 1999 and the findings of the Conference on Strengthening of Nuclear Safety in Eastern Europe held in June, 1999.

Programme Objective

To achieve and maintain a high level of safety of nuclear installations under design, construction or operating worldwide by:

- establishing standards of safety for the protection of health including standards for research reactors, nuclear power plants and other non-reactor nuclear installations; and
- providing for the application of these standards through, inter alia, support for the Agency's technical co-operation programme, the rendering of services, the promotion of education and training, the fostering of information exchange and the co-ordination of research and development.

Programme Performance Indicators

- Nuclear safety profiles drafted for all countries receiving technical co-operation assistance and action plans being prepared by national liaison officers.
- Number of requests for safety review services and the extent of their geographical distribution equal to or greater than the 1999 level.
- Agency recommendations and advice implemented at a high level (80%) by Member States.

This programme consists of five subprogrammes

H.1. Safety Assessment Developments
H.2. Nuclear Plant Engineering Safety
H.3. Operational Safety
H.4. Research Reactor Safety
H.5. Regulatory Activities Related to Nuclear Safety

Key Programme Trends

The emphasis in the programme has shifted to: the provision of advice and services in applying the new safety standards; to strengthening the regulatory authorities; to the development of safety assessment tools with the inclusion of these tools in safety review services; and to the management of safety and safety culture and the enhancement of the safety level for research reactors. Following a recommendation of the Advisory Commission on Safety Standards (ACSS), it is proposed to undertake work on elaborating safety standards for research reactors.

Key Programme Resource Trends

The proposed resources for this programme amount to $6 120 000, reflecting an increase of $236 000, or 4%, compared with the 2000 budget, which is mainly due to increased activities in Subprogramme H.5 (Regulatory Activities Related to Nuclear Safety) and in Subprogramme H.1 (Safety Assessment Developments). One additional Professional post is included for the new activities related to the management of operational safety and safety culture, and one additional GS post for secretarial support in this area. Extrabudgetary resources of $2 078 000 are expected to support the activities of this programme.

PROGRAMME H: NUCLEAR SAFETY

Summary of Regular Budget Estimates by Subprogramme

Table 29

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
H.1	Safety Assessment Developments	1 273 000	83 000	6.5	1 356 000	2.8	1 394 000
H.2	Nuclear Plant Engineering Safety	1 170 000	46 000	3.9	1 216 000	1.5	1 234 000
H.3	Operational Safety	2 004 000	35 000	1.7	2 039 000	1.4	2 067 000
H.4	Research Reactor Safety	775 000	(63 000)	(8.1)	712 000	1.3	721 000
H.5	Regulatory Activities Related to Nuclear Safety	662 000	135 000	20.4	797 000	1.4	808 000
H.6	Safety of Other Installations (Unfunded Regular Programme Activity)	-	-	-	-	-	-
Programme H - Nuclear Safety		5 884 000	236 000	4.0	6 120 000	1.7	6 224 000

Subprogramme Rationale

The tasks of this subprogramme are based on the recommendations of the 1998 International Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety. The structure has been revised and the number of projects reduced as recommended by the PPAS review in 1999. An important conclusion of the Agency's Conference on the Strengthening of Nuclear Safety in Eastern Europe (June 1999) was the need to complete safety assessments for many of the reactors in that region.

Subprogramme Objective

To develop and apply effective methods and tools for safety assessment, including practical implementation of defence in depth; to develop and apply advanced techniques for safety analysis (deterministic, probabilistic) and tools for safety management and prioritization; and to investigate the effects of safety margins and uncertainties on the results of safety analyses and their implications for decision making.

Subprogramme Performance Indicators

- Application of the tools developed by decision makers in all geographical areas.
- Successful demonstration of the defence in depth methodology based on a pilot study.
- Increased use of the defence in depth concept in safety review missions.
- Incorporation of assessment of safety margins into the Agency's training material for safety analyses.
- Agreement on relevant factors to be considered in cost–benefit analyses based on several case studies.
- Use of the framework of safety indicators by an increasing number of nuclear power plants.
- Requests received for holding workshops on safety indicators.
- Increased use of precursor studies by Member States in safety management.

This subprogramme consists of three projects

H.1.01. *Safety Analysis and Accident Management* — to provide guidance on the analysis of design basis, beyond design basis and severe accidents, focusing on verification and application and the promotion of the best practices by means of comprehensive training, services and exercises.

H.1.02. *Safety Management Tools* — to promote the use of modern safety management tools, with emphasis on assuring quality and consistency.

H.1.03. *Safety of Nuclear Installations in South East Asia, Pacific and Far East Countries* — to promote regional co-operation in nuclear safety and to assist countries in this region to strengthen the safety of their nuclear installations.

Key Subprogramme Trends

Developmental work is being introduced on a number of new topics. The proposed new tasks are aimed at:

- developing methodologies and introducing practical studies using the defence in depth concept as a basis for analysing and prioritizing safety issues;
- investigating the effects of safety margins and uncertainties on the results of safety analyses, and the implications of these effects for decision making;
- identifying the relevant factors for the use of cost–benefit analysis as a tool for prioritizing safety improvements;
- exchanging information on safety analysis methodologies with safety specialists in other relevant industries, such as in civil aviation and the petrochemical industry.

More emphasis will be given to guidance for PSA applications and for its use in risk-informed decision making, in particular. The scope of the new project would, however, also include other tools, with significant new tasks on:

— developing qualitative and quantitative indicators for measuring the effectiveness of safety management;

— developing guidance in the use of precursor studies as a means of identifying deficiencies in safety and/or safety management.

Close co-operation and co-ordination will be maintained with the OECD/NEA.

Key subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 356 000, reflecting an increase of $83 000, or 6.5% compared with the 2000 budget. Under this subprogramme, three projects were phased out (Human Factors and Human–Machine Interface, Assessment and Reliability of Safety Systems, and the Extrabudgetary Programme on WWER and RBMK Plant Safety, which is continued under technical co-operation regional projects). On the other hand, one new project (Safety Management Tools), which partly encompasses earlier activities (PSA) was introduced, on the basis of PPAS recommendations. In line with the staffing increase and the increased activities under H.1.01 and H.1.02, there is an increase in non-staff travel.

H.2. Nuclear Plant Engineering Safety

Subprogramme Rationale

This subprogramme supports the revision of the Design and Siting Safety Standards. The revision was launched by a decision of the Board of Governors in June 1995 according to the Agency Statue by which the Agency is authorized to establish and adopt Safety Standards. The revision of the Standards is also supported by the recommendations of a PPAS review in 1999. In providing safety review services, special attention is given to the needs of developing countries in accordance with the Agency's Statute.

Subprogramme Objective

To achieve effective resolution of engineering safety issues of broad interest (relating to siting, design, operation and maintenance of nuclear plants) by assisting Member States in the application of safety standards and of good engineering practices.

Subprogramme Performance Indicators

- Completion of preparation of standards on design and siting.
- Number of safety review missions requested and the extent of their geographical distribution equal to or greater than the 1999 level.
- Servicing of all requests for missions related to desalination reactors and any other small reactor needs.

This subprogramme consists of five projects

H.2.01. *Nuclear Power Plant Safety Design* — to assist in the implementation of design and periodic safety reviews, and any design modifications required to achieve and maintain a high level of safety.

H.2.02. *External/Internal Events and Safe Siting of Nuclear Power Plants* — to assist in the re-evaluation of seismic and other external/internal hazards and implementation of related upgrades/safety enhancements.

H.2.03. *Safety Aspects of Nuclear Power Plant Ageing* — to assist in managing age related degradation of systems, structures and components important to safety so as to ensure their integrity and functional capability.

H.2.04. *Computer Based Systems Important to Safety* — to assist in ensuring the required reliability of computer based systems important to safety in both new and operational nuclear power plants.

H.2.05. *Small and Medium Reactors including those for Desalination and District Heating* — to provide guidance on applying the existing safety standards for nuclear power plants to small and medium reactors, particularly those used in seawater desalination plants and district heating systems.

Key Subprogramme Trends

After the completion of the safety standards (Requirements and Safety Guides) in the areas of siting and design, greater emphasis will be given to assistance to Member States in their implementation. This will involve increasing the quantity of the presently available review services and the initiation of new ones.

The effects of an inventory of older nuclear power plants worldwide will be taken into consideration by concentrating on topics such as ageing management of items important to safety, periodic safety review and configuration management. Both services and the development of guidance material (such as safety reports) are envisaged.

Following the industry trends, more emphasis will be given to computer based systems important to safety. The safety implications of upgrades of both hardware and software will be assessed and assistance to Member States will be provided.

Developments in new applications of nuclear energy (such as desalination and heat generation) will be supported. The applicability for these facilities of available guidance on safety (for nuclear power plants and research reactors) will be investigated. Where significant gaps exist, new guidance material may be developed.

Close co-operation and co-ordination will be maintained with the OECD/NEA.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 216 000, reflecting an increase of $46 000, or 3.9%, compared with the 2000 budget. The increase is mainly due to an increase in staff costs. The increase of $144 000 for the new project on small and medium reactors, including those for desalination and district heating, is for the major part offset by a decrease in other H.2 projects, made possible by the completion of the Safety Standards revision process in 2001.

H.3. Operational Safety

Subprogramme Rationale

There is a continuing demand by Member States for the operational ASSET, OSART and safety culture assessment services and an increasing interest in the management aspects of the operational safety of nuclear installations. The workload is demand driven. Also the emphasis on investigating safety management and safety culture is reinforced by the recommendations of the 1999 PPAS review. In addition, the tasks in this subprogramme have taken into account the recommendations of the 1998 Conference on Topical Issues in Nuclear, Radiation and Radiological Waste Safety.

Subprogramme Objective

To achieve enhanced safety of operation of nuclear installations by providing guidance in the form of safety standards and guides, conducting safety evaluations of management processes, safety culture and safety performance, and offering assistance in improvement measures.

Subprogramme Performance Indicators

- Number of missions requested at the 1999 level or higher.
- Requests for missions received from all geographical areas.
- High percentage (80%) of recommendations successfully implemented (measured during follow-up missions).
- Positive feedback from experts participating in safety missions on quality and value of missions.

This subprogramme consists of four projects

H.3.01. *Performance Based Operational Safety Service* — to assist nuclear utilities and regulators in improving operational safety by promoting performance based assessment processes and providing recommendations and assistance derived from nuclear power plant performance based assessments.

H.3.02. *Operating Experience Safety Service* — to assist nuclear utilities and regulators in improving operational safety by promoting the processes of systematic analysis of operating experience and events and providing recommendations derived from reviews of such plant assessments.

H.3.03. *Management of Operational Safety and Safety Culture* — to assist nuclear utilities and regulators in improving operational safety by promoting the concepts of safety culture and self–assessment and by providing recommendations and assistance derived from evaluations of utility and nuclear power plant management of operational safety processes and safety culture.

H.3.04. *Integrated Operational Safety Service* — to assist nuclear utilities and regulators in improving operational safety by providing recommendations and assistance derived from customized evaluation of the utility and/or nuclear power plant operational safety performance.

Key Subprogramme Trends

The operational OSART and ASSET safety services continue to be requested by Member States. Safety culture assistance has been requested in the form of seminars and workshops, as an evolution of the previous Assessment of Safety Culture in Organizations Team (ASCOT) missions. Developments in the services include: new evaluation tools focusing on the management of operational safety with an emphasis on plant self–assessment; a new service with the capability of assessing the effectiveness of a plant operating experience programme that will include the core principles of the ASSET service; and a new service with the capability of assessing the effectiveness of utility or plant management of operational safety and safety culture. In addition, a process whereby the various methods of utility/plant operational performance assessment are combined for the utility/plant will be developed. The World Association of Nuclear Operators (WANO) is also active in many of these areas at the utility and nuclear power plant level without regulatory involvement. In keeping with the Memorandum of Understanding between the IAEA and WANO, close co-ordination will continue in order to prevent duplication of effort.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $2 039 000, reflecting an increase of $35 000, or 1.7%, compared with the 2000 budget. An increase under staff costs for one additional P-4 post and the necessary secretarial support in H.3.03 is largely offset by a reduction in non-staff travel and other areas.

H.4. Research Reactor Safety

Subprogramme Rationale

A large number of research reactors, operating or shut down, are close to the end of their life time, making this sector of nuclear safety particularly important. The supervision of these facilities is not always routinely covered by national standards or regulations. Other concerns are related to the storage and final disposition of their spent fuel elements. The funds allocated by national authorities to the safety of research reactors are often insufficient. PPAS reviews of Major Programme 3 in 1997 and 1999 identified research reactor safety as a very high priority area. The International Nuclear Safety Advisory Group also stated that research reactor safety is very important for the Agency because no other organization is undertaking this work and research reactors are not included in the Nuclear Safety Convention.

Subprogramme Objective

To achieve resolution of safety issues related to research reactors by Member States with Agency assistance in the implementation of safety standards and good engineering practices.

Subprogramme Performance Indicators

- Implementation of methodology used in nuclear power plants in Integrated Safety Assessment of Research Reactors (INSARR) missions.
- Effective operation of the Incident Reporting System for Research Reactors (IRSRR) through the participation of an increased number of Member States.
- Increase in the number of review missions requested with good geographic distribution.
- High implementation (80%) of the recommendations given in safety review missions.
- Fulfillment of all obligations for facilities covered by an agreement with the Agency.
- Increased awareness in Member States of the need for effective regulation of research reactors.

This subprogramme consists of three projects

H.4.01. *Safety in the Design and Operation of Research Reactors* — to assist Member States to achieve and/or maintain a high level of safety in research reactors and in the application of the Agency's Safety Standards. To fulfil the obligations of the Agency on those facilities under special agreements.

H.4.02. *Regulatory Supervision of Research Reactors* — to assist Member States in establishing an adequate regulatory basis for overseeing the safety implications of a project (in co-operation with Subprogramme H.5); to assist Member States with facilities in establishing means for assessment, inspection and licensing; to develop activities to exchange information on safety issues related to environmental protection.

H.4.03. *Experience Feedback on Safety Issues for Research Reactors* — to improve the safety of research reactors through the exchange of safety related information; to operate the IRSRR and to maintain the associated database of events.

Key Subprogramme Trends

After the completion of the Safety Standards in the area of research reactor safety, greater emphasis will be given to assistance to Member States in their implementation. This will involve some modifications to the presently available INSARR services.

More interaction with safety review services (such as OSART) for nuclear power plants will be made in order to include new elements (e.g. human factors) within the scope of INSARR services.

A more systematic approach will be taken for the implementation of INSARR missions to research reactors under an agreement with the Agency.

In view of the weaknesses in the regulatory infrastructure of some countries operating research reactors, greater emphasis will be given to regulatory supervision activities.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $712 000, reflecting a decrease of $63 000, or 8.1%, compared with the 2000 budget. This decrease is caused mostly by the completion of one CRP which was included in the previous programme and budget cycle. Nevertheless, in view of the increase in resources in the 2000 budget, the addition of a cost-free expert to this subprogramme, the fact that most of the work on safety standards will be completed in 2000, and the resources that will be made available within the extrabudgetary programme in South East Asia and the Far East, it will still be possible to increase assistance to Member States in the area of research reactor safety.

H.5. Regulatory Activities Related to Nuclear Safety

Subprogramme Rationale

The Contracting Parties to the Convention on Nuclear Safety (in their Review Meeting of April 1999) and the Conference on Strengthening Nuclear Safety in Eastern Europe both identified the need to further increase the effectiveness of regulatory bodies. These findings were consistent with those of the Conference on Topical Issues in Nuclear, Radiation and Waste Safety. Furthermore, the same conclusion is being reached by individual Member States as evidenced by an increasing demand for IRRT missions (International Regulatory Review Team) including from countries with well developed nuclear programmes. All the above is fully consistent with the recommendations of the PPAS of the nuclear safety programme in 1999.

Subprogramme Objective

To achieve independent and effective regulatory regimes by performing peer reviews of regulatory bodies (IRRT); advising regulatory bodies regarding the changing environment and new regulatory challenges; exchanging experience among regulatory bodies; and strengthening the national operational feedback process by using the Incident Reporting System (IRS).

Subprogramme Performance Indicators

- Carrying out of 3 – 5 IRRT missions.
- High level (80%) of implementation by Member States of Agency recommendations and advice.
- Increased independence of regulatory bodies as evidenced by improved legislation.
- Event reporting by Member States at the same level as 1999, with a decrease in the numbers of repeat events.

This subprogramme consists of two projects

H.5.01. *Regulatory Body Effectiveness and Efficiency* — to assist Member States in implementing, strengthening and maintaining an independent regulatory regime by: applying the Agency's Safety Standards; performing peer reviews of regulatory bodies (IRRT missions) based on country requests; and developing their self-assessment capabilities.

H.5.02. *Event Reporting and Analysis* — to continue the Agency's role in operating the IRS, in co-operation with the OECD/NEA and with the continuing participation of WANO (in accordance with the Memorandum of Understanding with that organization), with the aim of facilitating an exchange of information with regulatory bodies on events of safety significance at nuclear power plants.

Key Subprogramme Trends

A substantial increase and extension of this subprogramme is proposed in comparison with the 1999–2000 cycle. Increased effort is also proposed on strengthening contacts between regulatory bodies in the increasing number of international groups of regulators (WWER, CANDU, NERS) and the exchange of information on experience of regulatory practices.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $797 000, reflecting an increase of $135 000, or 20.4%, compared with the 2000 budget. The increase is due to a P-5 Temporary Assistance post which was redeployed from other activities into the H.5 area to add emphasis to this subprogramme. Since an additional Professional position was also added in the previous biennium, secretarial support has been increased accordingly. Apart from the higher staff costs, there is an increase under non-staff travel.

PROGRAMME H: NUCLEAR SAFETY
Summary of Regular Budget Estimates by Project
Table 30

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
H.1	Safety Assessment Developments									
H.1.01	Safety Analysis and Accident Management	H.1.01,02	Cont.	NSNI	271 000	234 000	86.3	505 000	2.8	519 000
H.1.02	Safety Management Tools	H.1.07	Cont.	NSNI	402 000	322 000	80.1	724 000	2.9	745 000
-	Human Factors and Human-Machine Interface (Phased Out)	H.1.03	-	NSNI	207 000	(207 000)	(100.0)	-	-	-
H.1.03	Safety of Nuclear Installations in South East Asia, Pacific and Far East Countries	H.1.06	2004	NSNI	117 000	10 000	8.5	127 000	2.4	130 000
-	Assessment and Reliability of Safety Systems (Phased Out)	H.1.04	-	NSNI	124 000	(124 000)	(100.0)	-	-	-
H.1.04	Safety in a Competitive Environment (Unfunded Regular Programme Activity)	New	2006	NSNI	-	-	-	-	-	-
-	WWER and RBMK Plant Safety (EBP Completed)	H.1.05	-	NSNI	152 000	(152 000)	(100.0)	-	-	-
	Sub-total H.1				1 273 000	83 000	6.5	1 356 000	2.8	1 394 000
H.2	Nuclear Plant Engineering Safety									
H.2.01	Nuclear Power Plant Safety Design	H.2.01	Cont.	NSNI	454 000	(37 000)	(8.1)	417 000	1.9	425 000
H.2.02	External/Internal Events and Safe Siting of NPPs	H.2.02	Cont.	NSNI	464 000	(50 000)	(10.8)	414 000	1.4	420 000
H.2.03	Safety Aspects of NPP Ageing	H.2.03	Cont.	NSNI	160 000	23 000	14.4	183 000	1.1	185 000
H.2.04	Computer Based Systems Important to Safety	H.2.04	Cont.	NSNI	92 000	(34 000)	(37.0)	58 000	-	58 000
H.2.05	Small and Medium-Sized Reactors - Including those for Desalination and District Heating	New	Cont.	NSNI	-	144 000	-	144 000	1.4	146 000
	Sub-total H.2				1 170 000	46 000	3.9	1 216 000	1.5	1 234 000

PROGRAMME H: NUCLEAR SAFETY
Summary of Regular Budget Estimates by Project
Table 30 (Contd.)

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
H.3	Operational Safety									
H.3.01	Performance Based Operational Safety Service	H.3.01	Cont.	NSNI	784 000	219 000	27.9	1 003 000	1.3	1 016 000
H.3.02	Operating Experience Safety Service	H.3.02	Cont.	NSNI	540 000	(70 000)	(13.0)	470 000	1.7	478 000
H.3.03	Management of Operational Safety and Safety Culture	H.3.03	Cont.	NSNI	293 000	67 000	22.9	360 000	1.1	364 000
H.3.04	Integrated Operational Safety Service	H.3.04	Cont.	NSNI	223 000	(17 000)	(7.6)	206 000	1.5	209 000
-	Current Safety Issues and Integrated Strategy Implementation (Merged)	H.3.05	Cont.	NSNI	164 000	(164 000)	(100.0)	-	-	-
	Sub-total H.3.				2 004 000	35 000	1.7	2 039 000	1.4	2 067 000
H.4	Research Reactor Safety									
H.4.01	Safety in the Design and Operation of Research Reactorss	H.4.01, 03	Cont.	NSNI	483 000	(111 000)	(23.0)	372 000	1.3	377 000
H.4.02	Regulatory Supervision of Research Reactors	H.4.02	Cont.	NSNI	102 000	20 000	19.6	122 000	-	122 000
H.4.03	Experience Feedback on Safety Issues for Research Reactors	H.4.02	Cont.	NSNI	190 000	28 000	14.7	218 000	1.8	222 000
	Sub-total H.4.				775 000	(63 000)	(8.1)	712 000	1.3	721 000
H.5	Regulatory Activities Related to Nuclear Safety									
H.5.01	Regulatory Body Effectiveness and Efficiency	H.5.01	Cont.	NSNI	397 000	14 000	3.5	411 000	1.2	416 000
H.5.02	Event Reporting and Analysis	H.5.02	Cont.	NSNI	265 000	121 000	45.7	386 000	1.6	392 000
	Sub-total H.5.				662 000	135 000	20.4	797 000	1.4	808 000
H.6	Safety of Other Installations									
H.6.01	Safety of Other Installations (Unfunded Regular Programme Activity)	-	-	NSNI	-	-	-	-	-	-
Programme H - Nuclear Safety					5 884 000	236 000	4.0	6 120 000	1.7	6 224 000

PROGRAMME H: NUCLEAR SAFETY
List of Projects and Estimated Total Resources for 2001
Table 31

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
H.1	Safety Assessment Developments							
H.1.01	Safety Analysis and Accident Management	NSNI	2.6	1.9	519 000	-	170 000	-
H.1.02	Safety Management Tools	NSNI	2.8	2.2	745 000	-	-	-
H.1.03	Safety of Nuclear Installations in South East Asia, Pacific and Far East Countries	NSNI	0.7	0.8	130 000	-	1 641 000	-
H.1.04	Safety in a Competitive Environment	NSNI	-	-	-	138 000	-	-
	TC Activities in H.1 Technical Support	NSNI	-	-	[139 000]	-	-	-
	Projects	TC	-	-	-	-	-	2 417 000
	Sub-total H.1		6.1	4.9	1 394 000	138 000	1 811 000	2 417 000
H.2	Nuclear Plant Engineering Safety							
H.2.01	Nuclear Power Plant Safety Design	NSNI	1.6	1.4	425 000	-	-	-
H.2.02	External/Internal Events and Safe Siting of NPPs	NSNI	1.8	0.2	420 000	-	-	-
H.2.03	Safety Aspects of NPP Ageing	NSNI	0.9	0.7	185 000	-	-	-
H.2.04	Computer Based Systems Important to Safety	NSNI	-	0.4	58 000	-	-	-
H.2.05	Small and Medium-Sized Reactors - Including those for Desalination and District Heating	NSNI	0.9	0.4	146 000	-	-	-
	TC Activities in H.2 Technical Support	NSNI	-	-	[106 000]	-	-	-
	Projects	TC	-	-	-	-	-	533 000
	Sub-total H.2		5.2	3.1	1 234 000	-	-	533 000

PROGRAMME H: NUCLEAR SAFETY
List of Projects and Estimated Total Resources for 2001
Table 31 (Contd.)

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
H.3	Operational Safety							
H.3.01	Performance Based Operational Safety Service	NSNI	4.3	4.0	1 016 000	-	66 000	-
H.3.02	Operating Experience Safety Service	NSNI	1.4	1.2	478 000	-	201 000	-
H.3.03	Management of Operational Safety and Safety Culture	NSNI	1.7	-	364 000	-	-	-
H.3.04	Integrated Operational Safety Service	NSNI	1.0	0.6	209 000	-	-	-
	TC Activities in H.3 Technical Support Projects	NSNI	-	-	[312 000]	-	-	-
		TC	-	-	-	-	-	1 256 000
	Sub-total H.3.		8.4	5.8	2 067 000	-	267 000	1 256 000
H.4	Research Reactor Safety							
H.4.01	Safety in the Design and Operation of Research Reactorss	NSNI	1.9	1.5	377 000	25 000	-	-
H.4.02	Regulatory Supervision of Research Reactors	NSNI	0.4	0.7	122 000	-	-	-
H.4.03	Experience Feedback on Safety Issues for Research Reactors	NSNI	0.2	0.9	222 000	-	-	-
	TC Activities in H.4 Technical Support Projects	NSNI	-	-	[104 000]	-	-	-
		TC	-	-	-	-	-	751 000
	Sub-total H.4.		2.5	3.1	721 000	25 000	-	751 000
H.5	Regulatory Activities Related to Nuclear Safety							
H.5.01	Regulatory Body Effectiveness and Efficiency	NSNI	0.6	1.9	416 000	-	-	-
H.5.02	Event Reporting and Analysis	NSNI	1.7	1.0	392 000	-	-	-
	TC Activities in H.5 Technical Support Projects	NSNI	-	-	[48 000]	-	-	-
		TC	-	-	-	-	-	1 456 000
	Sub-total H.5.		2.3	2.9	808 000	-	-	1 456 000
H.6	Safety of Other Installations							
H.6.01	Safety of Other Installations	NSNI	-	-	-	412 000	-	-
Programme H - Nuclear Safety			24.5	19.8	6 224 000	575 000	2 078 000	6 413 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

I. Radiation Safety

Programme Rationale

Radiation exposure is potentially hazardous to health. It is therefore essential that activities involving radiation exposure be subject to certain standards of safety in order to protect humans. The need for Agency involvement in radiation safety activities derives from its obligation:

- to discharge the functions assigned to it by its Statute with regard to establishing standards of safety for the protection of health and providing for the application of those standards (mainly Article III.A.3) and establishing the health and safety measures required by the Agency (Articles IX.I.3, XI.E.3, XI.F.2 and XII.2 and 6);

- to perform the tasks entrusted to it in ECOSOC resolution 724 (XXVIII) C of 17 July 1959 with regard to the safe transport of radioactive substances;

- to perform tasks assigned to it in the Early Notification Convention and the Assistance Convention and in the Convention on Nuclear Safety;

- to comply with radiation-safety-related resolutions of the General Conference, in particular resolution GC(42)/RES/12 on "The safety of radiation sources and the security of radioactive materials" and resolution GC(42)/RES/13 on the "Safety of transport of radioactive materials".

In the development of the Agency's radiation safety programme, account has been taken of the findings of the International Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety and the International Conference on the Safety of Radiation Sources and Security of Radioactive Materials, both held in 1998, and the views expressed in a June 1999 PPAS evaluation report of the IAEA safety programme.

Programme Objective

To establish, in consultation and — where appropriate — in collaboration with the competent organs of the United Nations and with the specialized agencies concerned, standards of safety for the protection of health, including standards relating to radiological protection, radiation source safety, radioactive materials security and the safe transport of radioactive materials; to provide for the application of those standards through, inter alia, support for the Agency's technical co-operation programme, the rendering of services, the promotion of education and training, the fostering of information exchange and the co-ordination of research and development — all in the field of radiation safety; to service the Early Notification and Assistance Conventions; and to ensure an appropriate level of radiation safety in the Agency's own operations.

Programme Performance Indicators

- Finalization of 90% of the radiation safety standards (Fundamentals, Requirements and Guides) called for by the ACSS.

- Increase in the number of standards that are prepared jointly with other international organizations.

- Introduction of all measures necessary for the application of those standards — and an increase in the number of States with adequate minimum regulatory infrastructures relating to radiation safety.

- Timely responses to all high priority radiation safety service requests which cannot be met by individual States or by commercial enterprises.

- Interest by Member States in application of the Agency's Transport Regulations as expressed by at least one request for an appraisal mission.

- Compliance with all the obligations imposed on the Agency by the Early Notification Convention and the Assistance Convention.

This programme consists of five subprogrammes

I.1. Radiation Protection
I.2. Safety of Radiation Sources and Security of Radioactive Material
I.3. Safe Transport of Radioactive Material
I.4. Radiation Emergencies
I.5. Operational Services for Radiation Monitoring and Protection

Key Programme Trends

The shift of programme emphasis from the development of standards to provision for the application of those standards will continue. The safety standards documents related to the Basic Safety Standards will be completed by the end of 2001 and their application in Member States will be promoted by various mechanisms, particularly the provision of services. In the light of feedback from these promotional activities, the Basic Safety Standards and the related documents will be reviewed and — where appropriate — revised. Particular emphasis will be placed on: (a) the safety of radiation sources and the security of radioactive materials, in the context of the action plan approved by the Board of Governors and endorsed by the General Conference in September 1999; and (b) the provision of services relating to the safe transport of radioactive material, pursuant to the General Conference resolutions on the subject. Also, it can be expected that considerable demands will continue to be made of the Secretariat within the framework of the Assistance Convention.

Key Programme Resource Trends

The proposed resources for this programme amount to $3 758 000, representing an increase of $62 000, or 1.7%, compared with the regular budget for 2000. Extrabudgetary resources of $100 000 are expected to support the activities of this programme.

PROGRAMME I: RADIATION SAFETY

Summary of Regular Budget Estimates by Subprogramme

Table 32

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
I.1	Radiation Protection	1 192 000	(95 000)	(8.0)	1 097 000	1.4	1 112 000
I.2	Safety of Radiation Sources and Security of Radioactive Material	856 000	152 000	17.8	1 008 000	1.2	1 020 000
I.3	Safe Transport of Radioactive Material	645 000	2 000	0.3	647 000	1.1	654 000
I.4	Radiation Emergencies	581 000	72 000	12.4	653 000	1.2	661 000
I.5	Operational Services for Radiation Monitoring and Protection	422 000	(69 000)	(16.4)	353 000	1.4	358 000
Programme I - Radiation Safety		3 696 000	62 000	1.7	3 758 000	1.3	3 805 000

Subprogramme Rationale

If the substantial benefits possible through the use of radiation are to be fully realized, humans need to be protected against the harmful effects of radiation exposure. For its part, the Agency — discharging the functions assigned to it in Article III.A.3 of its Statute and building on the comprehensive framework provided by the Basic Safety Standards — needs to complete the development of safety standards and supporting material, to keep them under review and to provide for their implementation.

The following issues were among those identified in General Conference resolution GC(43)/RES/12 on "The Radiological Protection of Patients":

- the need to control doses from normal medical procedures (particularly high dose treatment such as interventional radiology); and
- the need to reduce doses without loss of diagnostic information.

The 1998 International Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety identified a need for:

- further development of practical guidance in the field of occupational radiation protection;
- further development of a systematic approach to the implementation of standards and guidance in the field of occupational radiation protection through targeted training;
- formulation of principles complementary to those underlying the present system of radiation protection;
- guidance regarding generic non-action levels for contaminated commodities; and
- further guidance regarding the scope of regulatory requirements for radiation safety.

The following were identified in the PPAS evaluation report of the IAEA safety programme:

- a need to review the extent of the problem of occupational exposure to materials containing elevated concentrations of naturally occurring radionuclides;
- a need to foster a greater exchange of information on occupational exposure reduction methodologies; and
- a need for regular technical evaluations of the progress of the regional Model Projects on upgrading radiation protection infrastructure and to promote education in the basic principles of radiation safety in countries participating in those Model Projects.

Subprogramme Objective

To achieve the international harmonization of radiation protection by:

— developing safety standards for protection against exposure to radiation delivered by practices to occupationally exposed workers, to individual members of the public, to entire populations, and to patients undergoing radiodiagnostic and radiotherapeutic procedures, and for intervention aimed at reducing existing radiation exposures;

— providing for the application of those standards through:

- the encouragement of research and development;
- the fostering of information exchange;
- the promotion of education and training; and
- the rendering of services.

Subprogramme Performance Indicators

- Use by Member States of a comprehensive set of standards and guidance documents covering the radiation protection of workers, the public and patients in the context of practices and the application of intervention measures.
- Use by Member States of a comprehensive set of related training materials.
- At least three requests for services.

This subprogramme consists of three projects

I.1.01. *Radiation Protection Policy and Regulatory Instruments* — to promote the formulation of an internationally harmonized basic policy and the development of fundamental international regulatory instruments for radiation protection, through:

— consultations with: international organizations belonging or linked to the United Nations system such as ILO, WHO, FAO, UNSCEAR and the Pan American Health Organization; interregional organizations such as the European Union and the OECD Nuclear Energy Agency; and specialized organizations such as the International Commission on Radiological Protection (ICRP), the International Commission on Radiation Units and Measurements (ICRU), the International Electrotechnical Commission (IEC), the International Radiation Protection Association (IRPA) and the International Organization for Standardization (ISO);

— the development and maintenance of a coherent set of international radiation safety standards (Fundamentals, Requirements and Guides).

I.1.02. *Occupational Radiation Protection* — to promote the international harmonization of occupational radiation protection by:

— developing, in consultation and, where appropriate, in collaboration with ILO, safety standards for restricting radiation exposures in the workplace and for occupational radiation protection techniques;

— providing for the application of those standards through: the fostering of information exchange (including information provided under the Convention on Nuclear Safety) on occupational protection techniques in specific working environments (for example, through the Information System on Occupational Exposure (ISOE) operated in collaboration with the OECD Nuclear Energy Agency); liaison with ILO in relation to its monitoring of compliance with ILO Convention No. 115 concerning the protection of workers against ionizing radiation; the promotion of education and training in techniques for occupational radiation protection; and the rendering of services through the ISOE.

I.1.03. *Radiation Protection for Medical Exposures* — to promote the international harmonization of radiation protection for medical exposures by:

— developing, in consultation and, where appropriate, in collaboration with WHO, safety standards for:

  - optimization of the radiation protection of diagnostic radiology and nuclear medicine patients.
  - the avoidance of substantial deviations from prescribed doses during radiation therapy and optimization of the radiation protection of non-target organs.

— providing for the application of those standards through: the encouragement of research and development (during 2001 there will be a focus on interventional radiology and mammography); the fostering of information exchange on radiation protection in X ray diagnostics, nuclear medicine and radiation therapy (including the organization of an international meeting as envisaged in resolution GC(43)/RES/12); the promotion of education and training in the radiation protection of patients; and the provision of peer review services relating to radiation protection and safety in medical practice.

Key Subprogramme Trends

It is expected that the trend towards greater emphasis on support for education and training and on the provision of services in support of the strengthening of radiation protection infrastructures will continue for some time to come with regard both to Member States and non-Member States. There will be continuing emphasis on occupational radiation protection and on further development of the ISOE. Substantially greater emphasis will be placed on controlling radiation doses in diagnostic radiology and in radiation therapy.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 097 000, representing a decrease of $95 000, or 8.0%, compared with the regular budget for 2000.

I.2. Safety of Radiation Sources and Security of Radioactive Materials

Subprogramme Rationale

The Agency, in discharging the functions assigned to it in Article III.A.3 of its Statute, assists in ensuring the safe handling of radiation sources, thereby preventing their involvement in accidents.This subprogramme, which is a response to the findings of the 1998 International Conference on the Safety of Radiation Sources and Security of Radioactive Materials and to subsequent discussions in the General Conference and the Board of Governors, includes implementation of the action plan approved by the Board and endorsed by the General Conference. This plan envisages exploratory discussions relating to a possible international undertaking designed to help achieve adequate levels of safety of radiation sources — a matter highlighted in the PPAS evaluation report of the Agency safety programme. Other important matters are: the formulation of recommendations to national regulatory bodies on the control of radiation sources and radioactive materials, including guidance on safe handling and accounting; the development of a categorization scheme for radiation sources; and the provision of services designed to improve systems of control of radiation sources and radioactive materials.

Subprogramme Objective

To achieve international harmonization in relation to the safety of radiation sources and the security of radioactive materials by:

— developing safety standards for the effective regulatory control and the security of radiation sources and radioactive materials and, consequently, for the reduction of the likelihood of accidents involving radiation sources;

— providing for the application of those standards through:

- the encouragement of research and development;
- the fostering of information exchange;
- the promotion of education and training; and
- the rendering of services.

Subprogramme Performance Indicators

- Establishment of most of the standards and regulatory guidance complementing the Basic Safety Standards with regard to the safety of radiation sources.
- Satisfactory progress in accordance with the established milestones in implementing the action plan within the constraints of resource availability.
- Responses within three months to requests for peer reviews of arrangements for ensuring the safety of major radiation sources.

This subprogramme consists of three projects

I.2.01. *Control of Radiation Sources and Radioactive Material* — to promote international harmonization in relation to the control of radiation sources and radioactive materials by:

— developing safety standards and supporting documents for harmonizing, at the practical level, national systems for the notification, registration, licensing, inspection and safety verification of radiation sources and radioactive materials and developing practice specific regulatory guidance documents;

— fostering information exchange through, for example, the holding of an international conference on the control by national authorities of radiation sources and radioactive materials and the organization of regional workshops on particular topical issues;

— promoting education and training in the licensing and inspection of radiation sources;

— categorizing radiation sources so that the controls to be applied are commensurate with the radiological risks;

— establishing an information system for radiation sources;

— carrying out safety reviews of major irradiator facilities and other large radiation sources;

— drafting an international undertaking designed to document the commitment of States to establish appropriate regulatory infrastructures for the safety of radiation sources and the security of radioactive materials.

I.2.02. *Prospective Safety Assessment of Radiation Sources* — to promote international harmonization in relation to prospective radiation safety assessments of radiation sources by:

— developing safety standards and supporting documents relating to the prospective evaluation of potential exposures from radiation sources (and covering, probabilistic assessment techniques) and to compliance with the existing technological and managerial radiation safety requirements; and

— developing PSA techniques, promoting exchanges of information on prospective safety assessments and design assessments of irradiation facilities, and rendering PSA application and data collection services.

I.2.03. *Assessment of Accidents Involving Radiation Sources* — to assess accidents and incidents involving radiation sources, scrutinizing the initiating events and contributing factors and evaluating the consequences; to collect, analyse and disseminate relevant information with a view to creating a repository of international knowledge to be used as feedback for the retrospective safety assessment of radiation sources; and to foster the exchange of information on unusual events and lessons learned from accidents and incidents.

Key Subprogramme Trends

As implementation of the action plan progresses, emphasis will shift to peer reviews — upon request — of the regulatory control of radiation sources and to assistance in the implementation of a 'code of good conduct'. The application of a systematic approach to the safety of radiation sources will help to identify safety system weaknesses and to show where additional efforts should be focused in order to prevent accidents.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $1 008 000, representing an increase of $152 000, or 17.8%, compared with the regular budget for 2000.

I.3. Safe Transport of Radioactive Material

Subprogramme Rationale

The Agency's Transport Regulations, which are the basis for promoting the safe transport of radioactive material throughout the world and achieving a harmonized approach, must be kept up to date in the light of changes in radiation protection principles, transport practices and transport technology and of newly identified issues. Their application by Member States and key international organizations must be encouraged. They should continue to be drawn on in training activities and in assessing transport operations in Member States. Accordingly, the Agency:

— will continue to discharge its obligations under ECOSOC resolution 724 (XXVIII) C, acting as a focal point for the development of model regulations;

— will discharge the obligations arising out of the Resolution Relating to Transboundary Movement of Radioactive Waste and Spent Fuel adopted by the Diplomatic Conference on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management and out of General Conference resolution GC(42)/RES/13 by:

- maintaining close liaison with relevant international organizations;

- keeping the Transport Regulations under review in consultation and collaboration with relevant United Nations and specialized organizations;

- providing a service, within existing resources, for carrying out, at the request of any State, an appraisal of the implementation of the Transport Regulations by that State.

Subprogramme Objective

To promote the internationally harmonized implementation of regulations for the safe transport of radioactive material by:

— developing, in consultation and — where appropriate — in collaboration with the competent organs of the United Nations and with the specialized organizations concerned, safety standards for the safe transport of radioactive material, as a basis for international regulations for different modes of transport;

— providing for the application of those standards through:

- support for Member States in the adoption of harmonized regulations as the standards are incorporated into binding instruments;

- the encouragement of research and development, especially in relation to the key areas of application of the standards;

- the fostering of information exchange;

- the promotion of education and training;

- the rendering of services focused on achieving a correct interpretation of the standards;

— responding to the Resolution Relating to the Transboundary Movement of Radioactive Waste and Spent Fuel adopted by the Diplomatic Conference on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management and to General Conference resolution GC(42)/RES/13.

Subprogramme Performance Indicators

- No fatality or serious injury associated with the radioactive nature of material transported anywhere in the world as a result of a transport accident or of normal transport conditions if the transport operation and the packaging are carried out in accordance with the requirements of the Transport Regulations.

This subprogramme consists of two projects

I.3.01. *Requirements for the Safe Transport of Radioactive Material* — to promote the international harmonization of requirements for the safe transport of radioactive material by:

— developing, in consultation and, where appropriate, in collaboration with United Nations bodies such as ECOSOC's Committee of Experts on the Transport of Dangerous Goods, UNEP, ICAO, IMO and UPU, and other international organizations involved in transport safety, such as IATA, the International Federation of Air Line Pilots Associations (IFALPA), the International Railway Union, the Organization for Cooperation of Railways and the International Road Transport Union, standing regulations and guidance for the safe transport of radioactive material which reflect the latest radiation protection principles, transport practices and technological developments;

— promoting the continuous review and revision of such standing regulations and guidance, and encouraging research and development work on air transport accident severity, on the transport of

low-specific-activity material and surface contaminated objects, and on the radiological aspects of package and conveyance contamination.

I.3.02 *Integration of the Transport Safety Requirements into Modal and other Regulations* — to promote the internationally harmonized integration of radioactive material transport safety requirements into modal and other regulations by:

— encouraging and helping Member States, United Nations specialized agencies such as ICAO, IMO and UPU, and other international organizations involved in transport safety, such as IATA, IFALPA, the International Railway Union, the Organization for Co-operation of Railways and the International Road Transport Union, to integrate radioactive material transport safety requirements into modal and other regulations and to implement harmonized requirements for the safe transport of radioactive material;

— promoting the development of databases for use in assessing the risks associated with the different modes of transport, the exchange of information on transport safety, and education and training in implementation of the Transport Regulations, organizing — within existing resources — Transport Safety Appraisal Service (TranSAS) missions to requesting Member States, and collecting relevant transport data;

Key Subprogramme Trends

The already considerable interest worldwide in transport safety issues (demonstrated by an increase in TRANSSAC membership during the past two years from 17 to 32 and by the recent General Conference resolutions on transport safety) will continue growing and that Member States will require more assistance — for example, through TransSAS missions — in implementing the Transport Regulations. The shift from a ten-year revision cycle for the Transport Regulations to a two year one will also place greater demands on the Agency, which will also have to ensure more frequent harmonization between the Transport Regulations and the related regulations of other organizations.

Key Subprogramme Resource Trends

The proposed resources for this programme amount to $647 000, representing an increase of $2 000, or 0.3%, compared with the regular budget for 2000.

I.4. Radiation Emergencies

Subprogramme Rationale

In spite of the precautions that are taken, accidents and emergencies involving radioactive materials can occur, and Member States need to be prepared to respond and mitigate the consequences. For its part, the Agency, in discharging the functions assigned to it in Article III.A.3 of its Statute, needs to help in achieving an international consensus on an appropriate emergency preparedness and response philosophy and its implementation. In addition, the Agency must continue to be able to discharge the functions assigned to it in the Early Notification and the Assistance Conventions.

Subprogramme Objective

To promote timely, co-ordinated and appropriate response to any nuclear accident or radiological emergency by:

— completing the development, through international consensus, of the necessary safety standards;

— providing for the application of those standards through:

  - the encouragement of research and development;
  - the fostering of information exchange both at the level of governmental authorities and at the level of those who would act at the scene of an accident or emergency;
  - the promotion of education and training based on the approach reflected in the safety standards which are being developed;
  - the rendering of services;

— co-ordinating and implementing preparedness and response arrangements for meeting the obligations assigned to the Agency in the Early Notification and the Assistance Conventions.

Subprogramme Performance Indicators

- Use by the Agency of the standard methodology for carrying out emergency preparedness reviews in Member States.
- Assistance requested for the development of national plans for radiological emergency response.
- Provisional agreement on a harmonized emergency classification system for the notification of accidents under the Early Notification Convention.
- Successful completion of an evaluation of the Agency's emergency response system.
- Completion of the necessary Safety Requirements documents.

This subprogramme consists of two projects

I.4.01. *Preparedness for Emergency Response* — to promote preparedness to respond in a timely, co-ordinated and appropriate manner to nuclear accidents and radiological emergencies by:

— developing, in consultation and, where appropriate, in collaboration with WHO, WMO, the OECD Nuclear Energy Agency, the United Nations Office for the Co-ordination of Humanitarian Affairs, FAO and the European Commission, safety standards for harmonizing emergency planning and preparedness approaches (including emergency classification and intervention and action levels) among countries;

— fostering exchanges of information on the development, maintenance, evaluation and improvement of emergency preparedness, promoting education and training in the development of emergency preparedness (including medical response preparedness) and rendering services in connection with multilateral and bilateral agreements.

I.4.02. *Emergency Response* — to promote timely, co-ordinated and appropriate response to any nuclear accident or radiological emergency by:

— strengthening, in consultation and, where appropriate, in collaboration with the United Nations Office for the Co-ordination of Humanitarian Affairs, the United Nations Office for Outer Space Affairs, WMO, the OECD Nuclear Energy Agency, ILO, the European Commission, UNEP, WHO and FAO, arrangements for timely, co-ordinated and appropriate response in the event of an emergency, in particular plans and protocols for the transmission of relevant technical information and the provision of assistance;

— serving the Early Notification and the Assistance Conventions, operating, maintaining and, as necessary, upgrading the Agency's Emergency Response System and responding to notifications and requests for assistance in the event of a nuclear accident or radiological emergency.

Key Subprogramme Trends

Emphasis will be placed on streamlining and completing the Safety Standards documents being produced within the framework of the subprogramme and on producing practical tools (manuals and procedures) for use within the Agency technical co-operation context, especially in projects in Eastern and Central Europe and in Latin America.

Major developments are being made to the Emergency Response System in addition to the normal maintenance activities, to meet, inter alia, the newly defined response objectives, including those related to obligations under the two relevant Conventions.

Emphasis will also be placed on achieving co-ordinated responses of the international community to emergency situations and a smooth transition from emergency response to longer term follow-up. The use of telecommunications and computer based technologies for the rapid exchange of emergency related information will continue to be developed.

Key Subprogramme Resource Trends

The proposed resources for this programme amount to $653 000, representing an increase of $72 000, or 12.4%, compared with the regular budget for 2000.

I.5. Operational Services for Radiation Monitoring and Protection

Subprogramme Rationale

The Agency has the statutory obligation to provide operational services for radiation monitoring and protection in order to:

— comply with the radiation protection rules and requirements relating to its own operations and to all operations making use of materials, services, equipment, facilities and information made available by it;

— assist any State requesting such services within the framework of the Assistance Convention; and

— facilitate international harmonization of the monitoring requirements established by the Basic Safety Standards.

Subprogramme Objective

To provide operational services for radiation monitoring and protection in support of the Agency's own operations and of all operations making use of materials, services, equipment, facilities and information made available by the Agency, including technical co-operation projects, and to promote harmonization of the radiation units used in radiological protection through close liaison with the ICRU, ISO and the IEC.

Subprogramme Performance Indicators

- Satisfactory results in the performance testing, blind testing or intercomparison of the techniques used in the assessment of occupational exposure.
- Reporting of the results of services rendered within a maximum of one month.
- Establishment of quality assurance systems at all laboratories involved in rendering services.
- Substantial progress towards international harmonization of the monitoring requirements established by the Basic Safety Standards.

This subprogramme consists of three projects

I.5.01. *Individual Monitoring and Exposure Assessment* — to assess the occupational radiation exposure resulting from external irradiation and intakes of radioactive substances by Agency staff and other persons for whose occupational radiation protection the Agency is responsible; and to assist Member States with individual monitoring, mainly by supporting the provision of technical assistance in this area.

I.5.02. *Operational Health and Safety Measures* — to perform the operational health and safety measures — including surveillance, monitoring and the provision of assistance — required in practices and interventions on Agency premises, in the Agency's own operations and in operations under the Agency's control or supervision, in order to ensure satisfactory working conditions and environmental and public protection; and to assist Member States with operational radiation protection, mainly by supporting the provision of technical assistance in this area.

I.5.03. *Harmonization of Radiological Quantities* — to promote the international harmonization of radiological quantities relevant to the verification of compliance with radiation protection standards by:

— maintaining close liaison with the ICRU, ISO and the IEC;

— assisting Member States with the establishment of facilities and the conduct of radiation measurement intercomparison exercises, mainly through support for the provision of technical assistance.

Key Subprogramme Trends

Increase in demand is foreseen for such operational services from Member States and also from non-Member States (including non-Member States not party to the Assistance Convention). Increased interest is also expected in organizing (pursuant to operative para. 10 of General Conference resolution GC(43)/RES/13) international exercises relating to radiation dose measurements for the control of occupational and other exposures.

Key Subprogramme Resource Trends

The proposed resources for this programme amount to $353 000, representing a decrease of $69 000, or 16.4%, compared with the regular budget for 2000.

PROGRAMME I: RADIATION SAFETY
Summary of Regular Budget Estimates by Project
Table 33

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
I.1	Radiation Protection									
I.1.01	Radiation Protection Basic Policy and Regulatory Instruments	I.1.01	Cont.	NSRW	561 000	(88 000)	(15.7)	473 000	1.5	480 000
I.1.02	Occupational Radiation Protection	I.1.02	Cont.	NSRW	430 000	(59 000)	(13.7)	371 000	1.3	376 000
I.1.03	Radiation Protection for Medical Exposures	I.1.03	Cont.	NSRW	201 000	52 000	25.9	253 000	1.2	256 000
	Sub - total I.1.				1 192 000	(95 000)	(8.0)	1 097 000	1.4	1 112 000
I.2	Safety of Radiation Sources and Security of Radioactive Material									
I.2.01	Control of Radiation Sources and Radioactive Material	I.2.01	Cont.	NSRW	447 000	148 000	33.1	595 000	1.3	603 000
I.2.02	Prospective Safety Assessment of Radiation Sources	I.2.02	Cont.	NSRW	168 000	(28 000)	(16.7)	140 000	0.7	141 000
I.2.03	Assessment of Accidents involving Radiation Sources	I.2.03	Cont.	NSRW	241 000	32 000	13.3	273 000	1.1	276 000
	Sub-total I.2.				856 000	152 000	17.8	1 008 000	1.2	1 020 000
I.3	Safe Transport of Radioactive Material									
I.3.01	Requirements for the Safe Transport of Radioactive Material	I.3.01	Cont.	NSRW	341 000	31 000	9.1	372 000	1.1	376 000
I.3.02	Integration of the Transport Safety Requirements into Modal and Other Regulations	I.3.02	Cont.	NSRW	304 000	(29 000)	(9.5)	275 000	1.1	278 000
	Sub-total I.3.				645 000	2 000	0.3	647 000	1.1	654 000
I.4	Radiation Emergencies									
I.4.01	Preparedness for Emergency Response	I.4.01	Cont.	NSRW	471 000	(37 000)	(7.9)	434 000	1.2	439 000
I.4.02	Emergency Response	I.4.02	Cont.	NSRW	110 000	109 000	99.1	219 000	1.4	222 000
	Sub-total I.4.				581 000	72 000	12.4	653 000	1.2	661 000
I.5	Operational Services for Radiation Monitoring and Protection									
I.5.01	Individual Monitoring and Exposure Assessment	I.5.01	Cont.	NSRW	152 000	-	-	152 000	1.3	154 000
I.5.02	Operational Health and Safety Measures	I.5.02	Cont.	NSRW	129 000	-	-	129 000	1.6	131 000
I.5.03	Harmonization of Radiological Quantities	I.5.03	Cont.	NSRW	141 000	(69 000)	(48.9)	72 000	1.4	73 000
	Sub-total I.5.				422 000	(69 000)	(16.4)	353 000	1.4	358 000
Programme I - Radiation Safety					3 696 000	62 000	1.7	3 758 000	1.3	3 805 000

PROGRAMME I: RADIATION SAFETY
List of Projects and Estimated Total Resources for 2001
Table 34

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
I.1	Radiation Protection							
I.1.01	Radiation Protection Basic Policy and Regulatory Instruments	NSRW	1.4	2.7	480 000	38 000	-	-
I.1.02	Occupational Radiation Protection	NSRW	1.1	1.3	376 000	-	-	-
I.1.03	Radiation Protection for Medical Exposures	NSRW	1.2	0.2	256 000	20 000	-	-
	TC Activities in I.1 Technical Support	NSRW	-	-	[455 000]	-	-	-
	Projects	TC	-	-	-	-	-	4 068 000
	Sub - total I.1.		3.7	4.2	1 112 000	58 000	-	4 068 000
I.2	Safety of Radiation Sources and Security of Radioactive Material							
I.2.01	Control of Radiation Sources and Radioactive Material	NSRW	1.3	1.4	603 000	30 000	100 000	-
I.2.02	Prospective Safety Assessment of Radiation Sources	NSRW	0.6	0.5	141 000	-	-	-
I.2.03	Assessment of Accidents involving Radiation Sources	NSRW	1.2	0.9	276 000	5 000	-	-
	TC Activities in I.2 Technical Support	NSRW	-	-	[294 000]	-	-	-
	Projects	TC	-	-	-	-	-	857 000
	Sub-total I.2.		3.1	2.8	1 020 000	35 000	100 000	857 000
I.3	Safe Transport of Radioactive Material							
I.3.01	Requirements for the Safe Transport of Radioactive Material	NSRW	1.3	0.8	376 000	88 000	-	-
I.3.02	Integration of the Transport Safety Requirements into Modal and Other Regulations	NSRW	0.9	1.6	278 000	29 000	-	-
	TC Activities in I.3 Technical Support	NSRW	-	-	[107 000]	-	-	-
	Projects	TC	-	-	-	-	-	261 000
	Sub-total I.3.		2.2	2.4	654 000	117 000	-	261 000

PROGRAMME I: RADIATION SAFETY
List of Projects and Estimated Total Resources for 2001
Table 34 (Contd.)

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
I.4	Radiation Emergencies							
I.4.01	Preparedness for Emergency Response	NSRW	2.0	1.0	439 000	90 000	-	-
I.4.02	Emergency Response	NSRW	0.8	0.8	222 000	-	-	-
	TC Activities in I.4 Technical Support	NSRW	-	-	[259 000]	-	-	-
	Projects	TC	-	-	-	-	-	554 000
	Sub-total I.4.		2.8	1.8	661 000	90 000	-	554 000
I.5	Operational Services for Radiation Monitoring and Protection							
I.5.01	Individual Monitoring and Exposure Assessment	NSRW	[3.0]	[6.0]	154 000	-	-	-
I.5.02	Operational Health and Safety Measures	NSRW	-	-	131 000	-	-	-
I.5.03	Harmonization of Radiological Quantities	NSRW	0.2	0.1	73 000	90 000	-	-
	TC Activities in I.5 Technical Support	NSRW	-	-	[8 000]	-	-	-
	Projects	TC	-	-	-	-	-	647 000
	Sub-total I.5.		0.2	0.1	358 000	90 000	-	647 000
Programme I - Radiation Safety			12.0	11.3	3 805 000	390 000	100 000	6 387 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities are those which cannot be funded within the expected level of Regular Budget resources.

J. Radioactive Waste Safety

Programme Rationale

The radioactive wastes from civil and military applications of nuclear energy are potentially hazardous to health and must therefore be properly managed so as to protect humans and the environment. It is desirable that generally accepted approaches be developed for managing such wastes safely, thereby facilitating international trade and generating public confidence. The need for the Agency's involvement in providing for the safety of radioactive wastes results from its obligations:

— to discharge the functions assigned to it in Article III.A.3 of its Statute with regard to the establishment of safety standards for the protection of health and provision for the application of those standards;

— to support the United Nations Conference on Environment and Development (UNCED) in promoting the safe and environmentally sound management of radioactive wastes by developing and promulgating radioactive waste safety standards as foreseen in Chapter 22 of Agenda 21;

— to perform the tasks assigned to it in the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention) and in the Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Materials (the London Convention 1972); and

— to discharge its responsibilities as lead agency for radioactive substances under the United Nations Global Programme of Action for Protection of the Marine Environment from Land-based Activities.

In the development of the Agency's waste safety programme, account has been taken of the findings of the International Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety held in 1998, of the views expressed in the June 1999 PPAS evaluation report of the IAEA safety programme and of the conclusions reached at several international conferences on particular aspects of waste safety.

Programme Objective

To establish safety standards covering the management of solid radioactive wastes, the control of discharges of radioactive materials into the environment, and the restoration of environments with radioactive residues from past events and activities; to provide for the application of those standards through support for the Agency's technical co-operation programme; to service the London Convention 1972 and the Joint Convention; and to support the Global Programme of Action for Protection of the Marine Environment from Land-based Activities.

Programme Performance Indicators

- Finalization of most of the necessary waste safety standards (80%) (Fundamentals, Requirements and Guides) called for by ACSS.
- Timely responses to all high priority waste safety service requests which cannot be met by individual States or by commercial enterprises.

This programme consists of three subprogrammes

J.1. Safety of Disposable Radioactive Waste
J.2. Safety of Radioactive Discharges
J.3. Safety of Radioactive Residues

Key Programme Trends

Greater emphasis will be placed on the application of safety standards through, for example, the provision of advisory and assessment services to Member States. In view of public concern about the safety of radioactive waste disposal, forums will be established for encouraging dialogue between concerned parties and building public confidence and trust.

Key Programme Resource Trends

The proposed resources for this programme amount to $2 239 000, reflecting no change compared with the regular budget for 2000. Extrabudgetary resources of $250 000 are expected to support activities of this programme.

PROGRAMME J: RADIOACTIVE WASTE SAFETY

Summary of Regular Budget Estimates by Subprogramme

Table 35

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
J.1	Safety of Disposable Radioactive Waste	806 000	(12 000)	(1.5)	794 000	1.1	803 000
J.2	Safety of Radioactive Discharges	834 000	1 000	0.1	835 000	1.2	845 000
J.3	Safety of Radioactive Residues	599 000	11 000	1.8	610 000	1.5	619 000
Programme J - Radioactive Waste Safety		2 239 000	-	-	2 239 000	1.3	2 267 000

Subprogramme Rationale

The solid wastes from civil and military applications of nuclear energy need to be managed safely. Of particular concern are the long lived radioactive wastes from which humans and the environment have to be protected far into the future. For its part, the Agency — discharging the functions assigned to it in Article III, A.3 of its Statute, and responding to the UNCED, Agenda 21 recommendations, is developing safety standards which set out internationally agreed strategies and procedures for achieving this objective.

The 1998 International Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety identified a need:

— to critically examine possible alternatives to the deep underground disposal of radioactive wastes without the intention to retrieve them;

— for more attention to be paid to alternative and additional indicators of long term safety for waste repositories which do not depend on the presence of humans in the receiving environment;

— to define the meaning of "compliance" in relation to safety criteria for repositories existing in the distant future; and

— to involve the public in decision making through proper consultation.

The following needs were identified in the 1999 PPAS evaluation report of the IAEA safety programme:

— for international guidance on criteria relating to the long term safety of radioactive waste repositories and taking account of the possibility of human intrusion into the repositories; and

— to examine the safety implications of applying safeguards to spent fuel and high level waste in underground repositories.

Subprogramme Objective

To achieve the international harmonization of the safety of disposable waste by:

— developing safety standards for radioactive waste management including disposal;

— providing for the application of those standards through:

- the encouragement of research and development;
- the fostering of information exchange;
- the promotion of education and training;
- the rendering of services;

— servicing the Joint Convention.

Subprogramme Performance Indicators

- Completion and use of the majority of waste safety standards called for by the ACSS related to disposable waste.

- Success in servicing the Joint Convention.
- Prompt response to high priority requests for waste safety related services which cannot be met by individual states or commercial enterprises.

This subprogramme consists of two projects

J.1.01. *Safe Predisposal of Solid Waste* — to promote international harmonization with regard to the safe predisposal of solid radioactive waste by:

— developing safety standards for predisposal management, including pre-treatment, treatment, conditioning, storage and transportation, and for recycling and reuse;

— fostering the exchange of information on safety aspects of waste pre-disposal activities, including collection, conditioning, packaging and storage;

— establishing an international forum through which consensus can be sought on issues related to the management of radioactive wastes in Member States;

— promoting education and training in radioactive waste management;

— servicing the Joint Convention.

J.1.02. *Safe Disposal of Solid Waste* — to promote international harmonization with regard to the safe disposal of solid radioactive waste by:

— developing safety standards (including safety criteria and safety assessment techniques and methodologies) for disposal, with particular emphasis on long term safety aspects;

— developing safety indicators, promoting the exchange of information on safety aspects of the siting, design and operation of repositories and on the long term safety of repositories, and providing training in safety assessment;

— assisting Member States through a Waste Safety Assessment Service;

— servicing the Joint Convention.

Key Subprogramme Trends

The emphasis will continue to be on the development of safety standards and on the completion of essential documents. Support for implementation of the Joint Convention will be provided mainly under this subprogramme. In response to the tendency in several countries to engage a wider spectrum of interested people in decision making, a forum for the presentation of relevant views is to be established.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $794 000, representing a decrease of $12 000, or 1.5%, compared with the regular budget for 2000.

Subprogramme Rationale

Because of the associated hazards to humans and to the environment, discharges of radioactive materials from nuclear facilities and from establishments using radionuclides for research, medical and industrial purposes must be carefully controlled in accordance with internationally accepted principles. For its part, the Agency — discharging the functions assigned to it in Article III, A.3 of its Statute — is establishing safety standards based on such principles and providing for their application. The safety standards are concerned with the control, assessment and monitoring of discharges of radionuclides to the environment.

In the 1996 United Nations Global Programme of Action for Protection of the Marine Environment from Land-based Activities, the Agency is encouraged to:

— develop and promulgate radioactive waste safety standards;

— support the assessment of radionuclides in the environment.

The following needs were identified in the 1999 PPAS evaluation report of the Agency's safety programme:

— to continue efforts in the area of environmental modelling in order to assist in building confidence in the models employed;

— to seek international consensus regarding an ethical and technical foundation for environmental protection standards.

Subprogramme Objective

To achieve the international harmonization with regard to the safety of radioactive discharges by:

— developing safety standards for limiting discharges of radioactive materials to the environment and for the verification of compliance through environmental assessments and effluent and environmental monitoring;

— providing for the application of these standards through the establishment of environmental assessment methods, the collection of data, the encouragement of research and development, the fostering of information exchange, the promotion of education and training, and the rendering of services.

Subprogramme Performance Indicators

- Safety standards and supporting documents on discharge control, environmental assessment, and source and environmental monitoring completed.
- Databases on discharges and disposals in operation and in use by Member States and other international organizations.
- Success in servicing the London Convention 1972, the Global Plan of Action for Protection of the Marine Environment from Land-based Activities and other important conventions concerned with radioactive wastes and the environment.

This subprogramme consists of two projects

J.2.01. *Control of Discharges of Radioactive Substances into the Environment* — to promote international harmonization with regard to the control of discharges of radioactive substances into the environment by:

— developing, in consultation and, where appropriate, in collaboration with WHO, IMO and UNEP, safety standards for controlling and limiting discharges of radionuclides into the environment;

— establishing internationally agreed principles and criteria for protecting the environment against the effects of ionizing radiation;

— developing and maintaining a database on worldwide discharges of radionuclides into the environment and on the terrestrial and marine disposal of radioactive wastes;

— servicing the Joint Convention;

— performing the tasks assigned to the Agency in international conventions/treaties relating to radioactive wastes and the environment and in the Global Programme of Action for Protection of the Marine Environment from Land-based Activities and servicing the London Convention 1972.

J.2.02. *Environmental Modelling and Monitoring of Radioactive Substances* — to promote international harmonization with regard to the environmental modelling and monitoring of radioactive substances by:

— developing safety standards and supporting documents on methodologies for assessing the impact on humans and on other species of radionuclide discharges into the environment and for monitoring;

— co-ordinating a programme of research on biosphere modelling and assessment methods and an exchange of information on radionuclide transfers in terrestrial, freshwater and marine environments, and compiling environmental transfer reports and monitoring data.

Key Subprogramme Trends

The continuing international concern about protection of the environment will be reflected in new tasks and in greater emphasis on servicing international conventions relating to radioactive wastes and the environment.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $835 000, representing an increase of $1 000, or 0.1%, compared with the regular budget for 2000.

J.3. Safety of Radioactive Residues

Subprogramme Rationale

Areas affected by radioactive residues from nuclear activities — including uranium mining and milling, the decommissioning of nuclear facilities and nuclear weapons testing — and from nuclear accidents need to be managed in order that the associated radiation exposures may be controlled and, where necessary, reduced. For its part, the Agency — discharging the functions assigned to it in Article III A.3 of its Statute and responding to the UNCED, Agenda 21 recommendations — is developing safety standards in connection with the

management of uranium mining and milling residues, the decommissioning of nuclear facilities and the remediation of sites.

In 1995, the General Conference — in resolution GC(39)/RES/23 — called on "all States concerned to fulfill their responsibilities to ensure that sites where nuclear tests have been conducted are monitored scrupulously and to take appropriate steps to avoid adverse impacts on health, safety and the environment as a consequence of such nuclear testing". In 1998, the International Conference on the Radiological Situation at the Atolls of Mururoa and Fangataufa concluded that all States which had conducted nuclear weapons tests or in whose territories nuclear weapons had been tested should request the Agency to carry out assessments of the current radiological situation at the relevant locations and to provide for the application of its standards of protection in that connection.

The 1998 International Conference on Topical Issues in Nuclear, Radiation and Radioactive Waste Safety identified:

— a need to continue working towards the establishment of an international consensus on the principles and criteria for remediating areas affected by residual radioactive materials and to resolve the problems of having to categorize various situations as "practices" or "interventions";

— a need for guidance on the regulation of contaminated commodities moving between countries.

In 1999, a Workshop on the Regulatory Aspects of Decommissioning — organized by the Agency, the OECD Nuclear Energy Agency and the European Communities — identified:

— a need for agreed international principles and criteria relating to the removal of controls from materials originating in the nuclear industry and to the release of decommissioned sites and buildings;

— a need to investigate routes for the reuse and disposal of materials originating in the nuclear industry.

The following issues were identified in the 1999 PPAS evaluation report of the IAEA safety programme:

— a need for criteria for the safe handling, disposal and possible reuse of residual waste from uranium mining and milling;

— a need to take account of the conclusions and recommendations of the 1996 International Conference "One Decade after Chernobyl" with regard to the rehabilitation of areas affected by the Chernobyl accident.

Subprogramme Objective

To achieve the international harmonization with regard to the safety of radioactive residues by:

— developing safety standards for the restoration of environments affected by radioactive residues from past practices and events, for the management of uranium mine and mill tailings and for the decommissioning of nuclear installations and of other installations where radioactive materials are or have been present;

— providing for the application of those standards through the encouragement of research and development, the fostering of information exchange, the promotion of education and training and the rendering of services.

Subprogramme Performance Indicators

- Finalization of the most important safety standards relating to: the rehabilitation of contaminated areas; uranium mining and milling wastes; and the removal of controls from regulated activities.

- Prompt response to high priority requests for services in connection with the safe decommissioning of nuclear facilities and the remediation of areas and facilities affected by radioactive residues.

This subprogramme consists of three projects

J.3.01. *Safe Restoration of Environments with Residual Radioactivity* — to promote international harmonization with regard to the safe restoration of environments affected by residual radioactivity by:

— developing safety standards for the clean-up and rehabilitation of areas affected by residual radioactivity resulting from, primarily, accidents, weapons testing and materials production;

— providing for the application of those standards through the fostering of information exchange on the assessment and rehabilitation of areas affected by residual radioactivity and the rendering of relevant assessment services.

J.3.02. *Safety of Tailings from the Mining and Milling of Radioactive Ores* — to promote international harmonization with regard to the safety of tailings from the mining and milling of radioactive ores by:

— developing safety standards for the management of such tailings, with emphasis on the long term radiological phenomena associated with some naturally occurring radionuclides;

— providing for the application of those standards through the rendering of assessment services and the provision of training in the use of assessment methods.

J.3.03 *Safe Decommissioning of Installations with Radioactive Substances* — to promote international harmonization with regard to the safe decommissioning of installations with radioactive substances by:

— developing safety standards for the decommissioning of installations where radioactive materials are or have been present, with the emphasis on safety during decommissioning, safe management of the resulting residues and the reuse of materials and equipment from the decommissioned facilities;

— providing for the application of those standards through the fostering of information exchange on decommissioning activities, the promotion of education and training in decommissioning methods and the provision of advisory and assessment services.

Key Subprogramme Trends

The increasing number of nuclear power and research reactors reaching the end of their useful lives means a growing need for Agency guidance on all safety aspects of decommissioning and for a decommissioning advisory service. Similarly, concern about the residues from mining and milling activities in many countries is creating increasing demands for Agency advice and assistance.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $610 000, representing an increase of $11 000, or 1.8%, compared with the regular budget for 2000.

PROGRAMME J: RADIOACTIVE WASTE SAFETY
Summary of Regular Budget Estimates by Project
Table 36

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
J.1	Safety of Disposable Radioactive Waste									
J.1.01	Safe Predisposal of Solid Waste	J.1.01	Cont.	NSRW	309 000	66 000	21.4	375 000	1.1	379 000
J.1.02	Safe Disposal of Solid Waste	J.1.02	Cont.	NSRW	497 000	(78 000)	(15.7)	419 000	1.2	424 000
	Sub - total J.1.				806 000	(12 000)	(1.5)	794 000	1.1	803 000
J.2	Safety of Radioactive Discharges									
J.2.01	Control of Discharges of Radioactive Substances into the Environment	J.2.01	Cont.	NSRW	461 000	61 000	13.2	522 000	1.3	529 000
J.2.02	Environmental Modelling and Monitoring of Radioactive Substances	J.2.02	Cont.	NSRW	373 000	(60 000)	(16.1)	313 000	1.0	316 000
	Sub - total J.2.				834 000	1 000	0.1	835 000	1.2	845 000
J.3	Safety of Radioactive Residues									
J.3.01	Safe Restoration of Environments with Residual Radioactivity	J.3.01	Cont.	NSRW	355 000	(25 000)	(7.0)	330 000	1.5	335 000
J.3.02	Safety of Tailings from the Mining and Milling of Radioactive Ores	J.3.02	Cont.	NSRW	146 000	(45 000)	(30.8)	101 000	1.0	102 000
J.3.03	Safe Decommissioning of Installations with Radioactive Substances	J.3.03	Cont.	NSRW	98 000	81 000	82.7	179 000	1.7	182 000
	Sub-total - J.3.				599 000	11 000	1.8	610 000	1.5	619 000
Programme J - Radioactive Waste Safety					2 239 000	-	-	2 239 000	1.3	2 267 000

PROGRAMME J: RADIOACTIVE WASTE SAFETY
List of Projects and Estimated Total Resources for 2001
Table 37

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
J.1	Safety of Disposable Radioactive Waste							
J.1.01	Safe Predisposal of Solid Waste	NSRW	1.7	1.0	379 000	112 000	-	-
J.1.02	Safe Disposal of Solid Waste	NSRW	1.8	1.4	424 000	-	250 000	-
	TC Activities in J.1 Technical Support	NSRW	-	-	[108 000]	-	-	-
	Projects	TC	-	-	-	-	-	545 000
	Sub - total J.1.		3.5	2.4	803 000	112 000	250 000	545 000
J.2	Safety of Radioactive Discharges							
J.2.01	Control of Discharges of Radioactive Substances into the Environment	NSRW	3.0	1.0	529 000	-	-	-
J.2.02	Environmental Modelling and Monitoring of Radioactive Substances	NSRW	1.5	0.5	316 000	-	-	-
	TC Activities in J.2 Technical Support	NSRW	-	-	[118 000]	-	-	-
	Projects	TC	-	-	-	-	-	234 000
	Sub - total J.2.		4.5	1.5	845 000	-	-	234 000
J.3	Safety of Radioactive Residues							
J.3.01	Safe Restoration of Environments with Residual Radioactivity	NSRW	0.9	1.1	335 000	27 000	-	-
J.3.02	Safety of Tailings from the Mining and Milling of Radioactive Ores	NSRW	0.3	0.3	102 000	-	-	-
J.3.03	Safe Decommissioning of Installations with Radioactive Substances	NSRW	0.7	0.5	182 000	-	-	-
	TC Activities in J.3 Technical Support	NSRW	-	-	[146 000]	-	-	-
	Projects	TC	-	-	-	-	-	654 000
	Sub-total - J.3.		1.9	1.9	619 000	27 000	-	654 000
Programme J - Radioactive Waste Safety			9.9	5.8	2 267 000	139 000	250 000	1 433 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.
Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

K. Co-ordination of Safety Activities

Programme Rationale

The Statute (Article III.A.6) authorizes the Agency to establish and adopt, in consultation and, where appropriate, in collaboration with the competent organs of the United Nations and with specialized agencies concerned, standards of safety for the protection of health and minimization of danger to life and property. The Agency's Medium Term Strategy perceives the completion of the development and update of the safety standards in all areas of nuclear, radiation, transport and waste safety as a high priority objective. Hence, the Agency has the task of maintaining a comprehensive set of updated safety standards and developing the underlying policies and principles. The safety standards are meant to be used for the Agency's own operations and as reference during safety advisory missions conducted at the request of a Member State. The Board of Governors and the General Conference have endorsed the Agency's role in various safety conventions. Regarding safety information exchange, the Statute calls for the exchange of scientific and technical information. In this relation, the Medium Term Strategy directs to a greater use of information technology for improving the efficiency and effectiveness of implementing such programmes. As charged in the Agency's Statute, many activities provide for the application of the safety standards, at the request of a Member State. As a common mechanism of such provisions is through technical co-operation assistance, the implementation involves the support of the technical co-operation programme in nuclear, radiation and waste safety, including the training of experts in those fields.

Programme Objective

To achieve technical consistency in the Agency's safety related functions (revision and development of safety standards, servicing safety conventions, safety information exchange and support to safety activities in the TC programme) as well as coherence with corresponding safety activities carried out by Member States and other international organizations.

Programme Performance Indicators

- Number of standards being approved through the consensus building process with Member States and advisory and review bodies.
- Successful accomplishment of activities the Agency is charged to do under the conventions or requested by the Parties.
- Increased access to safety information through the Agency's web-site.
- Completion of the support to at least as many technical co-operation projects and training courses as in the previous year.

This programme consists of four subprogrammes

K.1. Safety Policies and Standards
K.2. Safety Conventions
K.3. Safety Information Exchange
K.4. Support to the Technical Co-operation Programme

Key Programme Trends

Harmonization of safety policies and technical consistency in the establishment of Agency safety standards and the discharging of responsibilities assigned to the Agency by various safety related conventions. Support for the technical co-operation programme will increase, mainly in the training area.

Key Resource Trends

The proposed resources for Programme K amount to $3 010 000, reflecting a decrease of $168 000, or 5.3%, compared with the 2000 budget. This decrease has been utilized to increase the budgets in H and I. Extrabudgetary resources of $126 000 are expected to support the activities of this programme.

PROGRAMME K: CO-ORDINATION OF SAFETY ACTIVITIES

Summary of Regular Budget Estimates by Subprogramme

Table 38

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
K.1	Safety Policies and Standards	1 043 000	62 000	5.9	1 105 000	1.5	1 122 000
K.2	Safety Conventions	711 000	(200 000)	(28.1)	511 000	2.0	521 000
K.3	Safety Information Exchange	922 000	(285 000)	(30.9)	637 000	1.1	644 000
K.4	Support to the Technical Co-operation Programme	502 000	255 000	50.8	757 000	1.3	767 000
Programme K - Co-ordination of Safety Activities		3 178 000	(168 000)	(5.3)	3 010 000	1.5	3 054 000

Subprogramme Rationale

The Statute (Article III.A.6) authorizes the Agency to establish and adopt, in consultation and, where appropriate, in collaboration with the competent organs of the United Nations and with specialized agencies concerned, standards of safety for the protection of health and minimization of danger to life and property. The completion of the development and update of the standards in all areas of nuclear, radiation, transport and waste safety is seen as an objective in the Agency's Medium Term Strategy (MTS) and it indicates that this is done by reviewing and updating safety standards in consultation with Member States and relevant expert institutions and bodies. Appropriate standards advisory and review bodies are involved in this process of consultation and consensus building The Peer Reviews of Major Programme 3 (1997 and 1999) endorsed the high priority given to the review and revision of the existing safety standards and the development of new standards, with the aim of establishing a comprehensive and up to date set of safety standards. To underpin the scientific and technical basis for safety policies and principles on which the safety standards are based, the International Nuclear Safety Advisory Group performs a function similar and complementary to that of the International Commission on Radiological Protection in its field of expertise. The Senior Expert Group explicitly recommended that co-operation with other organizations be enhanced, which will effectively support policy making and standards development.

Subprogramme Objective

To achieve a comprehensive set of coherent and up-to-date safety standards in the areas of nuclear, radiation and radioactive waste safety, based on international consensus. To ensure that Member States benefit from an authoritative view on current safety issues expressed by a highly respected independent group of experts.

Subprogramme Performance Indicators

- Number of safety standards being approved through the consensus building process with Member States and advisory and review bodies.
- Effectiveness of INSAG in drawing attention to current safety issues and providing advice on these issues.

This subprogramme consists of two projects

K.1.01. *Safety Policies* — to promote harmonized international policies and basic practices on nuclear, radiation and radioactive waste safety by supporting the activities of the International Nuclear Safety Advisory Group (INSAG) and other relevant international bodies and by creating and maintaining an awareness of emerging nuclear, radiation and radioactive waste safety issues; and to liaise with other international organizations on content of programmes.

K.1.02. *The Agency Safety Standards* — to provide for the review and adoption of internationally harmonized and technically consistent Agency safety standards covering nuclear, radiation, radioactive waste and transport safety through the activities of the Advisory Commission for Safety Standards (ACSS), the Nuclear Safety Standards Advisory Committee (NUSSAC), the Radiation Safety Standards Advisory Committee (RASSAC), the Waste Safety Standards Advisory Committee (WASSAC) and the Transport Safety Standards Advisory Committee (TRANSSAC).

Key Subprogramme Trends

Continued emphasis on the achievement of a consistent, coherent and harmonized set of safety standards, through the co-ordination of documents that are generated under Programmes H (Nuclear Safety), I (Radiation Safety) and J (Radioactive Waste Safety).

Key Subprogramme Resource Trends

The proposed resources for the subprogramme amount to $1 105 000, reflecting an increase of $62 000, 5.9%, compared with the 2000 budget. This shift is mainly attributable to adjustments of staff resources between Subprogrammes K.1, K.2 and K.3.

K.2. Safety Conventions

Subprogramme Rationale

The Board of Governors and the General Conference have endorsed the Agency's role in the Conventions on Early Notification and Assistance, the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

Subprogramme Objective

To achieve the effective implementation of international safety related conventions by discharging the responsibilities assigned to the Agency, particularly by providing secretarial support and by providing emergency response.

Subprogramme Performance Indicators

- Successful meetings convened at the request of the Contracting Parties (or Signatories).
- Rapid response if and when called upon through the Convention on Early Notification or the Convention on Assistance.

This subprogramme consists of three projects

K.2.01. *Conventions on Early Notification and Assistance* — to perform the emergency response functions assigned to the Agency by the Convention on Early Notification of a Nuclear Accident (Early Notification Convention) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention), by operating, maintaining and upgrading the Agency's Emergency Response Unit.

K.2.02. *Convention on Nuclear Safety* — to convene and prepare the meetings of the Contracting Parties of the Convention on Nuclear Safety; to transmit to the Contracting Parties information received or prepared in accordance with the provisions of the Convention; and to serve the Parties in the implementation of the Convention.

K.2.03. *The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management* — to convene and prepare the meetings of the Contracting Parties of the Joint Convention; and to service the convention in accordance with its provisions.

Key Subprogramme Trends

The demands are very much dependent on the demands from the Parties to the Convention. The Preparatory Meeting under the Joint Convention will most probably be held in 2001. The Convention on Nuclear Safety will have an organizational meeting in September 2001, to prepare for the second Review Meeting in 2002.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $511 000, reflecting a decrease of $200 000, or 28.1%, compared with the 2000 budget. This shift is mainly attributable to adjustments of staff resources between K.2 and K.1 and adjustments in the estimated costs for interpretation.

K.3. Safety Information Exchange

Subprogramme Rationale

Article II.A.3 of the Statute charges the Agency with fostering the exchange of scientific and technical information on the peaceful uses of atomic energy. This transfer of knowledge is an important vehicle in providing for the application of safety standards. The Agency's Medium Term Strategy indicates a greater use of information technology for improving the efficiency and effectiveness of the programme implementation. Also, the 1999 PPAS review of Major Programme 3 supported the Agency's plan to make greater use of electronic publishing and the Internet, thus improving the accessibility of its safety related material. Furthermore, the PPAS review has recommended that public information material be focused on factual and safety related information only.

Article II.A.1 of the Statute calls for the Agency to encourage and assist research on the development and application of atomic energy. This is a basis for R&D activities on nuclear, radiation and waste safety issues, mainly implemented as CRPs.

Subprogramme Objective

To achieve an effective information exchange on technical safety issues through: (a) the organization of major meetings on safety; (b) the promotion of real time technical information exchange by the use of modern technology and communications systems, such as information networks; (c) the co-ordination of safety related CRPs; and (d) the communication of information on safety issues to opinion makers, the media and the public, in support of the Agency's public information activities and of national regulatory authorities.

Subprogramme Performance Indicators

- Tangible results from the International Conference on Topical Safety Issues.
- Increased access to the Agency's safety related Web pages.
- Extent of geographical distribution of institutes participating in co-ordinated research projects.

- Rapid dissemination of INES reports.

This subprogramme consists of two projects

K.3.01. *Technical Information Exchange and Research* — to promote the exchange and dissemination of technical information on nuclear, radiation and radioactive waste safety and through mechanisms such as safety conferences on topical safety issues and through greater use of electronic publishing and the Internet, aimed at facilitating direct access to technical information; and to encourage scientific research worldwide on selected safety related topics.

K.3.02. *Communication of Safety Issues* — to improve the general comprehension of policy makers, opinion makers and the public of safety issues relating to nuclear, radiation and radioactive waste, including the understanding of the significance of nuclear and other radiation accidents through mechanisms such as INES.

Key Subprogramme Trends

The activity for the increased use of electronic publishing and the Internet will be of a modest facilitator's role and not proportional to the actual increase in use. Combined with a decrease in communications activities, this means a smaller volume of work in this area.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $637 000, reflecting a decrease of $285 000, or 30.9%, compared with the 2000 budget.

K.4. Support to the Technical Co-operation Programme

Subprogramme Rationale

The Agency's Statute (Article III.A.6) authorizes the Agency to provide for the application of the safety standards at the request of the Member States. In line with Medium Term Strategy and the PPAS review of Major Programme 3 conducted in 1999 the priorities will progressively shift from standards development towards activities aimed at assisting Member States in the practical application of safety standards. For Member States receiving Agency assistance this will be achieved mainly through national and regional technical co-operation projects and extrabudgetary resources. These activities call for a coherent approach.

The Agency has to play a key role in assisting its Member States in education and training in nuclear, radiation and radioactive waste safety. This statutory task was underlined in a resolution of the General Conference, GC (XXXVI)/RES/584. The Secretariat is, therefore, committed to implementing and keeping up to date the policy and the programme for education and training in radiological protection and nuclear safety. The recent resolution GC(43)/RES/13 re-emphasizes the importance of education and training in radiological protection and safety and requests the Agency to strengthen the activities with a view to encouraging the harmonization of training for radiation protection and the safety of sources.

Also, the PPAS review (1) recognized that education and training will be a priority area, with continued emphasis on training the trainers, and on standardizing the content of courses and course materials; (2) recommended the provision of education in the basic principles of radiation safety at an early stage in the development of safety infrastructure; and (3) recommended that the Agency provide, upon request, necessary

and appropriate assistance to Member States in clarifying the Agency's safety standards for the purpose of preparing national regulations through training and workshops.

Subprogramme Objective

To achieve the effective implementation of the Agency's safety related technical co-operation programme, including education and training activities, consistent with the Agency's safety standards and policies.

Subprogramme Performance Indicators

- 120 national and regional technical co-operation projects successfully co-ordinated and implemented.
- At least 60 training courses successfully co-ordinated and implemented.

This subprogramme consists of two projects

K.4.01. *Co-ordination of Technical Co-operation Projects* — to develop and ensure the implementation of strategies and policies for establishing and maintaining adequate safety infrastructures in Member States requesting technical assistance; to promote, co-ordinate and monitor activities in support of national and multinational safety related technical co-operation projects, through the establishment and maintenance of safety related country profiles and action plans; and to ensure complementarity and consistency between technical co-operation projects, activities funded from extrabudgetary resources and activities funded from the regular budget.

K.4.02. *Education and Training* — to promote a common level of understanding of nuclear, radiation and radioactive waste safety matters in order to facilitate the implementation of the Agency's safety standards.

Key Subprogramme Trends

Special attention will be paid to the implementation of safety standards in support of the technical co-operation programme. The required support for safety related technical co-operation projects has steadily increased in the period from 1996 to 1999 and a continued increase is foreseen.

Key Subprogramme Resource Trends

The proposed resources for this subprogramme amount to $757 000, an increase of $255 000, or 50.8%, compared with the 2000 budget, reflecting mainly an increase in human resources.

PROGRAMME K: CO-ORDINATION OF SAFETY ACTIVITIES
Summary of Regular Budget Estimates by Project
Table 39

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
K.1	Safety Policies and Standards									
K.1.01	Safety Policies	K.1.01	Cont.	NSSCS	429 000	60 000	14.0	489 000	1.4	496 000
				NSNI	44 000	-	-	44 000	-	44 000
K.1.02	The Agency Safety Standards	K.1.02	Cont.	NSSCS	519 000	7 000	1.3	526 000	1.7	535 000
				NSRW	41 000	(5 000)	(12.2)	36 000	2.8	37 000
				NSNI	10 000	-	-	10 000	-	10 000
				NSSCS	948 000	67 000	7.1	1 015 000	1.6	1 031 000
				NSNI	54 000	-	-	54 000	-	54 000
				NSRW	41 000	(5 000)	(12.2)	36 000	2.8	37 000
	Sub-total K.1.				1 043 000	62 000	5.9	1 105 000	1.5	1 122 000
K.2	Safety Conventions									
K.2.01	Conventions on Early Notification and Assistance	K.2.01	Cont.	NSRW	257 000	(35 000)	(13.6)	222 000	1.8	226 000
K.2.02	Convention on Nuclear Safety	K.2.02	Cont.	NSSCS	135 000	(79 000)	(58.5)	56 000	-	56 000
				NSNI	81 000	(52 000)	(64.2)	29 000	-	29 000
K.2.03	Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	K.2.03	Cont.	NSSCS	157 000	(77 000)	(49.0)	80 000	5.0	84 000
				NSRW	81 000	43 000	53.1	124 000	1.6	126 000
				NSSCS	292 000	(156 000)	(53.4)	136 000	2.9	140 000
				NSNI	81 000	(52 000)	(64.2)	29 000	-	29 000
				NSRW	338 000	8 000	2.4	346 000	1.7	352 000
	Sub-total K.2.				711 000	(200 000)	(28.1)	511 000	2.0	521 000
K.3	Safety Information Exchange									
K.3.01	Technical Information Exchange and Research	K.3.01	Cont.	NSSCS	400 000	26 000	6.5	426 000	1.2	431 000
K.3.02	Communication of Safety Issues	K.3.02	Cont.	NSSCS	252 000	(172 000)	(68.3)	80 000	1.3	81 000
				NSNI	248 000	(128 000)	(51.6)	120 000	0.8	121 000
				NSRW	22 000	(11 000)	(50.0)	11 000	-	11 000
				NSSCS	652 000	(146 000)	(22.4)	506 000	1.2	512 000
				NSNI	248 000	(128 000)	(51.6)	120 000	0.8	121 000
				NSRW	22 000	(11 000)	(50.0)	11 000	-	11 000
	Sub-total K.3.				922 000	(285 000)	(30.9)	637 000	1.1	644 000
K.4	Support to the Technical Co-operation Programme									
K.4.01	Co-ordination of Technical Co-operation Projects	K.4.01	Cont.	NSSCS	277 000	4 000	1.4	281 000	1.4	285 000
K.4.02	Education and Training	K.4.02	Cont.	NSSCS	225 000	251 000	111.6	476 000	1.3	482 000
	Sub-total K.4.				502 000	255 000	50.8	757 000	1.3	767 000
				NSSCS	2 394 000	20 000	0.8	2 414 000	1.5	2 450 000
				NSNI	383 000	(180 000)	(47.0)	203 000	0.5	204 000
				NSRW	401 000	(8 000)	(2.0)	393 000	1.8	400 000
Programme K - Co-ordination of Safety Activities					3 178 000	(168 000)	(5.3)	3 010 000	1.5	3 054 000

PROGRAMME K: CO-ORDINATION OF SAFETY ACTIVITIES
List of Projects and Estimated Total Resources for 2001
Table 40

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
K.1	Safety Policies and Standards							
K.1.01	Safety Policies	NSSCS	1.2	1.2	496 000	-	13 000	-
		NSNI	0.1	0.1	44 000	-	-	-
K.1.02	The Agency Safety Standards	NSSCS	2.4	1.7	535 000	-	113 000	-
		NSRW	0.1	0.2	37 000	-	-	-
		NSNI	-	-	10 000	-	-	-
		NSSCS	3.6	2.9	1 031 000	-	126 000	-
		NSNI	0.1	0.1	54 000	-	-	-
		NSRW	0.1	0.2	37 000	-	-	-
	Sub-total K.1.		3.8	3.2	1 122 000	-	126 000	-
K.2	Safety Conventions							
K.2.01	Conventions on Early Notification and Assistance	NSRW	0.7	0.8	226 000	-	-	-
K.2.02	Convention on Nuclear Safety	NSSCS	-	-	56 000	-	-	-
		NSNI	0.2	0.1	29 000	-	-	-
K.2.03	Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	NSSCS	-	-	84 000	-	-	-
		NSRW	0.7	0.4	126 000	-	-	-
		NSSCS	-	-	140 000	-	-	-
		NSNI	0.2	0.1	29 000	-	-	-
		NSRW	1.4	1.2	352 000	-	-	-
	Sub-total K.2.		1.6	1.3	521 000	-	-	-
K.3	Safety Information Exchange							
K.3.01	Technical Information Exchange and Research	NSSCS	1.5	2.3	431 000	-	-	-
K.3.02	Communication of Safety Issues	NSSCS	0.2	-	81 000	-	-	-
		NSNI	-	0.4	121 000	-	-	-
		NSRW	0.1	-	11 000	-	-	-
		NSSCS	1.7	2.3	512 000	-	-	-
		NSNI	-	0.4	121 000	-	-	-
		NSRW	0.1	-	11 000	-	-	-
	Sub-total K.3.		1.8	2.7	644 000	-	-	-
K.4	Support to the Technical Co-operation Programme							
K.4.01	Co-ordination of Technical Co-operation Projects	NSSCS	1.5	1.7	285 000	-	-	-
	Total Technical Support for TC Projects in Major Programme 3	-	-	-	[2 204 000]	-	-	-
K.4.02	Education and Training	NSSCS	1.6	1.3	482 000	-	-	-
	Sub-total K.4.		3.1	3.0	767 000	-	-	-
		NSSCS	8.4	8.2	2 450 000	-	126 000	-
		NSNI	0.3	0.6	204 000	-	-	-
		NSRW	1.6	1.4	400 000	-	-	-
Programme K - Co-ordination of Safety Activities			10.3	10.2	3 054 000	-	126 000	-

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Major Programme 4
Nuclear Verification and Security of Material

Major Programme Rationale

The rationale for Major Programme 4 derives from Article III.A.5 of the Agency's Statute, which provides the Agency with the authority to establish and administer safeguards to ensure that special fissionable and other materials, services, equipment, facilities and information are not used to further any military purpose. Safeguards are applied pursuant to agreements based on INFCIRC/66/Rev.2 or INFCIRC/153. Additionally, strengthened measures are applied pursuant to the Protocol Additional to Safeguards Agreements (INFCIRC/540). The implementation of recommendations and guidelines for the physical protection of nuclear material is based on INFCIRC/225. Verification activities in Iraq are required pursuant to United Nations Security Council Resolutions 661, 687, 699, 707, 715, 986, 1051, 1154 and 1284.

Major Programme Objectives

To contribute to international security by verifying States' compliance with their safeguards undertakings and other peaceful use commitments and by assisting States in establishing and maintaining the security of nuclear and radioactive materials; to strengthen verification of States' compliance through the integration of the Safeguards measures performed under the Additional Protocol and measures under existing safeguards agreements.

This major programme consists of three programmes

L. Safeguards
M. Security of Material
U. Verification in Iraq Pursuant to UNSC Resolutions

Key Major Programme Trends

The following are the priorities of Major Programme 4 for 2001:

- **Ensuring credible verification under the Agency's legal obligations**

  The Agency will continue to apply safeguards so as to give assurances to Member States regarding the completeness and correctness of State declarations on nuclear material, activities and facilities under existing agreements (INFCIRC/153 and INFCIRC/66).

- **Promoting and implementing Additional Protocols**

  Efforts to negotiate and implement Additional Protocols will continue. In addition to the 8 Additional Protocols already in force, some 17 are expected to enter into force during 2000, and 7 more in 2001. The universal adherence to this legal arrangement is essential to further strengthen the verification system.

- **Integrating the safeguards measures performed under the Additional Protocols with those under existing safeguards agreements**

  Full implementation of an additional protocol with a comprehensive safeguards agreement should enable the Agency to provide assurances about the entire nuclear fuel cycle programme of a State with regard to both declared and undeclared material and activities. The activities to be undertaken under the Additional Protocol will be integrated with those under existing safeguards agreements so as to achieve the full

benefits to the strengthened safeguards system, with maximum effectiveness and efficiency within the available resources.

- **Maintaining a state-of-the-art pool of equipment and technologies to enable the Agency to accurately measure, analyse and evaluate the nuclear activities of a State**

  Adequate tools are essential for conducting verification activities and achieving inspection goals. The use of new equipment and technologies, such as digital systems, unattended and remote monitoring, limited use of satellite imagery, and environmental sample analysis, are essential to improve the effectiveness of the safeguards system.

- **Continuing to develop the analysis of information and improve the reporting of the implementation of safeguards to Member States, including the results of State evaluations for those countries having Additional Protocols**

  The information received from States, and/or collected by the Agency on their nuclear activities, is compiled, reviewed and analysed so as to draw conclusions whether all nuclear material has been declared. This involves evaluations at the facility level as well as at the State level. The results of these evaluations will be communicated to Member States both directly and in the annual *Safeguards Implementation Report* in an increasingly clear and understandable manner.

- **Continuing to monitor the freeze under the Agreed Framework between the USA and the DPRK on the graphite moderated reactors and related facilities**

  The Agency will continue to conduct inspection work in the DPRK, with the continuous presence of two inspectors. In addition, discussion with the DPRK will be aimed at resolving issues regarding the correctness and completeness of the initial inventory declaration, access to certain technical support buildings, and other monitoring issues.

- **Assisting Member States in the physical protection of and in combating illicit trafficking in nuclear and other radioactive materials, and the detection of unlawful incidents involving these materials**

  The Agency, as the competent international nuclear authority, assists Member States in the area of the security of nuclear and other radioactive materials through exchange of information, and the provision of standards and guides, training, expert assistance and equipment.

- **Providing credible assurance that Iraq is complying with UNSC resolutions and implementing the ongoing monitoring and verification plan**

  The Agency will continue to support inspection activities in Iraq and gather the information necessary to draw conclusions regarding Iraq's compliance with its obligations under the relevant UNSC resolutions, and will focus its activities on the strengthening of the technical aspects of the ongoing monitoring and verification plan, particularly by ensuring the availability and reliability of expertise, instrumentation and information. In accordance with UN resolutions, the full costs of Programme U are covered by Iraq, through UNSC funds.

The key trends of Major Programme 4 for 2001 are:

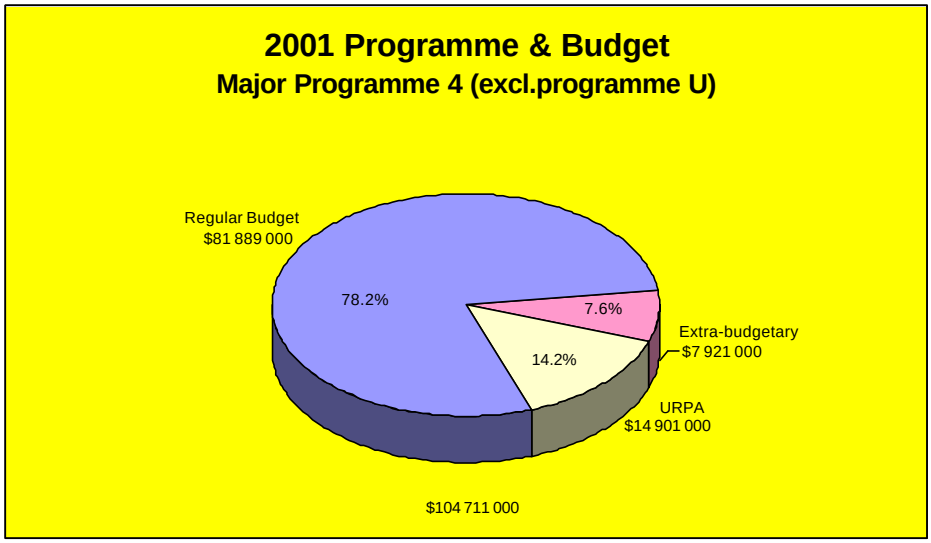
— To integrate the safeguards measures performed under the Model Protocol Additional to the Safeguards Agreement between State(s) and the International Atomic Energy Agency for the Application of Safeguards — INFCIRC/540 — with the measures performed under existing comprehensive safeguards agreements.

— To improve the reporting of safeguards implementation, including the assessment of the results of safeguards activities as reported in the Safeguards Implementation Report (SIR), by providing greater transparency on how goals are developed and attained, and by comprehensive reporting to States.

— To increase transparency of the safeguards programme activities and responsiveness to Board of Governors resolutions.

— To support and facilitate the global implementation of INFCIRC/225/Rev.4, the Physical Protection of Nuclear Material and Nuclear Facilities.

Key Major Programme Resource Trends



Regular Budget Resources

The 2001 proposed regular budget for Major Programme 4 amounts to $81 889 000, reflecting no change from the 2000 adjusted budget.

Included in the regular budget are activities of the highest priority. While execution of the complete programme (excluding programme U) would require $104.7 million, only 78.2% of this total could be accommodated within the limits of a zero real growth budget. Accordingly, the programme is maintaining the same number of posts as in 2000, i.e. 345 Professionals and 207 General Service posts. Travel has been reduced considerably from the 1998 actual levels through the use of reduced fares and placement of part of the non-staff travel in the category of unfunded activities. Purchases of equipment from regular budget funds are restricted to those of highest priority.

Extrabudgetary Resources

Voluntary contributions of $7.9 million are expected from Member States (excluding the $10.7 million estimated for programme U). Of the $7.9 million, approximately $5.2 million is channelled though the various support programmes and includes 18 cost free experts, funds for R&D contracts and for the activities within the Security of Material programme. The considerable value of services received in kind, or safeguards research and development of new technologies and new approaches, which is co-ordinated through Member State Support Programmes (MSSPs), is not included, as this type of financial support is not documented through the Agency's accounts and could only be an estimate.

The remaining $2.7 million in extrabudgetary funds are expected for verification of nuclear material released from nuclear weapon programmes in the USA, and for implementation support of the verification campaign in Kazakhstan.

Unfunded Regular Programme Activities (URPAs)

The activities listed under URPAs are those which, while of great importance for the delivery of a complete programme, could not be accommodated within the regular budget. They amount to $14.9 million and will only be carried out if funds in other areas of the programme can be released or are provided through extrabudgetary assistance. The list of these activities and the impact of lack of funds is described under each project and in Annex V, entitled “Unfunded Regular Programme Activities”.

MAJOR PROGRAMME 4

NUCLEAR VERIFICATION AND SECURITY OF MATERIAL

Summary of total resources for 2001 by programme

Table 41

	Programme / Major Programme		Staffing P	Staffing GS	Regular Budget estimates at 2001 prices	URPA	Funds from other UN organizations	Other extra-budgetary resources	TC Programme a_/
L.	Safeguards	SG	331.0	201.3	77 342 000	14 901 000	-	6 875 000	-
		NAAL	8.5	34.3	4 548 000	-			
	Lapsed	Posts	12.7	4.3					
	Sub-total		352.2	239.9	81 890 000	14 901 000	-	6 875 000	-
M.	Security of Material		1.6	2.2	1 093 000	-	-	1 046 000	814 000
U.	Verification in Iraq Pursuant to UNSC Resolutions		-	-	-	-	10 650 000	-	-
	Major Programme 4		353.8	242.1	82 983 000	14 901 000	10 650 000	7 921 000	814 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

L. Safeguards

Programme Rationale

Article III.A.5 of the Agency's Statute provides the Agency with the authority to establish and administer safeguards to ensure that special fissionable and other materials, services, equipment, facilities and information are not used to further any military purpose. Safeguards are applied pursuant to agreements based on INFCIRC/66/Rev.2 or INFCIRC/153 and the strengthened measures are applied pursuant to the Protocol Additional to Safeguards Agreements (INFCIRC/540).

Programme Objective

To provide the international community, through the application of the Agency's safeguards system, with an independent assurance that States are complying with their safeguards commitments.

Programme Performance Indicators

- Provision of credible assurance of the non-diversion of nuclear material from declared activities and of the absence of undeclared nuclear material and activities, and to present the basis of this assurance in reports to Member States and in the Safeguards Implementation Report (SIR).

This programme consists of three subprogrammes

L.1. Operations
L.2. Development and Support
L.3. Management

Key Programme Trends

In 2001, Programme L will continue to focus on the development and implementation of the measures designed to improve the efficiency and effectiveness of the safeguards system, as mandated by the Board of Governors inter alia in document GOV/2863 of 6 May 1996. Under the strengthened safeguards system, assurances are based on measures addressing the entire nuclear fuel cycle programme of a State, rather than only on declared nuclear material and facilities, as has been the case under existing INFCIRC/153 and INFCIRC/66 safeguards agreements. Under the Additional Protocol, the State is required to provide the Agency with supplemental information on, and increased access to, those aspects of the State's nuclear fuel cycle or fuel cycle related activities which are not covered by existing safeguards agreements. As of December 1999, Additional Protocols had entered into force for 8 States and measures foreseen under the Additional Protocol have also been implemented in Taiwan, China. Additional Protocols with 17 States are expected to enter into force during 2000, and 7 during 2001. Once an Additional Protocol has entered into force, information must be provided to the Agency for analysis and subsequent discussion and agreement with the State on all the arrangements necessary to implement the new measures. The limited experience acquired since the first Additional Protocols were signed in September 1997 has shown that the time taken from conclusion to entry into force can take from one month to two or more years. Therefore, the tools which will allow the Agency to apply the full set of integrated measures are still in their initial stages of development.

While making the development and integration of the new safeguards measures its chief focus, the Agency must continue accountancy based safeguards activities in accordance with existing safeguards agreements to ensure that States comply with their safeguards undertakings. As in previous years, this exerts considerable pressure on the financial and human resources of Programme L and will continue to do so until safeguards assurances under the Additional Protocol are sufficient to allow safeguards integration measures to be put into place.

Key Programme Resource Trends

The programme needs for 2001 amount to $102 583 000. This includes regular budget funds of $80 807 000 (no change from the 2000 level), $14 901 000 in unfunded regular programme activities ($1.3 million above the 2000 estimates), and $6 875 000 in extrabudgetary contributions ($3.2 million above the 2000 estimates). Included in the regular budget proposals are the costs of services provided by EXPO ($542 000) and the Legal Division ($355 000).

PROGRAMME L: SAFEGUARDS

Summary of Regular Budget Estimates by Subprogramme

Table 42

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
L.1	Operations	60 595 000	(551 000)	(0.9)	60 044 000	1.3	60 812 000
L.2	Development and Support	17 825 000	306 000	1.7	18 131 000	1.6	18 415 000
L.3	Management	2 387 000	245 000	10.3	2 632 000	1.2	2 663 000
Programme L - Safeguards		80 807 000	-	-	80 807 000	1.3	81 890 000

Subprogramme Rationale

In order to implement the legal obligations and authority conferred on the Agency by safeguards agreements and other legal commitments, the Agency requires a group of inspectors (the Inspectorate) to collect and analyse the necessary information in order to draw conclusions about the nuclear undertakings of States.

Subprogramme Objective

Pursuant to safeguards agreements, to provide the basis for assurance on the non-diversion of nuclear material from declared activities and the absence of undeclared nuclear material and activities.

Subprogramme Performance Indicators

- Level of assurance which can be given to Member States about the whereabouts of nuclear material.
- Percentage of goal attainment.
- Availability and reliability of safeguards equipment, including its timely installation and servicing.
- Timely updating of State files.
- Completion of model verification agreements for weapon origin fissile materials in nuclear weapon States.

This subprogramme consists of eight projects

L.1.01. *Inspection* — to detect, through independent on-site verification activities in the context of inspections and visits, diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and to deter such diversion by the risk of early detection, through acquiring, processing and evaluating information and conducting complementary access as necessary to detect the presence of any undeclared materials and activities.

L.1.02. *Negotiation and Liaison* — to complete the necessary legal and administrative arrangements for the effective and efficient implementation of safeguards.

L.1.03. *Information Processing* — to make available a reliable, useful and up-to-date database composed of information obtained from Member States, inspections and open sources in order to apply safeguards and evaluate a State's nuclear activities; and to provide reliable and timely related services including information, reports, training and advice.

L.1.04. *Equipment Management* — to provide, install, maintain and support the safeguards equipment needed for verifying nuclear material; to monitor the performance of safeguards equipment; to provide procurement and logistics support; to manage the equipment inventory; and to co-ordinate the use of the Equipment Management Information System.

L.1.05. *Sample Logistics and Analysis* — to provide inspectors with the analytical services and technical support required to verify nuclear and other materials under Agency safeguards and to implement environmental sampling to strengthen the safeguards system.

L.1.06. *Development of a Safeguards System for a Large Reprocessing Plant in Japan (JNFL)* — to develop and implement, in consultation with the Government of Japan and with the assistance of

the Japanese and other support programmes, a safeguards approach; and to co-ordinate the design, provision, installation, testing and acceptance of the required equipment and facilities for the implementation of safeguards at the JNFL reprocessing plant.

L.1.07. *Facility and State Information Evaluation* — to analyse and evaluate the information provided by States, obtained through inspections or visits, and obtained from other sources, in order to have a strengthened and cost effective safeguards system capable of timely detection of the diversion of declared material as well as a credible ability to detect undeclared material and activities.

L.1.08. *Other Verification Activities* — to contribute to the establishment of a new verification regime relating to the storage, processing and peaceful use of weapon origin and other fissile material in States possessing such materials, the development of verification concepts and criteria, the development and testing of appropriate verification systems, the development of verification approaches for relevant facilities and the implementation of inspections as new agreements enter into force.

Key Subprogramme Trends

The performance of inspections to gather the necessary information for drawing safeguards conclusions while integrating the measures of the strengthened safeguards system will remain the leading priority of this subprogramme. Traditional nuclear material accountancy remains an essential component of the system, and inspections will continue to be used for collecting information and verifying compliance with safeguards agreements. Negotiation of new and modified subsidiary arrangements, especially those related to Additional Protocols, as well as liaison meetings with national authorities and facility operators will be combined with inspections or take place in Vienna whenever possible.

Management of the safeguards database and the open source information system as well as support for the analysis of information provided by States according to the Additional Protocol, will reflect the increased role of information handling under strengthened safeguards. The use of commercial satellite imagery, on a limited basis, to complement information received from Member States and open sources, has been planned, although the majority of resources required for this activity had to be included outside the regular budget.

Adequate safeguards equipment is still essential for enabling the Agency to monitor, communicate, control, measure and report accurately and efficiently. The availability of this equipment is extremely important for the conduct of verification activities and the achievement of inspection goals. Details of the various types of equipment required and whether they are included in the regular budget or remain outside of the regular budget can be found in the appendix to this programme.

The volume of analyses of nuclear and other materials, including environmental samples, is anticipated to stay in the same order as in the 1999–2000 period. It is projected that approximately 1000 environmental samples will be analysed. Furthermore, the analysis of up to 1500 samples of nuclear and source materials, using destructive techniques, is expected.

The progress and completion of the development of a safeguards system for a large reprocessing plant in Japan will depend on the commercial operation of the plant, originally scheduled for 2003. On the basis of the most recent information, operational testing is currently scheduled for 2003–2004 and the commercial operation has been postponed until 2005.

The drawing of conclusions on the correctness and completeness of State declarations is a key element of strengthened safeguards. Therefore, substantial efforts will be expended to evaluate all information at State level, as well as produce and review the State evaluation reports compiled by the country officers.

Other verification activities are concentrated on the Trilateral Initiative carried out by the Russian Federation, the USA and the Agency to establish a verification system for weapon origin fissile material and other fissile material declared by the States to be in excess of their respective defence purposes. The activities under way are expected to lead to approval by the Board of Governors of a model verification agreement in 2000 and for bilateral agreements between the Agency and each State involved by 2001. Efforts are under way to develop

prototype verification systems for classified forms of plutonium and inventory monitoring systems for large facilities.

Detailed project trends for this subprogramme can be found in the appendix at the end of this programme narrative.

Key Subprogramme Resource Trends

The overall operations level of Subprogramme L.1 for 2001 amount to $75 979 000, of which $11.9 million remain unfunded and $4.1 million are expected as extrabudgetary contributions. A summary of resource requirements by project is shown in the appendix.

L.2. Development and Support

Subprogramme Rationale

The safeguards operation activities undertaken require a smooth running infrastructure of support and the development of the necessary tools.

Subprogramme Objective

To improve the effectiveness and efficiency of inspections by providing inspection staff with the specialized and reliable instrumentation, information and analytical tools necessary to meet the safeguards goals and criteria.

Subprogramme Performance Indicators

- Number of instrumentation systems recommended for development which reach the authorization stage.
- Reliable communications within the Agency and with the outside world.
- Number of software applications delivered which meet user requirements.
- Smooth transition to the implementation of integrated safeguards.
- Timely preparation of technical and legal performance standards.
- Quality and timely evaluation services in statistical analysis.
- Enhanced performance by staff as a result of training courses.

This subprogramme consists of eight projects

L.2.01. *Instrumentation Development and Field Support* — to manage the development and testing of instrumentation for inspection requirements; to produce and maintain hardware and software configuration control, instrumentation procedures and equipment documentation; and to provide field support for safeguards instrumentation application.

L.2.02. *Computer Application Support* — to ensure that computer applications contribute to the effectiveness of Major Programme 4 activities.

L.2.03. *Computer Systems Support* — to provide an effective information technology infrastructure for communications services and database access for Member States, inspectors, regional offices and staff at headquarters.

L.2.04. *Systems Studies and Approaches* — to maximize the effectiveness and efficiency of the strengthened safeguards system by optimizing the combination of all measures within the context of integrated safeguards.

L.2.05. *Standardization* — to ensure uniformity of procedures in the application of safeguards.

L.2.06. *Statistical Analysis* — to develop and apply statistical methods relevant to safeguards with particular emphasis on verification measurement quality, material balance evaluations and environmental sampling.

L.2.07. *Safeguards Training* — to provide and maintain inspectors and SSAC personnel with the required skills and knowledge to fulfil their responsibilities under safeguards agreements in force.

L.2.08. *Support Programme Administration* — to improve safeguards through the transfer to the Agency of Member States technology and expertise, including the development, demonstration and provision of technology for safeguards application, analysis of safeguards issues, training of personnel, and human resources such as experts and consultants.

Key Subprogramme Trends

Research and development activities of the Safeguards programme are implemented under this subprogramme. The development, implementation and performance monitoring of unattended and remote monitoring systems are foreseen to remain a priority of this subprogramme. The support for computer applications continues to be an important aspect of this subprogramme as it affects the ability of: (a) inspectors to do computer data entry and analyse information in the field; and (b) staff at headquarters to maintain an optimal software environment. The technology infrastructure, the development of communication technology for inspectors and the security of information will continue to be supported.

This subprogramme also comprises the development of safeguards concepts, approaches, methodologies and techniques for integrated safeguards, and the provision of strategic planning support for the transition to an integrated safeguards system. An internal working group is developing, with the advice of experts, convened from September 1999 to September 2000, the measures related to integrated safeguards. The group's mandate is to: (a) review the present criteria in order to integrate the strengthening measures; and (b) identify new criteria against which safeguards conclusions are drawn. The result of the integrated safeguards system will enable the Agency to provide credible assurance that a State has declared all of its nuclear material and that there is no undeclared nuclear material or activities.

One of the main priorities of this subprogramme is the provision of quality assurance services, including the monitoring and evaluation of recording and reporting of inspection work. A comprehensive quality management system in accordance with ISO 9000 is being designed and implemented, aimed at promoting quality culture and awareness amongst the safeguards staff. In addition, emphasis will continue to be attached to the evaluation work supporting traditional safeguards activities and on environmental sampling implementation.

In order to keep an updated and well trained inspectorate, which is highly important for the effective application of safeguards, an enhanced training curriculum has been developed for 2001. This curriculum emphasizes topics resulting from the implementation of the Additional Protocol and includes proliferation indicators in the nuclear fuel cycle, environmental sampling, enhanced observation skills, State evaluations, design information review at research reactors, enhanced communication skills, information security and workshops on complementary access. The co-ordination of the assistance provided by Member State Support Programmes (MSSPs) will continue to be carried out under this subprogramme.

Details on the projects under this subprogramme can be found in the appendix.

Key Subprogramme Resource Trends

The overall operations level of this subprogramme for 2001 amount to $23 282 000. A summary of resource requirements by project is shown in the appendix.

L.3. Management

Subprogramme Rationale

Programme L requires a central co-ordination function to operate in the most efficient and effective manner.

Subprogramme Objective

To achieve the effective and efficient management of the resources allocated to Major Programme 4 by providing administrative services in the areas of personnel, travel and finance and by evaluating and conveying to the Board of Governors the results and effectiveness of the programme in the form of the Safeguards Implementation Report (SIR).

Subprogramme Performance Indicators

- Effective response of the Secretariat to the Board of Governors in the area of safeguards and verification.
- Availability of human and financial resources.
- Timeliness of administrative actions.
- Timely completion of a satisfactory SIR.
- Improvement of the evaluation of inspection goal attainment through continuous assessment of safeguards measures.

This subprogramme consists of three projects

L.3.01. *Planning, Direction, Co-ordination and Control* — to ensure that safeguards and verification responsibilities are carried out effectively and efficiently, with appropriate co-ordination within the Agency.

L.3.02. *Programme and Resources* — to assist in the management of the human and financial resources of Major Programme 4.

L.3.03. *Effectiveness Evaluation* — to assess the effectiveness of the implemented safeguards measures and report on the results of inspections in the annual SIR.

Key Subprogramme Trends

This subprogramme includes the activities related to planning, direction, co-ordination and control, programming and resources and effectiveness evaluations of Major Programme 4.

Centralization and co-ordination of administrative processes such as programme analysis, productivity statistics, human resources planning, financial planning and reporting, and recording and oversight of travel will continue to be undertaken under this subprogramme. Major tasks will be to monitor implementation of the new person-days of verification (PDV) concept and to prepare for its use in the preparation of the 2002–2003 programme and budget, as well as to track and report costs of integrated safeguards measures, in order to increase programmatic transparency and fiscal accountability. Emphasis will continue to be placed on improving the assessment of the effectiveness of the safeguards system, and the clear and transparent communication of the results to Member States in the SIR.

Details on the projects under this subprogramme can be found in the appendix.

Key Subprogramme Resource Trends

The resource requirements amount to $3 322 000. A summary of the resource requirements is shown in the appendix.

PROGRAMME L: SAFEGUARDS
Summary of Regular Budget Estimates by Project
Table 43

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
L.1.	Operations									
L.1.01	Inspection	L.1.01	Cont.							
	Operations A			SGOA	16 008 000	(777 000)	(4.9)	15 231 000	1.1	15 406 000
	Operations B			SGOB	10 690 000	(492 000)	(4.6)	10 198 000	1.2	10 316 000
	Operations C			SGOC	12 526 000	206 000	1.6	12 732 000	1.1	12 876 000
L.1.02	Negotiation and Liaison	L.1.02	Cont.							
	Operations A			SGOA	1 357 000	(167 000)	(12.3)	1 190 000	1.2	1 204 000
	Operations B			SGOB	1 430 000	(205 000)	(14.3)	1 225 000	1.2	1 240 000
	Operations C			SGOC	1 698 000	(83 000)	(4.9)	1 615 000	1.3	1 636 000
L.1.03	Information Processing	L.1.03	Cont.	SGIT	2 603 000	224 000	8.6	2 827 000	1.6	2 872 000
L.1.04	Equipment Management	L.1.04	Cont.	SGTS	6 359 000	(192 000)	(3.0)	6 167 000	1.7	6 270 000
				NAAL	337 000	92 000	27.3	429 000	1.6	436 000
L.1.05	Sample Logistics and Analysis	L.1.05	Cont.	SGTS	1 996 000	(164 000)	(8.2)	1 832 000	1.3	1 856 000
				NAAL	3 932 000	(92 000)	(2.3)	3 840 000	1.7	3 904 000
L.1.06	Development of a Safeguards System	L.1.06	2005	SGCP	28 000	67 000	239.3	95 000	1.1	96 000
	for a Large Reprocessing Plant in Japan			SGTS	24 000	19 000	79.2	43 000	-	43 000
	(JNFL)			NAAL	204 000	-	-	204 000	2.0	208 000
				SGSEE	6 000	5 000	83.3	11 000	-	11 000
				SGIT	14 000	(1 000)	(7.1)	13 000	-	13 000
				SGOA	390 000	393 000	100.8	783 000	1.3	793 000
L.1.07	Facility and State Information	L.1.07	Cont.	SGOA	224 000	51 000	22.8	275 000	1.5	279 000
	Evaluation			SGOB	289 000	285 000	98.6	574 000	1.6	583 000
				SGOC	308 000	(8 000)	(2.6)	300 000	1.3	304 000
				SGCP	-	160 000	-	160 000	1.3	162 000
				DDG-SG	81 000	(10 000)	(12.3)	71 000	2.8	73 000
L.1.08	Other Verification Activities	L.1.08	Cont.	SGOA	50 000	(10 000)	(20.0)	40 000	-	40 000
				SGOB	41 000	148 000	361.0	189 000	1.1	191 000
				SG	56 122 000	(551 000)	(1.0)	55 571 000	1.2	56 264 000
				NAAL	4 473 000	-	-	4 473 000	1.7	4 548 000
	Sub-total L.1.				60 595 000	(551 000)	(0.9)	60 044 000	1.3	60 812 000

PROGRAMME L: SAFEGUARDS
Summary of Regular Budget Estimates by Project
Table 43 (Contd.)

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
L.2.	Development and Support									
L.2.01	Instrumentation Development and Field Support	L.2.01	Cont.	SGTS	2 579 000	(27 000)	(1.0)	2 552 000	1.3	2 584 000
L.2.02	Computer Application Support	L.2.02	Cont.	SGIT	2 565 000	126 000	4.9	2 691 000	1.6	2 734 000
L.2.03	Computer Systems Support	L.2.03	Cont.	SGIT	5 557 000	418 000	7.5	5 975 000	1.9	6 087 000
L.2.04	Systems Studies and Approaches	L.2.04	Cont.	SGCP	1 729 000	(159 000)	(9.2)	1 570 000	1.5	1 593 000
L.2.05	Standardization	L.2.05	Cont.	SGCP	1 248 000	229 000	18.3	1 477 000	1.5	1 499 000
L.2.06	Statistical Analysis	L.2.06	Cont.	SGCP	2 164 000	78 000	3.6	2 242 000	1.3	2 273 000
L.2.07	Safeguards Training	L.2.07	Cont.	SGTS	1 687 000	(368 000)	(21.8)	1 319 000	1.3	1 336 000
L.2.08	Support Programme Administration	L.2.08	Cont.	SGTS	296 000	9 000	3.0	305 000	1.3	309 000
	Sub-total L.2				17 825 000	306 000	1.7	18 131 000	1.6	18 415 000
L.3.	Management									
L.3.01	Planning, Direction, Co-ordination and Control	L.3.01	Cont.	DDG-SG SGSPR	311 000 67 000	129 000 (1 000)	41.5 (1.5)	440 000 66 000	0.5 -	442 000 66 000
L.3.02	Programme and Resources	L.3.02	Cont.	SGSPR	938 000	(16 000)	(1.7)	922 000	1.3	934 000
L.3.03	Effectiveness Evaluation	L.3.03	Cont.	SGSEE	1 071 000	133 000	12.4	1 204 000	1.4	1 221 000
	Sub-total L.3.				2 387 000	245 000	10.3	2 632 000	1.2	2 663 000
Programme L - Safeguards					80 807 000	-	-	80 807 000	1.3	81 890 000

PROGRAMME L: SAFEGUARDS
List of Projects and Estimated Total Resources for 2001
Table 44

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme
L.1.	Operations							
L.1.01	Inspection							
	Operations A	SGOA	70.3	27.2	15 406 000	930 000	-	-
	Operations B	SGOB	51.1	25.4	10 316 000	2 669 000	1 659 000	-
	Operations C	SGOC	66.7	21.2	12 876 000	797 000	1 000 000	-
L.1.02	Negotiation and Liaison							
	Operations A	SGOA	4.8	2.5	1 204 000	-	-	-
	Operations B	SGOB	5.6	1.8	1 240 000	-	-	-
	Operations C	SGOC	8.3	1.6	1 636 000	-	-	-
L.1.03	Information Processing	SGIT	6.1	21.4	2 872 000	630 000	172 000	-
L.1.04	Equipment Management	SGTS	11.1	29.3	6 270 000	5 919 000	565 000	-
		NAAL	-	3.8	436 000	-	-	-
L.1.05	Sample Logistics and Analysis	SGTS	1.0	2.4	1 856 000	910 000	-	-
		NAAL	7.3	29.7	3 904 000	-	-	-
L.1.06	Development of a Safeguards System	SGCP	0.8	-	96 000	-	-	-
	for a Large Reprocessing Plant in	SGTS	0.4	-	43 000	-	-	-
	Japan (JNFL)	NAAL	1.2	0.8	208 000	-	-	-
		SGSEE	0.1	-	11 000	-	-	-
		SGIT	0.1	-	13 000	-	-	-
		SGOA	4.8	-	793 000	-	384 000	-
L.1.07	Facility and State Information	SGOA	1.9	0.6	279 000	-	-	-
	Evaluation	SGOB	4.6	1.1	583 000	-	-	-
		SGOC	1.6	2.0	304 000	-	-	-
		SGCP	1.2	-	162 000	-	-	-
		DDG-SG	-	-	73 000	-	142 000	-
L.1.08	Other Verification Activities	SGOA	0.3	-	40 000	-	-	-
		SGOB	1.3	0.5	191 000	-	158 000	-
		SG	242.1	137.0	56 264 000	11 855 000	4 080 000	-
		NAAL	8.5	34.3	4 548 000	-	-	-
	Sub-total L.1.		250.6	171.3	60 812 000	11 855 000	4 080 000	-

PROGRAMME L: SAFEGUARDS
List of Projects and Estimated Total Resources for 2001
Table 44 (Contd.)

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme
L.2.	Development and Support							
L.2.01	Instrumentation Development and Field Support	SGTS	12.6	8.4	2 584 000	178 000	2 206 000	-
L.2.02	Computer Application Support	SGIT	15.7	12.0	2 734 000	775 000	-	-
L.2.03	Computer Systems Support	SGIT	10.8	7.7	6 087 000	711 000	-	-
L.2.04	Systems Studies and Approaches	SGCP	9.4	3.3	1 593 000	-	119 000	-
L.2.05	Standardization	SGCP	7.5	7.3	1 499 000	-	119 000	-
L.2.06	Statistical Analysis	SGCP	14.0	8.4	2 273 000	-	119 000	-
L.2.07	Safeguards Training	SGTS	5.9	4.9	1 336 000	584 000	232 000	-
L.2.08	Support Programme Administration	SGTS	1.1	2.0	309 000	108 000	-	-
	Sub-total L.2		77.0	54.0	18 415 000	2 356 000	2 795 000	-
L.3.	Management							
L.3.01	Planning, Direction, Co-ordination and Control	DDG-SG	1.0	0.3	442 000	690 000	-	-
		SGSPR	0.5	-	66 000	-	-	-
L.3.02	Programme and Resources	SGSPR	3.5	5.0	934 000	-	-	-
L.3.03	Effectiveness Evaluation	SGSEE	6.9	5.0	1 221 000	-	-	-
	Sub-total L.3.		11.9	10.3	2 663 000	690 000	-	-
Programme L - Safeguards		SG	331.0	201.3	77 342 000	14 901 000	6 875 000	-
		NAAL	8.5	34.3	4 548 000	-	-	-
		Lapse	12.7	4.3				
			352.2	239.9	81 890 000	14 901 000	6 875 000	-

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Installations Subject to Safeguards or Containing Safeguarded Material in Non-Nuclear-Weapon States

1999 to 2003

Table 45

Type of Installation	AGREEMENTS									
	Comprehensive					INFCIRC/66 Type				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
Power reactors	221	222	224	226	229	14	14	14	14	15
Research reactors and critical assemblies	160	162	164	164	165	8	8	8	8	8
Conversion plants	12	12	12	12	12	1	1	1	1	1
Fuel fabrication plants	41	41	41	41	41	4	4	4	4	4
Reprocessing plants	5	6	6	6	6	1	1	1	1	1
Enrichment plants	11	11	11	11	11	0	0	0	0	0
Separate storage facilities	59	62	63	63	64	4	4	4	4	4
Other facilities (> 1 ekg)	94	94	94	94	94	1	1	1	2	2
Other locations (< 1 ekg)	411	411	411	411	411	31	31	31	31	31
Non-nuclear installations	0	0	0	0	0	1	1	1	1	1
Total	1 014	1 021	1 026	1 028	1 033	65	65	65	66	67

Amounts of Nuclear Material under Agency Safeguards in Non-Nuclear-Weapon States

Status as of 31 December 1999 and Forecast for 2001 and 2006

Table 46

Amounts in tonnes

MATERIAL	AGREEMENTS					
	Comprehensive			INFCIRC/66 Type		
	1999	2001	2006	1999	2001	2006
Plutonium	531	595 – 625	775 – 850	26.8	29.4 – 31	36 – 40
Uranium enriched to 20% or more	11.1	9.7 – 10.7	9.2 – 11.1	0.1	0.1 – 0.11	0.1 – 0.12
Uranium enriched to less than 20%	42 220	44 200 – 46 400	50 500 – 55 700	2 707	2 800 – 3 000	3 150 – 3 500
Source material	78 418	83 200 – 87 400	94 300 – 104 300	1 568	1 700 – 1 780	2 000 – 2 200

Subprogramme L.1. Operations

	Regular budget	Extrabudgetary resources	Unfunded activities	Total
L.1.01.	38 161 000	2 659 000	4 396 000	45 216 000
L.1.02.	4 030 000	-	-	4 030 000
L.1.03.	2 827 000	172 000	630 000	3 629 000
L.1.04.	6 596 000	565 000	5 919 000	13 080 000
L.1.05.	5 672 000	-	910 000	6 582 000
L.1.06.	1 149 000	384 000	-	1 533 000
L.1.07.	1 380 000	142 000	-	1 522 000
L.1.08.	229 000	158 000	-	387 000
Total L.1.	60 044 000	4 080 000	11 855 000	75 979 000

L.1.01. Inspection

Rationale — the Agency is obligated under the provisions of safeguards agreement to carry out design information verification activities and to verify nuclear materials subject to those agreements. In addition, for safeguards agreements with States based on INFCIRC/66/Rev.2, the Agency is obligated to verify other materials, facilities and specified equipment.

Objective — to detect, through independent on-site verification activities in the context of inspections and visits, diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or other nuclear explosive devices or for purposes unknown, and to deter such diversion by the risk of early detection, through acquiring, processing and evaluating information and conducting complementary access as necessary to detect the presence of any undeclared materials and activities.

Performance indicators

- level of assurance which can be given on nuclear material whereabouts;
- percentage of goal attainment facility/state wise.

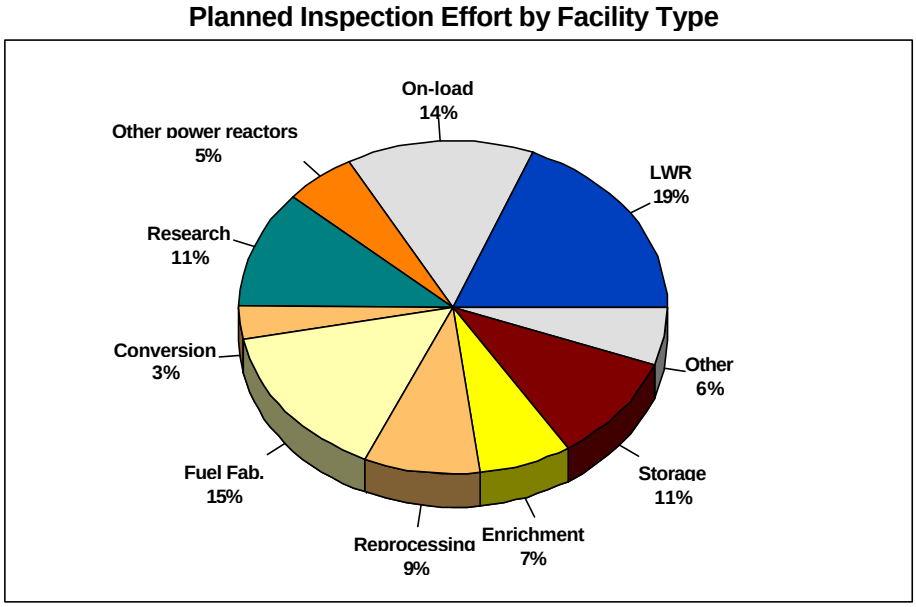
Trends

Total resource requirements are $45.2 million, including regular budget funds of $38.2 million, extrabudgetary funds of $2.7 million, and unfunded activities of $4.4 million. The regular budget covers the cost of 183.6 inspector-years and 71.4 support staff-years ($24.9 million), $6.8 million for staff travel, $3.6 million for equipment and $2.8 million for other direct costs and shared costs. Extrabudgetary funding includes 5.6 staff-years ($505 000), $304 000 in staff travel, $600 000 for equipment, and approximately $1.3 million for other direct costs. Unfunded regular programme activities include 10 inspector-years ($0.9 million), $260 000 for staff travel and $3.2 million for equipment and supplies.

The reduction from the 2000 levels of $1.1 million in the regular budget of L.1.01 (Inspections) is due to the fact that inspector-years previously utilized in L.1.01 are now involved in other projects of Major Programme 4, such as L.1.06 (JNFL), and L.1.07 (Facility and State Information Evaluation). In addition, the budget for

2000 assumed full staffing, without taking into account the lapse and lag which occur due to retirements, resignations and time delays normal to an international recruitment process.

The main priority of this project is to continue to perform inspections to gather the information necessary to draw safeguards conclusions while integrating the measures of the strengthened safeguards system. Traditional nuclear material accountancy remains a fundamental element of the system, and inspections will continue to gather information and verify compliance with safeguards agreements. The 2001 programme includes projections to visit the facilities shown in the graph below.



Strengthened Safeguards System

Under strengthened safeguards measures within present legal authority, inspectors will continue collecting environmental samples, using advanced technologies such as digital surveillance systems with remote monitoring capabilities, verifying the information of the design of facilities in conjunction with their routine inspections, and testing and developing procedures and implementing short notice inspections. In addition, inspectors will continue to enhance their technical skills through training courses on observational skills, on the nuclear fuel cycle and on proliferation indicators. Experience thus far has shown that any savings which can be achieved through some of these measures, such as short notice inspections and the use of remote transmission, are being offset by additional tasks, such as the taking of environmental samples, and the analysis of the information submitted by States, gathered during inspections, and obtained from internal databases and open sources.

Integrated Safeguards

An internal working group with the advice of experts is being convened from September 1999 to September 2000. The group will review the present criteria in order to integrate the strengthening measures and to identify new criteria against which safeguards conclusions are drawn. The result of integrated safeguards will be that the Agency will be able to provide credible assurance that a State has declared all its nuclear material and that there is no undeclared nuclear material or activities. Member States expect the Agency to do this on a cost-neutral basis, but the financial impact of the strengthened safeguards system cannot yet be precisely predicted or measured. For instance, it should be noted that the Agency at present incurs no cost in States with no nuclear activities. This may no longer be the case when States having a Small Quantity Protocol in the safeguards agreement conclude an Additional Protocol.

The continuing implementation of the new measures is having an impact on the nature of the work of the inspectors and other staff. The number of visits and the time spent in the field may decline as a result of the higher overall reliance on State information and the use of new technology, but the effort for analysis and evaluation at headquarters will increase. In order to more accurately capture this changing level of effort, the Agency intends to introduce in its 2002–2003 projections a new productivity measure called person-days of verification (PDV), to be used as a management tool to forecast staff resources, evaluate distribution of work, and report on the volume of effort. PDVs will complement person-days of inspection (PDIs), which are stipulated in the facility attachments and measure inspection work carried out in a facility. PDVs are intended to account for the overall time, whether in the field or at headquarters, which will be necessary to carry out verification activities.

Democratic People's Republic of Korea (DPRK)

At the request of Member States, inspection work will continue in the DPRK, with the continuous presence of two inspectors, compared to three in 1998. According to the Agreed Framework signed by the USA and the DPRK, full compliance with the safeguards agreement has to be reached before the delivery of key nuclear components is expected. A total of $1.4 million are included in the regular budget for inspections in the DPRK.

Kazakhstan

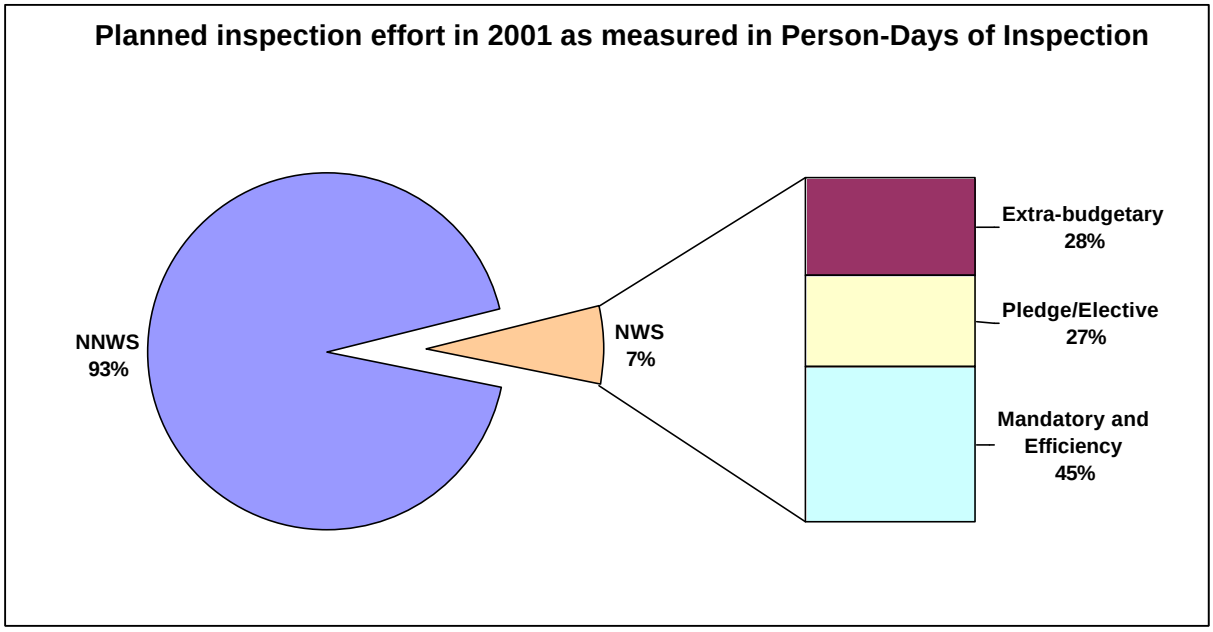
Since 1998, the Agency has been engaged in verifying the transfer of fuel to long term storage at the BN-350 fast breeder reactor in Aktau, Kazakhstan. The major part of the Phase I measurement and packaging of spent fuel cans will be completed in 2000 and is partly financed by the USA. Phase II of the project, which is the transfer of the canned fuel to a dry storage location in Kazakhstan, will require approximately the equivalent of 300 PDIs of inspection effort in regular budget funding, not included under current provisions, and a sum of $1 million for non-inspection activities, including support staff costs, travel and equipment which the USA has been requested to support. Originally Phase II was planned to start in 2001; however, at present the Agency does not have confirmation of the starting date.

India

A sum of $1.54 million has been listed in the unfunded activities of L.1.01 in anticipation of a reprocessing campaign in India for the nuclear material under safeguards. There are also indications that a MOX fuel fabrication facility, presently not subject to safeguards, could be placed under safeguards. Should these events materialize, ten inspector-years, related travel and necessary equipment would have to be financed. The Agency does not currently foresee finding these funds within the zero real growth budget, and may need to request supplementary funding from Member States if India should confirm its intention to reprocess safeguarded fuel.

Nuclear Weapon States

Safeguards activities in the five nuclear weapon States continue in accordance with the request of Member States, despite the discretionary nature of some of these activities. Efforts have been made to rationalize the inspections and prioritize activities which provide a direct benefit to the Agency as intended under the voluntary offer agreements.



— In France the inspection effort is legally required under INFCIRC/290 and has estimated direct costs of $300 000. In addition, shipments of MOX fuel will be verified at the point of shipment as an efficiency and effectiveness measure.

— In China, it is envisaged that safeguards will be carried out, as at present, at two facilities, one of which is an enrichment plant. It is also anticipated that the Agency may be requested to place a third facility under safeguards in 2001. These activities are all of a pledge nature and have an estimated direct cost of approximately $600 000 in the regular budget. In addition, the cost of equipment that may permit goal attainment is estimated to be approximately $180 000. The cost of this equipment is, at present, unfunded.

— In the Russian Federation, preparatory work, of an elective nature, to verify the conversion of plutonium from dismantled nuclear weapons to MOX fuel is expected to cost approximately $55 000. The cost of these activities is, at present, unfunded.

— In the United Kingdom, the Agency has a legal obligation to verify the fissile material returned to the UK under INFCIRC/175 and to carry out inspections deriving from the Hexapartite Agreement at an estimated cost of $1 038 000 and elective inspections under the voluntary offer agreement (INFCIRC/263) at an estimated cost of approximately $312 000. In addition, shipments of MOX fuel will be verified at the point of shipment as an efficiency and effectiveness measure.

— In the USA, inspections are carried out under INFCIRC/288 at an estimated cost of approximately $1 million. Additional activities are required to verify the stabilization of excess plutonium currently under safeguards ($250 000) and the down blending of excess high enriched uranium ($400 000). The cost of all of these activities is reimbursed by the USA.

The total funds needed to carry out inspections in nuclear weapon States is $4.1 million, of which approximately $2.2 million is within the regular budget, $235 000 are unfunded and $1.7 million are expected from the USA for the activities carried out in that country.

Neptunium and Americium

The measures approved by the Board of Governors in 1999 in relation to neptunium and americium will be implemented at a small number of reprocessing plants, MOX facilities and R&D laboratories. Few additional resources to implement these measures are expected as they will be incorporated within the normally scheduled activities to the extent possible.

L.1.02. Negotiation and Liaison

Rationale — negotiations with State authorities and facility operators, and subsequent liaison meetings, are essential to create and maintain effective and efficient arrangements for all design information verification activities and inspections.

Objective — to complete the necessary legal and administrative arrangements for the effective and efficient implementation of safeguards.

Performance indicators

- timely completion of arrangements that allow inspection goals to be met;
- number of legal arrangements and agreements completed, including protocols additional to safeguards agreements;
- savings in inspection resources.

Trends

The project includes negotiation of new and modified subsidiary arrangements, in particular those associated with Additional Protocols, and liaison meetings with national authorities and facility operators. Negotiation and liaison meetings are combined with inspections or take place in Vienna when feasible. The resources assigned to this project have been decreased from $4.5 million in 2000 to $4.0 million in 2001, reflecting reductions in the staff assigned to this project ($204 000), in travel ($157 000) and in translation ($90 000).

L.1.03. Information Processing

Rationale — nuclear verification requires reliable, useful and timely information services for the application of safeguards and the evaluation of States' nuclear activities. Member States expect reliable, useful and timely information services and seek advice, training and information on safeguards activities.

Objective — to make available to Member States and the Secretariat a reliable, useful and up-to-date database composed of information obtained from Member States, inspections and open sources in order to apply safeguards and evaluate a State's nuclear activities; to provide reliable and timely related services including information, reports, training and advice.

Performance indicators

- number, accuracy and timeliness of reports and services to States and to the Secretariat.

Trends

This project manages and operates the safeguards database and the open source information system and supports the analysis of information provided by States according to the Additional Protocol. The project has increased from a level of $2 603 000 to $2 827 000 in the regular budget to reflect the increased role of information handling under strengthened safeguards.

A new limited capability on the use of commercial satellite imagery to complement information received from Member States and open sources has been planned, but only 15.9% of the resources needed are included in the regular budget. The total requirement for this capability amounts to $799 000 and is composed of $127 000 in the regular budget mostly for staff, $550 000 listed under URPAs for equipment, supplies and contracts, and $122 000 from extrabudgetary resources for one cost free expert. The Agency is carrying out field trials under MSSPs, on the potential use of commercial satellite imagery in safeguards. Should this technology prove successful and be adopted as one of the tools of verification, all the costs associated with these activities would have to be placed within the regular budget in future years.

Another objective of this project has been to organize every second year a seminar in nuclear material reporting, accounting and related matters. In the light of the financial constraints and the other priorities of this project in 2001, the seminar, which would have cost $90 000 has been cancelled. The issues addressed in this seminar will be included in the agenda of other safeguards seminars to the extent possible.

L.1.04. Equipment Management

Rationale — inspectors require safeguards equipment to assist them in meeting inspection goals.

Objective — to provide, install, maintain and support the safeguards equipment needed for verifying nuclear material; to monitor the performance of safeguards equipment; to provide procurement and logistics support to the Department; to manage the Department's equipment inventory; to co-ordinate the use of the Equipment Management Information System.

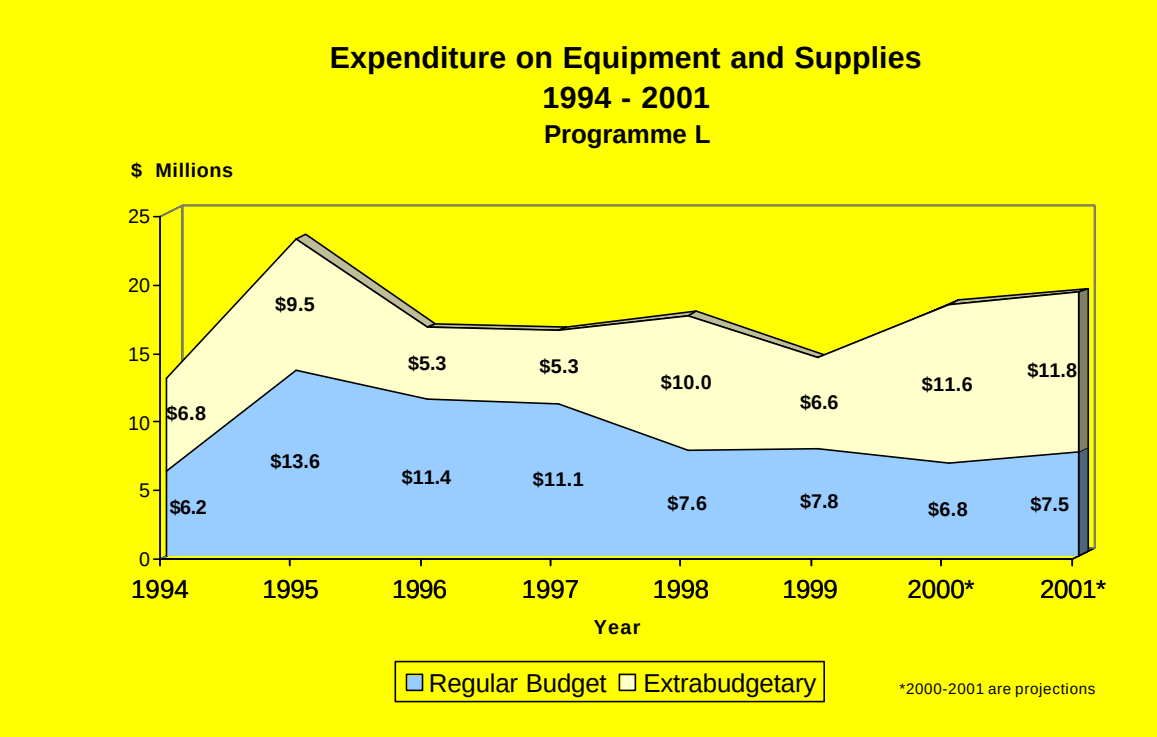
Performance indicators

- availability and reliability of safeguards equipment;
- timely procurement, installation and servicing of equipment;
- accountability of the Department's equipment assets.

Trends

The need for adequate safeguards equipment continues to be of primary importance for the Agency to be able to monitor, communicate, control, measure and report accurately and efficiently. Resources under this project include the cost of equipment used by all three Divisions of Operations, known as pool equipment, as distinct from equipment which at the time of purchase is designated to be used at a specific facility.

Co-ordinating the equipment needs of Programme L is the Equipment Co-ordination Committee (ECC), a body which selects, prioritizes and approves equipment for inspection use. For 2001, the ECC reviewed a list of equipment and supplies needs totalling $26 million and established a prioritization procedure by which only items indispensable for carrying out prime verification activities were included in the regular budget ($7.5 million). High priority items that could be financed with extrabudgetary contributions and all medium priority items are listed as unfunded ($11.8 million). Low priority items were omitted from both lists ($6.8 million).



The equipment for upgrading obsolete surveillance systems with digital technology, and equipment to provide remote monitoring capabilities will continue to be purchased and installed during 2001. By the end of 2000, 170 digital and remote monitoring capable systems will have been installed at facilities in more than 10 States. However, implementation of these plans remains heavily dependent on the progress of negotiations with State Systems of Accounting and Control (SSACs) and facility operators to agree on scheduling and costs.

This project currently lacks sufficient staffing and resources needed to provide full support for unattended radiation monitoring systems and for remote monitoring systems. The estimate of $297 000 for 5 additional staff (1 Professional and 4 General Service) remains unfunded and will slow down the ability to install and support new generation systems.

The list of equipment and supplies shown below includes equipment for the entire Safeguards Programme L.

	Regular budget equipment and supplies for Programme L	**Total equipment and supplies for Programme L (all sources)**
Gamma ray spectral systems	262 000	1 429 000
Neutron measurement systems	238 000	1 183 000
Spent fuel measurement systems	155 000	518 000
Other measurement systems	209 000	556 000
Optical surveillance systems	780 000	4 301 000
Electronic seals and verifiers	12 000	379 000
Monitoring systems	2 063 000	3 771 000
Laboratory equipment (incl. SAL)	530 000	1 340 000
Computer and communications	918 000	2 502 000
Transportation	30 000	65 000
Equipment for BN-350	-	400 000
Equipment for safeguards in USA	-	200 000
Safeguards supplies	2 125 000	2 438 000
Desktop 2000 project	180 000	180 000
Total	7 502 000	19 262 000

Gamma ray spectral system and neutron measurement systems: These systems are used to measure whether a fraction of the declared amount of nuclear material is missing. The 2001 regular budget includes funds for 15 gamma spectrometers required for implementation of Additional Protocol activities in the field, 2 prototype radiation detectors with security features, 1 underwater coincidence counter for MOX receipt and inventory verification at LWRs with MOX, and 1 high level neutron coincidence counter. Unfunded needs include 4 gamma spectrometers, the replacement of a GRAND in unattended radiation monitoring (URM) system, and a multiplicity counter for training of inspectors.

Spent fuel measurement systems: The regular budget funds include 10 spent fuel attribute testers. The replacement of 11 Cerenkov underwater viewing devices remains unfunded.

Other measurement systems: The regular budget includes in this category one load cell reader, equipment for contamination monitoring and 5 load cell based weighing systems. The equipment and installation for a reprocessing facility in India is listed as unfunded.

Optical surveillance systems: The regular budget includes funds for installation of digital surveillance equipment. The cost of approximately 75 cameras is listed under unfunded regular programme activities.

Electronic seals and verifiers: Regular budget funds for 12 new electronic seals have been included. The funds for 2 verifiers which store digital images is unfunded.

Monitoring systems: This category includes the unattended radiation monitoring (URM) systems and remote monitoring systems, as well as the cost of their installation. Facilities have been selected and a prioritization has been made, so that only the most essential facilities are included under the regular budget. The cost of equipment to fulfil goal attainment at an enrichment plant in China and at various facilities in Canada remains unfunded.

Laboratory equipment: Included in the regular budget is the cost of maintenance and spare parts for the seals and NDA laboratory as well as equipment for the Seibersdorf Safeguards Analytical Laboratory. The unfunded equipment includes replacement of a robot, new furnishings and equipment necessary to process and measure environmental samples.

Computers and communications equipment: The inventory includes computers for office use and computers which are associated with instrumentation at facilities. The policy is to replace computers after four years of service. Funds for this purpose are included in the regular budget, as are funds for server upgrades and disk upgrades, remote monitoring hardware and firewalls. The unfunded needs include the hardware and software for satellite imagery, SQL server backups and upgrades, as well as software used for URM, short notice inspections and data evaluation. Furthermore, the installation of the integrated digital network for remote monitoring in Kazakhstan remains unfunded.

Transportation: Regular budget funds are provided for the maintenance of radioactive material shipping containers. The replacement of a vehicle in Japan and one in Vienna remain unfunded.

L.1.05. Sample Logistics and Analysis

Rationale — chemical analysis of nuclear material inspection samples is necessary for bias defect testing of non-diversion of nuclear and source materials. Analysis of environmental samples is an important measure to detect nuclear signatures which might reveal undeclared activities. Samples collected at facilities must be transported to the Safeguards Analytical Laboratory (SAL) by the fastest means and in full compliance with relevant national and international regulations. The Agency also employs the Network of Analytical Laboratories (NWAL) for analysis of nuclear material and environmental samples to ensure highest quality of analyses.

Objective — to provide inspectors with analytical services and technical support required to verify nuclear and other materials under Agency safeguards and to implement environmental sampling to strengthen the safeguards system.

Performance indicators

- number of samples analysed;
- analytical performance meeting international target values and safeguards timeliness goals.

Trends

This project includes the management of the logistics of destructive analysis and the operation of the clean laboratory at Seibersdorf for the analysis of nuclear and other materials, including environmental samples. The volume of analyses to be carried out is expected to remain in the same order as in the 1999–2000 period. Up to 1500 samples of nuclear and source materials are expected to be analysed through destructive analysis, approximately 300 in the NWAL and 1200 in SAL. In addition, up to 1000 environmental samples will be analysed. All samples are screened at the clean laboratory of SAL. SAL analyses about 10% of these samples and the rest are analysed by the NWAL.

A consultants meeting on environmental sampling and analysis for safeguards, held annually in December with representatives from NWAL, reviews the experience in collecting, distributing and analysing environmental samples, and makes recommendations related to increasing the effectiveness of the NWAL. Specific measures on quality control, improved screening methods, particle morphology and analytical techniques are now being implemented. As part of the improvement in quality control, SAL will be ISO-9002-1994 certified by March 2000.

L.1.06. Development of a Safeguards System for a Large Reprocessing Plant in Japan (JNFL)

Rationale — for the implementation of safeguards at the Japan Nuclear Fuel Limited (JNFL) commercial large scale light water reactor spent fuel reprocessing plant at Rokkasho Mura, it is essential that the Agency be involved in all preparatory stages, including the design, construction, installation of equipment and commissioning.

Objective — to develop and implement, in consultation with the Government of Japan and with the assistance of the Japanese and other support programmes a safeguards approach; and to co-ordinate the design, provision, installation, testing and acceptance of the required equipment and facilities for the implementation of safeguards at the JNFL reprocessing plant.

Performance indicators

- completion of an effective safeguards approach for the reprocessing plant;
- the timely examination and verification of the design information.

Trends

The progress and completion of this project depends on the commercial operation of the plant, originally planned for 2003. Construction is now under way. On the basis of the latest information, commercial operation has been postponed to 2005, and operational testing is presently planned for 2003–2004. It is expected that in 2005 the implementation of safeguards at this facility will be carried out under Project L.1.01.

The project has increased by $483 000 from the 2000 level to $1.1 million in the regular budget. This reflects the time of four staff members who had previously been assigned to L.1.01 and the associated travel costs. This increase is required to put into place, during the construction phase, a safeguards approach, which will avoid a much larger inspection effort in the future.

Extensive discussions have been carried out with the Japanese Government and facility operators regarding the development of safeguards systems and incorporation of safeguards measures into the design of the plant, including the on-site analytical laboratory jointly used with the Japanese authorities. In this respect, Japan has agreed to share the cost of the safeguards equipment required for this facility. The modalities for sharing the

equipment costs between the Japanese Government, JNFL and the Agency have not yet been agreed, but could require Agency funding for safeguards equipment of $10 million by 2005.

L.1.07. Facility and State Information Evaluation

Rationale — the Agency is obligated under the provisions of safeguards agreements to evaluate States' reports and declarations on nuclear material and nuclear activities.

Objective — to analyse and evaluate the information provided by States, obtained through inspections or visits, and obtained from other sources, in order to have a strengthened and cost effective safeguards system capable of timely detection of the diversion of declared material as well as a credible assurance on the absence of undeclared nuclear material and activities.

Performance indicators

- availability on a timely basis of all data required for each evaluation;
- resolution of all anomalies identified on a timely basis;
- the relevant State file established and maintained;
- the evaluation and subsequent review performed according to plan.

Trends

A key element of strengthened safeguards is to be able to draw conclusions on the correctness and completeness of State declarations on the State as a whole. A State evaluation conducted by the Agency is at the core of the State-level approach. Supporting the conduct of State evaluations are: the development of computerized tools for the collection, storage and processing of information received from States and from other sources; procedures for information processing; and guidelines for information evaluation. Substantial effort is being expended to evaluate all information at State level, and produce and update the State evaluation reports which are drawn up by the country officers. These evaluations are reviewed by the Information Review Committee (IRC), and recommendations for follow-up activities are made.

This additional major effort is being carried out using existing staff resources redeployed from L.1.01 (6.2 person-years) and L.2.04 (1.1 person-years). An estimated 13.5 staff-years in the regular budget (4.7 more than in 2000), and one cost-free expert under extrabudgetary funding are expected to be involved in this effort during 2001. The project amounts to $1.5 million, an overall increase of $620 000: $478 000 from the adjusted regular budget and $142 000 from extrabudgetary contributions.

L.1.08. Other Verification Activities

Rationale — a new type of verification agreement may be adopted arising from the Trilateral Initiative and this agreement may obligate the Agency to carry out specified verification activities on weapon origin fissile materials in nuclear weapon States. This initiative, as well as other non-proliferation or counter-proliferation schemes may solicit Agency input.

Objective — to contribute to the establishment of a new verification regime relating to the storage, processing and peaceful use of weapon origin and other fissile material in States possessing such materials, the development of verification concepts and criteria, the development and testing of appropriate verification systems, the development of verification approaches for relevant facilities and the implementation of inspections as new agreements enter into force.

Performance indicators

- completion and approval of a model verification agreement;

- agreement on the technical verification measures to be employed;
- completion of agreements with specific States and entry into force of those agreements.

Trends

This project is concentrated on the Joint Initiative undertaken by the Russian Federation, the USA and the Agency to establish a verification system for weapon origin fissile material and other fissile material declared by the States to be in excess of their respective defence purposes. The verification arrangements foreseen include provisions for classified forms of fissile materials, and provisions leading to the disposition of such materials, resulting in forms no longer suitable for use in nuclear weapons. The activities under way are intended to lead to approval by the Board of Governors of a model verification agreement by 2000 and for bilateral agreements between the Agency and each State by 2001. Efforts are under way to develop prototype verification systems for classified forms of plutonium and inventory monitoring systems for large storage facilities.

In addition to the staff included in the regular budget, 1.4 Professional and 0.5 General Service staff ($229 000), the USA is providing funds under its excess material extrabudgetary contribution for one staff member to assist in the transition from the voluntary offer agreement inspection of excess material to a new verification regime ($119 000) and for one technical and legal meeting ($39 000).

Subprogramme L.2. Development and Support

	Regular budget	Extrabudgetary resources	Unfunded activities	Total
L.2.01.	2 552 000	2 206 000	178 000	4 936 000
L.2.02.	2 691 000	-	775 000	3 466 000
L.2.03.	5 975 000	-	711 000	6 686 000
L.2.04.	1 570 000	119 000	-	1 689 000
L.2.05.	1 477 000	119 000	-	1 596 000
L.2.06.	2 242 000	119 000	-	2 361 000
L.2.07.	1 319 000	232 000	584 000	2 135 000
L.2.08.	305 000	-	108 000	413 000
Total L.2.	18 131 000	2 795 000	2 356 000	23 282 000

L.2.01. Instrumentation Development and Field Support

Rationale — in order to implement safeguards, the Agency carries out on-site inspections, including measurement and containment and surveillance (C/S) activities in nuclear facilities in approximately 70 countries. The trend to maximize efficiency and increase the effectiveness of safeguards by using appropriate and up-to-date instrumentation is expected to grow in the future.

Objective — to manage the development and testing of instrumentation for inspection requirements; produce and maintain hardware and software configuration control, instrumentation procedure and equipment documentation; provide field support for safeguards instrumentation applications.

Performance indicators

- number of new systems recommended for development or upgrading which reach the authorization stage;
- development time and cost within agreed forecast;
- unit purchase cost and maintenance cost within agreed forecast;

- improved reliability of new equipment;
- positive inspector feedback.

Trends

This project represents the main technical R&D unit of Major Programme 4. It defines, co-ordinates and manages the development and engineering of instrumentation for safeguards applications and is the focal point for assistance of Member States Support Programmes (MSSPs) in the development of new technologies. It is anticipated that the development, implementation and performance monitoring of the remote monitoring systems will remain a priority in 2001. The efficiency and effectiveness of these activities will benefit from the results of a programme performance assessment study (PPAS) on the development of safeguards equipment completed during the first quarter of 2000. The regular budget cost of L.2.01 is $2.6 million. The direct support from MSSPs amounts to $2.2 million, and is used for external contractors who develop and test new technologies. In addition to this support, one temporary Professional ($84 000) and $94 000 for new equipment testing remain unfunded.

L.2.02. Computer Application Support

Rationale — the Agency's mission to strengthen international security by verification and confirmation of compliance of States with their nuclear non-proliferation commitments requires special purpose software and hardware to receive, store, process and analyse, in an accurate, secure and timely manner, data received from Member States or gathered by safeguards staff.

Objective — to ensure that computer applications contribute to the effectiveness of Major Programme 4 activities.

Performance indicators

- number of software applications delivered which meet user requirements, are properly tested and adequately documented and conform to established standards;
- frequency of application use.

Trends

At a cost of $2.7 million in the regular budget, this project directly affects the ability of the inspectors to enter data into their computers and analyse information in the field, and the ability of the staff at headquarters to maintain an optimal software environment.

The re-engineering of the Agency's Safeguards Information System (ISIS) remains unfunded, at $600 000. In addition, the cost of one additional staff member ($85 000), $30 000 for non-staff travel and $60 000 in contracts required for the development of new application systems for on-site inspections remain unfunded.

L.2.03. Computer Systems Support

Rationale — the software and hardware utilized in fulfilling the Agency's mission must be supported by an adequate information technology (IT) infrastructure which provides services such as desktop availability of safeguards information from safeguards databases, information processing, software interfaces, a data warehouse infrastructure, access to local and wide area networks and secure telecommunication links for remote monitoring.

Objective — to provide an effective information technology infrastructure of communications services and database access for Member States, inspectors, regional offices and staff at headquarters.

Performance indicators

- reliability of internal communications and with the outside world;
- speed of access to databases;
- hours of LAN availability;
- absence of failures;
- effective security measures.

Trends

Central to this project is support to the technology infrastructure, the development of communications technology for inspectors and the security of information. The regular budget cost of this project is $6.0 million. A total of $711 000 remains unfunded. These funds would be needed for 1 Professional post ($134 000), for equipment ($507 000) and for training of staff in operating the computer and remote monitoring systems ($70 000).

L.2.04. Systems Studies and Approaches

Rationale — the approval by the Board of Governors of the Additional Protocol has provided a legal basis for the transition to an integrated, cost effective strengthened safeguards system which will integrate three objectives: (i) detection of diversion of declared nuclear material; (ii) provision of credible assurance of the absence of undeclared nuclear material and activities in the State; and (iii) optimization of safeguards implementation cost. Successful implementation of integrated safeguards requires substantial preparatory and explanatory effort both to Member States and to the Agency inspectorate regarding safeguards approaches aimed at the above objectives.

Objective — to maximize the effectiveness and efficiency of the strengthened safeguards system by optimizing the combination of all measures within the context of integrated safeguards.

Performance indicators

- smooth transition to the implementation of integrated safeguards with a growing number of States who have accepted the Additional Protocol;
- resolution of practical issues arising in the course of safeguards implementation.

Trends

This project encompasses the development of safeguards concepts, approaches, methodologies and techniques for integrated safeguards, and provides strategic planning support for the transition to integrated safeguards. The cost of this project, consisting primarily of staff resources, is $1.6 million in the regular budget, and $119 000 under extrabudgetary resources for a cost free expert.

The measures related to integrated safeguards are being developed by an internal working group with the advice of experts convened from September 1999 to September 2000. The working group mandate is to review the present criteria in order to integrate the strengthening measures and to identify new criteria against which safeguards conclusions are drawn. The result of the integrated safeguards system will enable the Agency to provide credible assurance that a State has declared all its nuclear material and that there is no undeclared nuclear material or activities.

L.2.05. Standardization

Rationale — the uniform, non-discriminatory and efficient and effective implementation of safeguards measures, particularly in the context of the strengthened safeguards system, requires performance standards regarding policies, guidelines, instructions and procedures. A quality assurance system is to be administered in accordance with these performance standards in order to improve cost efficiency and to ensure uniform programme implementation.

Objective — to ensure uniformity of procedures in the application of safeguards.

Performance indicators

- timely preparation of technical and legal performance standards**;**
- level of adherence to those standards as monitored through a coherent and comprehensive quality system.

Trends

Of highest priority under this project is the provision of quality assurance services, including the monitoring and evaluation of recording and reporting of inspection work. The regular budget cost of this project is $1.5 million. Furthermore, one cost free expert is requested under extrabudgetary resources.

A comprehensive quality management system in accordance with ISO 9000 is being designed and implemented, aimed at promoting quality culture and awareness amongst the safeguards staff.

L.2.06. Statistical Analysis

Rationale — in order for the Agency to draw conclusions from safeguards inspections, it is necessary to statistically evaluate and compare data on nuclear material declarations provided by States and results obtained during inspections.

Objective — to develop and apply statistical methods relevant to safeguards with particular emphasis on verification measurement quality, material balance evaluations and environmental sampling.

Performance indicators

- high quality and timely evaluation services and reports.

Trends

The emphasis of this project is on the evaluation work supporting traditional safeguards activities and on environmental sampling implementation. The cost of this project under the regular budget is $2.2 million, mainly for staff resources, and $119 000 under extrabudgetary resources for one cost free expert.

L.2.07. Safeguards Training

Rationale — Agency safeguards inspectors, personnel of States Systems of Accounting and Control (SSACs) and other staff must be provided with a level of training that will ensure the effective implementation of international safeguards.

Objective — to provide and maintain inspectors and SSAC personnel with the required skills and knowledge to fulfil their responsibilities under safeguards agreements in force.

Performance indicators

- relevance of courses as indicated by use of knowledge acquired through impact analysis in job performance evaluations.

Trends

For 2001 an enhanced training curriculum has been developed, emphasizing topics resulting from the implementation of the Additional Protocol. It includes proliferation indicators in the nuclear fuel cycle, environmental sampling, enhanced observation skills, State evaluations, design information review at research reactors, enhanced communication skills, information security and workshops on complementary access.

The cost of this project under the regular budget is $1.3 million. Two cost free experts ($232 000) also participate in the training activities. Owing to financial constraints, clerical support ($111 000), part of the inspectors' travel to training courses at nuclear facilities ($50 000) and a neutron multiplicity counter needed for training inspectors ($353 000) were not included in the regular budget, and this may negatively affect the ability to provide all of the necessary training. Furthermore, a seminar for Member States on the requirements of Additional Protocols at a cost of $70 000 is listed under unfunded regular programme activities, and will not take place unless resources become available.

L.2.08. Support Programme Administration

Rationale — Member States provide technical support to Agency safeguards, covering all aspects of conventional safeguards and also those activities recently proposed and introduced for strengthening the safeguards system. Each of the Member States participating in the Member State Support Programmes (MSSPs) administers its own support programme, while the administration of the overall support programme is the responsibility of the Agency.

Objective — to improve safeguards through the transfer to the Agency of Member States' technology and expertise, including the development, demonstration and provision of technology for safeguards application, analysis of safeguards issues, training of personnel, and human resources such as experts and consultants.

Performance indicators

- interest of Member States in programme;
- number and significance of tasks completed.

Trends

The total cost in the regular budget for this project is $305 000. One Professional temporary assistance post is required to review and assess Support Programme task proposals. Owing to financial constraints, this post ($108 000) remains unfunded.

Subprogramme L.3. Management

	Regular Budget	Extrabudgetary resources	Unfunded activities	Total
L.3.01	506 000	-	690 000	1 196 000
L.3.02	922 000	-	-	922 000
L.3.03	1 204 000	-	-	1 204 000
Total L.3	2 632 000	-	690 000	3 322 000

L.3.01. Planning, Direction, Co-ordination and Control

Rationale — this project is needed to manage the resources of Programme L.

Objective — to ensure that safeguards and verification responsibilities are carried out effectively and efficiently, with appropriate co-ordination within the Agency.

Performance indicators

- quality documentation and responses provided to the Board of Governors;
- degree of co-ordination between all Divisions and projects.

Trends

The L.3.01 project ($506 000) includes the immediate staff of the Deputy Director General, expenses related to SAGSI ($70 000), and the shared portion of the staff of the Director General ($115 000).

As a result of the prioritization of activities, the organization of the safeguards symposium "A New Era" under L.3.01 has been listed under URPAs. This symposium had been conducted every 4–5 years (listed under L.2.04 in previous years) and was intended to keep Member States informed on the latest developments in the safeguards area. The symposium will only take place if the necessary funds ($90 000) can be found.

Listed under the unfunded activities of this project is also the cost of the security doors to implement stronger physical access controls, as recommended in the Information Security Assessment Report produced by SAIC, an independent contractor. A status report on the implementation of recommendations was submitted to the Board in November 1998. A group of security experts from the United Kingdom Communications-Electronics Security Group, who visited the Agency in February 1999, reinforced this recommendation as a high priority. A further report was presented to the Board in June 1999. Security doors have been installed on one floor and the effectiveness of the system is being evaluated. The full implementation of this project would cost $600 000.

L.3.02. Programme and Resources

Rationale — co-ordinating efforts in the areas of personnel, finance, travel and management information are needed for Programme L.

Objective — to assist in the management of human and financial resources of Major Programme 4.

Performance indicators

- timeliness of human and financial resources and of administrative actions;
- percentage utilization of financial resources.

Trends

The cost of this project is $922 000. The project is designed to centralize and co-ordinate administrative processes such as programme analysis, productivity statistics, human resources planning, financial planning and reporting, and recording and oversight of travel. Major tasks will be to monitor the implementation of the new PDV concept and prepare for its use in the preparation of the 2002–2003 programme and budget, as well as to track and report costs of integrated safeguards measures, in order to increase programmatic transparency and fiscal accountability.

L.3.03. Effectiveness Evaluation

Rationale — it is necessary to evaluate the results of Agency inspections to reach an overall conclusion that there is no evidence of the diversion of nuclear material for the manufacture of nuclear weapons. The results must be reported to the Board of Governors in the form of the annual Safeguards Implementation Report (SIR), documented and kept on file.

Objective — to assess the effectiveness of the implemented safeguards measures and report on the results of inspections in the annual SIR.

Performance indicators

- timely provision of the SIR and other related reports with high quality;
- improvement of inspection goal attainment.

Trends

Under this project, particular emphasis is given to the improvement of the assessment of the effectiveness of the safeguards system, and the clear and transparent communication of the results to Member States in the SIR. The regular budget cost of this project is $1.2 million.

M. Security of Material

Programme Rationale

In response to requests by the General Conference and the Board of Governors, and in line with its statutory functions, the Agency provides assistance to States in their efforts to: manage nuclear material and other radioactive materials in a secure way; to prevent unlawful uses of these materials; and to detect and respond to unlawful uses should they occur. The Agency, as the competent international nuclear authority, is also requested to enhance co-operation and co-ordination with and between Member States and other international organizations within the area of security of material.

Programme Objective

To improve Member States' ability to protect nuclear and other radioactive material, through exchange of information, provision of standards and guides, training, expert assistance and equipment, in the protection of nuclear and other radioactive material from subnational, terrorist or unlawful activities that could impose a non-proliferation threat, or that could endanger health and safety; and to provide Member States with the knowledge and tools for detecting and responding to such unlawful incidents.

This programme consists of three subprogrammes

M.1. Information on Illicit Trafficking in Nuclear and Other Radioactive Material
M.2. Assistance to Member States in their Management of Nuclear Material
M.3. Protection of Other Radioactive Material

Programme Performance Indicators

- Increased awareness in Member States about the need to protect nuclear and other radioactive material from unlawful activities.
- Enhanced ability of Member States to prevent, detect and respond to domestic or international incidents of trafficking.

Key Programme Trends

Programme M is becoming increasingly important as Member State efforts to ensure adequate protection of nuclear and other radioactive materials intensify. It will continue to play a co-ordinating role for the range of activities that the Agency is organizing for this purpose as well as with bilateral activities in the area of physical protection, and the control and security of nuclear and other radioactive materials.

Key Programme Resource Trends

The total funds for Programme M in 2001 amount to $2 128 000. As the regular budget ($1 082 000) is sufficient only to cover a minimum staff to maintain the programme and the required interaction with Member States, there is continued reliance on extrabudgetary contributions ($1 046 000). There is no increase from the 2000 levels in the adjusted regular budget and an increase of $153 000, in extrabudgetary contributions.

PROGRAMME M: SECURITY OF MATERIAL

Summary of Regular Budget Estimates by Subprogramme

Table 47

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
M.1	Information on Illicit Trafficking in Nuclear and Other Radioactive Material	143 000	53 000	37.1	196 000	0.5	197 000
M.2	Assistance to Member States in their Management of Nuclear Material	637 000	(53 000)	(8.3)	584 000	1.4	592 000
M.3	Protection of Other Radioactive Material	302 000	-	-	302 000	0.7	304 000
Programme M - Security of Material		1 082 000	-	-	1 082 000	1.0	1 093 000

M.1. Information on Illicit Trafficking in Nuclear and Other Radioactive Material

Subprogramme Rationale

The Agency has a unique role as the only international organization to provide a focal point for Member States, other international organizations and the general public for the exchange of information on illicit trafficking in nuclear and other radioactive material.

Subprogramme Objective

To reduce the risk of trafficking in nuclear materials by providing a focal point for gathering and sharing information about illicit trafficking in nuclear and other radioactive material.

Subprogramme Performance Indicators

- Timely input and dissemination of information obtained from governments and collected from open sources.
- Consistency of information on reports of nuclear material in the database with accountancy reports of this material.
- Increased number of requests for periodic reports and other information on trafficking incidents and results of database analysis.

This subprogramme consists of one project

M.1.01. *Database on Illicit Trafficking in Nuclear and Other Radioactive Material* — to collect, input and analyse, in a timely manner, information obtained from governmental contact points and from open sources on cases of illicit trafficking and other unlawful uses of nuclear and other radioactive materials.

Key Subprogramme Trends

This subprogramme operates the databases, reviews, analyses and disseminates information on the subject matter. The Agency will continue to serve its unique role as a focal point for Member States, other international organizations and the general public on information related to illicit trafficking of nuclear and other radioactive material.

Key Subprogramme Resource Trends

The overall resource level of this subprogramme estimated for 2001 amounts to $244 000, of which $196 000 is being requested for the regular budget and $48 000 is from the extrabudgetary sources.

M.2. Assistance to Member States in their Management of Nuclear Material

Subprogramme Rationale

The concern among States that potential, unlawful, uses of nuclear material pose a threat against nuclear non-proliferation has initiated efforts to strengthen the regime for physical protection and control of nuclear material. The Agency has central function in these efforts by developing and maintaining the necessary standards and providing the assistance and services requested by Member States. The activities under this subprogramme will also support activities of Subprogramme M.3.

Subprogramme Objective

To contribute to efforts for improving the physical protection and control of nuclear material in Member States, through the provision of standards and guidelines, co-ordination of activities with other contributors and direct assistance such as peer review services, expert assistance, guidance, equipment, training and exchange of information; to support the provision of technical co-operation in protection and control of nuclear material.

Subprogramme Performance Indicators

- Number of requests for peer reviews, International Physical Protection Advisory Service (IPPAS) missions and other assistance from Member States.
- Use of newly acquired knowledge by participants in Agency training courses.
- Effective and efficient SSACs available in Member States, with capability of early detection of theft of nuclear material.

This subprogramme consists of two projects

M.2.01. *Physical Protection* — to maintain and improve the international regime for the protection of nuclear material including legal undertakings, standards and guides and to contribute to Member States efforts to implement the recommendations for physical protection through peer reviews, technical advice, guidance and training.

M.2.02. *Nuclear Material Control* — to provide effective support to States in their efforts to improve their State Systems of Accounting and Control (SSACs).

Key Subprogramme Trends

Subnational or criminal activities impose a threat to non-proliferation. Since the inception of the Security of Material Programme in 1997, the Agency has developed its capability to assist Member States in their efforts to protect nuclear material against these threats through IPPAS missions, training and regulatory guidance. In 2001 three IPPAS missions are planned in three States, and a conference on Security of Material is to be convened in Vienna. In addition, the Agency's technical knowledge on nuclear material control will be utilized to assist Member States in establishing and maintaining systems for nuclear material control. These systems will serve as a first level of defence against subnational or criminal threats against non-proliferation.

Key Subprogramme Resource Trends

The overall resource level of this subprogramme estimated for 2001 amounts to $1 582 000, of which $584 000 is being requested for the regular budget and $998 000 is from extrabudgetary resources.

M.3. Protection of other Radioactive Material

Subprogramme Rationale

In spite of national measures to control radioactive materials, there is a growing concern about thefrequency of theft or fraudulent possession of sources. The consequences of these activities are not restricted to the country in which they originate, but become an international concern and there is a need for international action.

Subprogramme Objective

To strengthen security of radioactive material through the application of safety standards and provision of technical co-operation to Member States.

Subprogramme Performance Indicators

- Completion of technical manuals on detection, response and training.
- Use of newly acquired knowledge by participants in Agency training courses.
- Requests by Member States for missions to assist in the implementation of the safety guide and other guidelines.

This subprogramme consists of one project

M.3.01. *Prevention, Detection of and Response to Illicit Trafficking in Radioactive Material* — to assist Member States in their efforts to present, detect and respond to illicit trafficking in radioactive materials by: developing, in consultation and, where appropriate, in collaboration with other international organizations, safety guides and support for the prevention of illicit trafficking in radioactive materials or, in the event, for appropriate detection of and response to such trafficking; providing for the application of these standards in Member States, and supporting the provision of technical co-operation in prevention, detection of an response to illicit trafficking in radioactive materials.

Key Subprogramme Trends

The focus of the subprogramme will change to the application of guidance on the detection of and response of illicit trafficking. There will be an increased emphasis on organizing regional training courses in co-operation with other international organizations, and conducting missions to Member States to assist in the implementation of the guidance. Additional effort will be given to facilitating information exchange on illicit trafficking through the reports available in the database on trafficking incidents.

Key Subprogramme Resources Trends

The overall level of this subprogramme estimated for 2001 amounts to $302 000 from regular budget resources and remains at the same level as in 2000.

PROGRAMME M: SECURITY OF MATERIAL
Summary of Regular Budget Estimates by Project
Table 48

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
M.1.	Information on Illicit Trafficking in Nuclear and Other Radioactive Material									
M.1.01	Database on Illicit Trafficking in Nuclear and Other Radioactive Material	M.1.01	Cont.	SGIT	123 000	41 000	33.3	164 000	-	164 000
				SGSM	20 000	(1 000)	(5.0)	19 000	5.3	20 000
				SGCP	-	13 000	-	13 000	-	13 000
	Sub-total M.1.				143 000	53 000	37.1	196 000	0.5	197 000
M.2.	Assistance to Member States in their Management of Nuclear Material									
M.2.01	Physical Protection	M.2.01	Cont.	SGSM	373 000	61 000	16.4	434 000	1.8	442 000
				SGTS	66 000	7 000	10.6	73 000	-	73 000
M.2.02	Nuclear Material Control	M.2.02	Cont.	SGOA	-	4 000	-	4 000	-	4 000
				SGOB	-	14 000	-	14 000	-	14 000
				SGOC	198 000	(153 000)	(77.3)	45 000	-	45 000
				SGSM	-	14 000	-	14 000	-	14 000
	Sub-total M.2.				637 000	(53 000)	(8.3)	584 000	1.4	592 000
M.3	Protection of Other Radioactive Material									
M.3.01	Prevention, Detection of and Response to Illicit Trafficking in Radioactive Material	M.3.01	Cont.	NSRW	302 000	-	-	302 000	0.7	304 000
				SGIT	123 000	41 000	33.3	164 000	-	164 000
				SGTS	66 000	7 000	10.6	73 000	-	73 000
				SGCP	-	13 000	-	13 000	-	13 000
				SGOA	-	4 000	-	4 000	-	4 000
				SGOB	-	14 000	-	14 000	-	14 000
				SGOC	198 000	(153 000)	(77.3)	45 000	-	45 000
				SGSM	393 000	74 000	18.8	467 000	1.9	476 000
				NSRW	302 000	-	-	302 000	0.7	304 000
Programme M - Security of Material					1 082 000	-	-	1 082 000	1.0	1 093 000

PROGRAMME M: SECURITY OF MATERIAL
List of Projects and Estimated Total Resources for 2001
Table 49

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
M.1.	Information on Illicit Trafficking in Nuclear and Other Radioactive Material							
M.1.01	Database on Illicit Trafficking in Nuclear and Other Radioactive Material	SGIT	0.3	0.5	164 000	-	48 000	-
		SGSM	-	-	20 000	-	-	-
		SGCP	0.1	-	13 000	-	-	-
	Sub-total M.1.		0.4	0.5	197 000	-	48 000	-
M.2.	Assistance to Member States in their Management of Nuclear Material							
M.2.01	Physical Protection	SGSM	-	-	442 000	-	874 000	609 000
		SGTS	0.4	0.4	73 000	-	-	-
M.2.02	Nuclear Material Control	SGOA	0.1	-	4 000	-	-	-
		SGOB	0.1	-	14 000	-	-	-
		SGOC	0.3	0.5	45 000	-	124 000	-
		SGSM	-	-	14 000	-	-	-
	Sub-total M.2.		0.9	0.9	592 000	-	998 000	609 000
M.3	Protection of Other Radioactive Material							
M.3.01	Prevention, Detection of and Response to Illicit Trafficking in Radioactive Material	NSRW	0.3	0.8	304 000	-	-	205 000
		NSRW	0.3	0.8	304 000	-	-	205 000
		SGCP	0.1	-	13 000	-	-	-
		SGIT	0.3	0.5	164 000	-	48 000	-
		SGTS	0.4	0.4	73 000	-	-	-
		SGOA	0.1	-	4 000	-	-	-
		SGOB	0.1	-	14 000	-	-	-
		SGOC	0.3	0.5	45 000	-	124 000	-
		SGSM	-	-	476 000	-	874 000	609 000
Programme M - Security of Material			1.6	2.2	1 093 000	-	1 046 000	814 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

U. Verification in Iraq Pursuant to UNSC Resolutions

Programme Rationale

The work under this programme is based on: United Nations Security Council Resolution (UNSCR) 661 (1990); UNSCR 687 (1991); UNSCR 699 (1991); UNSCR 707 (1991); UNSCR 715 (1991); UNSCR 986 (1995); UNSCR 1051 (1996); UNSCR 1154 (1998); and UNSCR 1284 (1999).

Programme Objective

To provide credible assurance that Iraq is complying with the provisions of UNSCR 687 (1991) and other relevant resolutions.

Programme Performance Indicators

- Ability to provide credible assurance of the absence of evidence of proscribed activities in Iraq.
- Ability to present the basis for this assurance in semi-annual reports to the UNSC and other documents.

Key Programme Trends

The Agency's activities in Iraq from 1991 to 1998 produced a technically coherent picture of Iraq's clandestine nuclear programme. The Agency is focusing most of its resources on the implementation and strengthening of the technical content of its activities under the Ongoing Monitoring and Verification (OMV) plan. It will, however, continue to exercise its right to investigate any aspect of Iraq's clandestine nuclear programme and to destroy, remove, or render harmless any prohibited items discovered through such investigations.

Key Programme Resource Trends

The resource requirements for programme U are entirely extrabudgetary and are estimated at $10 650 000. This estimate for 2001 complies with the intent of para. 9 of UNSCR 1284, which established that the Government of Iraq shall be liable for the full costs of the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) and the IAEA in relation to their work under this and other related resolutions on Iraq. It represents the best estimate of the full cost of the Agency's mandate in Iraq and is consistent with estimates provided for 1999 and 2000 in GOV/INF/1999/4 of 24 February 1999.

The current source of funds for the Iraq Action Team is that portion of the oil-for-food funds designated to cover the full costs of carrying out the tasks authorized by Section C of UNSCR 687. These resources are provided through an escrow account established from the sale of Iraqi petroleum products in accordance with UNSCR 986 and administered by UNMOVIC. In addition, Member States have provided voluntary contributions in the past years to carry out the tasks authorized by UNSCR 687.

The resource requirements for 2001 are subject to new funding arrangements to be agreed upon by the UNSC. In the future the source of funds may be the new arrangements for long term funding mentioned in para. 24 of GOV/INF/1998/22 of 16 October 1998.

This programme consists of one subprogramme

U.1. Verification in Iraq Pursuant to UNSC Resolutions

The objective and the performance indicators of this subprogramme are the same as those of the programme.

This subprogramme consists of three projects

U.1.01. *Ongoing Monitoring and Verification (OMV) Operations* — to provide the basis for the Agency's credible assurance(s) that Iraq is complying with the provisions of UNSCR 687 (1991) and other relevant UNSC resolutions.

U.1.02. *Development and Support* — to ensure the availability and reliability of instrumentation and information through: development, testing and initial deployment of instrumentation for OMV activities; field support for instrumentation, including documentation, maintenance, repair and upgrading; an effective information technology infrastructure, including a reliable, comprehensive and up to date inspection information system and information analysis system.

U.1.0.3. *Management* — to provide effective and efficient management of Programme U resources.

PROGRAMME U: VERIFICATION IN IRAQ PURSUANT TO UNSC RESOLUTIONS
List of Projects and Estimated Total Resources for 2001
Table 50

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme
U.1	Verification in Iraq Pursuant to UNSC Resolutions	DGO						
U.1.01	Ongoing Monitoring and Verification (OMV) Operations		-	-	-	-	9 577 000	-
U.1.02	Development and Support		-	-	-	-	801 000	-
U.1.03	Management		-	-	-	-	272 000	-
Programme U - Sub-total			-	-	-	-	10 650 000	-

Major Programme 5
Management of Technical Co-operation for Development

Major Programme Rationale

While funds for development programmes are becoming increasingly scarce, the Agency's technical co-operation programme continues to enjoy strong support. It is therefore incumbent upon the Agency to manage the funds it receives both efficiently and effectively, and to ensure that programmes and projects selected for financing are clearly within the Agency's mandate and have impact in recipient Member States. The clients of this major programme comprise (a) donor Member States which wish to see their funds well spent, and (b) those countries which benefit from the programme.

Good management includes rigorous upstream work to identify and prioritize the interests and needs of Member States. This not only helps ensure that the voluntary funding of the programme is supporting the highest priorities under each of the Agency's three substantive strategic goals but can also contribute to the work of prioritizing activities for the Agency as a whole.

Major Programme Objective

To strengthen the effectiveness of a technical co-operation programme that will contribute to tangible social and economic benefits to Member States.

This major programme consists of two subprogrammes

N.1. Technical Co-operation Programme
N.2. Planning, Co-ordination and Evaluation

Key Major Programme Trends

Better identification and prioritization of the needs of Member States requires more proactive efforts by the Secretariat working with central government authorities and with other donors, rather than merely at the individual institution level.

An increasing number of activities is being conceived and designed at the regional level while being implemented and having impact at the national level. At the same time, an increasing fraction of the resources used to deliver the programme (e.g. experts, training facilities, services) is sourced from within the region where the programme is being delivered. This requires better knowledge of regional capabilities and the ability on the part of the Secretariat to play the role of facilitator rather than 'doer'.

Key Major Programme Resource Trends

The rate of growth of the Technical Co-operation Fund target has slowed; the target for 2000 was identical to that of 1999. At the same time, the number of countries benefiting from the programme has considerably increased, and this trend continues. Current human resources are, therefore, becoming thinly spread across country programmes so that priority setting is ever more important.

The management focused approach introduced at the end of 1999 has had, and will continue to have, a major impact on the skills set required of certain Agency staff, with the profile shifting from technical to managerial and development specialists.

MAJOR PROGRAMME 5

MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT

Summary of total resources for 2001 by programme

Table 51

	Programme / Major Programme	Staffing P	Staffing GS	Regular Budget estimates at 2001 prices	URPA	Funds from other UN organizations	Other extra-budgetary resources	TC Programme a_/
N.	Management of Technical Co-operation for Development	55.0	84.0	13 641 000	-	-	310 000	10 477 000
	Major Programme 5	55.0	84.0	13 641 000	-	-	310 000	10 477 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

PROGRAMME N: MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT

Summary of Regular Budget Estimates by Subprogramme

Table 52

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
N.1	Technical Co-operation Programme	8 210 000	153 000	1.9	8 363 000	1.4	8 483 000
N.2	Planning, Co-ordination and Evaluation	5 140 000	(63 000)	(1.2)	5 077 000	1.6	5 158 000
Programme N - Management of Technical Co-operation for Development		13 350 000	90 000	0.7	13 440 000	1.5	13 641 000

Subprogramme Rationale

A well designed technical co-operation programme can contribute materially to the achievement of development objectives in Member States. This requires not only knowledge of the development priorities of Member States and the ways in which nuclear science can contribute, but also the ability to manage and apply resources efficiently and effectively to meet those objectives.

The Agency has expertise in a wide range of technical subjects and has projects in a large number of Member States. There is, therefore, a need for a focal point within the Agency to manage the technical co-operation programme with any given region or Member State. This will ensure that programme design takes into consideration not only what is technically feasible, but also the national priorities of governments, the capacity of counterparts and the overall balance in the use of available resources.

Subprogramme Objective

To achieve a coherent, results based programme of technical co-operation in collaboration with Member States within the limits of the available budget and in line with the approved strategy; to manage the approved programme cost effectively in a manner aimed at achieving expected results and maximum impact.

Subprogramme Performance Indicators

- Fifty percent of the value of the technical co-operation programme by 2003–2004 will be composed of projects which are clearly linked with large national programmes and enjoy tangible government commitment and/or are linked with funding from other bilateral or multilateral organizations.
- Increasing numbers of well designed projects achieving the planned expected results.

This subprogramme consists of six projects

N.1.01. *Programme for Africa* — to prepare, manage and implement the technical co-operation programme for the region with the support of the technical programmes.

N.1.02. *Programme for East Asia and Pacific* — to prepare, manage and implement the technical co-operation programme for the region with the support of the technical programmes.

N.1.03. *Programme for West Asia* — to prepare, manage and implement the technical co-operation programme for the region with the support of the technical programmes.

N.1.04. *Programme for Europe* — to prepare, manage and implement the technical co-operation programme for the region with the support of the technical programmes.

N.1.05. *Programme for Latin America* — to prepare, manage and implement the technical co-operation programme for the region with the support of the technical programmes.

N.1.06. *Interregional Programme* — to prepare, manage and implement the technical co-operation programme for interregional activities with the support of the technical programmes.

Key Subprogramme Trends

As more emphasis is put on the expected results of projects and programmes, more time will be spent on upstream activities, working with Member States in identifying opportunities and in the focused selection of programming areas and project design.

Key Subprogramme Resource Trends

The proposed resource level for the subprogramme is $8 363 000, reflecting a net increase of $153 000, or 1.9%, compared with the adjusted budget for 2000.

Further qualitative improvements in the programme (particularly through upstream work), and the addition of new recipient countries, will require an increase in human resources and modification to the human resource profile. This is particularly true given the increasing complexity of the programme and the need to work not only with traditional partners but also with central government authorities and other donors.

N.2. Planning, Co-ordination and Evaluation

Subprogramme Rationale

In order to implement the programme efficiently and effectively, information is required about the financial parameters within which to programme, the plans of other partners with which the Agency might co-operate, and lessons learned with regard to previous projects and practices which can be applied to future programming. In addition, there is a need to help identify possible future opportunities for a more proactive role with Member States. Programme implementation also requires standard procedures and efficient procurement services and information technology. In addition, the Agency has to account to Member States on the use of the funding they have provided, and to present future plans for Member States' approval.

Subprogramme Objective

To improve support to the design and delivery of the technical co-operation programme.

Subprogramme Performance Indicators

- The timely provision of comprehensive and qualitatively accurate information and technology for programming and implementation.
- A 20% increase in information to Member States.
- Readiness of major organizations to provide financial resources (either through the Agency or in parallel to Agency programming).
- Increase in percentage of projects with timely delivery of equipment.

This subprogramme consists of five projects

N.2.01. *Programme Concepts and Planning* — to develop and implement new concepts; to analyse programme trends and contribute to long term planning; to formulate overall policy as requested

by the Board of Governors; and to mobilize resources to facilitate linkages with other donors and interested parties.

N.2.02. *Programme Co-ordination and Reporting* — to compile, co-ordinate, analyse and synthesize financial and non-financial programme data and information; to provide overall management of available resources plus monitoring of resource use; to standardize operational procedures; and to compile reports to the Policy-making Organs.

N.2.03. *Programme Evaluation* — to assess the technical co-operation programme in all its phases from selection and design to implementation and delivery of outputs, outcomes and impact in the field, and from different perspectives, i.e. by country, theme, function, etc.

N.2.04. *Programme Field Procurement* — to procure the necessary equipment, supplies and technical services on time, at the lowest cost, in support of technical co-operation and co-ordinated research projects.

N.2.05. *Programme Information Technology Support* — to develop and maintain IT systems in support of the technical co-operation programme and in line with Agency standards.

Key Subprogramme Trends

As resources — particularly human resources — become scarcer, the need for streamlined procedures and information management (financial and non-financial) increases. As more attention is given to results based programming, there is a greater need for better performance indicators and monitoring of progress towards expected results.

Key Subprogramme Resource Trends

The proposed allocation for this subprogramme amounts to $5 077 000, which constitutes a decrease of $63 000, or 1.2%, compared with the adjusted budget allocation for 2000. This decrease is largely due to a reduction in the need for information technology (Y2K) related activities in this subprogramme.

PROGRAMME N: MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT

Summary of Regular Budget Estimates by Project

Table 53

2001 Project Codes		2000 Project Codes	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
N.1	Technical Co-operation Programme									
N.1.01	Programme for Africa	N.1.01	Cont.	TCPA	1 727 000	(57 000)	(3.3)	1 670 000	1.4	1 693 000
N.1.02	Programme for East Asia and Pacific	N.1.02	Cont.	TCPA	1 563 000	52 000	3.3	1 615 000	1.4	1 638 000
N.1.03	Programme for West Asia	N.1.03	Cont.	TCPB	706 000	(95 000)	(13.5)	611 000	1.5	620 000
N.1.04	Programme for Europe	N.1.04	Cont.	TCPB	1 590 000	125 000	7.9	1 715 000	1.5	1 740 000
N.1.05	Programme for Latin America	N.1.05	Cont.	TCPB	1 660 000	(33 000)	(2.0)	1 627 000	1.5	1 651 000
N.1.06	Interregional Programme	N.1.06	Cont.	TCPB	499 000	51 000	10.2	550 000	1.5	558 000
	Interregional Programme		Cont.	TCPA	465 000	110 000	23.7	575 000	1.4	583 000
	Sub-total N.1.				8 210 000	153 000	1.9	8 363 000	1.4	8 483 000
N.2	Planning, Co-ordination and Evaluation									
N.2.01	Programme Concepts and Planning	N.2.01	Cont.	TCPC	953 000	(34 000)	(3.6)	919 000	1.6	934 000
N.2.02	Programme Co-ordination and Reporting	N.2.02	Cont.	TCPC	1 944 000	(999 000)	(51.4)	945 000	1.6	960 000
N.2.03	Programme Evaluation	N.2.03	Cont.	TCPC	844 000	(46 000)	(5.5)	798 000	1.6	811 000
N.2.04	Programme Field Procurement	N.2.04	Cont.	TCPC	1 399 000	39 000	2.8	1 438 000	1.6	1 460 000
N.2.05	Programme Information Technology Support	-	Cont.	TCPC	-	977 000	-	977 000	1.6	993 000
	Sub-total N.2.				5 140 000	(63 000)	(1.2)	5 077 000	1.6	5 158 000
Programme N - Management of Technical Co-operation for Development					13 350 000	90 000	0.7	13 440 000	1.5	13 641 000

PROGRAMME N: MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT

List of Projects and Estimated Total Resources for 2001

Table 54

Project Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
N.1	Technical Co-operation Programme							
N.1.01	Programme for Africa	TCPA	8.0	12.0	1 693 000	-	85 000	2 016 000
N.1.02	Programme for East Asia and Pacific	TCPA	6.0	12.0	1 638 000	-	85 000	2 192 000
N.1.03	Programme for West Asia	TCPB	3.0	3.0	620 000	-	-	532 000
N.1.04	Programme for Europe	TCPB	7.0	12.0	1 740 000	-	70 000	911 000
N.1.05	Programme for Latin America	TCPB	7.0	11.0	1 651 000	-	70 000	1 900 000
N.1.06	Interregional Programme	TCPB	2.0	3.0	558 000	-	-	530 000
	Interregional Programme	TCPA	2.0	3.0	583 000	-	-	491 000
	Sub-total N.1.		35.0	56.0	8 483 000	-	310 000	8 572 000
N.2	Planning, Co-ordination and Evaluation							
N.2.01	Programme Concepts and Planning	TCPC	3.4	3.4	934 000	-		105 000
N.2.02	Programme Co-ordination and Reporting	TCPC	3.4	5.4	960 000	-	-	1 800 000
N.2.03	Programme Evaluation	TCPC	4.4	3.4	811 000	-	-	-
N.2.04	Programme Field Procurement	TCPC	6.4	11.4	1 460 000	-	-	-
N.2.05	Programme Information Technology Support	TCPC	2.4	4.4	993 000	-	-	-
	Sub-total N.2.		20.0	28.0	5 158 000	-	-	1 905 000
Programme N - Management of Technical Co-operation for Development			55.0	84.0	13 641 000	-	310 000	10 477 000

a_/ i) Consists mainly of the costs for human resources development, the programme reserve and miscellaneous expenses.
ii) Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Major Programme 6
Policy-making, Management and Support Services

Major Programme Rationale

A large international organization such as the Agency needs an established structure for co-ordinating overall policy and providing direction and support to all its activities.

Major Programme Objective

To achieve optimum levels of efficiency, effectiveness and transparency in management and establish more effective and efficient support services.

This major programme consists of six programmes

O. Executive Management
P. Services for Policy-making Organs
Q. Legal Activities, External Relations and Public Information
R. Administration
S. General Services
T. Information Management and Support Services

Key Major Programme Trends

In Programme Q increased emphasis will be given to assisting Member States in the development of national legislation; attention will also be given to achieving greater outreach to the general public through the media, civil society and opinion leaders by enhancing interaction with them.

The new regrouping of Conference and Publishing Services has been implemented to facilitate the provision of an integrated service in these areas. In this context, Conference Services, previously under Subprogramme R.4, has been moved to Subprogramme T.4, now named Conference and Publishing Services.

Key Major Programme Resource Trends

The overall resource level for this Major Programme is $65 654 000 representing a reduction of $184 000 when compared with the adjusted 2000 budget. This reduction is attributable to savings in staff costs, library materials and equipment maintenance due to new efficiency and economy measures being introduced in Programme T (Information Management and Support Services).

In addition, there has been a technical adjustment arising from the transfer of the costs of the offices of the Deputy Directors General responsible for Major Programmes 1 to 5 to the respective Major Programmes which involves the transfer of $2 229 000 from Major Programme 6 to Major Programmes 1 to 5. This is in line with accepted principles of programme budgeting and will increase transparency in relation to the full costs of those programmes. The changes are reflected in the table at the end of the Overview. The figures in the 2000 budget were adjusted for presentation purposes by indicating what the costs of the adjustment on the budgetary figures for Major Programme 1 to 6 would have been if the transfer of the costs for the Deputy Directors General had occurred in that year.

MAJOR PROGRAMME 6

MAJOR PROGRAMME 6: POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

Summary of total resources for 2001 by programme

Table 55

	Programme / Major Programme	Staffing P	Staffing GS	Regular Budget estimates at 2001 prices	URPA	Funds from other UN organizations	Other extra-budgetary resources	TC Programme a_/
O.	Executive Management	14.0	10.0	3 064 000	-	-	-	-
P.	Services for Policy-making Organs	4.0	2.0	6 237 000	-	-	-	-
Q.	Legal Activities, External Relations and Public Information	26.0	29.0	7 095 000	-	-	805 000	665 000
R.	Administration	37.0	81.0	12 234 000	320 000	-	-	-
S.	General Services	10.0	107.0	23 080 000	1 500 000	-	-	-
T.	Information Management and Support Services	19.0	39.0	15 135 000	517 000	-	-	60 000
	Major Programme 6	110.0	268.0	66 845 000	2 337 000	-	805 000	725 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

O. Executive Management

Programme Rationale

An executive management function is required to provide overall direction, management, policy guidance and leadership in the implementation of the Agency's programme.

Programme Objective

To strengthen the 'one-house' concept through co-ordinated and effective interaction with the outside world; and to promote excellence in management through reform and modernization.

Programme Performance Indicators

- Full implementation of results based programming and budgeting.
- Full adherence to a common Agency-wide programme management approach.
- Implementation of recommendations from evaluations of Agency activities.
- Improvement of the effectiveness of the Agency's management.

This programme consists of three subprogrammes

O.1. Offices of the Director General and Deputy Director General, Head of the Department of Management
O.2. Internal Audit
O.3. Programme Support and Evaluation

Key Programme Trends

The dialogue with Member States will be strengthened to identify Member State needs and interests, and increased efforts will be devoted to the development and implementation of a more results based programme that can be recognized by the Member States as being of real and lasting value.

The costs of the Offices of the Deputy Directors General responsible for Major Programmes 1–5 were reallocated from Programme O to the relevant Major Programmes. The budget allocations for the Offices of the Director General and of the Deputy Director General, Head of the Department of Management, who has the overall responsibility for Major Programme 6, will remain in Programme O.

Key Programme Resource Trends

The total resources needed for this programme are $3 021 000, showing a marginal increase of $7 000, or 0.2%, compared with the adjusted 2000 budget.

O.1. Offices of the Director General and the Deputy Director General, Head of the Department of Management

Subprogramme Rationale

An overall management function is needed to ensure efficiency in the discharge of the functions of the organization and the provision of effective support. The task of the Office of the Director General is thus to oversee the implementation of the Agency's mandate.

Subprogramme Objective

To increase the effectiveness of the Agency's response to Member State needs, interests and priorities through improved dialogue, the use of a wider range of information sources and better in-house co-ordination of information; and to achieve efficiency and transparency in the management of human and financial resources through the development and implementation of a more results based programme and budget and to expand the use of information technology.

Subprogramme Performance Indicators

- Recognition by Member States that their needs and priorities are reflected in the planning and preparation of the Agency's programmes during 2001.
- Improvement in the performance and management of the major programmes as reflected in their own performance indicators.
- Better interaction with Member States, partners and the public.
- Improvements in the evaluation of Agency activities.
- Increased synergies among programmes.

This subprogramme consists of two elements/projects

O.1.01. *Office of the Director General* — to direct the activities of the Secretariat.

O.1.02. *Office of the Deputy Director General, Head of the Department of Management* — to direct the activities of the Department of Management.

Key Subprogramme Trends

The costs of the Offices of the Deputy Directors General have been reallocated from Subprogramme O.1 as follows:

— The cost of the Office of the Deputy Director General with responsibility for the Department of Nuclear Energy was shifted to Major Programme 1 (Nuclear Power and Fuel Cycle).

— The cost of the Office of the Deputy Director General with responsibility for the Department of Nuclear Sciences and Applications was shifted to Major Programme 2 (Nuclear Sciences and Applications).

— The cost of the Office of the Deputy Director General with responsibility for the Department of Nuclear Safety was shifted to Major Programme 3 (Nuclear, Radiation and Waste Safety).

— The cost of the Office of the Deputy Director General with responsibility for the Department of Safeguards was shifted to Major Programme 4 (Nuclear Verification and Security of Material).

— The cost of the Office of the Deputy Director General with responsibility for the Department of Technical Co-operation was shifted to Major Programme 5 (Management of Technical Co-operation for Development).

Key Subprogramme Resource Trends

Owing to the transfer of the costs of the Offices of the Deputy Directors General responsible for Major Programmes 1-5 from Subprogramme O.1 to the respective major programmes, the resources for this subprogramme have been reduced by $2 229 000. For comparison purposes, the budget allocations for 2000 have been adjusted similarly, and the total resources required in 2001 amounting to $1 775 000 reflect, therefore, only a slight reduction of $4 000, or 0.2%, compared with the adjusted 2000 budget.

O.2. Internal Audit

Subprogramme Rationale

Audit oversight constitutes an important part of the overall internal control system of any large organization.

Subprogramme Objective

To improve accountability for the proper, economic and efficient use of the Agency's resources and the effectiveness of the Agency's management improvement process.

Subprogramme Performance Indicators

- Reduction in or elimination of unnecessary or restrictive administrative controls on Agency management systems in order to achieve cost savings and efficiency.
- Increase in the number of requests to assist in reviewing processes and controls.
- Increase in the number of recommendations implemented.

Key Subprogramme Trends

Field audits of technical co-operation funded projects in Member States will be carried out.

Key Subprogramme Resource Trends

The total resource level of $838 000 reflects an increase of $8 000, or 1.0%, compared with the adjusted 2000 budget.

Subprogramme Rationale

A focal point is required for co-ordinating the Agency-wide process of programme development and management in order to be able to respond to the changing needs and priorities of Member States.

Subprogramme Objective

To improve the formulation, implementation and evaluation of Agency programmes, including the co-ordination between the regular programme and the technical co-operation programme, so as to promote increased effectiveness and transparency.

Subprogramme Performance Indicators

- Full adherence to a common Agency-wide programme management approach.
- Percentage of PPAS recommendations implemented and resulting improvements in the performance and management of the programmes.

Key Subprogramme Trends

There will be greater emphasis on the proper implementation of the new results based approach to programme development and the newly established PPAS policy and procedures, particularly for the evaluation of thematic and Agency-wide activities.

Key Subprogramme Resource Trends

The total resource level of $408 000 reflects a marginal increase of $3 000, or 0.7%, compared with the adjusted 2000 budget.

P. Services for Policy-making Organs

Programme Rationale

The Policy-making Organs (General Conference and Board of Governors), which control the functions of the Agency in accordance with the Statute, require the support of the Secretariat for their work.

Programme Objective

To achieve efficient and successful conduct of meetings and business of the General Conferences and Board of Governors and their respective committees.

Programme Performance Indicators

- Timely submission of quality documents to the Policy-making Organs.
- Problem-free servicing of meetings of the Policy-making Organs.

This programme consists of two subprogrammes

P.1. *General Conference* — to provide services to the General Conference.

P.2. *Board of Governors' Meetings* — to provide services to the Board of Governors and its committees.

Key Programme Trends

The Secretariat will continue to encourage Member States to utilize the documents available in electronic form on the GovAtom — and the WorldAtom system for unrestricted documents — to allow speedy access to information.

Key Programme Resource Trends

The proposed resource level for this programme amounts to $6 121 000, representing a reduction of $340 000, or 5.3%, compared with the adjusted 2000 budget. This reduction is due partly to the creation, on a cost neutral basis, of the new Division of Conference and Document Services which resulted in a shift from Programme P to Subprogramme T.4 (Conference and Publishing Services) of allocations previously shown under "Translation", and partly to efficiency gains arising from the use of modern technology in the translation area.

P.1. General Conference

Subprogramme Rationale

To provide services to the General Conference.

Subprogramme Objective

To provide the best possible and cost effective services.

Subprogramme Performance Indicators

- Timely submission of quality documents to the Member States for consideration by the General Conference.
- Problem-free servicing of meetings of the bodies of the General Conference.

Key Subprogramme Trends

The Secretariat will continue to encourage Member States to utilize the documents available in electronic form on WorldAtom to allow speedy access to information while reducing costs.

Key Subprogramme Resource Trends

The total resource level of $2 472 000 reflects a reduction of $114 000, or 4.4%, compared with the adjusted 2000 budget. The reduction is due mainly to the transfer of translation costs to Subprogramme T.4 (Conference and Publishing Services).

P.2. Board of Governors' Meetings

Subprogramme Rationale

To provide services to the Board of Governors and its committees.

Subprogramme Objective

To enhance the effectiveness of the Board of Governors and its committees by providing the best possible and cost effective services.

Subprogramme Performance Indicators

- Timely submission of documents to members of the Board that it considers of satisfactory quality.
- Problem-free servicing of meetings of the Board and its Committees.

Key Subprogramme Trends

The Secretariat will continue to improve and expand the electronic database of Board documentation available on GovAtom and will continue to encourage Member States to utilize the system.

Key Subprogramme Resource Trends

The total resource level of $3 649 000 reflects a reduction of $226 000, or 5.8%, compared with the adjusted 2000 budget. This reduction is partly due to transfer of translation costs to Subprogramme T.4 (Conference and Publishing Services) and partly to efficiency gains.

Q. Legal Activities, External Relations and Public Information

Programme Rationale

A proper legal basis and policy co-ordination are essential requirements for the functioning of an international organization. Effective communication and outreach, and liaison with external partners are also necessary.

Programme Objective

To achieve increased levels of co-operation with Agency partners; to achieve greater outreach to the general public, civil society and opinion leaders; and to achieve the highest possible standards for legal services, particularly for the smooth functioning of the Policy-making Organs.

Programme Performance Indicators

- Needs of internal and external parties met in a timely and accurate manner.

This programme consists of three subprogrammes

Q.1. Legal Activities
Q.2. External Relations and Policy Co-ordination
Q.3. Public Information

Key Programme Trends

Increased emphasis will be given to the implementation of international conventions and assistance to Member States in developing national nuclear legislation. The Secretariat will strengthen its efforts to increase transparency with regard to the work of the Agency by trying to achieve greater outreach to the general public and civil society.

Key Programme Resource Trends

The total resources needed for this programme amount to $6 979 000, representing an increase of $91 000, or 1.3%, as compared with the adjusted 2000 budget. This increase is due to the greater resources needed in Subprogramme Q.1 (Legal Activities). Extrabudgetary funds for Q.3 (Public Information) are expected to reach $805 000.

Q.1. Legal Activities

Subprogramme Rationale

As an international organization, the Agency must have access to legal expertise in the course of carrying out its activities. It is also necessary to provide legal services on request to Member States.

Subprogramme Objective

To achieve the highest possible standards for legal services provided to the Policy-making Organs and of the Secretariat as well as to Member States and in implementing legal aspects of the Agency's programme.

Subprogramme Performance Indicators

- The timely provision of legal advice to the Policy-making Organs and all units of the Secretariat as well as to Member States.
- Timely implementation of the legal aspects of the Agency's programme.

This subprogramme consists of four elements/projects

Q.1.01. *Legal Services to Policy-making Organs and the Secretariat* — to ensure the legally appropriate performance of the Agency's work; to prepare legal instruments, including international agreements and internal regulations, to provide legal interpretations of these instruments and regulations.

Q.1.02. *Programme Implementation* — to ensure that the legal aspects of the Agency's work programme are appropriately addressed.

Q.1.03. *Legal Services to Member States* — to provide advice on legal questions relating to the work of the Agency; and to provide assistance for the development of nuclear legislation in Member States.

Q.1.04. *Inter-agency Legal Matters* — to ensure a co-ordinated approach to legal issues common to the United Nations system.

Key Subprogramme Trends

There is increased demand from Member States for assistance in the preparation of national legislation, including that relating to the implementation of international conventions; expanded involvement in the development of safety standards; and an increasing general need for legal support, including considerable work in connection with the implementation of strengthened safeguards.

Key Subprogramme Resource Trends

The proposed resource level for this subprogramme amounts to $2 090 000, reflecting an increase of $91 000, or 4.6%, compared with the adjusted 2000 budget. This net increase is mainly to cover salary costs.

Q.2. External Relations and Policy Co-ordination

Subprogramme Rationale

Policy co-ordination and effective interaction with Member States and other organizations is essential for the Agency.

Subprogramme Objective

To arrive at well co-ordinated Agency policies for all three pillars of the Agency's mandate and to optimize interaction with Member States and co-operation with United Nations organizations, other intergovermental organizations and civil society.

Subprogramme Performance Indicators

- Number of safeguards agreements and Additional Protocols concluded.
- Number of new arrangements (including MOUs) concluded, and existing arrangements reviewed or updated, with the Agency's partners.

This subprogramme consists of four elements/projects

Q.2.01. *Verification, Security of Material and Safety Policy Co-ordination* — to ensure that Agency policies with regard to nuclear non-proliferation, verification, security of material, as well as nuclear, radiation and waste safety are developed and implemented in a co-ordinated manner, consistent with the Agency's Statute and mandate.

Q.2.02. *Nuclear Technologies, Interagency Affairs and General Policy Co-ordination* —to ensure that Agency policies with regard to all nuclear technologies including nuclear power are developed and implemented in a co-ordinated manner, consistent with the Agency's Statute and mandate; to optimize synergies with international organizations and other partners which have similar areas of concern as the Agency.

Q.2.03. *Liaison Office, New York* — to provide and facilitate effective input in United Nations meetings and other activities and to keep Agency Headquarters informed of such activities, particularly with regard to the Security Council and General Assembly.

Q.2.04. *Liaison Office, Geneva* — to provide effective Agency input in intergovernmental and intersecretariat meetings, in particular in the fields of disarmament and the environment and to increase synergies with Geneva based international organizations and NGOs.

Key Subprogramme Trends

With the adoption of the 'one-house' policy, as stressed in the Medium Term Strategy, the need for and importance of policy co-ordination has increased. At the same time this subprogramme, both at Headquarters and through its Liaison Offices in New York and Geneva, has an increasingly vital role to play in the Agency's outreach policy, in particular in optimizing synergies with United Nations organizations and other partners.

Key Subprogramme Resource Trends

The proposed resource level for this subprogramme amounts to $1 812 000, representing no change when compared with the adjusted 2000 budget.

Subprogramme Rationale

Nuclear matters regularly attract considerable public attention and, at times, controversy. The Agency, as the global intergovernmental body responsible for nuclear issues, is required to be as open and transparent as possible in its dealings with the media, civil society (including NGOs, academia, think tanks and politicians), other international bodies and the public at large in order to: dispel misperceptions and provide objective information, thus placing the nuclear debate in a balanced context; and to publicize and foster the use of peaceful nuclear techniques for human well-being.

Subprogramme Objective

To increase knowledge amongst the public about successful, beneficial peaceful applications of nuclear energy; to help ensure a full and fair hearing of the nuclear power option; to improve public understanding of radiation; and to increase understanding among opinion leaders, the media and the general public of the Agency's role in the non-proliferation, safety and illicit trafficking fields.

Subprogramme Performance Indicators

- Information products used by Member States and the media.
- Increase in the number of electronic and other enquiries handled.
- Extent of positive media coverage on issues covered by the programme.

This subprogramme consists of four elements/projects

Q.3.01. *Public Affairs* — to maintain contacts with, disseminate information to and promptly answer enquiries from journalists, scientists, government officials, opinion leaders, academics and others on Agency activities and nuclear related issues worldwide using various communication tools.

Q.3.02. *Periodicals and Electronic Information Distribution* — to produce factual and authoritative information products at regular intervals for various target audiences in support of the Agency's programme objectives.

Q.3.03. *Visitors, Information and Audiovisual Services* — to provide exhibits and audiovisual material for use with visiting groups, Member States, television outlets and the general public.

Q.3.04. *Opinion Leaders Outreach* — to encourage objective discussion amongst opinion leaders of nuclear issues through the holding of regional and national information seminars.

Key Subprogramme Trends

There will be a shift to electronic communications, notably use of the Internet, and a technical convergence in terms of the preparation of print and electronic information materials. A more vigorous outreach strategy, involving greater interaction with civil society, NGOs and the private sector, will be pursued.

Efforts will also be made to keep pace with the increased volume of work expected and to maintain the Agency's position, in electronic communications terms, in the first rank of bodies in the United Nations system.

Key Subprogramme Resource Trends

Resources ($3 077 000) for this subprogramme have been kept at the level of the adjusted 2000 budget. Savings under Printing in the amount of approximately $50 000 due to the development of electronic communications will be used for the policy of greater outreach to civil society, NGOs, politicians and the private sector.

Electronic information distribution has proved to be more labour intensive than expected at the time of the previous budget submission. To the extent possible within Subprogramme Q.3, personnel will be redeployed to meet the needs of this task, but secondment from other Departments/Divisions may also be needed.

National and regional conferences will continue to be held in selected countries for expanding public understanding of nuclear energy. These will be funded from extrabudgetary sources.

A P-3 editor is required to carry out editorial work on periodicals in order to allow the Public Information Officer at present in charge of both editorial and Internet work to manage the electronic dissemination of information more efficiently. Extrabudgetary resources for this post and to finance a Professional staff member to improve outreach are desirable.

R. Administration

Programme Rationale

The infrastructure of a large organization must include support for financial and human resource management, and the provision of management services.

Programme Objective

To achieve optimal levels of efficiency and transparency in the management of human and financial resources as well as internal services.

Programme Performance Indicators

- Satisfaction of internal and external customers with services supporting the efficient implementation of the programme of the Agency.

This programme consists of three subprogrammes

R.1. Financial Management
R.2. Personnel Management
R.3. Management Services

Key Programme Trends

Implementation of enhancements to Agency Financial Information Management System (AFIMS). Preparations will be made for the implementation of full biennial programming.

Particular emphasis will be placed on increasing the number of women in the professional and higher categories and on improving the capacity to forecast and plan human resource needs.

Key Programme Resource Trends

The proposed resource level for this programme amounts to $12 010 000, representing an increase of $40 000, or 0.3%, compared with the 2000 adjusted budget. This increase results from increased activities in subprogramme R.2 (Personnel Management).

R.1. Financial Management

Subprogramme Rationale

Financial management is required to effectively administer the financial resources essential to the delivery of the Agency programme within the framework provided by the Statute, the Financial Regulations and Rules, and the decisions of the Policy-making Organs.

Subprogramme Objective

To improve the efficiency and effectiveness of the financial services and systems.

Subprogramme Performance Indicators

- Timely presentation of documents and reports (i.e. programme and budget document, budget performance report, accounting statements) and recognition of usefulness by Member States.

- New Agency Financial Information Management System fully operational and implementation of re-engineered financial processes well under way.

This subprogramme consists of four elements/projects

R.1.01. *Direction* — to manage the Agency's financial, accounting and budgetary programmes.

R.1.02. *Budgeting, Accounting, Control and Reporting* — to provide support services to Department Heads, programme managers and Member States throughout the programme and budgeting, accounts and reporting phases.

R.1.03. *Payment Processing and Treasury* — to process all payments including the Payroll, and to provide management of the Travel Unit and the Agency's cash and investments.

R.1.04. *Financial Systems Support* — to operate and support the financial computing facility (including AFIMS and the Payroll and Travel Systems).

Key Subprogramme Trends

The implementation of enhancements to the Agency Financial Information Management System (AFIMS) as a result of business process re-engineering and further automation and simplification of existing financial procedures should lead to improvements in the provision of relevant financial information as well as increased productivity.

Preparation for implementation of full biennial programming for the next budget cycle (2002–2003) will start. Additionally, with the ratification by Member States of the change in the Statute to allow for biennial budgeting, the required changes in the Financial Regulations will be prepared and submitted to the Board of Governors for approval.

Key Subprogramme Resource Trends

The proposed resource level for this subprogramme amounts to $6 763 000, reflecting no change compared with the adjusted 2000 budget. This level includes only part of the resources needed to implement the enhancements to AFIMS as well as the re-engineering of the business processes.

Subprogramme Rationale

Effective management of human resources is an essential requirement of any organization.

Subprogramme Objective

To improve human resource policy implementation, practices and training and align them more closely with programme needs.

Subprogramme Performance Indicators

- Smooth staff/management relations.
- Completion of re-engineering of human resources processes to improve efficiency and timeliness of operations.
- Recognition of services provided to programme managers.

This subprogramme consists of six elements/projects:

R.2.01. *Direction* — to manage the Agency's personnel functions; develop and implement personnel policies; assist programme managers with personnel issues; and plan the overall human resources in accordance with programme requirements.

R.2.02. *Recruitment* — to recruit staff of the highest standard of technical competence, efficiency and integrity with the widest possible geographical distribution; and improve representation of women.

R.2.03. *Training and Development* — to contribute to programme implementation by enhancing managerial effectiveness and individual performance.

R.2.04. *Employment Conditions* — to administer the conditions of employment, including allowances and social security coverage, in accordance with contractual obligations.

R.2.05. *Personnel Information* — to develop further and maintain the computerized Personnel Management Information System.

R.2.06. *Staff Council* — to represent the collective interests of the staff vis-à-vis the management of the Agency in personnel and welfare matters.

Key Subprogramme Trends

New approaches will be developed, in close collaboration with Member States, to attract sufficient numbers of candidates with the required qualifications from as wide a geographical basis as possible. Particular emphasis will be placed on increasing the number of women in the Professional and higher categories. Training and development will be expanded in order to utilize fully the potential of staff in the Secretariat and improve managerial and individual performance. Personnel policies will be reviewed and revised, within the framework of the United Nations common system, to ensure the competitiveness of conditions of employment and introduce reward systems that motivate staff performance. The re-engineering of the human resources process

will continue with the objective of reducing labour intensive procedures and improving support for programme managers. Finally, the capacity to forecast and plan human resources needs will be improved with the implementation of new modules of the Personnel Management Information System.

Key Subprogramme Resource Trends

The proposed regular budget resource level for this subprogramme amounts to $4 773 000, reflecting an increase of $40 000, or 0.8%, over the adjusted 2000 budget for increased activities aimed at encouraging equal participation by men and women in the work of the Agency.

R.3. Management Services

Subprogramme Rationale

A large international organization with a diverse programme needs an internal management service to advise line managers, review and revise management practices and set management standards and practices so as to achieve overall one-house efficiency.

Subprogramme Objective

To achieve overall one-house efficiency and transparency in operational practices, by providing advice, support and assistance in the identification, planning and implementation of new initiatives.

Subprogramme Performance Indicators

- Implementation rate of recommendations regarding increased efficiency and transparency of the Agency's management structure.
- Provision of co-ordinated and timely administrative instructions in an easily accessible manner.

This subprogramme consists of two element/projects

R.3.01. *Advisory Service* — to focus critical attention on ensuring efficiency and economy; to produce timely and effective responses to management problems; to carry out productivity studies and operational reviews; to initiate and present proactive ideas to managers; and to liaise and co-ordinate duties with oversight bodies and consultants.

R.3.02. *Operational Support* — to initiate, maintain and update the Agency’s Administrative Manual; and to promulgate administrative instructions.

Key Subprogramme Trends

An increasing workload is resulting from the rising number of requests for management services assistance.

Key Subprogramme Resource Trends

The resource allocation has been kept unchanged compared with the adjusted 2000 budget ($474 000).

S. General Services

Programme Rationale

The Agency needs a well functioning buildings infrastructure at Headquarters and general administrative and logistical services to enable it to carry out its programme activities.

Programme Objective

To improve the efficiency and effectiveness of general and logistical services, particularly procurement and supplies, records and communication, and technical and administrative support.

Programme Performance Indicators

- Provision of general services to the satisfaction of programme managers and staff at large.

This programme consists of two subprogrammes

S.1. VIC Maintenance and Operation
S.2. Other General Services

Key Programme Trends

The programme is of a continuing nature and therefore not subject to major changes, although there is uncertainty surrounding the VIC buildings management function operated by UNIDO.

Key Programme Resource Trends

The proposed resource level for this programme ($22 676 000) is substantially unchanged in the adjusted 2000 budget, except for two resource transfers described under Subprogramme S.2, which result in a net reduction of $94 000.

S.1. VIC Maintenance and Operation

Subprogramme Rationale

The Agency needs a well functioning buildings infrastructure at Headquarters to enable it to carry out its programme activities.

Subprogramme Objective

To improve operational maintenance, security and safety of the VIC through the Agency's participation in common services.

Subprogramme Performance Indicators

- Uninterrupted service at an acceptable level.

This subprogramme consists of two elements/projects

S.1.01. *Buildings Management Services* — to manage the Agency's participation in the operation and maintenance of the VIC together with UNIDO as the managing organization.

S.1.02. *Security and Safety Services* — to co-ordinate the Agency's security and safety matters with UNOV as the managing organization.

Key Subprogramme Trends

The difficulties experienced by UNIDO in carrying out buildings management programmes in recent years have resulted in under-spending of the Agency's share of the budgeted cost. To partly address the resulting maintenance problems, the unspent balances in S.1 have, since 1998, been used partly to fund the "Essential Requirements Programme" (set up by UNIDO), the Agency's share of which is listed under URPA.

Key Subprogramme Resource Trends

The resource level required is $12 700 000, which represents no change as compared with the adjusted 2000 budget.

S.2. Other General Services

Subprogramme Rationale

General administrative and logistical services are needed to enable programme managers and staff at large to perform their function.

Subprogramme Objective

To improve further the general administrative and support services of the Agency, such as: procurement and supplies, technical and engineering services at Headquarters and the laboratories; telecommunications and records management; inventory control, transportation, import and export matters, privileges and immunities and insurance matters; the Commissary at the VIC.

Subprogramme Performance Indicators

- Satisfaction of programme managers and the staff at large with the level of general services provided.

This subprogramme consists of six elements/projects

S.2.01. *Direction and Co-ordination* — to direct the General Services activities and co-ordinate related administrative actions; to co-ordinate security and safety matters and to operate the Commissary at the VIC; and to participate in the financial management of the VIC maintenance and operation.

S.2.02. *Technical and Engineering Services (TESS)* — to provide technical and engineering support services for the Secretariat and the Agency's laboratories in Seibersdorf and Monaco; and to provide telecommunications services.

S.2.03. *Procurement and Supply Services (PSS)* — to procure goods and services for the Agency; and to handle the receipt, storage and dispatch of equipment and supplies.

S.2.04. *Records and Communication Services (RCS)* — to manage the official records of the Agency; and to provide services in the areas of mail processing, information retrieval and messages.

S.2.05. *Administrative Support Services (ADSS)* — to control and verify General Service budgetary and financial matters including VIC maintenance and operation costs; to control the Agency's inventory; to provide the Agency with services in the areas of imports and exports, privileges and immunities, housing assistance and insurance matters; to control and process invoices; and to provide transportation services.

S.2.06. *Common Services, Supplies and Miscellaneous Cost Items* — to manage and administer the costs of common services, supplies and miscellaneous items for the whole Agency by using the staff resources of projects S.2.03 and S.2.05.

Key Subprogramme Trends

Following a series of reviews and a report by independent consultants, the procurement function will continue to be strengthened through the implementation of recommendations.

Key Subprogramme Resource Trends

There is a net reduction by $94 000, or 0.9%, to $9 976 000 in this subprogramme compared with the adjusted 2000 budget. This reduction stems from the transfer of the annual cost of Internet access for the whole Agency ($125 000) to subprogramme T.2 (Computing Services), but also reflects an increase due to the transfer of a General Service post ($31 000) to the subprogramme from Translation and Record Services.

T. Information Management and Support Services

Programme Rationale

A large international organization needs to manage its meetings, knowledge and information resources and to disseminate the results in the most appropriate manner through publications and electronic means. For that purpose an adequate computer infrastructure, plans, policies and procedures are required, together with well co-ordinated and centralized management of meetings, translations, publications and information.

Programme Objective

To improve the efficiency and effectiveness of the Agency's programme delivery through greater use of information technology, modern communication, information services, cost effective publishing services and efficient organization of Agency meetings.

Programme Performance Indicators

- Efficiency gains through greater use of information technology.
- Extent of implementation of Secretariat-wide policy and standards for information management and information dissemination.
- User satisfaction with information technology support services.
- Cost effective delivery of information and publications in appropriate Agency languages to meet priority Member State and Secretariat needs.
- Greater use of innovative products and methods to complement and increasingly replace more traditional communication, publishing and meeting management tools.
- Implementation of efficient and standardized information technology with fully compatible applications in place throughout the house.
- Effective and efficient provision of services to meetings, with a reduction of the burden on organizers and participants.
- Effective and efficient dissemination of and access to information through the Agency Information services and the Library.

This programme consists of five subprogrammes

T.1. Information Management
T.2. Computer Services
T.3. Library Services
T.4. Conference and Publishing Services
T.5. International Nuclear Information System (INIS)

Key Programme Trends

In Subprogramme T.1, there will be a change of emphasis from developing individual computerized systems for specific Agency programmes towards Agency-wide systems which support the key business processes, Subprogramme T.2 will include a new project to upgrade the Agency's standard software by introducing

Desktop 2000 to all Agency PCs, starting in 2000 and ending in 2001. In Subprogramme T.3, the Library will place more emphasis on providing information services to Member States. In Subprogramme T.4, the emphasis will be on providing integrated and modernized services for meetings management and publications to effectively meet the needs of Member States and Agency staff.

Key Programme Resource Trends

The increase in Information Systems Services (T.1.06) represents $349 000, transferred from Computer Services (T.2) unallocated funds, for Agency-wide systems such as GovAtom, the Contacts Information System, OASIS and the document management system, which is a new Agency-wide project.

The overall reduction of $364 000 in T.2 is due to the transfer of $349 000 to T.1.06 as described above, an increase of $125 000 transferred from General Services for Internet services costs, which will be the responsibility of the Computer Services Centre starting in 2000, and savings in staff costs of $140 000 due to new efficiency and economy measures being introduced.

An amount of $50 000 is included in Subprogramme T.2 as part of the Agency's annual contribution to the Equipment Replacement Fund (ERF 2005). The balance of the requirement, $350 000 is reflected as an URPA.

Savings amounting to $111 000 as a result of the reduced cost of library materials and of equipment maintenance have been made in the Agency's share of the Library shown under Subprogramme T.3.

The creation of a Director's Office in Subprogramme T.4 (cost $317 000) to manage the combined operations of the Conference Services, Publishing, Printing and Translation Services is being implemented, on a cost neutral basis, by transferring budgetary allocations for translation costs appropriate to the new office from Programme P (Services for Policy-making Organs) to this subprogramme.

T.1. Information Management

Subprogramme Rationale

The Agency has a large number of information resources. Efficiencies can be gained if these resources, and plans for the creation of new information resources, are co-ordinated and managed. The use of information technology throughout the Agency should be standardized in order to avoid duplication of information or systems. The large body of knowledge within the Agency needs to be captured and managed, and information resources enhanced, maintained and managed. New systems need to be developed to avoid duplication and maintain consistency and compatibility with existing Agency databases.

Subprogramme Objective

To realize efficiencies through co-ordination and management of information resources, development of Agency-wide information and document management plans, and the development and standardization of quality information systems in a timely manner.

Subprogramme Performance Indicators

- Extent of re-engineering of systems to ensure use of up to date information in shared, global databases.
- Extent of use of key Agency-wide databases as a single source of information.

- Proportion of the Agency's information products available electronically, e.g. on the Web and/or on CD-ROM.
- Important Agency documents available electronically in all Agency languages.
- Pilot electronic document management system in use.
- Systems delivered on time with the required quality.

This subprogramme consists of six elements/projects

T.1.01. *Office of Director* — to act as the focal point for information, information technology and knowledge management; to develop plans, policies and procedures: for assessing and applying, where appropriate, new and innovative information technologies and products; for use of electronic information resources; for implementing standardized and compatible information technology hardware and applications; for promoting greater transparency in information sharing; for managing the Agency's knowledge and Agency-wide uses of information technology; and for the use of modern communication systems, including the Internet, teleconferencing and remote access.

T.1.02. *Information Management* — to ensure that the Agency's information resources are co-ordinated and well planned, by development of Agency-wide information management plans; to ensure that information access is co-ordinated and appropriate; and to ensure that information technology use is standardized throughout the Agency.

T.1.03. *Rationalization of Databases* — to identify and rationalize the Agency's scientific and technical databases (except for financial and administrative databases).

T.1.04. *Document Management* — to enhance institutional memory; to promote efficient sharing of electronic documents among staff and within work groups; to streamline collaborative document production; and to significantly reduce the time required to locate, retrieve and distribute documents.

T.1.05. *GovAtom* — to make the complete set of Board of Governors' meeting documents available electronically in the official Agency languages; and to improve the GovAtom user interface to assist users to search and retrieve relevant information efficiently and effectively.

T.1.06. *Information Systems Services* (2.5.09–2.5.11 in Shared Services) — to ensure that Agency-wide systems are developed and supported; to ensure the provision of data and database administration services to meet the needs of the programme areas; and to ensure that systems are developed and delivered on time and with the required quality.

Key Subprogramme Trends

Improvements will be introduced in the quality and timeliness of the information produced by the Agency. There will be increased integration of systems and databases and increased deployment of Internet based systems for information capture and dissemination.

Key Subprogramme Resource Trends

Compared with the adjusted 2000 budget, the resource level of $2 087 000 has been increased by $349 000, or 20.1%, to cover the development of Agency-wide systems. The successful rationalization of Agency databases will bring long term savings but will require additional resources in the short to medium term to re-engineer those systems affected by database changes. The initial cost of a document repository will be offset by savings in time spent searching for information. The proportion of resources used for Agency-wide systems will be increased.

Subprogramme Rationale

In support of Objective E3 in the Medium Term Strategy[1/], a sound and secure information technology infrastructure and related services is indispensable to facilitate the different Agency Information Systems.

Subprogramme Objective

To improve the efficiency and effectiveness of the programme implementation by designing, implementing and maintaining a secure and functional information technology (IT) infrastructure consisting of state-of-the-art hardware and software platforms and effective security arrangements.

Subprogramme Performance Indicators

- Ninety-eight percent availability of the IT infrastructure, including the Web-hosting and E-mail facilities, for each individual infrastructure item.
- Confidentiality and integrity of all IT infrastructure items.
- Good practical knowledge of information systems throughout the house.
- Solution of problems with the IT infrastructure within an acceptable time frame.

This subprogramme consists of one element/project from Shared Services 2.5 (Data Processing Services).

T.2.01. *Computer Services Centre* (2.5.01–2.5.08 in shared services)

Key Subprogramme Trends

The main trends will be serving new clients outside the Secretariat. Security will be enhanced.

Key Subprogramme Resource Trends

There will be a need for more Professional staff to put the newest technology in place. More funds will be allocated to contracts and outsourcing arrangements.

The total resource level of $2 512 000 reflects a decrease of $364 000, or 12.7%, compared with the adjusted 2000 budget. The net decrease resulted from (a) a transfer of $349 000 to Subprogramme T.1 (Information Management) for the Agency-wide systems; (b) the transfer from Subprogramme S.2 (Other General Services) of the annual cost of Internet access for the whole of the Agency to this subprogramme ($125 000); and (c) savings in staff costs of $140 000 due to new efficiency and economy measures being introduced.

In the past, the Agency purchased software licenses in the desktop environment in a piecemeal way. As a consequence, economies of scale were not achieved and some control difficulties were experienced. To correct

[1/] To make greater use of information technology for improving the efficiency and effectiveness of programme implementation.

these problems and reduce costs, an Agency-wide site license will be negotiated and purchased. For this purpose, an estimated sum of $300 per staff member are budgeted in the different programme areas for 2001.

T.3. Library Services

Subprogramme Rationale

Library services form an important element in the provision of information to staff carrying out the Agency's programmes.

Subprogramme Objective

To improve the efficiency and effectiveness of the programme implementation by providing appropriate library and information services to Secretariat staff, VIC based organizations and Member States.

Subprogramme Performance Indicators

- Improved access to relevant and current information resources in print and electronic formats for the programmes of the VIC based organizations.
- Ease of access to the materials in the collections.
- User satisfaction.

This subprogramme consists of four elements/projects

T.3.01. *Development of the Library's Collection* (Agency's part of 2.4.01)

T.3.02. *Collection Maintenance* (Agency's part of 2.4.02)

T.3.03. *Library and Documentation Services* (Agency's part of 2.4.03)

T.3.04. *Access to Information Available from other Sources* (Agency's part of 2.4.04)

Key Subprogramme Trends

In keeping with global trends, the VIC Library will: increase the availability of electronic publications and services; streamline user access to relevant information; and meet user information needs in the most cost effective way.

Key Subprogramme Resource Trends

The subprogramme budget is reduced by $111 000 to $2 207 000 owing to reductions in the cost of library materials through better selection of information, consolidation of services and reduced cost of equipment maintenance. Notwithstanding the reduced budget, wider access to information will be provided as a result of the participation of the Library in the United Nations System Consortium on Electronic Information.

Subprogramme Rationale

The Director's Office provides the overall co-ordination of: Conference Services, Language Services, Publishing and Printing Services so as to offer an integrated service in these areas to the entire Agency and to other United Nations bodies as needed. The service takes advantage of the synergy between the related operations to achieve efficiency and speed of essential services to the Agency and Member States by eliminating duplication within the house and by improving the work processes and systems, through development of the staff and the introduction of new technologies.

Subprogramme Objectives

To improve the efficiency and effectiveness of the programme implementation by providing expanded, improved and dovetailed services in the organization of conferences and the publication of documents through the use of new and appropriate technologies, staff training; and to increase the Agency's income for its publications through efficient and effective production and marketing.

Subprogramme Performance Indicators

- Speed of processing of translations and publications.
- Expanded range of cost effective services provided to meetings using new and improved technology, including video conferencing.
- Efficient operation of a central database for handling publishing and printing operations so as to reduce staff costs.
- Increased sale through an effective sales and inventory control system and through the use of the Internet.

This subprogramme consists of six elements/projects

T.4.01. Office of the *Director* — to provide expanded, improved and dovetailed services in key areas of support to the work of the Agency and Member States, by efficient work methods and improved staff skills.

T.4.02. *Policy-making Organs, Treaties, Conventions and Agreements Meetings* — to provide logistical and administrative support and services for the meetings of the Board of Governors, the General Conference and meetings of Parties to Treaties, Conventions and Agreements.

T.4.03. *Scientific Meetings* — to plan, organize and administer arrangements and to provide the necessary infrastructure for conferences, technical and scientific meetings, training and outreach activities of the Agency.

T.4.04. *Editing (2.7.01 in Shared Services)* — to edit all sales publications so as to ensure accuracy, readability and conformity with Agency style and to monitor the production process through to press or electronic issue; to prepare unpriced technical documents for press or electronic issue.

T.4.05. *Book Production (2.7.02 in Shared Services)* — to carry out figure preparation, cover design, page make-up and electronic preparation for all sales publications and to provide in-house services in these areas.

T.4.06. *Promotion and Sales (2.7.03 in Shared Services)* — to promote Agency sales publications and deal with the invoicing of all sales made directly to customers, or through sales agents and booksellers by using the latest technology and software.

Key Subprogramme Trends

The establishment of new, fewer categories of meetings and streamlining of implementation procedures will result in the rationalization of the number of meetings. In addition, the increased use of audio and video conferencing technology will enhance a more cost effective conduct of Agency meetings. In the publishing area, the movement towards more extensive electronic dissemination and possible outsourcing is continuing.

Key Subprogramme Resource Trends

The proposed resource level for this subprogramme has been increased by $238 000 to $3 883 000 compared with the adjusted 2000 budget. This technical increase arises from the creation, on a cost neutral basis, of the Office of the Director to manage the combined operations of the Conference Services, Publishing, Printing and Translation Services, with some small offsetting reductions. The salary costs for this Office, which were, for the most part, previously shown under 'Translation' in the budget of Programme P (Services for Policy-making Organs), have been transferred to Subprogramme T.4 (Conference and Publishing Services). The creation of the new structure has already led to the identification of savings in translation costs through the more efficient use of modern technology; these savings have been reallocated to other areas.

T.5. International Nuclear Information System

Subprogramme Rationale

The nuclear community benefits from an easily accessible, comprehensive bibliographic database containing details of nuclear related literature. The INIS Secretariat was established by the Agency, in collaboration with interested Member States and co-operating international organizations, to act as the centre for processing input to the INIS database of bibliographic records and non-conventional literature on the peaceful uses of nuclear energy received from, and supplied to, the Member States.

Subprogramme Objective

To respond to the priority information needs of Member States by ensuring the exchange and sharing of scientific and technical information in areas of interest to the activities of the Agency.

Subprogramme Performance Indicators

- Input to INIS increased and improved.
- Increased use of output products.
- Training implemented through distance learning.

This subprogramme consists of five elements/projects

T.5.01. *Bibliographic Database of Nuclear Literature* — to ensure exchange of scientific and technical information on peaceful applications of nuclear science and technology.

T.5.02. *Non-conventional Literature* — to ensure access to research reports, dissertations, conference proceedings and other types of literature which are not available through commercial channels.

T.5.03. *System Maintenance and Development* — to co-ordinate current operations and future developments of the INIS system; and to develop mechanisms for sharing and accessing nuclear information in a networked information environment.

T.5.04. *INIS Participation in Agency-wide Projects* — to support Agency-wide projects of benefit to the INIS system and to the Agency at large.

T.5.05. *Support of Technical Co-operation Activities* — to provide support to Agency technical co-operation activities in the areas of nuclear information.

Key Subprogramme Trends

Ensuring continued high quality and complete coverage of the world's nuclear literature by the bibliographic database will remain the fundamental task of the subprogramme, but there will be a trend towards developing new methodologies for the acquisition of bibliographic references. INIS will strengthen its information services to the Secretariat. Also, the information services that will be provided to both users in Member States and to Agency staff will be enriched through Web based services giving access to a wide range of information resources available both at the INIS site and at sites in other locations.

Key Subprogramme Resource Trends

The subprogramme budget remains unchanged at $4 158 000 compared with the adjusted 2000 budget. The introduction of in-house advanced data processing systems and the installation of INIS developed software capable of producing cleaner input at the national centres will lead to efficiency gains.

MAJOR PROGRAMME 6: POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

Summary of Regular Budget Estimates by Subprogramme Element/Project

Table 56

2001 Sub-prog Elements		2000 Sub-prog Elements	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
O.1	Office of the Director General and the Deputy Director General, Head of the Department of Management									
O.1.01	Office of the Director General	O.1.01	Cont.	DGO	1 230 000	(3 000)	(0.2)	1 227 000	1.4	1 244 000
O.1.02	Office of the Deputy Director General, Head of the Department of Management	O.1.02	Cont.	DDG-MT	549 000	(1 000)	(0.2)	548 000	1.3	555 000
	Sub-total O.1				1 779 000	(4 000)	(0.2)	1 775 000	1.4	1 799 000
O.2	Internal Audit		Cont.	IA						
O.2.01	Internal Audit	O.2.01			830 000	8 000	1.0	838 000	1.6	851 000
	Sub-total O.2				830 000	8 000	1.0	838 000	1.6	851 000
O.3	Programme Support and Evaluation		Cont.	MTPE						
O.3.01	Programme Support and Evaluation	O.1.01,.2. 02			405 000	3 000	0.7	408 000	1.5	414 000
	Sub-total O.3				405 000	3 000	0.7	408 000	1.5	414 000
O	**Executive Management**				3 014 000	7 000	0.2	3 021 000	1.4	3 064 000
P.1	General Conference	P.1	Cont.		2 586 000	(114 000)	(4.4)	2 472 000	1.7	2 515 000
P.2	Board of Governors' Meetings	P.2	Cont.		3 875 000	(226 000)	(5.8)	3 649 000	2.0	3 722 000
P	**Services for Policy-making Organs**			SEC	6 461 000	(340 000)	(5.3)	6 121 000	1.9	6 237 000
Q.1	Legal Activities		Cont.	MTLG						
Q.1.01	Legal Services to Policy-Making Organs and the Secretariat	Q.1.01			530 000	387 000	73.0	917 000	1.9	934 000
Q.1.02	Programme Implementation	Q.1.02			766 000	(328 000)	(42.8)	438 000	2.5	449 000
Q.1.03	Legal Services to Member States	Q.1.03			612 000	13 000	2.1	625 000	1.1	632 000
Q.1.04	Inter-Agency Legal Matters	Q.1.04			91 000	19 000	20.9	110 000	0.9	111 000
	Sub-total Q.1				1 999 000	91 000	4.6	2 090 000	1.7	2 126 000
Q.2	External Relations and Policy Co-ordination		Cont.	EXPO						
Q.2.01	Verification, Security of Material and Safety Policy	Q.2.01			324 000	(2 000)	(0.6)	322 000	1.9	328 000
Q.2.02	Nuclear Technologies, Interagency Affairs and General Policy Co-ordination	Q.2.02			761 000	64 000	8.4	825 000	1.6	838 000
Q.2.03	Liaison Office, New York	Q.2.03			416 000	4 000	1.0	420 000	1.4	426 000
Q.2.04	Liaison Office, Geneva	Q.2.04			311 000	(66 000)	(21.2)	245 000	1.6	249 000
	Sub-total Q.2				1 812 000	-	-	1 812 000	1.6	1 841 000
Q.3	Public Information		Cont.	MTPI						
Q.3.01	Public Affairs	Q.3.01			1 311 000	(102 000)	(7.8)	1 209 000	1.8	1 231 000
Q.3.02	Periodicals and Electronic Information Distribution	Q.3.02			1 146 000	57 000	5.0	1 203 000	1.7	1 224 000
Q.3.03	Visitors, Information and Audiovisual Services	Q.3.03			557 000	(1 000)	(0.2)	556 000	1.3	563 000
Q.3.04	Opinion Leaders Outreach	Q.3.04			63 000	46 000	73.0	109 000	0.9	110 000
	Sub-total Q.3				3 077 000	-	-	3 077 000	1.7	3 128 000
Q	**Legal Activities, External Relations and Public Information**				6 888 000	91 000	1.3	6 979 000	1.7	7 095 000

MAJOR PROGRAMME 6: POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

Summary of Regular Budget Estimates by Subprogramme Element/Project

Table 56 (Contd.)

2001 Sub-prog Elements		2000 Sub-prog Elements	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
R.1	Financial Management		Cont.	MTBF						
R.1.01	Direction	R.1.01			369 000	31 000	8.4	400 000	1.9	407 000
R.1.02	Budgeting, Accounting, Control and Reporting	R.1.02			2 662 000	14 000	0.5	2 676 000	1.6	2 718 000
R.1.03	Payment Processing and Treasury	R.1.03			2 300 000	(17 000)	(0.7)	2 283 000	1.6	2 319 000
R.1.04	Financial Systems Support	R.1.04			1 432 000	(28 000)	(2.0)	1 404 000	4.0	1 460 000
	Sub-total R.1				6 763 000	-	-	6 763 000	2.1	6 904 000
R.2	Personnel Management		Cont.	MTPR						
R.2.01	Direction	R.2.01			1 748 000	40 000	2.3	1 788 000	1.7	1 818 000
R.2.02	Recruitment	R.2.02			1 043 000	-	-	1 043 000	1.6	1 060 000
R.2.03	Training and Development	R.2.03			554 000	-	-	554 000	1.4	562 000
R.2.04	Employment Conditions	R.2.04			838 000	-	-	838 000	1.6	851 000
R.2.05	Personnel Information	R.2.05			342 000	-	-	342 000	1.6	347 000
R.2.06	Staff Council	R.2.06			208 000	-	-	208 000	1.6	212 000
	Sub-total R.2				4 733 000	40 000	0.8	4 773 000	1.6	4 850 000
R.3	Management Services		Cont.	MTMS						
R.3.01	Advisory Services	R.3.01			387 000	(11 000)	(2.8)	376 000	1.1	380 000
R.3.02	Operational Support	R.3.02			87 000	11 000	12.6	98 000	2.0	100 000
	Sub-total R.3				474 000	-	-	474 000	1.3	480 000
R	**Administration**				11 970 000	40 000	0.3	12 010 000	1.9	12 234 000
S.1	VIC Maintenance and Operation		Cont.	MTGS						
S.1.01	Buildings Management Services	S.1.01			10 073 000	27 000	0.3	10 100 000	1.9	10 291 000
S.1.02	Security and Safety Services	S.1.02			2 627 000	(27 000)	(1.0)	2 600 000	1.7	2 644 000
	Sub-total S.1				12 700 000	-	-	12 700 000	1.9	12 935 000
S.2	Other General Services		Cont.	MTGS						
S.2.01	Direction and Co-ordination	S.2.01			316 000	83 000	26.3	399 000	1.5	405 000
S.2.02	Technical and Engineering Services	S.2.02			1 000 000	7 000	0.7	1 007 000	1.5	1 022 000
S.2.03	Procurement and Supplies Services	S.2.03			806 000	652 000	80.9	1 458 000	1.6	1 482 000
S.2.04	Records and Communications Services	S.2.04			3 076 000	(295 000)	(9.6)	2 781 000	1.7	2 827 000
S.2.05	Administrative Support Services	S.2.05			2 217 000	(329 000)	(14.8)	1 888 000	1.7	1 920 000
S.2.06	Common Services, Supplies and Miscellaneous Cost-Items	S.2.06			2 655 000	(212 000)	(8.0)	2 443 000	1.9	2 489 000
	Sub-total S.2				10 070 000	(94 000)	(0.9)	9 976 000	1.7	10 145 000
S	**General Services**				22 770 000	(94 000)	(0.4)	22 676 000	1.8	23 080 000

MAJOR PROGRAMME 6: POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

Summary of Regular Budget Estimates by Subprogramme Element/Project

Table 56 (Contd.)

2001 Sub-prog Elements		2000 Sub-prog Elements	Project Durat.	Division	2000 adjusted budget	Increase / (decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
T.1	Information Management		Cont.	NESI						
T.1.01	Office of the Director				285 000	-	-	285 000	1.8	290 000
T.1.02	Information Management	T.1.01			158 000	-	-	158 000	1.3	160 000
T.1.03	Rationalization of Databases	T.1.01			151 000	-	-	151 000	1.3	153 000
T.1.04	Document Management	T.1.01			98 000	-	-	98 000	1.0	99 000
T.1.05	GovAtom	T.1.01			101 000	-	-	101 000	1.0	102 000
T.1.06	Information Systems Services	T.1.02			945 000	349 000	36.9	1 294 000	1.5	1 314 000
	Sub-total T.1				1 738 000	349 000	20.1	2 087 000	1.5	2 118 000
T.2	Computing Services - Unallocated	T.2	Cont.	NESI	2 705 000	(364 000)	(13.5)	2 341 000	2.2	2 393 000
				MTCD	171 000	-	-	171 000	1.8	174 000
	Sub-total T.2				2 876 000	(364 000)	(12.7)	2 512 000	2.2	2 567 000
T.3	Library Services - Agency's Share		Cont.	NESI						
T.3.01	Development of the Library's Collection	T.3.01			1 282 000	70 000	5.5	1 352 000	4.2	1 409 000
T.3.02	Collection Maintenance	T.3.02			224 000	(20 000)	(8.9)	204 000	0.5	205 000
T.3.03	Library and Documentation Services	T.3.03			421 000	(25 000)	(5.9)	396 000	1.5	402 000
T.3.04	Access to Information Available from Other Sources	T.3.04			391 000	(136 000)	(34.8)	255 000	3.9	265 000
	Sub-total T.3				2 318 000	(111 000)	(4.8)	2 207 000	3.4	2 281 000
T.4	Conference and Publishing Services		Cont.	MTCD						
T.4.01	Office of the Director	New			-	317 000	-	317 000	1.3	321 000
T.4.02	Policy-Making Organs, Treaties, Conventions and Agreements Meetings	R.4.01			296 000	123 000	41.6	419 000	1.8	427 000
T.4.03	Scientific Meetings	R.4.02			542 000	(123 000)	(22.7)	419 000	1.8	426 000
T.4.04	Editing	T.4.01			1 005 000	9 000	0.9	1 014 000	1.6	1 030 000
T.4.05	Book Production	T.4.02			1 201 000	(105 000)	(8.7)	1 096 000	1.6	1 114 000
T.4.06	Promotion and Sales	T.4.03			601 000	17 000	2.8	618 000	1.6	628 000
T.4	Conference and Publishing Services - Agency's Share				3 645 000	238 000	6.5	3 883 000	1.6	3 946 000
T.5	International Nuclear Information System		Cont.	NESI						
T.5.01	Bibliographic Database of Nuclear Literature	T.5.01			1 885 000	(181 000)	(9.6)	1 704 000	1.6	1 731 000
T.5.02	Non-Conventional Literature	T.5.02			916 000	(239 000)	(26.1)	677 000	1.6	688 000
T.5.03	System Maintenance and Development	T.5.03			685 000	235 000	34.3	920 000	1.5	934 000
T.5.04	INIS Participation in Agency-wide Projects	T.5.04			588 000	198 000	33.7	786 000	1.5	798 000
T.5.05	TC Activities in T.5 Technical Support	T.5.05			84 000	(13 000)	(15.5)	71 000	1.4	72 000
	Sub-total T.5				4 158 000	-	-	4 158 000	1.6	4 223 000
T	**Information Management and Support Services**				14 735 000	112 000	0.8	14 847 000	1.9	15 135 000

MAJOR PROGRAMME 6: POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

List of Subprogramme Elements/Projects and Estimated Total Resources for 2001

Table 57

Sub-prog Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
O.1	Office of the Director General and the Deputy Director General, Head of the Department of Management							
O.1.01	Office of the Director General	DGO	4.0	4.0	1 244 000	-	-	-
O.1.02	Office of the Deputy Director General, Head of the Department of Management	DDG-MT	2.0	2.0	555 000	-	-	-
	Sub-total O.1		6.0	6.0	1 799 000	-	-	-
O.2	Internal Audit	IA						
O.2.01	Internal Audit		6.0	3.0	851 000	-	-	-
	Sub-total O.2		6.0	3.0	851 000	-	-	-
O.3	Programme Support and Evaluation	MTPE						
O.3.01	Programme Support and Evaluation		2.0	1.0	414 000	-	-	-
	Sub-total O.3		2.0	1.0	414 000	-	-	-
O	**Executive Management**		14.0	10.0	3 064 000	-	-	-
P.1	General Conference		-	-	2 515 000	-	-	-
P.2	Board of Governors' Meetings		-	-	3 722 000	-	-	-
P	**Services for Policy-making Organs**	SEC	4.0	2.0	6 237 000	-	-	-
Q.1	Legal Activities	MTLG						
Q.1.01	Legal Services to Policy-Making Organs and the Secretariat		5.9	4.2	934 000	-	-	-
Q.1.02	Programme Implementation		1.2	1.0	449 000	-	-	-
Q.1.03	Legal Services to Member States		1.5	0.5	632 000	-	-	665 000
Q.1.04	Inter-Agency Legal Matters		0.4	0.3	111 000	-	-	-
	Sub-total Q.1		9.0	6.0	2 126 000	-	-	665 000
Q.2	External Relations and Policy Co-ordination	EXPO						
Q.2.01	Verification, Security of Material and Safety Policy		3.6	3.1	328 000	-	-	-
Q.2.02	Nuclear Technologies, Interagency Affairs and General Policy Co-ordination		3.4	4.9	838 000	-	-	-
Q.2.03	Liaison Office, New York		2.0	2.0	426 000	-	-	-
Q.2.04	Liaison Office, Geneva		1.0	1.0	249 000	-	-	-
	Sub-total Q.2		10.0	11.0	1 841 000	-	-	-
Q.3	Public Information	MTPI						
Q.3.01	Public Affairs		3.2	5.0	1 231 000	-	-	-
Q.3.02	Periodicals and Electronic Information Distribution		2.0	4.5	1 224 000	-	85 000	-
Q.3.03	Visitors, Information and Audiovisual Services		1.6	2.3	563 000	-	-	-
Q.3.04	Opinion Leaders Outreach		0.2	0.2	110 000	-	720 000	-
	Sub-total Q.3		7.0	12.0	3 128 000	-	805 000	-
Q	**Legal Activities, External Relations and Public Information**		26.0	29.0	7 095 000	-	805 000	665 000

MAJOR PROGRAMME 6: POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

List of Subprogramme Elements/Projects and Estimated Total Resources for 2001

Table 57 (Contd.)

Sub-prog Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
R.1	Financial Management	MTBF						
R.1.01	Direction		1.0	2.0	407 000	-	-	-
R.1.02	Budgeting, Accounting, Control and Reporting		13.0	20.7	2 718 000	-	-	-
R.1.03	Payment Processing and Treasury		5.0	26.0	2 319 000	-	-	-
R.1.04	Financial Systems Support		3.0	4.3	1 460 000	250 000	-	-
	Sub-total R.1		22.0	53.0	6 904 000	250 000	-	-
R.2	Personnel Management	MTPR						
R.2.01	Direction		4.5	4.5	1 818 000	-	-	-
R.2.02	Recruitment		2.5	9.0	1 060 000	-	-	-
R.2.03	Training and Development		1.0	1.5	562 000	70 000	-	-
R.2.04	Employment Conditions		3.0	8.0	851 000	-	-	-
R.2.05	Personnel Information		1.0	3.0	347 000	-	-	-
R.2.06	Staff Council		-	-	212 000	-	-	-
	Sub-total R.2		12.0	26.0	4 850 000	70 000	-	-
R.3	Management Services	MTMS						
R.3.01	Advisory Services		3.0	1.0	380 000	-	-	-
R.3.02	Operational Support		-	1.0	100 000	-	-	-
	Sub-total R.3		3.0	2.0	480 000	-	-	-
R	**Administration**		37.0	81.0	12 234 000	320 000	-	-
S.1	VIC Maintenance and Operation	MTGS						
S.1.01	Buildings Management Services		-	-	10 291 000	1 500 000	-	-
S.1.02	Security and Safety Services		-	-	2 644 000	-	-	-
	Sub-total S.1		-	-	12 935 000	1 500 000	-	-
S.2	Other General Services	MTGS						
S.2.01	Direction and Co-ordination		1.0	3.0	405 000	-	-	-
S.2.02	Technical and Engineering Services		1.0	20.0	1 022 000	-	-	-
S.2.03	Procurement and Supplies Services		4.0	14.0	1 482 000	-	-	-
S.2.04	Records and Communications Services		2.0	47.0	2 827 000	-	-	-
S.2.05	Administrative Support Services		2.0	23.0	1 920 000	-	-	-
S.2.06	Common Services, Supplies and Miscellaneous Cost-Items		-	-	2 489 000	-	-	-
	Sub-total S.2		10.0	107.0	10 145 000	-	-	-
S	**General Services**		10.0	107.0	23 080 000	1 500 000	-	-

MAJOR PROGRAMME 6: POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

List of Subprogramme Elements/Projects and Estimated Total Resources for 2001

Table 57 (Contd.)

Sub-prog Codes		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme a_/
T.1	Information Management	NESI						
T.1.01	Office of the Director		1.0	2.0	290 000	55 000	-	-
T.1.02	Information Management		-	-	160 000	-	-	-
T.1.03	Rationalization of Databases		-	-	153 000	-	-	-
T.1.04	Document Management		-	-	99 000	42 000	-	-
T.1.05	GovAtom		-	-	102 000	-	-	-
T.1.06	Information Systems Services		-	-	1 314 000	70 000	-	-
	Sub-total T.1		1.0	2.0	2 118 000	167 000	-	-
T.2	Computing Services - Unallocated	NESI	-	-	2 393 000	350 000	-	-
		MTCD	-	-	174 000	-	-	-
	Sub-total T.2		-	-	2 567 000	350 000	-	-
T.3	Library Services - Agency's Share	NESI						
T.3.01	Development of the Library's Collection		-	-	1 409 000	-	-	-
T.3.02	Collection Maintenance		-	-	205 000	-	-	-
T.3.03	Library and Documentation Services		-	-	402 000	-	-	-
T.3.04	Access to Information Available from Other Sources		-	-	265 000	-	-	-
	Sub-total T.3		-	-	2 281 000	-	-	-
T.4	Conference and Publishing Services	MTCD						
T.4.01	Office of the Director		1.0	2.0	321 000	-	-	-
T.4.02	Policy-Making Organs, Treaties, Conventions and Agreements Meetings		0.5	4.5	427 000	-	-	-
T.4.03	Scientific Meetings		0.5	4.5	426 000	-	-	-
T.4.04	Editing		-	-	1 030 000	-	-	-
T.4.05	Book Production		-	-	1 114 000	-	-	-
T.4.06	Promotion and Sales		-	-	628 000	-	-	-
	Sub-total T.4		2.0	11.0	3 946 000	-	-	-
T.5	International Nuclear Information System	NESI						
T.5.01	Bibliographic Database of Nuclear Literature		7.5	12.0	1 731 000	-	-	-
T.5.02	Non-Conventional Literature		1.5	6.2	688 000	-	-	-
T.5.03	System Maintenance and Development		2.8	2.8	934 000	-	-	-
T.5.04	INIS Participation in Agency-wide Projects		3.8	4.6	798 000	-	-	-
T.5.05	TC Activities in T.5 Technical Support	NESI	0.4	0.4	72 000	-	-	-
	Projects	TC	-	-	-	-	-	60 000
	Sub-total T.5		16.0	26.0	4 223 000	-	-	60 000
T	**Information Management and Support Services**		19.0	39.0	15 135 000	517 000	-	60 000

a_/ Includes UNDP and footnote a_/ amounts where applicable. All amounts are initial and tentative.

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Allocated Services

Rationale

The rationales are given under the separate services.

Objective

The purpose of allocating services is to make it possible to present the full cost of those programmes to which the services are provided.

The allocated services consist of two parts

1. The Agency's Laboratories
2. Shared Services

1. The Agency's Laboratories

Rationale

Scientific services are rendered by the Laboratories in response to the needs of and requests from Member States. They are usually provided within the framework of technical co-operation projects and CRPs, and frequently through a network of decentralized laboratories.

Objective

To complement the Agency's programmatic initiatives in Programmes D, E, F, G and L through laboratory activities addressing research and development issues and by the provision of analytical and other scientific services of interest to Member States, by the training of scientists and by assisting Member States in quality assurance and control.

Performance Indicators

Performance indicators of the Laboratory's activities are described under Programmes D, E, F, G and L.

Key Trends

The major trends concerning the Agency's laboratories will be: (i) to consolidate a comprehensive quality assurance system for all measurements and products provided and act as a reference laboratory within the United Nations at the service of all Member States; (ii) to provide assistance to developing Member States in the field of quality assurance for measurements and applications of radionuclides and nuclear related techniques; and (iii) to enable laboratories in the Member States to achieve and maintain internationally recognized standards, in order to facilitate the international acceptance of their data related to scientific research, to the characterization of products of industry and trade and to environmental monitoring.

Within the FAO/IAEA Agriculture and Biotechnology Laboratory, as a result of changes in the overall food and agriculture programme, the work on tsetse SIT and plant molecular biology will be strengthened. Consequently, in 2001, there will be a reduction of resources available for the activities in soil science and animal production, and increased resources for plant breeding and entomology. Overall, the resources available to the FAO/IAEA Agriculture and Biotechnology Laboratory will remain unchanged.

The activities related to Programme L in support of the Agency's safeguards verification system will reflect the introduction of integrated safeguards as well as the design of an on-site laboratory for the Japanese reprocessing facility in Rokkasho-mura.

Key Resource Trends

The proposed resources for these services amount to $13 963 000, reflecting an increase of $48 000, or 0.3%, compared with the 2000 budget. The increase results from a combination of activities: (a) a transfer of a P4 post from the food and agriculture programme to the Agrochemicals Laboratory (D5) — $100 000 and (b) a reduction in the cost allocations of $52 000. The costs are allocated within the programmes mentioned above.

THE AGENCY'S LABORATORIES
Table 58

Code		Division	Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme
1.	The Agency's Laboratories	NAAL			14 394 000	-	-	-
	Less: Reimbursable Work for Others				200 000	-	-	-
					14 194 000	-	-	-
	Project-related Staff (allocated: Major Prog. 2)		[25.0]	[38.9]				
	(allocated: Major Prog. 4)		[8.0]	[30.2]				
	Site-related Staff (unallocated)		1.5	21.8				
	(allocated: Major Prog. 4)		[0.5]	[4.1]				
			[35.0]	[95.0]	14 194 000	-	-	-

2. Shared Services

The shared services consist of the following services

2.1. Contracts Administration Services

2.2. Translation and Records Services

2.3. Medical Services

2.4. Library Services

2.5. Data Processing Services

2.6. Printing Services

2.7. Publishing Services

2.8. Radiation Protection and Monitoring Services

Subprogramme Rationale

The Research Contract Programme is in pursuance to Article III of the Statute, which states that the Agency is authorized to encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world and to foster the exchange of scientific and technical information, as well as the exchange of scientists in the field of peaceful uses of atomic energy.

Subprogramme Objective

To manage the Agency's Research Contract Programme.

Subprogramme Performance Indicators

- Increased efficiency in the provision of advice and support for the planning and implementation of CRPs and research co-ordination meetings.
- Increased efficiency in the dissemination of results of CRPs to Member States.

Key Subprogramme Resource Trends

The resources remain at the adjusted 2000 level ($589 000), with costs allocated to user programmes.

Subprogramme Rationale

Effective, rapid and accurate communication of the contents of Agency and Policy-making Organs documents and materials to non-English speaking Member States.

Subprogramme Objective

To provide rapid and high quality translation and meeting record services to the Secretariat and the Policy-making Organs.

Subprogramme Performance Indicators

- Satisfaction of customers with the quality and timeliness of services provided.
- Provision of a wider range of translation services, inter alia through outsourcing.

Key Subprogramme Trends

With the endeavour to achieve savings in the translation and records services, use of resources will be optimized through computerization of workflow and processes. Translators are shifting to work directly on computers and the typing units will be reduced, with some personnel redeployed to a central Control, Terminology and Reference Unit or elsewhere in the Agency. There will also be much more proactive collaboration with Agency Departments on outsourcing of appropriate materials for translation and improved costing of such efforts, to reduce overall budgets in this area.

Key Subprogramme Resource Trends

The resources required for this subprogramme are $5 944 000, reflecting a decrease of $611 000, or 9.3%, compared with the 2000 budget. The reduction is caused by (a) the creation, on a cost neutral basis, of the Office of the Director for the combined operations of the Conference Services, Publishing, Printing and Translation Services, resulting in the transfer of budget allocations from this subprogramme to Subprogramme T.4 (Conference and Publishing Services); and (b) savings in translation costs through the more efficient use of modern technology.

The traditional charges of average cost-per-page will be eliminated in favour of a system based on patterns of usage.

Subprogramme Rationale

Medical services are required to promote the health of the staff.

Subprogramme Objectives

To provide occupational health services to the Vienna based organizations; and to implement the United Nations common system medical standards.

Subprogramme Performance Indicators

- High quality of advice to management on medical standards for recruitment, placement, disability and entry to the Pension Fund.
- Proper use of medical standards in the recruitment and placement of staff.
- Adequacy of arrangements for monitoring the health of occupationally exposed workers and of medical facilities provided at the Seibersdorf Laboratories.
- Ability to provide emergency medical services in the event of illness or an accident in the VIC.

Key Subprogramme Trends

Continued provision of satisfactory medical services to the Vienna based organizations.

Key Subprogramme Resource Trends

The proposed resource level for this subprogramme amounts to $1 583 000, with no change compared with the adjusted 2000 budget. The costs of these services are allocated to Subprogramme R.2, Personnel Management ($817 000), and to reimbursable work for others ($766 000).

Subprogramme Rationale

Information support should be provided to both the Agency staff and the staff of permanent missions in Vienna for ensuring the implementation of Agency programmes.

Subprogramme Objective

To operate as a common service to provide library and information services to the staff of the VIC based organizations, the staff of permanent missions in Vienna and registered participants in meetings held at the VIC; and as a service exclusively for the Member States of the Agency, to lend audiovisual materials to any institution within a Member State and to implement document delivery.

Subprogramme Performance Indicators

- Improved access to relevant and current information resources in print and electronic formats for the programmes of the VIC based organizations.
- Ease of access to the materials in the collections.
- User satisfaction.

This shared service consists of four elements/projects

2.4.01. *Development of the Library's Collection* — to select, acquire and process library materials to be included in the Library's collection.

2.4.02. *Collection Maintenance* — to perform operations needed to preserve the integrity and quality of the Library collections.

2.4.03. *Library and Documentation Services* — to ensure access to information contained in the Library's collection by providing: reference services, circulation of the Library materials, document delivery services, current awareness services and access to the Library's Home Page.

2.4.04. *Access to Information Available from other Sources* — to ensure access to information available from other libraries, research institutes, database vendors and document suppliers.

Key Subprogramme Trends

In view of the world trends in library activities, the VIC Library will: increase availability of electronic publications and services; streamline user access to relevant information; and meet user information needs in the most cost effective way.

Key Subprogramme Resource Trends

The proposed budget is reduced by $196 000, or 5.4%, to $ 3 414 000 owing to the reduction in the cost of library materials through better selection of publications, consolidation of services, and the participation of the Library in the Consortium of United Nations Libraries on Electronic Information, as well as reduced cost of equipment maintenance.

Subprogramme Rationale

A standardized and compatible infrastructure is required to permit the introduction of new and innovative information technology (IT).

Subprogramme Objective

To design, implement and maintain a secure and functional IT infrastructure, consisting of state-of-the-art hardware and software platforms and effective security arrangements, on which information systems can perform to agreed service levels.

Subprogramme Performance Indicators

- Adherence to an acceptable level of IT infrastructure, availability, performance and support.

This shared service consists of 15 elements/projects

2.5.01. *Provision of Central Computing Facilities* — to design, implement and maintain a secure and functional IT infrastructure, consisting of a state of the art hardware and software platform and effective security arrangements, on which information systems of the Agency and VIC organizations can perform to the agreed service levels.

2.5.02. *Provision of Internet working facilities* — to provide a standardized and compatible IT infrastructure to permit the introduction of new and innovative IT and to increase the capacity and performance of modern communications systems, including the Internet.

2.5.03. *Design, Implementation and Provision of the Standard Desktop* — to propagate as Agency-wide standards, office productivity tools such as wordprocessors, spreadsheets, presentation tools, e-mail/time-schedule-client and Internet browsers to permit smooth interaction between offices.

2.5.04. *Security Planning, Design and Audit* — to plan, design and audit security arrangements to ensure the confidentiality, availability and integrity of the Agency's electronic information.

2.5.05. *Training and User-support* — to provide first and second level support for all systems and services provided by the Computer Services Centre, including training, coaching, incident and problem management and change notifications.

2.5.06. *IT Related Services and Management Support* — to undertake medium/long term strategic planning for the computer infrastructure; to provide support to the Agency and other VIC organizations on best possible practices for developing and maintaining IT, including the development and implementation of standards.

2.5.07. *Desktop 2000* — to implement the newly designed 'Standard Desktop' on all PCs in the Agency to take advantage of current developments, especially in relation to the Internet, and to allow for reduced support costs.

2.5.08. *Equipment Replacement Fund (ERF 2005)* — to plan and provide for the adoption of new technology, increase service levels, reduce security vulnerabilities and improve support in a structured manner.

2.5.09. *Agency-wide Systems and IT Application Support Service* — to develop and maintain Agency-wide systems, and to provide project management and technical support for IT applications.

2.5.10. *Data and Database Administration Service* — to provide data and database administration services to meet the needs of the programme areas.

2.5.11. *Systems Development and Maintenance Service* — to develop, enhance and maintain software systems to meet the specific needs of Agency programmes.

2.5.12. *Information Management* — to ensure that the Agency's information resources are co-ordinated and well planned, by development of Agency-wide information management plans; to ensure that information access is co-ordinated and appropriate and to ensure that information technology use is standardized throughout the Agency.

2.5.13. *Rationalization of Databases* — to identify and rationalize scientific and technical databases maintained for the Agency (except for financial and administrative databases).

2.5.14. *Document Management* — to promote efficient sharing of electronic documents among staff and within workgroups; to streamline collaborative document production; and to significantly reduce the time required to locate, retrieve and distribute documents.

2.5.15. *GovAtom* — to make the complete set of Board of Governors' meetings documents available electronically in the official Agency languages; and to improve the GovAtom user interface to assist users to search and retrieve relevant information efficiently and effectively.

The Agency portion of the elements/projects listed above, which is not allocated to individual programmes, is reflected as follows under Subprogrammes T.1 (Information Management) and T.2 (Computer Services):

2.5.01–2.5.08	— under T.2.01
2.5.09–2.5.11	— under T.1.06
2.5.12	— under T.1.02
2.5.13	— under T.1.03
2.5.14	— under T.1.04
2.5.15	— under T.1.05

Key Subprogramme Trends

The main trends will be serving a new class of customers who will have access to Agency data via the Internet and Extranet. Data and systems security will be enhanced.

Key Subprogramme Resource Trends

The total resource level for the subprogramme amounts to $8 595 000, representing a decrease of $225 000, or 2.6%, compared with the adjusted 2000 budget. The decrease resulted from a combination of activities: (a) the transfer of the annual cost of Internet access ($125 000) for the whole Agency from Subprogramme S.2 (Other General Services) to this subprogramme; (b) savings in staff costs $140 000; (c) reduction in the demand for services allocated to programmes ($162 000); and (d) reduction in the reimbursable work for others ($48 000).

The resources required ($350 000) for the Equipment Replacement Fund (ERF 2005) have been listed under URPA to allow for the inclusion in the regular budget of the funding for the development and maintenance of Agency-wide systems.

There will be a need for more Professional staff to put the newest technology in place. More funds will be allocated to contracts and outsourcing arrangements.

Subprogramme Rationale

One of the Agency's main functions is the dissemination of information as documents or publications to its Member States, staff and to the scientific community worldwide.

Subprogramme Objective

To provide comprehensive, efficient and economic reproduction and printing services to all VIC based organizations, including the production of working papers, documents, publications, CD-ROMs and diskettes. To advise on questions of presentation (in conjunction with the Publishing Services), CD-ROM mastering and copying, and the various methods of reproduction on the basis of economic considerations.

Subprogramme Performance Indicator

- Satisfaction of customers in the Agency and all other VIC based organizations with high quality, efficient, and appropriately priced services that assist in the effective implementation of established programmes.

Key Subprogramme Trends

Production methods are changing from traditional photo laboratory techniques to modern electronic and digital technologies. Offset printing and digital printing will complement each other and new technologies such as the production of CD-ROMs and Internet publishing, are becoming new standards. The dissemination of working papers, documents and publications by electronic means (CD-ROM and Internet) as well as in hard copy has high priority.

Increased use will be made of computerized systems and integrated work processes. An improved mailing list system will reduce duplication of efforts across the whole house and allow better service to Member States at a reduced overall cost to the Agency.

Key Subprogramme Resource Trends

The overall resources required for this subprogramme are $4 602 000, reflecting no change compared with the adjusted 2000 budget. While there is a decrease in demand for printing services in the Agency's programmes by $189 000, the services to be provided to other VIC based organizations are expected to increase by the same amount.

The traditional charging system is being replaced by one based on patterns of usage, and a market related but still competitively priced system for other VIC based organizations.

Subprogramme Rationale

The outcome of Agency projects is often in the form of a publication. It is essential that these be of high quality and consistent with a 'one-house' policy. The beneficiaries are scientists, engineers, lawyers and policy-makers in Member States.

Subprogramme Objective

To manage and implement the publishing policy of the Agency for a variety of journals, reports and documents in support of the Agency's mission. To provide for centralized electronic editing and flow of manuscripts, to prepare publications for press or electronic issue in all relevant languages, to co-ordinate printing, and to market and manage the sales of publications.

Subprogramme Performance Indicators

- Timely production of publications.
- High sales and satisfaction of customers.
- Good reviews of Agency publications.

This shared service consists of four elements/projects

2.7.01. *Editing* (see T.4.04)

2.7.02. *Book Production* (see T.4.05)

2.7.03. *Sales and Promotion* (see T.4.06)

2.7.04. *Nuclear Fusion Journal* — to provide Member States with a high quality journal for the exchange of information on fusion research.

Key Subprogramme Trends

It is planned to move towards more extensive electronic dissemination and possible outsourcing.

Key Subprogramme Resource Trends

The resource level for this subprogramme amounts to $3 222 000, reflecting a decrease of $153 000, or 4.5%, compared with the adjusted budget for 2000, mainly as a result of the move towards more extensive electronic dissemination and a reduction in the costs of the *Nuclear Fusion* journal.

Subprogramme Rationale

Operational services for radiation monitoring and protection have to be rendered in order: to comply with the Agency's Radiation Protection Rules and Requirements for its own operations as well as for the operations making use of materials, services, equipment, facilities and information made available by the Agency; to discharge the functions assigned by its Statute, mainly under Article III.A.3, in relation to the establishment of standards of safety for the protection of health and the provisions for the application of these standards to the Agency's own operations, and also by Articles IX.I.3, XI.E.3, XI.F.2 and XII.A.2 and 6, in relation to the health and safety measures required by the Agency; and to assist any State in operational services requests made within the framework of the International Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

Subprogramme Objective

To provide operational services for radiation monitoring and protection for the Agency's own operations as well as to operations making use of materials, services, equipment, facilities and information made available by the Agency, including technical co-operation projects.

Subprogramme Performance Indicators

- Satisfactory results in any performance test, blind test or intercomparison exercise for all the techniques used in the assessment of occupational exposure.
- Maintenance of an appropriate quality assurance system in all the laboratories involved in providing services.

Key Subprogramme Trends

The focus will be on further developing the personal monitoring services of the Agency and improving the quality of its Radiation Protection and Monitoring Laboratory so as to enable the Agency's radiation protection rules and procedures derived from the Basic Safety Standards to be implemented in an effective and consistent manner.

Key Subprogramme Resource Trends

The proposed resources for these services amount to $1 168 000, with no change compared to the adjusted 2000 budget.

The costs of radiation protection services are charged to the Technical Co-operation Fund in the case of experts, to Programme L in respect of safeguards inspectors and to Subprogramme I.5 (Operational Services for Radiation Monitoring and Protection) in respect of all other Agency staff who work with radiation.

SHARED SERVICES

Summary of Regular Budget estimates by subprogramme

Table 59

	Subprogramme	2000 adjusted budget	Programme increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
2.1	Contracts Administration Services	589 000	-	-	589 000	1.7	599 000
2.2	Translation and Records Services	6 555 000	(611 000)	(9.3)	5 944 000	1.6	6 038 000
2.3	Medical Services	1 583 000	-	-	1 583 000	1.8	1 611 000
2.4	Library Services	3 610 000	(196 000)	(5.4)	3 414 000	3.0	3 517 000
2.5	Data Processing Services	8 820 000	(225 000)	(2.6)	8 595 000	2.0	8 763 000
2.6	Printing Services	4 602 000	-	-	4 602 000	2.3	4 706 000
2.7	Publishing Services	3 375 000	(153 000)	(4.5)	3 222 000	1.7	3 276 000
2.8	Radiation Protection and Monitoring Services	1 168 000	-	-	1 168 000	1.5	1 185 000
	Sub-total	30 302 000	(1 185 000)	(3.9)	29 117 000	2.0	29 695 000
Less:	cross-charge	593 000	(36 000)	(6.1)	557 000	2.3	570 000
Total:	Shared Services	29 709 000	(1 149 000)	(3.9)	28 560 000	2.0	29 125 000

SHARED SERVICES
List of subprogrammes and estimated total resources for 2001
Table 60

Sub-prog Codes		Staffing P	Staffing GS	Regular Budget	URPA	Extra-Budgetary	TC Programme
2.1	Contracts Administration Services	2.0	4.0	599 000	-	-	-
2.2	Translation and Records Services	31.0	37.0	6 038 000	-	-	-
2.3	Medical Services	3.0	16.0	1 611 000	-	-	-
2.4	Library Services						
2.4.01	Development of the Library's Collection	1.9	4.0	1 923 000	-	-	-
2.4.02	Collection Maintenance	0.5	2.0	428 000	-	-	-
2.4.03	Library and Documentation Services	0.8	2.3	705 000	-	-	-
2.4.04	Access to Information Available from Other Sources	0.8	1.7	461 000	-	-	-
	Sub-total 2.4	4.0	10.0	3 517 000	-	-	-
2.5	Data Processing Services						
	Computer Services Centre	15.0	26.0	5 965 000	-	-	-
	Information Systems Services	13.0	6.0	2 284 000	-	-	-
	Information Management	3.0	2.0	514 000	-	-	-
	Sub-total 2.5	31.0	34.0	8 763 000	-	-	-
2.6	Printing Services	2.0	49.0	4 706 000	-	-	-
2.7	Publishing Services						
2.7.01	Editing	6.5	4.5	1 030 000	-	-	-
2.7.02	Book Production	0.4	18.0	1 114 000	-	-	-
2.7.03	Promotion and Sales	1.1	4.5	628 000	-	-	-
2.7.04	Nuclear Fusion Journal	1.0	3.0	504 000	-	-	-
	Sub-total 2.7	9.0	30.0	3 276 000	-	-	-
2.8	Radiation Protection and Monitoring Services	3.0	6.0	1 185 000	-	-	-
	Shared Services	85.0	186.0	29 695 000	-	-	-

Note: Unfunded regular programme activities (URPAs) are those which cannot be funded within the expected level of Regular Budget resources.

Note: All costs relating to the Agency's share have been allocated to the user programmes. Contracts Administration Services, Translation and Records Services, Printing Services and some Data Processing Services are shared by the user programmes. Medical Services are allocated to subprogramme R.2 - Personnel Management. The costs of Radiation Protection and Monitoring Services are charged to Safeguards (Programme L) and TC projects and - in respect of other in-house utilization - to subprogramme I.5. The costs of the Library, Publishing Services and the major part of the costs of Data Processing Services are shown under programme T.

ANNEX I

Draft Resolutions

A. REGULAR BUDGET APPROPRIATIONS FOR 2001

The General Conference,

Accepting the recommendations of the Board of Governors relating to the Regular Budget of the Agency for 2001 [1/],

1. Appropriates on the basis of an exchange rate of AS 12.70 to $1.00, an amount of $229 984 000 for the Regular Budget expenses of the Agency in 2001 as follows [2/]:

		United States dollars
1.	Nuclear Power and Fuel Cycle	13 198 000
2.	Nuclear Sciences and Applications	33 076 000
3.	Nuclear, Radiation and Waste Safety	15 350 000
4.	Nuclear Verification and Security of Material	82 983 000
5.	Management of Technical Co-operation for Development	13 641 000
6.	Policy-making, Management and Support Services	66 845 000
	Subtotal Agency Programmes	225 093 000
7.	Reimbursable Work for Others	4 891 000
	TOTAL	229 984 000

the amounts in the Appropriation Sections to be adjusted in accordance with the adjustment formula presented in the Attachment in order to take into account the exchange rate variations during the year.

2. Decides that the foregoing appropriation shall be financed, after the deduction of
   - revenues deriving from Reimbursable Work for Others (Section 7); and
   - other miscellaneous income of $4 246 000 (representing $2 942 000 plus AS 16 561 000);

from contributions by Member States amounting, for an exchange rate of AS 12.70 to $1.00, to $220 847 000 ($37 414 000 plus AS 2 329 599 000), in accordance with the scale of assessment fixed by the General Conference in resolution GC(44)/RES/ ; and

3. Authorizes the Director General:

   (a) To incur expenditures additional to those for which provision is made in the Regular Budget for 2001, provided that the relevant emoluments of any staff involved and all other costs are entirely financed from revenues arising out of sales, work performed for Member States or international organizations, research grants, special contributions or other sources extraneous to the Regular Budget for 2001; and

(b) With the prior approval of the Board of Governors, to make transfers between any of the Sections listed in paragraph 1 above.

[1/] See document GC(44)/6.

[2/] The Appropriation Sections 1– 6 represent the Agency's Major Programmes.

ATTACHMENT

ADJUSTMENT FORMULA IN US DOLLARS

1.	Nuclear Power and Fuel Cycle	3 310 000	+	(125 578 000	/R)
2.	Nuclear Sciences and Applications	11 200 000	+	(277 825 000	/R)
3.	Nuclear, Radiation and Waste Safety	2 938 000	+	(157 632 000	/R)
4.	Nuclear Verification and Security of Material	13 158 000	+	(886 778 000	/R)
5.	Management of Technical Co-operation for Development	1 821 000	+	(150 114 000	/R)
6.	Policy-making, Management and Support Services	7 929 000	+	(748 233 000	/R)
	Subtotal Agency Programmes	40 356 000	+	(2 346 160 000	/R)
7.	Reimbursable Work for Others	759 000	+	(52 476 000	/R)
	TOTAL	41 115 000	+	(2 398 636 000	/R)

Note: R is the average United Nations schilling-to-dollar exchange rate which will be experienced during 2001.

B. TECHNICAL CO-OPERATION FUND ALLOCATION FOR 2001

The General Conference,

Accepting the recommendation of the Board of Governors relating to the target for voluntary contributions to the Agency's Technical Co-operation Fund for 2001 [1/],

1. Decides that for 2001 the target for voluntary contributions to the Technical Co-operation Fund shall be $; a/

2. Notes that funds from other sources, estimated at $1 000 000, are expected to be available for that programme;

3. Allocates the amount of $ a/ for the Agency's Technical Co-operation programme for 2001; and

4. Urges all Member States to make voluntary contributions for 2001 in accordance with Article XIV.F of the Statute, with paragraph 2 of its Resolution GC(V)/RES/100 as amended by Resolution GC(XV)/RES/286 or with paragraph 3 of the former Resolution, as appropriate.

C. THE WORKING CAPITAL FUND IN 2001

The General Conference,

Accepting the recommendations of the Board of Governors relating to the Agency's Working Capital Fund in 2001 [2/],

1. Approves a level of $18 000 000 for the Agency's Working Capital Fund in 2001;

2. Decides that the Fund shall be financed, administered and used in 2001 in accordance with the relevant provisions of the Agency's Financial Regulations [3/];

3. Authorizes the Director General to make advances from the Fund not exceeding $500 000 at any time to finance temporarily projects or activities which have been approved by the Board of Governors for which no funds have been provided under the Regular Budget; and

4. Requests the Director General to submit to the Board statements of advances made from the Fund under the authority given in paragraph 3 above.

1/ See document GC(44)/6, para 13 of the Explanatory Notes on the Programme and Budget for 2001.
2/ See document GC(44)/6, para 15 of the Explanatory Notes on the Programme and Budget for 2001.
3/ INFCIRC/8/Rev.2.

a/ Decision on target to be taken by the Board of Governors in September 2000.

ANNEX II

Summary of Output for the 2001 Regular Budget

Table 61

2001 Project Codes		Division	Information Exchange	Research & Development	Safety Norms	Safeguards Implementation	Additional Services to MS	Administration	Support for TC Programme	**TOTAL**
A.1	Nuclear Power Planning, Implementation and Performance	NENP	1 702 000	317 000	-	-	148 000	-	480 000	**2 647 000**
A.2	Nuclear Power Reactor Technology Development	NENP	1 259 000	660 000	-	-	-	-	70 000	**1 989 000**
Programme A - Nuclear Power			2 961 000	977 000	-	-	148 000	-	550 000	**4 636 000**
B.1	Fuel Cycle and Materials	NEFW	2 087 000	349 000	-	-	-	-	218 000	**2 654 000**
B.2	Waste Management and Technolog	NEFW	2 443 000	272 000	-	-	-	-	466 000	**3 181 000**
Programme B - Nuclear Fuel Cycle and Waste Management Technology			4 530 000	621 000	-	-	-	-	684 000	**5 835 000**
C.1	Energy Modelling, Databanks and Capacity Building	NE/PESS	488 000	565 000	-	-	210 000	-	254 000	**1 517 000**
C.2	Energy, Economy, Environment (3E Analysis	NSRW NE/PESS	172 000 495 000	- 413 000	- -	- -	- 130 000	- -	- -	**172 000** **1 038 000**
Programme C - Comparative Assessment for Sustainable Energy Development			1 155 000	978 000	-	-	340 000	-	254 000	**2 727 000**
Major Programme 1 - Nuclear Power and Fuel Cycle			8 646 000	2 576 000	-	-	488 000	-	1 488 000	**13 198 000**

ANNEX II

Summary of Output for the 2001 Regular Budget

Table 61

2001 Project Codes		Division	Information Exchange	Research & Development	Safety Norms	Safeguards Implementation	Additional Services to MS	Administration	Support for TC Programme	**TOTAL**
D.1	Soil and Water Managemen	NAFA	31 000	1 001 000	-	-	-	-	249 000	**1 281 000**
	and Crop Nutrition	NAAL	-	854 000	-	-	-	-	226 000	**1 080 000**
		FAO	14 000	117 000	-	-	-	-	25 000	**156 000**
D.2	Plant Breeding and Genetics	NAFA	131 000	741 000	-	-	26 000	-	239 000	**1 137 000**
		NAAL	-	646 000	-	-	72 000	-	195 000	**913 000**
		FAO	25 000	302 000	-	-	31 000	-	178 000	**536 000**
D.3	Animal Production and Healt	NAFA	73 000	761 000	-	-	15 000	-	297 000	**1 146 000**
		NAAL	-	357 000	-	-	28 000	-	283 000	**668 000**
		FAO	11 000	345 000	-	-	30 000	-	141 000	**527 000**
D.4	Insect and Pest Contro	NAFA	131 000	768 000	-	-	53 000	-	291 000	**1 243 000**
		NAAL	-	860 000	-	-	215 000	-	647 000	**1 722 000**
		FAO	29 000	232 000	-	-	52 000	-	245 000	**558 000**
D.5	Food and Environmental Protectior	NAFA	142 000	710 000	-	-	77 000	-	178 000	**1 107 000**
		NAAL	-	297 000	-	-	198 000	-	212 000	**707 000**
		FAO	8 000	76 000	-	-	527 000	-	184 000	**795 000**
		NAFA	508 000	3 981 000	-	-	171 000	-	1 254 000	**5 914 000**
		NAAL	-	3 014 000	-	-	513 000	-	1 563 000	**5 090 000**
		FAO	87 000	1 072 000	-	-	640 000	-	773 000	**2 572 000**
	Total		595 000	8 067 000	-	-	1 324 000	-	3 590 000	**13 576 000**
	Less: FAO Budge		87 000	1 072 000	-	-	640 000	-	773 000	**2 572 000**
Programme D - Food and Agriculture			508 000	6 995 000	-	-	684 000	-	2 817 000	**11 004 000**
E.1	Nuclear Medicine	NAHU	204 000	1 033 000	-	-	41 000	-	395 000	**1 673 000**
E.2	Applied Radiation Biology	NAHU	172 000	582 000	-	-	48 000	-	218 000	**1 020 000**
	and Radiotherapy									
E.3	Dosimetry and Medical Radiation Physic	NAHU	245 000	334 000	-	-	460 000	-	316 000	**1 355 000**
		NAAL	-	64 000	-	-	199 000	-	47 000	**310 000**
E.4	Nutritional and Health-related	NAHU	150 000	761 000	-	-	95 000	-	172 000	**1 178 000**
	Environmental Studies	NAAL	-	295 000	-	-	176 000	-	211 000	**682 000**
		NAHU	771 000	2 710 000	-	-	644 000	-	1 101 000	**5 226 000**
		NAAL	-	359 000	-	-	375 000	-	258 000	**992 000**
Programme E - Human Health			771 000	3 069 000	-	-	1 019 000	-	1 359 000	**6 218 000**

ANNEX II

Summary of Output for the 2001 Regular Budget

Table 61

2001 Project Codes		Division	Information Exchange	Research & Development	Safety Norms	Safeguards Implementation	Additional Services to MS	Administration	Support for TC Programme	**TOTAL**
F.1	Measurement and Assessment o Radionuclides in the Marine Environmen	NAML	215 000	421 000	-	-	803 000	-	190 000	**1 629 000**
F.2	Transfer of Radionuclides in th Marine Environmen	NAML	247 000	483 000	-	-	164 000	-	129 000	**1 023 000**
F.3	Monitoring and Study of Marine Pollution	NAML	58 000	211 000	-	-	211 000	-	60 000	**540 000**
F.4	Development and Management o Water Resources	NAPC	426 000	681 000	-	-	194 000	-	225 000	**1 526 000**
		NAAL	-	465 000	-	-	279 000	-	558 000	**1 302 000**
		NAML	520 000	1 115 000	-	-	1 178 000	-	379 000	**3 192 000**
		NAPC	426 000	681 000	-	-	194 000	-	225 000	**1 526 000**
		NAAL	-	465 000	-	-	279 000	-	558 000	**1 302 000**
Programme F - Marine Environment and Water Resources			946 000	2 261 000	-	-	1 651 000	-	1 162 000	**6 020 000**
G.1	Nuclear and Atomic Data fo Applications	NAPC	1 173 000	983 000	-	-	101 000	-	-	**2 257 000**
G.2	Nuclear Instrumentation	NAPC	124 000	340 000	-	-	26 000	-	103 000	**593 000**
		NAAL	-	763 000	-	-	85 000	-	575 000	**1 423 000**
G.3	Theoretical Physics (Contribution	NA	991 000	992 000	-	-	-	-	-	**1 983 000**
G.4	Utilization of Research Reactors and Particle Accelerators	NAPC	195 000	262 000	-	-	-	-	87 000	**544 000**
		NAAL	-	59 000	-	-	-	-	28 000	**87 000**
G.5	Radioisotopes and Radiation Technology	NAPC	421 000	935 000	-	-	-	-	307 000	**1 663 000**
		NAAL	-	469 000	-	-	-	-	283 000	**752 000**
G.6	Nuclear Fusion Research and Plasma Physics Applicatio	NAPC	282 000	250 000	-	-	-	-	-	**532 000**
		NAPC	2 195 000	2 770 000	-	-	127 000	-	497 000	**5 589 000**
		NAAL	-	1 291 000	-	-	85 000	-	886 000	**2 262 000**
		NA	991 000	992 000	-	-	-	-	-	**1 983 000**
Programme G - Applications of Physical and Chemical Sciences			3 186 000	5 053 000	-	-	212 000	-	1 383 000	**9 834 000**
Major Programme 2 - Nuclear Sciences and Applications			5 411 000	17 378 000	-	-	3 566 000	-	6 721 000	**33 076 000**

ANNEX II

Summary of Output for the 2001 Regular Budget

Table 61

2001 Project Codes		Division	Information Exchange	Research & Development	Safety Norms	Safeguards Implementation	Additional Services to MS	Administration	Support for TC Programme	**TOTAL**
H.1	Safety Assessment Development	NSNI	765 000	184 000	-	-	306 000	-	139 000	**1 394 000**
H.2	Nuclear Plant Engineering Safety	NSNI	638 000	37 000	230 000	-	223 000	-	106 000	**1 234 000**
H.3	Operational Safety	NSNI	1 109 000	-	169 000	-	477 000	-	312 000	**2 067 000**
H.4	Research Reactor Safety	NSNI	378 000	19 000	-	-	220 000	-	104 000	**721 000**
H.5	Regulatory Activities Related to Nuclear Safety	NSNI	532 000	-	39 000	-	189 000	-	48 000	**808 000**
Programme H - Nuclear Safety			3 422 000	240 000	438 000	-	1 415 000	-	709 000	**6 224 000**
I.1	Radiation Protection	NSRW	293 000	67 000	210 000	-	87 000	-	455 000	**1 112 000**
I.2	Safety of Radiation Sources and Security of Radioactive Material	NSRW	313 000	43 000	98 000	-	272 000	-	294 000	**1 020 000**
I.3	Safe Transport of Radioactive Material	NSRW	139 000	114 000	219 000	-	75 000	-	107 000	**654 000**
I.4	Radiation Emergencies	NSRW	197 000	48 000	37 000	-	120 000	-	259 000	**661 000**
I.5	Operational Services for Radiation Monitoring and Protection	NSRW	10 000	-	-	-	119 000	221 000	8 000	**358 000**
Programme I - Radiation Safety			952 000	272 000	564 000	-	673 000	221 000	1 123 000	**3 805 000**
J.1	Safety of Disposable Radioactive Waste	NSRW	115 000	92 000	383 000	-	105 000	-	108 000	**803 000**
J.2	Safety of Radioactive Discharges	NSRW	268 000	122 000	246 000	-	91 000	-	118 000	**845 000**
J.3	Safety of Radioactive Residues	NSRW	105 000	-	243 000	-	125 000	-	146 000	**619 000**
Programme J - Radioactive Waste Safety			488 000	214 000	872 000	-	321 000	-	372 000	**2 267 000**
K.1	Safety Policies and Standards	NS	441 000	10 000	572 000	-	99 000	-	-	**1 122 000**
K.2	Safety Conventions	NS	-	-	-	-	521 000	-	-	**521 000**
K.3	Safety Information Exchange	NS	480 000	43 000	-	-	121 000	-	-	**644 000**
K.4	Support to the Technical Co-operation Programme	NS	-	-	-	-	-	-	767 000	**767 000**
Programme K - Co-ordination of Safety Activities			921 000	53 000	572 000	-	741 000	-	767 000	**3 054 000**
Major Programme 3 - Nuclear, Radiation and Waste Safety			5 783 000	779 000	2 446 000	-	3 150 000	221 000	2 971 000	**15 350 000**

ANNEX II

Summary of Output for the 2001 Regular Budget

Table 61

2001 Project Codes			Division	Information Exchange	Research & Development	Safety Norms	Safeguards Implementation	Additional Services to MS	Administration	Support for TC Programme	**TOTAL**
L.1	Operations		SG	-	-	-	56 264 000	-	-	-	**56 264 000**
			NAAL				4 548 000	-	-	-	**4 548 000**
L.2	Development and Support		SG	-	-	-	18 415 000	-	-	-	**18 415 000**
L.3	Management		SG	-	-	-	1 221 000	-	1 442 000	-	**2 663 000**
Programme L - Safeguards				-	-	-	80 448 000	-	1 442 000	-	**81 890 000**
M.1	Information on Illicit Trafficking in Nuclea and Other Radioactive Material		SG	197 000	-	-	-	-	-	-	**197 000**
M.2	Assistance to Member States in thei Management of Nuclear Materia		SG	-	-	-	582 000	-	-	10 000	**592 000**
M.3	Protection of Other Radioactive Material		NSRW	133 000	-	-	-	111 000	-	60 000	**304 000**
Programme M - Security of Material				330 000	-	-	582 000	111 000	-	70 000	**1 093 000**
Major Programme 4 - Nuclear Verification and Security of Material				330 000	-	-	81 030 000	111 000	1 442 000	70 000	**82 983 000**
N.1	Technical Co-operation Programme	TCPA	TCPB	-	-	-	-	-	-	8 483 000	**8 483 000**
N.2	Planning, Co-ordination and Evaluation		TCPC	-	-	-	-	-	-	5 158 000	**5 158 000**
Programme N - Management of Technical Co-operation for Development				-	-	-	-	-	-	13 641 000	**13 641 000**
Major Programme 5 - Management of Technical Co-operation for Development				-	-	-	-	-	-	13 641 000	**13 641 000**

ANNEX II

Summary of Output for the 2001 Regular Budget

Table 61

2001 Project Codes		Division	Information Exchange	Research & Development	Safety Norms	Safeguards Implementation	Additional Services to MS	Administration	Support for TC Programme	**TOTAL**
O.1	Offices of the Director General and Deputy Director General Head of the Department of Managemen		-	-	-	-	-	1 799 000	-	**1 799 000**
O.2	Internal Audit	IA	-	-	-	-	-	851 000		**851 000**
O.3	Programme Support and Evaluation	MTPE	-	-	-	-	-	414 000		**414 000**
O	**Executive Management**		-	-	-	-	-	3 064 000		**3 064 000**
P.1	General Conference		-	-	-	-	2 515 000	-	-	**2 515 000**
P.2	Board of Governors' Meetings		-	-	-	-	3 722 000	-	-	**3 722 000**
P	**Services for Policy-making Organs**	SEC	-	-	-	-	6 237 000	-	-	**6 237 000**
Q.1	Legal Activities	MTLG	-	-	-	-	1 384 000	494 000	248 000	**2 126 000**
Q.2	External Relations and Policy Co-ordinatior	EXPO	-	-	-	-	1 086 000	755 000	-	**1 841 000**
Q.3	Public Information	MTPI	3 128 000	-	-	-	-	-	-	**3 128 000**
Q	**Legal Activities, External Relations and Public Information**		3 128 000	-	-	-	2 470 000	1 249 000	248 000	**7 095 000**
R.1	Financial Management	MTBF	-	-	-	-	-	6 904 000	-	**6 904 000**
R.2	Personnel Management	MTPR	-	-	-	-	-	4 850 000	-	**4 850 000**
R.3	Management Services	MTMS	-	-	-	-	-	480 000	-	**480 000**
R	**Administration**		-	-	-	-	-	12 234 000	-	**12 234 000**
S.1	VIC Maintenance and Operation	MTGS	-	-	-	-	-	12 935 000	-	**12 935 000**
S.2	Other General Services	MTGS	-	-	-	-	-	10 145 000	-	**10 145 000**
S	**General Services**		-	-	-	-	-	23 080 000	-	**23 080 000**
T.1	Information Management	NESI	2 118 000	-	-	-	-	-	-	**2 118 000**
T.2	Computer Services - Unallocated	NESI	2 567 000	-	-	-	-	-	-	**2 567 000**
T.3	Library Services - Agency's Share	NESI	2 281 000	-	-	-	-	-	-	**2 281 000**
T.4	Conference and Publishing Service	MTCD	3 946 000							**3 946 000**
T.5	International Nuclear Information System	NESI	4 151 000	-	-	-	-	-	72 000	**4 223 000**
T	**Information Management and Support Services**		15 063 000	-	-	-	-	-	72 000	**15 135 000**
Major Programme 6 - Policy-making, Management and Support Services			18 191 000	-	-	-	8 707 000	39 627 000	320 000	**66 845 000**
Agency Programmes			38 361 000	20 733 000	2 446 000	81 030 000	16 022 000	41 290 000	25 211 000	**225 093 000**

ANNEX III

Technical Co-operation Programme and Corresponding Technical Support from the Regular Budget for 2001

Table 62

	Programme / Major Programme	Regular Budget at 2001 prices	TC Programme
1.	**NUCLEAR POWER AND FUEL CYCLE**		
A.	Nuclear Power	550 000	3 301 000
B.	Nuclear Fuel Cycle and Waste Management Technology	684 000	4 422 000
C.	Comparative Assessment for Sustainable Energy Development	254 000	829 000
	Major Programme 1	1 488 000	8 552 000
2.	**NUCLEAR SCIENCES AND APPLICATIONS**		
D.	Food and Agriculture	3 590 000	11 039 000
	Less: FAO's Budget	773 000	-
		2 817 000	11 039 000
E.	Human Health	1 359 000	11 356 000
F.	Marine Environment and Water Resources	1 162 000	4 955 000
G.	Applications of Physical and Chemical Sciences	1 383 000	8 846 000
	Major Programme 2	6 721 000	36 196 000
3.	**NUCLEAR, RADIATION AND WASTE SAFETY**		
H.	Nuclear Safety	709 000	6 413 000
I.	Radiation Safety	1 123 000	6 387 000
J.	Radioactive Waste Safety	372 000	1 433 000
K.	Co-ordination of Safety Activities	767 000	-
	Major Programme 3	2 971 000	14 233 000
4.	**NUCLEAR VARIFICATION AND SECURITY OF MATERIAL**		
M.	Security of Material	70 000	814 000
	Major Programme 4	70 000	814 000
5.	**MANAGEMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT**		
N.	Management of Technical Co-operation for Development	13 641 000	10 477 000
	Major Programme 5	13 641 000	10 477 000
6.	**POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES**		
Q.	Legal Activities, External Relations and Public Information	248 000	665 000
T.	Information Management and Support Services	72 000	60 000
	Major Programme 6	320 000	725 000
	TOTAL	25 211 000	70 997 000

ANNEX IV

CONFERENCES, SYMPOSIA AND SEMINARS IN 2001

NUCLEAR POWER AND FUEL CYCLE

1. International Seminar on "Status and Prospects for Small and Medium Sized Reactors" (A.2.01)

2. International Conference on "Radioactive Waste from Non-Power Applications - Sharing the Experience" (B.2.04)

NUCLEAR SCIENCES AND APPLICATIONS

3. International Symposium on "Isotopic Tools for Monitoring Nutritional Status in Nutrition and Development Programmes" (integrated in the 17th International Congress of Nutrition (E.4.01))

4. International Conference on the "Study of Environmental Change Using Isotope Techniques" (F.4.03)

5. International Symposium on "Utilization of Low-Energy Accelerators" (G.4.02)

NUCLEAR, RADIATION AND WASTE SAFETY

6. International Meeting on the "Radiological Protection of Patients" (I.1.03)

7. Preparatory Meeting of Contracting Parties to the "Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management" (K.2.03)

8. International Conference on "Topical Issues in Nuclear, Radiation and Radioactive Waste Safety" (K.3.01)

NUCLEAR VERIFICATION AND SECURITY OF MATERIAL

9. Information Seminar on the "Requirements of the Protocol Additional to Safeguards Agreement" (L.2.07) — listed under URPAs

10. Symposium: "Safeguards – A New Era" (L.3.01) — listed under URPAs

11. International Conference on "Security of Material – Measures to Prevent, Intercept and Respond to Illicit Uses of Nuclear Material and Radioactive Sources" (M.2.01)

ANNEX IV

CONFERENCES AND SYMPOSIA IN 2002

NUCLEAR POWER AND FUEL CYCLE

1. International Conference on "Advances in Nuclear Desalination"
2. International Symposium on "NPP Life Management"
3. International Conference on "Issues and Trends in Radioactive Waste Management"

NUCLEAR SCIENCES AND APPLICATIONS

4. International Symposium on "Use of Mutated Genes in Crop Improvement and Functional Genomics"
5. International Symposium on "Cardiovascular Nuclear Medicine"
6. International Symposium on "Standards and Codes of Practice for Radiation Dosimetry"
7. 19th IAEA Fusion Energy Conference

NUCLEAR, RADIATION AND WASTE SAFETY

8. International Conference on "Safety Culture in Nuclear Installations"
9. International Conference on "Occupational Radiation Protection"
10. International Conference on "Safe Termination of Practices Involving the Use of Radioactive Materials"

NUCLEAR VERIFICATION AND SECURITY OF MATERIAL

11. International Conference on "Advances in Destructive and Non-Destructive Analysis (Environmental Monitoring and Nuclear Forensics)"

ANNEX V

Unfunded Regular Programme Activities for 2001

Table 63

Project	Description	Amount
	MAJOR PROGRAMME 1. NUCLEAR POWER AND FUEL CYCLE	
Programme A	**Nuclear Power**	
A.1.02	Develop and maintain a database on NPP control and instrumentation modernization projects	7 000
A.1.02	Prepare a technical document on development of instructor and computer based tools for NPP personnel training	7 000
A.1.03	Prepare an international symposium 2002, Japan, on NPP Plant Life Management	10 000
A.2.01 (jointly with A.2.02 & A.2.03)	Prepare a technical document on lessons learned from life management and decommissioning for the desigsn of future reactors. (In co-operation with A1 and B)	50 000
A.2.01	Co-ordinate a CRP (2001-2005) on technology development for innovative reactors	30 000
A.2.01	Prepare a technical document on design features to facilitate safeguards (in co-operation with L.2)	10 000
A.2.01	Prepare a technical document on terrestrial applications of direct conversion reactors	7 000
	Subtotal - Programme A	**121 000**
Programme B	**Nuclear Fuel Cycle and Waste Management Technology**	
B.1.02	Prepare a technical document reviewing the mechanical and physical properties of control assembly materials	22 000
B.1.03	Prepare a technical document on the characteristics of spent fuel after long term storage	18 000
B.2.03	Co-ordinate a CRP on performance of engineered barrier systems in geological repositories (2001-2005)	80 000
	Subtotal - Programme B	**120 000**
Programme C	**Comparative Assessment for Sustainable Energy Development**	
C.2.01	Co-ordinate a CRP on the comparison of advanced nuclear power systems with other energy options on a life-cycle basis.	20 000
C.2.01	Co-ordinate a CRP on the economic analysis of advanced small and medium reactors for electricity generation and other applications such as desalination and hydrogen production (in co-operation with NPTDS and NEA)	30 000
	Subtotal - Programme C	**50 000**
	Total Major Programme 1	**291 000**

ANNEX V

Unfunded Regular Programme Activities for 2001

Table 63

Project	Description	Amount
	MAJOR PROGRAMME 2. NUCLEAR SCIENCES AND APPLICATIONS	
Programme D	**Food and Agriculture**	
D.3.02	CRP to evaluate RIA procedures for measuring levels of veterinary drugs in meat and milk (1 P staff)	85 000
D.3.02	Research Contracts for the above	70 000
	Subtotal - Programme D	**155 000**
Programme E	**Human Health**	
E.4	Database for health related environmental issues	54 000
E.4.01/11	Co-ordinate a CRP on the use of isotopic and nuclear techniques to measure body composition and its relation to simple anthropometric, DEXA (dual energy X-ray absorptiometry) and other indices of body composition in different ethnic groups (1999-2002). Prepare a technical document (2003)	65 000
	Subtotal - Programme E	**119 000**
Programme F	**Marine Environment and Water Resources**	
F.2.02	Carry out shipboard measurements of water column thorium-uranium disequilibria to estimate carbon flux variability in productive seas.	125 000
	Subtotal - Programme F	**125 000**
Programme G	**Physical and Chemical Sciences**	
G.1.03/16	Assess methods for the evaluation of international standards cross sections and uncertainties	9 000
G.2.02/19	Facilitate development and testing of nuclear instrumentation for identification of anti-personnel landmines (submitted to Member States and to Turner Fund)	150 000
G.5.05/6	AGM on economical and technical aspects of electron beam technology and its applications	12 000
	Subtotal - Programme G	**171 000**
	Total Major Programme 2	**570 000**
	MAJOR PROGRAMME 3. NUCLEAR, RADIATION AND WASTE SAFETY	
Programme H	**Nuclear Safety**	
H.1.04	Safety in a Competitive Environment	138 000
H.4.01	Conduct co-ordinated research project to update and expand the reliability data for research reactor PSAs	25 000
H.6.01	Safety of other installations	412 000
	Subtotal - Programme H	**575 000**

ANNEX V

Unfunded Regular Programme Activities for 2001

Table 63

Project	Description	Amount
Programme I	**Radiation Safety**	
I.1.01	Prepare a draft safety guide on quality assurance in radiation safety	8 000
I.1.01	Prepare a Safety Report on radiation protection in the teaching of science (replacement of ICRP Publication 36)	10 000
I.1.01	Funds required for the full and timely implementation of the action plan on safety of radiation sources and security of radioactive materials (GC(43)/RES/10)	20 000
I.1.03	Organize an international meeting on the radiological protection of patients (GC(43)/RES/12)	20 000
I.2.01	Funds required for the full and timely implementation of the action plan on safety of radiation sources and security of radioactive materials (GC(43)/RES/10)	30 000
I.2.03	Prepare a technical document on the review and analysis of information collected on unusual events in radiation sources	5 000
I.3.01	Develop a computer-based expert system for facilitating application of the Transport Regulations within Member States	10 000
I.3.01	Initiate and co-ordinate a CRP on the technical basis for restructuring the IAEA Regulations for the Safe Transport of Radioactive Material, with the purpose of facilitating the timely harmonization, adoption and implementation of the Agency's transport regulations by international bodies and Member States	28 000
I.3.01	Establish and co-ordinate a CRP on the radiological aspects of package and conveyance contamination in transport	30 000
I.3.01	Draft and publish simplified guidance in key topical areas to facilitate practical implementation of regulatory requirements and guidance for the safe transport of radioactive material	20 000
I.3.02	Organize and carry out Transport Safety Appraisal Service (TranSAS) missions with a view to achieving the highest possible levels of safety during the transport of radioactive materials (GC(43)/RES/11)	29 000
I.4.01	Funds required for the full and timely implementation of the action plan on safety of radiation sources and security of radioactive materials (GC(43)/RES/10)	50 000
I.4.01	Organize a CRP on the decision making process in radiation protection, particularly in the aftermath of a radiological accident	40 000
I.5.03	Organize intercomparison exercises relating to radiation dose measurements for radiation protection purposes, the aim being the harmonized application of dosimetric quantities and techniques which is an essential prerequisite for demonstrating compliance with international and national dose limitation requirements (GC(43)/RES/13)	90 000
	Subtotal - Programme I	**390 000**

ANNEX V

Unfunded Regular Programme Activities for 2001

Table 63

Project	Description	Amount
Programme J	**Radioactive Waste Safety**	
J.1.01	Secretariat for the Waste Safety Standards Advisory Committee (WASSAC) (GC(43)/RES/13)	112 000
J.3.01	Perform international assessments of the radiological conditions in areas affected by radioactive residues (e.g. Semipalatinsk, CIS countries) (GC(39)/RES/23; GC(42)/RES/14; and UN General Assembly Resolution A/RES/53/1H)	27 000
	Subtotal - Programme J	**139 000**
	Total Major Programme 3	**1 104 000**

MAJOR PROGRAMME 4. NUCLEAR VERIFICATION AND SECURITY OF MATERIAL

Programme L	**Safeguards**	
L.1.01	Safeguards equipment for inspections in NWS	180 000
L.1.01	New inspectors, travel and equipment needed if India announces the start of its reprocessing campaign (10 P staff)	1 539 000
L.1.01	Equipment needed at specific facilities, including remote monitoring	2 677 000
L.1.03	Non-staff travel needed in connection with open source information	80 000
L.1.03	Equipment and contracts needed to develop a limited capability on the use of commercial satellite imagery	550 000
L.1.04	Staff ($84 000) and equipment ($2 789 000) needed for surveillance systems (1 GS staff)	2 873 000
L.1.04	Equipment needed for unattended radiation monitoring systems	60 000
L.1.04	Equipment needed for non-destructive assay systems	1 721 000
L.1.04	Staff ($213 000) and equipment ($880 000) needed for implementation of remote monitoring (1 P staff, 3 GS staff)	1 093 000
L.1.04	Safeguards supplies	172 000
L.1.05	Equipment and suppplies needed for the Safeguards Analytical Laboratory	910 000
L.2.01	Staff ($84 000) and equipment ($94 000) needed for instrumentation development (1 P staff)	178 000
L.2.02	Staff ($85 000), travel ($30 000) and contracts ($60 000) to develop new application systems for on-site inspections (1 P staff)	175 000
L.2.02	Contract to re-engineer the Safeguards Information System (ISIS)	600 000
L.2.03	Equipment ($507 000) and training ($20 000) to support local and wide area networks	527 000
L.2.03	Staff ($92 000) and training ($28 000) needed for computer system support (0.7 P staff)	120 000

ANNEX V

Unfunded Regular Programme Activities for 2001

Table 63

Project	Description	Amount
L.2.03	Staff ($42 000) and training ($22 000) needed for remote monitoring systems (0.3 P staff)	64 000
L.2.07	Staff ($88 000), travel ($50 000) and equipment ($353 000) needed to organize safeguards training courses for inspectors (1.6 GS staff)	491 000
L.2.07	Staff ($23 000) and non-staff travel ($70 000) needed to carry out a regional seminar for SSAC (0.4 GS staff)	93 000
L.2.08	Temporary assistance needed for administration of the Member States Support Programme (MSSP) (1 P staff)	108 000
L.3.01	Purchase and installation of security doors on 10 floors of the A-tower as part of the security of information	600 000
L.3.01	Travel ($30 000) and organizational costs ($60 000) of the Safeguards Symposium	90 000
	Subtotal - Programme L	**14 901 000**
	Total Major Programme 4	**14 901 000**

MAJOR PROGRAMME 6. POLICY-MAKING, MANAGEMENT AND SUPPORT SERVICES

Programme R	**Administration**	
R.1.04	To complete the enhancement of AFIMS and for training and preparation of procedure manuals to implement the re-enginerring of the financia processes	250 000
R.2.03	Continuous operation of the Learning Resource Centre	70 000
	Subtotal - Programme R	**320 000**
Programme S	**General Services**	
S.1.01	Fund Agency's annual share of UNIDO's ten year preventive maintenance and replacement programme	1 500 000
	Subtotal - Programme S	**1 500 000**
Programme T	**Information Management and Support Services**	
T.1.01	Implement and manage Knowledge Management in the Agency	55 000
T.1.04	Document Management Contracts	42 000
T.1.06	Document Management (2.5.09 Task 4) (contracts)	70 000
T.2	Equipment Replacement Fund 2005. Annual total $400 000. $50 000 in Regular Budget. Remaining balance ($350 000) to be funded from URPA	350 000
	Subtotal - Programme T	**517 000**
	Total Major Programme 6	**2 337 000**
Unfunded Regular Programme Activities for 2001	**TOTAL**	**19 203 000**

ANNEX VI

Agency's Laboratory and Divisional Costs by Subprogramme
Table 64

				2001 Staffing P	2001 Staffing GS	2001 Estimates at 2001 prices
D.1	Soil and Water Management and Crop Nutrition	FAO/NAFA		3.6	5.2	1 437 000
		NAAL	Staff / Direct Costs	3.2	4.6	743 000
			Site Operating Costs	0.2	2.7	337 000
				7.0	12.5	2 517 000
D.2	Plant Breeding and Genetics	FAO/NAFA		11.0	7.9	1 673 000
		NAAL	Staff / Direct Costs	2.2	1.6	544 000
			Site Operating Costs	0.2	2.5	369 000
				13.4	12.0	2 586 000
D.3	Animal Production and Health	FAO/NAFA		3.6	4.7	1 673 000
		NAAL	Staff / Direct Costs	1.2	1.6	434 000
			Site Operating Costs	0.1	1.8	234 000
				4.9	8.1	2 341 000
D.4	Insect and Pest Control	FAO/NAFA		4.6	7.8	1 801 000
		NAAL	Staff / Direct Costs	4.2	4.6	981 000
			Site Operating Costs	0.3	4.6	741 000
				9.1	17.0	3 523 000
D.5	Food and Environmental Protection	FAO/NAFA		3.3	2.0	1 902 000
		NAAL	Staff / Direct Costs	3.2	0.6	388 000
			Site Operating Costs	0.1	1.9	319 000
				6.6	4.5	2 609 000
Programme D - Food and Agriculture		FAO/NAFA		26.1	27.6	8 486 000
		NAAL	Staff / Direct Costs	14.0	13.0	3 090 000
			Site Operating Costs	0.9	13.5	2 000 000
				41.0	54.1	13 576 000
E.1	Nuclear Medicine	NAHU		5.5	3.8	1 673 000
E.2	Applied Radiation Biology and Radiotherapy	NAHU		3.2	2.2	1 020 000
E.3	Dosimetry and Medical Radiation Physics	NAHU		5.3	4.7	1 355 000
		NAAL	Staff / Direct Costs	0.1	1.3	127 000
			Site Operating Costs	-	1.3	183 000
				5.4	7.3	1 665 000
E.4	Nutritional and Health-related Environmental Studies	NAHU		3.3	1.7	1 178 000
		NAAL	Staff / Direct Costs	1.5	3.9	458 000
			Site Operating Costs	0.1	1.4	224 000
				4.9	7.0	1 860 000
Programme E - Human Health		NAHU		17.3	12.4	5 226 000
		NAAL	Staff / Direct Costs	1.6	5.2	585 000
			Site Operating Costs	0.1	2.7	407 000
				19.0	20.3	6 218 000

ANNEX VI

Agency's Laboratory and Divisional Costs by Subprogramme
Table 64 (Contd.)

				2001 Staffing P	GS	2001 Estimates at 2001 prices
F.4	Development and Management of Water Resources	NAPC		4.4	4.0	1 526 000
		NAAL	Staff / Direct Costs	4.2	10.1	1 198 000
			Site Operating Costs	0.2	1.2	104 000
				8.8	15.3	2 828 000
Part of:						
Programme F - Marine Environment and Water Resources		NAPC		4.4	4.0	1 526 000
		NAAL	Staff / Direct Costs	4.2	10.1	1 198 000
			Site Operating Costs	0.2	1.2	104 000
				8.8	15.3	2 828 000
G.1	Nuclear and Atomic Data for Applications	NAPC		10.5	8.9	2 257 000
G.2	Nuclear Instrumentation	NAPC		2.9	1.0	593 000
		NAAL	Staff / Direct Costs	3.1	6.5	1 089 000
			Site Operating Costs	0.2	2.5	334 000
				6.2	10.0	2 016 000
G.3	Theoretical Physics (Contribution)	NA		-	-	1 983 000
G.4	Utilization of Research Reactors and Particle Accelerators	NAPC		2.0	1.0	544 000
		NAAL	Staff / Direct Costs	0.3	0.2	63 000
			Site Operating Costs	-	0.2	24 000
				2.3	1.4	631 000
G.5	Radioisotopes and Radiation Technology	NAPC		5.5	3.9	1 663 000
		NAAL	Staff / Direct Costs	1.8	3.9	512 000
			Site Operating Costs	0.1	1.7	240 000
				7.4	9.5	2 415 000
G.6	Nuclear Fusion Reasearch and Plasma Physics Applications	NAPC		1.5	0.9	532 000
Programme G - Applications of Physical and Chemical Sciences		NAPC		22.4	15.7	5 589 000
		NAAL	Staff / Direct Costs	5.2	10.6	1 664 000
			Site Operating Costs	0.3	4.4	598 000
		NA		-	-	1 983 000
				27.9	30.7	9 834 000
Major Programme 2: Nuclear Sciences and Applications						
		NAFA		26.1	27.6	8 486 000
		NAHU		17.3	12.4	5 226 000
		NAPC		26.8	19.7	7 115 000
		NAAL	Staff / Direct Costs	25.0	38.9	6 537 000
			Site Operating Costs	1.5	21.8	3 109 000
		NAML	(Table 65)	10.2	18.2	3 192 000
		NA		0.0	0.0	1 983 000
				106.9	138.6	35 648 000

ANNEX VI

Agency's Laboratory and Divisional Costs by Subprogramme
Table 64 (Contd.)

				2001 Staffing P	GS	2001 Estimates at 2001 prices
L.1	Operations	SG		242.1	137.0	56 264 000
		NAAL	Staff / Direct Costs	8.0	30.2	3 346 000
			Site Operating Costs	0.5	4.1	1 202 000
				250.6	171.3	60 812 000

Note: In order to show the costs of the laboratory in a manner comparable to that used for other activities (where site related costs are not allocated to these activities) this table gives the total laboratory costs apportioned to each subprogramme broken down separately into staff costs / direct costs and site operating costs.

ANNEX VI

Cost of the Monaco Laboratory by Subprogramme

Table 65

				2001 Staffing P	GS	2001 Estimates at 2001 prices
F.1	Measurement and Assessment of Radionuclides in the Marine Environment	NAML	Staff / Direct Costs Site Operating Costs	5.5 -	9.7 -	1 629 000
F.2	Transfer of Radionuclides in the Marine Environment	NAML	Staff / Direct Costs Site Operating Costs	3.2 -	5.2 -	1 023 000
F.3	Monitoring and Study of Marine Pollution	NAML	Staff / Direct Costs Site Operating Costs	1.5 -	3.3 -	540 000
Part of: Programme F - Marine Environment, Water Resources and Industry				10.2	18.2	3 192 000

Note: Site operating costs, i.e. provision, maintenance and servicing of laboratory premises, are paid by the Principality of Monaco as a contribution-in-kind.

ANNEX VII

THE REGULAR BUDGET

By Item of Expenditure

Table 66

Item of expenditure	1999 actual expenditure	2000 adjusted budget	Expenditure increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
Salaries - established posts - P	50 626 439	52 852 000	300 000	0.6	53 152 000	1.0	53 680 000
Temporary assistance - P/ MT	2 607 409	3 698 800	143 600	3.9	3 842 400	1.0	3 880 500
Temporary assistance - P/ ST	665 689	424 600	243 600	57.4	668 200	1.0	674 900
Salaries - established posts - GS	27 900 774	29 812 000	(492 000)	(1.7)	29 320 000	1.3	29 705 000
Temporary assistance - GS/ MT	2 453 106	1 855 100	(374 200)	(20.2)	1 480 900	1.2	1 499 000
Temporary assistance - GS/ ST	801 210	323 500	407 500	126.0	731 000	1.3	740 600
Common staff costs	35 942 096	35 146 800	53 600	0.2	35 200 400	2.5	36 073 400
Overtime	271 455	268 400	(11 100)	(4.1)	257 300	1.0	260 000
Subtotal: Staff costs	121 268 178	124 381 200	271 000	0.2	124 652 200	1.5	126 513 400
Travel - staff	9 137 932	9 519 500	398 100	4.2	9 917 600	-	9 917 600
Travel - non-staff	6 440 122	6 837 500	(12 000)	(0.2)	6 825 500	-	6 825 500
Subtotal: Travel costs	15 578 054	16 357 000	386 100	2.4	16 743 100	-	16 743 100
Interpretation services	594 067	828 000	9 400	1.1	837 400	5.1	880 000
Representation and hospitality	193 349	204 600	(4 900)	(2.4)	199 700	5.3	210 300
Training	531 786	957 100	(234 900)	(24.5)	722 200	1.4	732 600
Equipment: leased or rented	165 985	258 600	(158 800)	(61.4)	99 800	1.1	100 900
Equipment purchased/ construction work	7 778 177	6 885 300	429 000	6.2	7 314 300	1.4	7 415 300
Supplies and materials	3 871 676	4 678 800	8 200	0.2	4 687 000	2.4	4 801 700
General operating expenses	15 304 135	15 594 700	528 900	3.4	16 123 600	1.7	16 401 900
Contracts	5 128 103	3 817 000	430 000	11.3	4 247 000	3.1	4 377 000
Research and technical contracts	5 087 317	5 255 000	(503 000)	(9.6)	4 752 000	1.7	4 832 000
Miscellaneous	4 551 776	3 485 700	(78 000)	(2.2)	3 407 700	1.4	3 456 800
Subtotal: Other direct costs	43 206 371	41 964 800	425 900	1.0	42 390 700	1.9	43 208 500
Laboratory Activities	13 980 776	13 915 000	48 000	0.3	13 963 000	1.7	14 194 000
Translation and Records Services	6 378 194	6 470 000	(590 000)	(9.1)	5 880 000	1.6	5 973 000
Printing Services	3 209 897	3 250 000	(176 000)	(5.4)	3 074 000	2.2	3 142 000
Publishing Services	2 717 493	2 807 000	(79 000)	(2.8)	2 728 000	1.6	2 772 000
Data Processing Application Services	1 064 536	1 080 000	(160 000)	(14.8)	920 000	1.5	934 000
Data Processing Central Services (unallocated)	4 464 924	4 158 000	(15 000)	(0.4)	4 143 000	1.9	4 221 000
Library Services	2 077 870	2 318 000	(111 000)	(4.8)	2 207 000	3.4	2 281 000
Contracts Administration Services	579 995	582 000	-	-	582 000	1.7	592 000
Other Services a_/	4 312 231	4 435 000	-	-	4 435 000	1.9	4 519 000
Subtotal: Shared costs	24 805 140	25 100 000	(1 131 000)	(4.5)	23 969 000	1.9	24 434 000
Regular Budget for Agency Programmes	218 838 519	221 718 000	-	-	221 718 000	1.5	225 093 000
Reimbursable Work for Others	5 066 745	4 609 000	182 000	3.9	4 791 000	2.1	4 891 000
Total Regular Budget	223 905 264	226 327 000	182 000	0.1	226 509 000	1.5	229 984 000
a_/							
Medical Services	774 744	817 000	-	-	817 000	1.7	831 000
Radiation Protection and Monitoring Services	1 037 869	1 075 000	-	-	1 075 000	1.5	1 091 000
Data Processing Central Services (fixed costs)	2 499 618	2 543 000	-	-	2 543 000	2.1	2 597 000

ANNEX VII

1.1 - The Agency's Laboratories - Allocated to Agency Programmes

By Item of Expenditure

Table 67

Item of expenditure	1999 actual expenditure	2000 adjusted budget	Expenditure increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
Salaries - established posts - P	2 253 932	2 287 000	284 000	12.4	2 571 000	1.0	2 597 000
Temporary assistance - P/ MT	116 257	-	135 800	-	135 800	1.0	137 200
Temporary assistance - P/ ST	37 182	122 600	(82 800)	(67.5)	39 800	1.0	40 200
Salaries - established posts - GS	3 883 383	4 010 000	(17 000)	(0.4)	3 993 000	1.3	4 045 000
Temporary assistance - GS/ MT	209 896	369 400	(29 000)	(7.9)	340 400	1.3	344 800
Temporary assistance - GS/ ST	143 486	76 900	(2 000)	(2.6)	74 900	1.3	75 900
Common staff costs	2 802 879	2 712 000	113 800	4.2	2 825 800	2.5	2 896 400
Overtime	57 537	75 900	(9 600)	(12.6)	66 300	1.4	67 200
Subtotal: Staff costs	9 504 552	9 653 800	393 200	4.1	10 047 000	1.6	10 203 700
Travel - staff	102 107	108 000	29 100	26.9	137 100	-	137 100
Travel - non-staff	26 787	84 000	(25 000)	(29.8)	59 000	-	59 000
Subtotal: Travel costs	128 894	192 000	4 100	2.1	196 100	-	196 100
Representation and hospitality	2 793	4 000	-	-	4 000	7.5	4 300
Training	10 486	44 900	(11 600)	(25.8)	33 300	1.8	33 900
Equipment purchased/ construction work	1 022 036	798 000	(287 600)	(36.0)	510 400	3.5	528 300
Supplies and materials	899 686	937 500	(156 500)	(16.7)	781 000	2.0	796 600
General operating expenses	1 846 947	1 754 400	122 300	7.0	1 876 700	1.7	1 908 600
Contracts	222 034	152 000	(1 000)	(0.7)	151 000	2.6	155 000
Research and technical contracts	20 000	-	30 000	-	30 000	-	30 000
Miscellaneous	276 331	280 400	206 100	73.5	486 500	0.8	490 500
Subtotal: Other direct costs	4 300 313	3 971 200	(98 300)	(2.5)	3 872 900	1.9	3 947 200
Laboratory Activities 1_/	(13 980 776)	(13 915 000)	(48 000)	0.3	(13 963 000)	1.7	(14 194 000)
Translation and Records Services	3 640	25 000	(21 000)	(84.0)	4 000	-	4 000
Printing Services	15 235	45 000	(30 000)	(66.7)	15 000	-	15 000
Data Processing Application Services	21 064	21 000	-	-	21 000	-	21 000
Contracts Administration Services	7 078	7 000	-	-	7 000	-	7 000
Subtotal: Shared costs	47 017	98 000	(51 000)	(52.0)	47 000	-	47 000
	-	-	200 000	-	200 000	-	200 000
Less: Reimbursable Work for Others	-	-	200 000	-	200 000	-	200 000
T O T A L	-	-	-	-	-	-	-
1_/							
D - Food and Agriculture	5 052 440	4 934 000	73 000	1.5	5 007 000	1.7	5 090 000
E - Human Health	1 005 916	993 000	(17 000)	(1.7)	976 000	1.6	992 000
F - Marine Environment and Water Resources	1 288 990	1 281 000	-	-	1 281 000	1.6	1 302 000
G - Physical and Chemical Sciences	2 171 595	2 234 000	(8 000)	(0.4)	2 226 000	1.6	2 262 000
M. Prog. 2 - Nuclear Sciences and Applications	9 518 941	9 442 000	48 000	0.5	9 490 000	1.6	9 646 000
L - Safeguards	4 461 835	4 473 000	-	-	4 473 000	1.7	4 548 000
TOTAL Agency's Laboratories	13 980 776	13 915 000	48 000	0.3	13 963 000	1.7	14 194 000

ANNEX VII

2.0 - Shared Services

By Item of Expenditure

Table 68

Item of expenditure	1999 actual expenditure	2000 adjusted budget	Expenditure increase/(decrease)	%	2001 estimates at 2000 prices	Price increase %	2001 with price increase
Salaries - established posts - P	6 503 416	6 808 000	(192 000)	(2.8)	6 616 000	1.0	6 684 000
Temporary assistance - P/ MT	42 230	61 000	191 900	314.6	252 900	1.0	255 400
Temporary assistance - P/ ST	36 037	56 100	(56 100)	(100.0)	-	-	-
Salaries - established posts - GS	7 854 322	7 904 000	(235 000)	(3.0)	7 669 000	1.3	7 768 000
Temporary assistance - GS/ MT	493 341	775 600	(142 200)	(18.3)	633 400	1.3	641 500
Temporary assistance - GS/ ST	159 684	99 700	(7 000)	(7.0)	92 700	1.3	93 900
Common staff costs	6 325 514	6 206 000	(174 600)	(2.8)	6 031 400	2.4	6 178 500
Overtime	57 513	82 500	(3 200)	(3.9)	79 300	1.4	80 400
Subtotal: Staff costs	21 472 057	21 992 900	(618 200)	(2.8)	21 374 700	1.5	21 701 700
Travel - staff	96 342	131 300	(1 100)	(0.8)	130 200	-	130 200
Travel - non-staff	20 438	-	10 000	-	10 000	-	10 000
Subtotal: Travel costs	116 780	131 300	8 900	6.8	140 200	-	140 200
Representation and hospitality	417	1 000	-	-	1 000	10.0	1 100
Training	221 811	176 900	1 700	1.0	178 600	1.7	181 700
Equipment: leased or rented	1 479 521	1 458 700	72 500	5.0	1 531 200	3.0	1 577 900
Equipment purchased/ construction work	1 824 670	738 200	(213 000)	(28.9)	525 200	1.1	531 100
Equipment Replacement Fund contribution	-	382 000	(332 000)	(86.9)	50 000	-	50 000
Supplies and materials	2 114 798	2 137 100	(141 000)	(6.6)	1 996 100	5.5	2 105 900
General operating expenses	1 094 757	1 440 000	120 000	8.3	1 560 000	2.4	1 597 000
Contracts	1 246 650	1 047 000	(17 200)	(1.6)	1 029 800	2.6	1 057 000
Miscellaneous	347 441	301 900	(81 700)	(27.1)	220 200	3.7	228 400
Subtotal: Other direct costs	8 330 065	7 682 800	(590 700)	(7.7)	7 092 100	3.4	7 330 100
Translation and Records Services	-	6 000	-	-	6 000	-	6 000
Printing Services	389 454	325 000	17 000	5.2	342 000	2.6	351 000
Data Processing Application Services	315 400	164 000	(2 000)	(1.2)	162 000	2.5	166 000
Subtotal: Shared costs	704 854	495 000	15 000	3.0	510 000	2.5	523 000
Subtotal	30 623 756	30 302 000	(1 185 000)	(3.9)	29 117 000	2.0	29 695 000
Less:							
Cross-charge (above)	704 854	495 000	15 000	3.0	510 000	2.5	523 000
Cross-charge Laboratory Activities	47 017	98 000	(51 000)	(52.0)	47 000	-	47 000
Total Shared Services	29 871 885	29 709 000	(1 149 000)	(3.9)	28 560 000	2.0	29 125 000
Less:							
Transfer to Programme T	9 428 291	9 454 000	(205 000)	(2.2)	9 249 000	2.2	9 448 000
Allocation to Agency Programmes	15 376 849	15 646 000	(926 000)	(5.9)	14 720 000	1.8	14 986 000
Reimbursable Work for Others	5 066 745	4 609 000	(18 000)	(0.4)	4 591 000	2.2	4 691 000
	-	-	-	-	-	-	-

ANNEX VIII
Staffing Table for 2001
Table 69

Organizational Unit	DG	DDG	D	P-5	P-4	P-3	P-2/P-1	Sub-Total	GS	Total
Office of the Director General	1	-	1	1	-	1	-	4	4	8
Office of External Relations and Policy Co-ord.	-	-	2	5	2	1	-	10	11	21
Secretariat of the Policy-making Organs	-	-	1	1	-	2	-	4	2	6
Internal Audit	-	-	1	-	2	1	2	6	3	9
Subtotal	1	-	5	7	4	5	2	24	20	44
Department of Technical Co-operation	-	1	-	-	1	-	-	2	3	5
Div. for Europe, Latin America and West Asia	-	-	1	5	4	5	3	18	28	46
Div. for Africa, and East Asia & the Pacific	-	-	1	4	4	5	1	15	26	41
Div. of Planning, Co-ordination and Evaluation	-	-	1	4	4	9	2	20	27	47
Subtotal	-	1	3	13	13	19	6	55	84	139
Department of Nuclear Energy	-	1	-	-	1	-	-	2	2	4
Div. of Nuclear Power	-	-	1	6	4	4	-	15	10	25
Div. of Nuclear Fuel Cycle & Waste Technology	-	-	1	8	10	1	-	20	10	30
Planning and Economic Studies Section	-	-	-	3	4	2	1	10	5	15
Div. of Scientific and Technical Information a_/	-	-	1	2	6	6	2	17	28	45
Subtotal	-	1	3	19	25	13	3	64	55	119
Department of Nuclear Safety	-	1	-	-	1	-	-	2	1	3
Div. of Radiation and Waste Safety b_/	-	-	1	10	12	-	-	23	19	42
Div. of Nuclear Installation Safety	-	-	1	13	10	-	-	24	20	44
Safety Co-ordination Section	-	-	-	3	2	3	-	8	8	16
Subtotal	-	1	2	26	25	3	-	57	48	105
Department of Nuclear Sciences and Applications	-	1	-	-	1	-	-	2	2	4
Joint FAO/IAEA Division	-	-	-	4	7	3	-	14	8	22
Div. of Human Health	-	-	1	5	9	2	-	17	12	29
Div. of Physical and Chemical Sciences	-	-	1	6	11	6	3	27	19	46
The Agency's Laboratories	-	-	1	10	9	10	5	35	95	130
IAEA Marine Environment Laboratory - Monaco	-	-	1	2	1	6	-	10	18	28
Subtotal	-	1	4	27	38	27	8	105	154	259
Department of Safeguards	-	1	-	2	-	-	-	3	2	5
Div. of Operations A	-	-	1	15	32	38	-	86	30	116
Div. of Operations B	-	-	1	14	24	26	-	65	29	94
Div. of Operations C	-	-	1	13	29	34	-	77	25	102
Div. of Technical Services	-	-	1	9	20	3	-	33	47	80
Div. of SG Information Technology	-	-	1	9	13	7	7	37	45	82
Div. of Concepts and Planning	-	-	1	12	16	3	1	33	19	52
Effectiveness Evaluation Section	-	-	-	2	5	-	-	7	5	12
Programme & Resources Section	-	-	-	1	1	1	1	4	5	9
Subtotal	-	1	6	77	140	112	9	345	207	552
Department of Management	-	1	-	-	1	-	-	2	2	4
Programme Support and Evaluation	-	-	-	2	-	-	-	2	1	3
Legal Division	-	-	1	5	-	3	-	9	6	15
Div. of Personnel c_/	-	-	1	2	4	2	3	12	26	38
Staff Association d_/	-	-	-	-	-	-	-	d_/	d_/	d_/
Office of Management Services	-	-	-	1	-	2	-	3	2	5
Div. of Budget and Finance	-	-	1	4	5	10	2	22	53	75
Div. of Public Information	-	-	1	1	2	3	-	7	12	19
Div. of General Services	-	-	1	2	3	2	2	10	107	117
Div. of Conference & Document Services e_/	-	-	1	-	1	-	-	2	11	13
Subtotal	-	1	6	17	16	22	7	69	220	289
Shared Services										
Contracts Administration Services	-	-	-	-	1	-	1	2	4	6
Translation and Records Services	-	-	-	6	12	13	-	31	37	68
Medical Services	-	-	1	1	1	-	-	3	16	19
Library Services	-	-	-	1	-	2	1	4	10	14
Data Processing Services	-	-	-	3	8	11	9	31	34	65
Printing Services	-	-	-	1	-	1	-	2	49	51
Publishing Services	-	-	-	1	-	7	1	9	30	39
Radiation Protection and Monitoring Services	-	-	-	1	2	-	-	3	6	9
Subtotal	-	-	1	14	24	34	12	85	186	271
Reserve of Posts	-	-	-	-	-	2	4	6	7	13
TOTAL	1	6	30	200	285	237	51	810	981	1 791
TOTAL 2000 (see GC(43)/6, Table 76)	1	6	30	198	283	236	52	806	985	1 791
Difference	-	-	-	2	2	1	(1)	4	(4)	-

a_/ Excluding Data Processing Services and Library, which are shown under Shared Services. b_/ Excluding Radiation Protection & Monitoring Services, which is shown under Shared Services. c_/ Excluding Medical Services, which is shown under Shared Services. d_/ The post of the Staff Council President will remain in the Department from which the President is released. e_/Excluding Translation & Records Services, Printing Services and Publishing Services, which are shown under Shared Services.

ANNEX IX

Programme Areas Strengthened or Accorded Reduced Resources

MAJOR PROGRAMME 1

		US$
New Projects:		
C.2.03	Broadening the Scope of Comparative Assessment	368 000
Projects that have been strengthened:		
A.1.02	Optimization of Nuclear Power Plant Overall Performance	134 000
A.1.03	Nuclear Power Plant Life Management Including Decommissioning	193 000
A.1.04	Technical Support for TC Activities in A.1	58 000
	Programme A	385 000
B.1.03	Spent Fuel Management	195 000
B.2.03	Technologies for Disposal of Radioactive Waste	267 000
	Programme B	462 000
C.1.02	Databanks and Background Information for Comparative Assessment	110 000
C.2.02	International Co-operation and Co-ordination	144 000
	Programme C	254 000

MAJOR PROGRAMME 2

New Projects:		
E.2.02	Economics in Radiation Oncology	272 000
E.2.04	Education in Radiation Oncology and Associated Disciplines	136 000
	Programme E	408 000
F.1.04	Analytical Quality Control Services (AQCS) for Marine Radioactivity Measurements	350 000
F.4.02	Global Reference Data and Databases for Isotope Hydrology	356 000
F.4.03	Capacity Building in the Integration of Isotope Applications in the Water Resources Sector	411 000
	Programme F	1 117 000

		US$
Projects that have been strengthened:		
D.1.01	Development of Integrated Soil, Water and Nutrient Management Practices for Increasing Soil Fertility and Crop Yields	350 000
D.2.02	Genetic Characterization of Mutated Germplasm Using Molecular Markers	529 000
D.3.01	Technologies for Improved Management of Feed Resources and Livestock Breeding	101 000
D.3.02	Improved Diagnosis of Selected Livestock Diseases and Monitoring of Control Programmes	149 000
D.4.01	Area-Wide Management of Crop Insect Pests Using SIT	328 000
D.4.02	Area-Wide Management of Livestock Insect Pests Using SIT	295 000
D.5.02	Analysis of Food Contaminants and Residues and Pesticide Products	686 000
	Programme D	2 438 000
E.1.02	Therapeutic Applications of Unsealed Radioactive Sources in the Management of Liver Cancer, Thyroid Cancer and Coronary Artery Disease	191 000
E.1.03	Enhancing Cost Effectiveness of Health Care Using In Vivo Diagnostic Nuclear Medicine Techniques	107 000
	Programme E	298 000
F.1.02	Distribution of Radionuclides in the Marine Environment	85 000
F.4.01	Development and Adaptation of Isotope Hydrology Applications	359 000
	Programme F	444 000
G.2.02	Nuclear Spectrometry	517 000
G.4.02	Utilization of Particle Accelerators	99 000
G.5.02	Radioanalytical Applications	172 000
G.5.03	Development, Production and Q.A. of Radiopharmaceuticals	84 000
	Programme G	872 000

MAJOR PROGRAMME 3

New projects:

H.2.05	Small and Medium-Sized Reactors Including those for Desalination and District Heating	144 000

			US$
Projects that have been strengthened:			
H.1.01	Safety Analysis and Accident Management		234 000
H.1.02	Safety Management Tools		322 000
H.3.01	Performance Based Operational Safety Service		219 000
H.3.03	Management of Operational Safety and Safety Culture		67 000
H.5.02	Event Reporting and Analysis		121 000
		Programme H	963 000
I.1.03	Radiation Protection for Medical Exposures		52 000
I.2.01	Control of Radiation Sources and Radioactive Material		148 000
I.4.02	Emergency Response		109 000
		Programme I	309 000
J.1.01	Safe Predisposal of Solid Waste		66 000
J.2.01	Control of Discharges of Radioactive Substances into the Environment		61 000
J.3.03	Safe Decommissioning of Installations with Radioactive Substances		81 000
		Programme J	208 000
K.1.01	Safety Policies		60 000
K.4.02	Education and Training		251 000
		Programme K	311 000
MAJOR PROGRAMME 4			
Projects/Subprogrammes that have been strengthened:			
L.1.03	Information Processing		224 000
L.1.06	JNFL		483 000
L.1.07	Facility and State Information Evaluation		478 000
L.1.08	Other Verification Activities		138 000
		Subprogramme L.1 (Operations)	1 323 000
L.2.02	Computer Application Support		126 000
L.2.03	Computer Systems Support		418 000
L.2.05	Standardization		229 000
		Subprogramme L.2 (Development and Support)	773 000

		US$
L.3	Management	245 000
M.1	Information on Illicit Trafficking in Nuclear and Other Radioactive Material	53 000

MAJOR PROGRAMME 5

Projects that have been strengthened:

N.1.02	Programme for East Asia and Pacific	52 000
N.1.04	Programme for Europe	125 000
N.1.06	Interregional Programme (A and B)	161 000
N.2.04	Programme Field Procurement	39 000
	Programme N	377 000

MAJOR PROGRAMME 6

Subprogrammes or areas that have been strengthened:

Q.1 — *Legal Activities*

Salary costs of existing staff 91 000

R.2 — *Personnel Management*

Increased activities aimed at increasing the number of women in the professional and higher categories and improving representation from under and non-represented countries. 40 000

T — *Information Management and Support Services*

Development of Agency-wide systems in Subprogramme T.1 (Information Management) 349 000

Creation of the Office of the Director to manage the combined operations of the Conference Services, Publishing, Printing and Translation Services in Subprogramme T.4 (Conference and Publishing Services) 317 000

Programme T 666 000

MAJOR PROGRAMME 1

		US$
Phased out projects:		
previous A.1.06	Management of Nuclear Power Plant Operations in a Competitive Environment	(294 000)
previous C.2.01	Health and Environmental Impacts and Risks of Energy Systems	(151 000)
Projects accorded reduced resources:		
A.1.01	Nuclear Power Planning and Implementation	(98 000)
B.1.01	Raw Materials	(65 000)
B.1.04	Fuel Cycle Issues and Information Systems	(49 000)
B.2.02	Technologies for Predisposal Management of Radioactive Waste	(63 000)
B.2.04	Waste Management Issues and Information Systems	(52 000)
	Programme B	(229 000)
C.1.01	Energy, Electricity and Nuclear Power Economics: Status and Trends	(84 000)
C.1.03	Development and Updating of Software for Comparative Assessment and Energy System Analysis	(288 000)
C.2.01	Nuclear Energy in Sustainable Energy Strategies	(205 000)
C.2.04	Safety-Related Information on Wastes from Different Energy Generation Systems	(80 000)
	Programme C	(657 000)

MAJOR PROGRAMME 2

Phased out projects:		
previous E.2.02	Advanced Techniques in Radiotherapy	(182 000)
previous F.1.04	Worldwide Marine Radioactivity Assessment	(251 000)
previous F.4.02	Water Resources in Regions of Water Scarcity	(369 000)
previous F.4.03	Hydroclimatic Changes and Impact on Catchment and Surface Water Systems	(332 000)
	Programme F	(952 000)
previous G.2.03	Nuclear Instruments and Methods for Specific Applications	(339 000)

		US$
Projects accorded reduced resources:		
D.2.01	Induced Biodiversity for Breeding Crops with Increased Adaptability to Drought, Salinity and Other Constraints	(85 000)
D.5.01	Irradiation as a Sanitary and Phytosanitary Treatment of Food	(880 000)
	Programme D	(965 000)
E.1.01	Radionuclide Based in vitro Molecular Methods for Diagnosis and Management of Viral Hepatitis, Chagas Disease and Diabetes	(217 000)
E.1.04	Quality Control of Gamma Cameras, SPECT and PET Systems; Development and Validation of an Internet Based Study Programme in Nuclear Medicine	(89 000)
E.2.01	Tumour Response to Chemical and Biological Modification of Radiation Therapy	(87 000)
E.2.03	Optimization of Radiotherapy Resources	(117 000)
E.4.01	Applied Human Nutrition Assessment and Research Using Nuclear and Isotopic Techniques	(61 000)
	Programme E	(571 000)
F.3.02	Reference Methods and Materials and Analytical Quality Control Services for Marine Pollution Programmes	(141 000)
F.3.04	Technical Support for TC Activities in F.3	(136 000)
F.4.04	Isotope Reference Materials and Analytical Quality Assurance	(237 000)
F.4.05	Technical Support for TC Activities in F.4	(111 000)
	Programme F	(625 000)
G.1.01	Data Centre Activities	(59 000)
G.2.03	Technical Support for TC Activities in G.2	(158 000)
G.4.01	Optimization of Research Reactor Operation, Utilization and Maintenance	(89 000)
G.5.01	Radioisotope Production and Processing	(125 000)
G.5.04	Analytical Quality Control Services	(61 000)
G.5.06	Non-destructive Methods for Quality Control and In-Service Inspections	(78 000)
	Programme G	(570 000)

MAJOR PROGRAMME 3

		US$
Phased out or merged projects:		
previous H.1.03	Human Factors and Human-Machine Interface	(207 000)
previous H.1.04	Assessment and Reliability of Safety Systems	(124 000)
previous H.1.05	WWER and RBMK Plant Safety	(152 000)
previous H.3.05	Current Safety Issues and Integrated Strategy Implementation (Merged)	(164 000)
	Programme H	(647 000)
Projects accorded reduced resources:		
H.2.01	Nuclear Power Plant Safety Design	(37 000)
H.2.04	Computer Based Systems Important to Safety	(34 000)
H.2.02	External/Internal Events and Safe Siting of NPPs	(50 000)
H.3.02	Operating Experience Safety Service	(70 000)
H.4.01	Safety in the Design and Operation of Research Reactors	(111 000)
	Programme H	(302 000)
I.1.01	Radiation Protection Basic Policy and Regulatory Instruments	(88 000)
I.1.02	Occupational Radiation Protection	(59 000)
I.5.03	Harmonization of Radiological Quantities	(69 000)
	Programme I	(216 000)
J.1.02	Safe Disposal of Solid Waste	(78 000)
J.2.02	Environmental Modelling and Monitoring of Radioactive Substances	(60 000)
J.3.02	Safety of Tailings from the Mining and Milling of Radioactive Ores	(45 000)
	Programme J	(183 000)
K.2.01	Conventions on Early Notification and Assistance	(35 000)
K.2.02	Convention on Nuclear Safety	(131 000)
K.2.03	Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	(34 000)
K.3.02	Communication of Safety Issues	(311 000)
	Programme K	(511 000)

MAJOR PROGRAMME 4

Projects/Subprogrammes accorded reduced resources:

L.1.01	Inspection	(1 063 000)
L.1.02	Negotiation and Liaison	(455 000)
L.1.05	Sample Logistics and Analysis	(256 000)
	Subprogramme L.1 (Operations)	(1 774 000)
L.2.04	Systems Studies and Approaches	(159 000)
L.2.07	Safeguards Training	(368 000)
	Subprogramme L.2 (Development and Support)	(527 000)
M.2	Assistance to Member States in their Management of Nuclear Material	(53 000)

MAJOR PROGRAMME 5

Projects accorded reduced resources:

N.1.01	Programme for Africa	(57 000)
N.1.03	Programme for West Asia	(95 000)
N.1.05	Programme for Latin America	(33 000)
N.2.01	Programme Concepts and Planning	(34 000)
N.2.02	Programme Co-ordination and Reporting	(22 000)
N.2.03	Programme Evaluation	(46 000)
	Programme N	(287 000)

MAJOR PROGRAMME 6

Subprogrammes or areas accorded reduced resources:

P ——	*Services for Policy making Organs* Reduction in translation cost due partly to a shift from Programme P to the new Division of Conference and Document Services in Subprogramme T.4 (Conference and Publishing Services); and partly to efficiency gains.	(340 000)

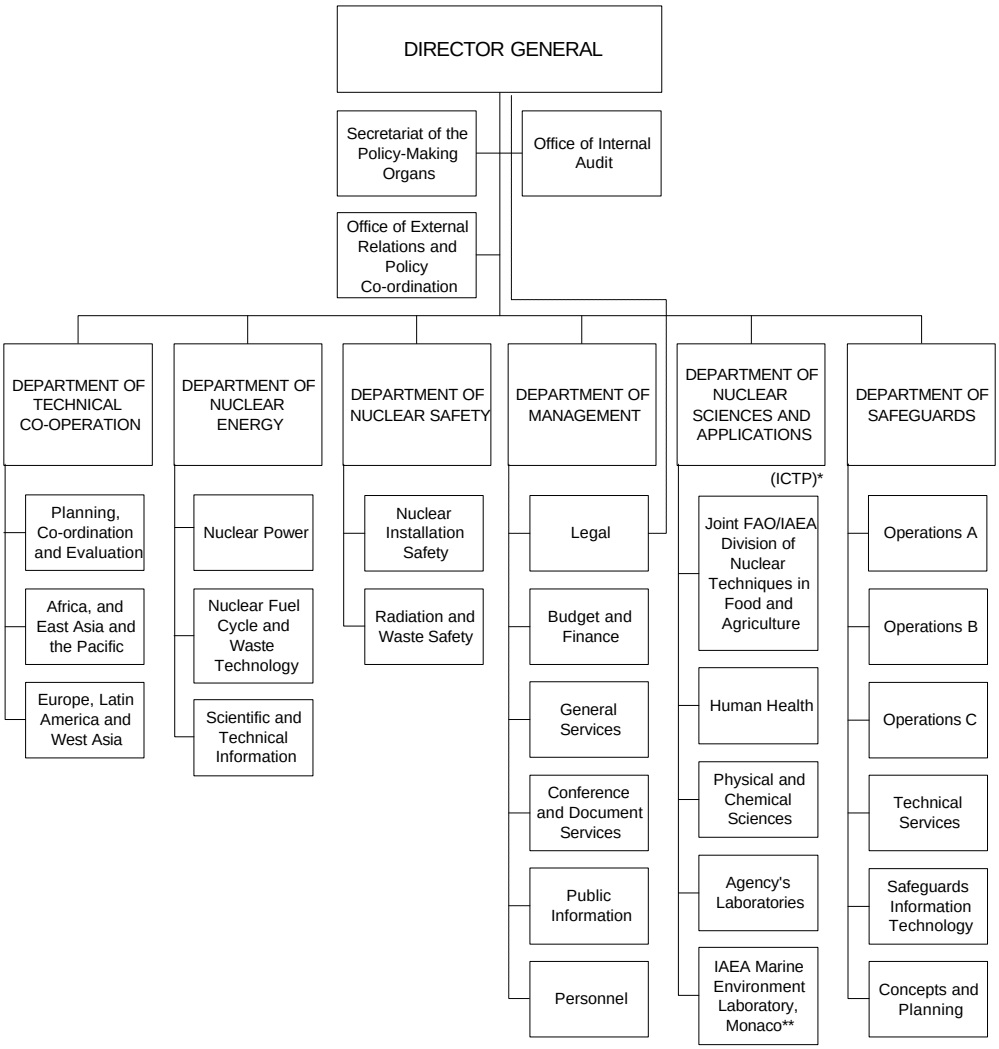
T —— *Information Management and Support Services*

Reduction in Equipment Replacement Fund allocation in Subprogramme T.2 (Computer Services) to provide funds for Agency-wide systems in Subprogramme T.1 (Information Management).	(349 000)
Lapses in Professional and General Service posts in Subprogramme T.2 (Computer Services)	(140 000)
Efficiency gains in Subprogramme T.3 (Library Services)	(111 000)
Reduction in publishing in Subprogramme T.4 (Conference and Publishing Services)	(79 000)
Programme T	(679 000)

ANNEX X

ORGANIZATIONAL CHART

(1 January 2000)



* The Abdus Salam International Centre for Theoretical Physics (Abdus Salam ICTP), legally referred to as "International Centre for Theoretical Physics", is operated as a joint programme by UNESCO and the IAEA. Administration is carried out by UNESCO on behalf of both organizations. The IAEA's involvement in the Centre is managed by the Department of Nuclear Sciences and Applications.

** With the participation of UNEP and IOC.