

A Review of IAEA Activities Relating to PNE

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Since 1968 the IAEA has covered as wide a range as possible of activities related to peaceful nuclear explosions (PNE). Its initial task was to compile and disseminate whatever information was available. In 1969 it circulated information on the Status of the Technology, which was made available to it by both the USSR and the USA. In 1970 the Agency published a bibliography on the subject, and included PNE in its International Nuclear Information System (INIS). This provides for world-wide collection and distribution of information on nuclear sciences and technology by computer techniques; INIS includes information on the geological, geophysical and seismological aspects, as well as the actual and potential uses of PNE.

A review of the evolution of the technology at periodic intervals was also thought necessary. In order to keep itself well informed on all developments, the Agency has convened four international technical meetings:

- *in March 1970 – To review the phenomenology of both contained and cratering explosions;*
- *in January 1971 – To review the practical applications of PNE for industrial purposes;*
- *in November 1972 – To review the phenomenology of both contained and cratering events; and*
- *in January 1975 – To study projects involving PNE, including the health and safety aspects and the economics of such projects.*

The proceedings of the 4th technical meeting were published in August 1975.

In order to implement Article V of the Non-Proliferation Treaty (NPT), and following the wishes expressed by the General Assembly¹, the IAEA initiated studies on the character of the international observation recommended by Article V. In June 1972 the Board of Governors of the Agency approved a set of guide-lines for appropriate international observation of PNE by the Agency under the provisions of NPT, or analogous provisions in other international agreements.

PROCEDURES

Among the matters which were to be considered under Article V of NPT were the procedures which should be adopted by the Agency in order to enable it to respond to

¹ General Assembly Resolution 2605 B (XXIV).

requests for services related to PNE. In 1974 an international group of experts, with representatives both from States that could supply the services and from non-nuclear-weapon States, was convened. The group concentrated on procedures to deal with the early stages of a possible PNE project. These included guidelines for requesting States, and the procedures which the Agency should follow before the conclusion of an observation agreement between the IAEA, the requesting State and the supplier State or States.

This approach was approved by the Board of Governors in September 1974, and the Board's action was subsequently brought to the attention of all Member States and of the General Assembly. In addition all Member States were invited to indicate to the Secretariat whether they would be willing to offer explosive service (as "PNE Supplier States") or other services related to PNE (as "PNE Consultant States"). As a result, the Secretariat was able to establish a register of such States at the end of 1974, which enables information on the type of services that could be provided to be made available to any interested Member.

REQUESTS

However, since 1969 only two official requests for information on techniques using PNE have been received from Member States.²

In 1971 the Department of Mines and Power of Madagascar requested information on the possible use of PNE for removing a rock obstruction in a harbour construction project. At its request the Agency approached the authorities of France, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, all of whom expressed their willingness to supply experts to appraise the feasibility of using PNE for this purpose. This was conveyed to the Malagasy authorities, but there have been no further developments.

No request for assistance in using PNE for a defined project has yet been received by the Agency.

Late in 1974 the General Assembly³ requested the IAEA to continue its studies on PNE, 'their utility and feasibility, including legal, health and safety aspects', and to report to it on those matters in 1975. In addition, the Assembly called upon the Conference of the Committee on Disarmament, in submitting its report to the Assembly in 1975 on the elaboration of a treaty designed to achieve a comprehensive test ban, to include a section on its consideration of the arms control implications of PNE, and, in doing so, to take account of the Agency's views in the matter. The matter was also discussed in Geneva in May 1975 at the Review Conference of the NPT which in its final declaration considered the IAEA to be the appropriate international body referred to in Art. V of NPT through which potential benefits from PNE could be made available to any NNWS. The Conference also urged the Agency in its work to take into account the views of the CCD and the UN General Assembly.

A provisional indication of the Agency's view was communicated to the CCD in June 1975. In the same month the Board of Governors established an intergovernmental Ad Hoc

One from Romania on oil well applications and one from the CSSR on gas stimulation.
See Res. 3261 D.2 (XXIX) on General and Complete Disarmament.

Advisory Group on Nuclear Explosions for Peaceful Purposes; its terms of reference cover procedural aspects, legal and treaty obligations, health and safety matters, as well as the economic aspects which include comparisons with possible non-nuclear alternatives. The Group will advise the Board on the establishment and operation of an international service for PNE. States party to the NPT but not members of the IAEA, which might wish to do so, were invited to participate in the Group's work. The first meeting was held in Vienna on 30 September.

Representatives from 39 interested States met under the chairmanship of Dr. A.R.W. Wilson from Australia. Among its first tasks the intergovernmental Ad Hoc Advisory Group, with the help of consultants, will establish a catalogue of possible applications of PNE and their feasibility. It will also study legal and treaty aspects of PNE, health and safety and environmental aspects, as well as the economics of PNE applications and alternative technologies. Further studies on procedures for assistance in this respect and the factors involved in the establishment and operation of an international service for PNE are also foreseen.

The next meeting of the Group is scheduled for 2 March 1976. It is expected that an up-to-date bibliography of available scientific documentation will be published early in 1976; this information will be included in the INIS. A glossary of English, Russian and French terms will also be published.

Members of the Ad Hoc Advisory Group were:

Argentina	Lybian Arab Republic
Australia	Mexico
Bangladesh	Netherlands
Belgium	Nigeria
Bulgaria	Norway
Canada	Pakistan
Chile	Philippines
Colombia	Poland
Czechoslovakia	Romania
Denmark	South Africa
Egypt	Switzerland
Finland	Sweden
France	Thailand
German Democratic Republic	Turkey
Germany, Federal Republic of	Union of Soviet Socialist Republics
Hungary	United Kingdom of Great Britain and Ireland
India	United States of America
Indonesia	Yugoslavia
Italy	Zaire
Japan	