apollo-12 gift to the agency

On March 2 the Agency was host to the three Apollo-12 astronauts who placed the first atomic power generator on the moon.
Accompanied by their wives, they were given a warm welcome and received mementos prepared by the Agency.
In return they presented the Director General with a model of the SNAP-27 generator.

For Vienna it was a typical winter's day: a day of cold and snow. Dr. Sigvard Eklund, Director General, noted this fact in his speech of welcome to the three Apollo-12 astronauts, Charles Conrad, Alan Bean and Richard Gordon, and their wives, during their short visit to the Agency. The Boardroom in the Headquarters building — cleared of its customary seating — was crowded with Agency staff come to welcome the astronauts, their wives and escorts: the US Ambassador to Austria, Mr. John P. Humes, the US Representative on the Board of Governors, Ambassador Henry D. Smyth, and the US Resident Representative to the Agency, Mr. Verne B. Lewis. The Agency reception line was headed by Dr. and Mrs. Eklund and included the Deputy Directors General. Each astronaut signed the Agency visitors' book to leave a lasting record of their brief call.

"In this wintry weather," Dr. Eklund said, "it may be comforting to think about the atmosphere surrounding our globe as a protective fur shielding us from the coldness of space. But this atmosphere also screens us from the outer world and we have, until recently, had only a couple of windows transmitting information in the form of visible light and short radio waves about what is happening out there.

"Through satellites orbiting around the earth and probes shot to Venus and Mars, new possibilities have been created for the astrophysicists to obtain information inaccessible up to now; and through the landings on the moon, a first page can now be read in the book recording the history of our solar system."

To welcome the astronauts, he said, was a privilege. "I do not need to stress the greatness of their achievements. This has already been done many times. I will limit myself to recalling what is of special importance to this Agency, namely, the placing on the surface of the moon of a SNAP-27 nuclear generator — the first occasion when a nuclear-powered system has been so used.

"May I add that in the visit of the astronauts to the IAEA I see a further token of the interest shown by the United States of America in this Agency, an interest which has been maintained since the day in 1953 when the late President Eisenhower addressed the General Assembly of the United Nations and proposed the establishment of an agency devoted exclusively to the peaceful uses of atomic energy."

Dr. Eklund presented each of the trio with a leather-bound copy of the last number of the Bulletin, which contained an article describing the SNAP-27 nuclear generator, and a commemorative scroll of their visit to the Agency.

Charles Conrad handed over a model of the generator which he and Alan Bean set up on the surface of the moon, for exhibit at the Agency as a token of the United States' interest in the Agency's work and especially the peaceful uses of nuclear energy. The generator they left on the moon, he reported, was "working well"; it would outlive the experiments it was intended to power and would be turned off by a signal from earth after a year.

Externally, the model generator presented by the astronauts is identical with the one they left on the moon: but it is not a working model.

The Apollo-12 astronauts with their wives during their visit to the Agency. On the extreme right is the Director General, Dr. Sigvard Eklund. Photo: IAEA/Arzensek

The design is one of a series developed under the generic name "Systems for Nuclear Auxiliary Power" to provide electricity to use in experiments in space, on land and in the sea. On the moon SNAP-27 generates 70 watts of electric power through the exposure of 442 lead telluride thermoelectric elements to the heat of radioactive decay of plutonium-238 contained in a fuel capsule.

To set up the generator on the moon Conrad and Bean, working in their space suits under almost weightless conditions, had to remove the fuel capsule from its carrying container on the side of their landing module and transfer it to its permanent home within the heart of the generator. And, in doing this, they showed man's continuing dependency on tools used for thousands of years: the capsule was reluctant to leave its carrying container and, said Conrad, "we had to use a hammer to get it free".

More effective use of existing research reactor facilities in the Middle East and Eastern Europe was discussed at an Agency Study Group meeting in February. It was held at the Nuclear Centre La Casaccia, near Rome, and the opportunity was taken to visit the installations of the Comitato Nazionale per l'Energia Nucleare (CNEN). This photo was taken at the zero power criticality experiment (ROSPO). Photo: CNEN