



**Communication Received from Certain Member States  
Concerning their Policies Regarding  
the Management of Plutonium**

1. The Director General has received a note verbale, dated 5 December 1997, from the Permanent Mission to the IAEA of Germany. In keeping with Germany's commitment under the Guidelines for the Management of Plutonium (contained in INFCIRC/549 of 16 March 1998 and hereinafter referred to as the "Guidelines"), the government of Germany, in the enclosure of the note verbale of 5 December 1997, makes available a statement explaining its national strategy for nuclear power and the nuclear fuel cycle.
2. In light of the request expressed by Germany in its note verbale of 1 December 1997 concerning its policies regarding the management of plutonium (INFCIRC/549 of 16 March 1998), the text of the enclosure of the note verbale of 5 December 1997 is attached for the information of all Member States.

Since the late seventies, German electricity utilities have concluded reprocessing contracts with reprocessors in other European countries (Cogema/F and BNFL/UK), in accordance with which the reprocessor returns the recovered energy sources U and Pu to the customer. These products are reprocessed into MOX in British, French or Belgian production plants. To date, approx. 210 tHM and approx. 9 tPu (tonnes of plutonium) with MOX fuel elements have been used in German reactors. These contracts (old contracts) have a volume of approx. 5500 tHM and cover disposal needs up to about the year 2000. The discontinuation of the previously planned domestic reprocessing plant at Wackersdorf has been compensated by new contracts, also concluded with Cogema and BNFL. Options from the old contracts and the flexible new contracts permit complete waste management of all unloaded fuel elements until well beyond the year 2000.

On behalf of the German electricity utilities, the Gesellschaft fuer Nuklearservice (GNS) is constructing a facility in Gorleben, which is to be a pilot plant to test general services for the interim storage and final disposal of high-level waste in large casks, and in particular the conditioning of fuel elements for final disposal. The buildings of the pilot conditioning facility have already been completed and some technical equipment was installed in 1997. Examples of the pilot conditioning facility's tasks are cask servicing facilities and tests on techniques for reloading fuel elements from interim storage casks into facility casks as well as the densification of fuel elements.

The planned Gorleben repository, which will accommodate all types of radioactive waste including high-level waste and other heat-generating reprocessing waste and spent fuel elements, will be constructed in the Gorleben salt dome at a depth of 800 to 900 m. Previous exploration work above and below ground confirms the good prospects offered by the salt dome. Two-dimensional exploration starting in 1997 and lasting until about 2003 will verify further prospects and present evidence of the salt dome's suitability. From the present point of view, the salt dome is large enough to accommodate all waste expected in the long term up until well into the next century. After the necessary planning approval procedure, the repository could begin operation in about 2011 at the earliest.

## **Brief Statement Explaining the National Strategy for Nuclear Power and the Nuclear Fuel Cycle in Germany**

In contrast to other countries, Germany has no unified organization concerned with the diverse aspects of nuclear material control, safety and physical protection. Various Federal and State authorities are active within the framework of the Atomic Energy Act and international and regional agreements. The Federal Republic of Germany does not have a national accountancy and control system for nuclear material. This important function is performed by Euratom as part of the Euratom treaty.

Germany currently has twenty nuclear power plants in operation or ready for operation with an installed capacity of 23.4 GW covering one third of the electricity demand. The German fuel cycle consists of front-end activities (an operational gas centrifuge enrichment plant at Gronau and a uranium fuel fabricating plant at Lingen (ANF)) and back-end activities which mainly rely on services abroad.

It is the preferred waste management policy of the German Government to dispose of all radioactive wastes on its own territory in deep geological formations.

The concept of waste management as agreed since 1979 includes on-site storage, interim storage, reprocessing, conditioning, and final disposal in sediment (non-heat-generating waste) or rock salt (especially heat-generating waste and spent fuel elements).

Approximately 400 to 500 thm (tonnes of heavy metals) of spent fuel elements, depending on burn-up, are unloaded each year from the utilities' nuclear power plants. After the necessary cool-down period of several years in the power plants' own wet storage pools they are disposed of by transporting them for reprocessing to France or the UK, or long-term external interim storage. By the end of 1996, a total of approx. 5000 thm had been disposed of in this way. A further 2800 thm will have to be disposed of in the next 6 years. Pursuant to the Atomic Energy Act and in particular its amendment of 1995, it is left to the discretion of the respective utility whether to make use of reprocessing or external long-term interim storage followed by direct final disposal

With respect to waste management facilities in Germany, there are fuel element interim stores at Ahaus and Gorleben with a capacity of 1500 thm and 3800 thm respectively. A further interim store is under construction near Greifswald.