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COMMUNICATION RECEIVED FROM CERTAIN MEMBER STATES CONCERNING THEIR POLICIES REGARDING THE MANAGEMENT OF PLUTONIUM

1. The Director General has received a note verbale, dated 9 August 1999, from the Permanent Mission to the IAEA of Belgium. In keeping with Belgium'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 Belgium, in the enclosure of the note verbale of 9 August 1999, in accordance with Annexes B and C of the Guidelines, makes available information on its national holdings of civil unirradiated plutonium and of plutonium contained in spent civil reactor fuel, as of 31 December 1998 and provides an update of Belgium's National Strategy for the management of plutonium.

2. In light of the request expressed by Belgium in its note verbale of 1 December 1997 concerning its policies regarding the management of plutonium (INFCIRC/549 of 16 March 1998), the texts of the enclosures of the note verbale of 9 August 1999 are attached for the information of all Member States.

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BELGIUM

National strategy on nuclear energy and fuel cycle

General plan for the national management of plutonium holdings

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1. Introduction

According to article 14 of the Guidelines for the Management of Plutonium the member states which have signed those guidelines, have to publish occasional brief statements explaining their national strategy for nuclear power and the nuclear fuel cycle and, against that background, their general plans for managing national holdings of plutonium.

Belgium has published its first statement in December 1997, at the moment the guidelines have been accepted by the countries involved.

Hereafter some modifications are made to the original statement.

2. Electricity generation and nuclear reactors

The electricity production of the seven Belgian nuclear reactors has been as follows :

- year 1997 : 45 097 GWhe, a share of 60,1 % of the total electricity production in Belgium;
- year 1998 : 43 888 GWhe, a share of 55,2 % of the total electricity production in Belgium.

The performance of the Belgian nuclear power plants is excellent.

The two nuclear power plant sites are equipped with the necessary storage facilities for the

spent fuel produced on the site.

Apart from the storage capacity of the reactor ponds, one complementary storage facility has been constructed on each site. The capacity of these facilities can be extented to cover the rest of the operational period of the Belgian reactors.

The Minister in charge of energy matters has created a committee of experts assembled from the different universities and specialized scientific organisations of the country. This committee, after consultation with the national and international actors in the nuclear field (the electricity producers, the nuclear industry, the organisations charged with nuclear studies and radioactive waste, the research institutes, ...) will issue, within 18 months after its official nomination, a report, the purpose of which is to prepare the future choices with respect to the production of electricity.

3. Nuclear fuel cycle

Due to the lack of economic competitivity the domestic production of natural uranium ("yellow cake") from imported phosphates has been stopped.

The cumulative production of the MOX fuel fabrication plant of Belgonucleaire at Dessel has reached about 400 tons at the end of 1998. This has allowed to recycle about 20 tons of plutonium in light water reactors.

4. Back-end of the nuclear fuel cycle

The intermediate storage facilities for the vitrified high level waste and the other waste, resulting from the reprocessing of Belgian nuclear fuel at La Hague (France), according to the concluded contracts, are ready to receive the waste.

With regard to the long term management of low level and short-lived waste, the Government has taken the following decisions, based on a report of the Belgian waste organisation ONDRAF/NIRAS comparing different options :

- a solution which is flexible, reversible and which can progressively become permanent has to be worked out;

- a technical and economic choice will have to be made as soon as possible between near surface disposal and geological disposal;

- in order to be able to make the choice, ONDRAF/NIRAS has been charged with the execution of a programme consisting of land reconnaissance on the 4 existing nuclear zones in Belgium and the zones of municipalities having shown an interest, the further elaboration of the near surface and geological disposal concepts and the development of local co-management structures in order to integrate the projects at the local level.

is expected to last about three years The aim of the programme is to present integrated preliminary near surface or geological disposal concepts for each zone.

With respect to R & D in the field of disposal of intermediate, high level and long-lived waste, in stable underground clay formations, a programme has been agreed for the period 1998-2003 between the most important waste producers and ONDRAF/NIRAS. This programme is carried out mainly by the Nuclear Research Centre at Mol. It is coordinated and managed by ONDRAF/NIRAS and it is financed by the waste producers.

Apart from the continuation of the on-going R & D in relation to the existing underground laboratory (sealing of access shafts, corrosion and migration experiments, safety studies, site and formation characteristics, conceptual studies), the following two elements of the programme are very important :

- the Praclay experiment, for which an extension of the existing laboratory is necessary. This extension consists of the construction of a second access shaft, a connection gallery between this shaft and the existing laboratory and a demonstration gallery. The experimental phase of this gallery is foreseen to start after the year 2003. The purpose of the experiment is to demonstrate the feasibility of the present day concept for disposing radioactive waste in a deep clay layer. In other words, it aims to demonstrate on real scale (1 : 1), with heated elements but not with active waste, the feasibility of constructing, operating and backfilling a deep geological repository gallery in clay with current industrial equipment;

- the drafting of the report called "SAFIR 2", which will give an overview of the results presently achieved and which will indicate the future orientations for the R & D.

The programme will have to be continued after the year 2003. Three phases are still foreseen :

- period 2003-2007 : continuation of the R & D and several experiments, continuation and completion of the Praclay experiment;

- period 2008-2011 : complementary R & D programme in order to collect supplementary informations for the drafting of a preliminary safety assessment report (PSAR) and drafting of the report itself;

- period 2012-2013 : presentation of the PSAR for the safety authorities and defence of the report.

The above-mentioned programme is concentrated on the geological disposal of radioactive waste, but many elements of it are also valid for the disposal of conditioned spent fuel. Elements which are specific for spent fuel have been added to the programme.

5. Current policy on the back-end of the fuel cycle

In line with one of the recommendations of the resolution of Parliament, adopted in 1993, concerning the use of MOX fuel in Belgium's nuclear power plants and the suitability of reprocessing spent fuel, a report has been drafted by the competent administrations, which contains a synthesis and an evaluation of the work which has been realised by the firms and institutions involved. As several works were still in progress, the report concluded that no definite choice in favour of one or the other option (reprocessing/recycling or once through option) was necessary in the near future and that nothing could justify eliminating one of them. The Government asked the competent administrations to draft a more complete report towards the end of 1999, taking into account the results of the work realised until then. The government decided that the two options have to be kept open and that Synatom had to terminate the reprocessing contract it concluded in 1991 with Cogema, the performance of which had been suspended since December 1993.

6. Controls and Transparency

On September 22, 1998, Belgium, together with the 12 other non nuclear weapon states of the European Community of Atomic Energy, the Community itself and the I.A.E.A. has signed the additional protocol to the safeguards agreement of 1975. Belgium is in the process of ratifying this protocol.
