

International Atomic Energy Agency

INFORMATION CIRCULARGENERAL Distr.
Original: ENGLISH**COMMUNICATION RECEIVED FROM BELGIUM CONCERNING ITS
POLICIES REGARDING THE MANAGEMENT OF PLUTONIUM**

1. The Secretariat has received a communication, dated 20 September 2002, from the Permanent Mission of Belgium to the IAEA in the enclosures of which the Government of Belgium, in keeping with its commitment under the Guidelines for the Management of Plutonium (contained in INFCIRC/549 of 16 March 1998 and hereinafter referred to as the "Guidelines") and in accordance with Annexes B and C of the Guidelines, has made available information on its national holdings of civil unirradiated plutonium and of plutonium contained in spent civil reactor fuel, as of 31 December 2000 and 31 December 2001.
2. The Government of Belgium has also made available in its communication of 20 September 2002 a brief statement for 2002 updating the Belgian strategy for nuclear power and the nuclear fuel cycle.
3. In the 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 communication of 20 September 2002 are attached for the information of all Member States.

ANNEX B

Guidelines for management of plutonium
Annual figures for holdings of civil unirradiated plutonium

BELGIUM

	As of 31 Dec. 2001. (Previous year's figures in Brackets) Rounded to 100 kg plutonium	
1. Unirradiated separated plutonium In product stores at reprocessing plants.	0 KG	(0 kg)
2. Unirradiated separated plutonium In the course of manufacture or fabrication and plutonium contained in unirradiated semi-fabricated or unfinished products at fuel or other fabricating plants or elsewhere.	1900 kg	(2100 kg)
3. Plutonium contained in unirradiated MOX fuel or other fabricated products at reactor sites or elsewhere.	1000 kg	(600 kg)
4. Unirradiated separated plutonium held elsewhere.	p.m.	(p.m.)

<p>Note:</p> <p>(i) Plutonium Included In lines 1-4 above belonging to foreign bodies</p>	<p>Not to be communicated due to secrecy reasons.</p>	
<p>(ii) Plutonium In any of the form In lines 1-4 above held in locations In other countries and therefore not Included above.</p>	<p>1000 kg</p>	<p>(600 kg)</p>
<p>(iii) Plutonium In international shipment for which the Government of Belgium still retains Safeguards responsibility is Included In the appropriate lines above. The Government with jurisdiction over the owner of the plutonium Is responsible for resolving any residual difficulties.</p>	<p>0 kg</p>	<p>(0 kg)</p>

**Estimated Amounts of Plutonium Contained in Spent civil
Reactor Fuel**

National totals

	As of 31 Dec. 2001. (Previous year's figures in Brackets) Rounded to 100 kg plutonium	
1) Plutonium contained In spent fuel at civil reactor sites	20.000 kg	(18.000 kg)
2) Plutonium contained In spent fuel at reprocessing plants	0 kg	(0 kg)
3) Plutonium contained In spent fuel held elsewhere	0 kg	(0 kg)

Guidelines for management of plutonium

Annual figures for holdings of civil unirradiated plutonium

BELGIUM

As of 31 Dec. 2000.

(Previous year's
figures in Brackets)

Rounded to 100 kg
plutonium.

1) Unirradiated separated plutonium in product stores at reprocessing plants.	0 kg	(0 kg)
2) Unirradiated separated plutonium in the course of manufacture or fabrication and plutonium contained in unirradiated semi-fabricated or unfinished products at fuel or other fabricating plants or elsewhere.	2.100 kg	(2.500 kg)
3) Plutonium contained in unirradiated MOX fuel or other fabricated products at reactor sites or elsewhere.	600 kg	(1400 kg)
3) Unirradiated separated plutonium held elsewhere.	p.m.	(p.m.)

Note:

(i) Plutonium Included In lines 1-4 above belonging to foreign bodies

Not to be communicated due to secrecy reasons.

(ii) Plutonium in any of the forms in lines 1-4 above held in locations in other countries and therefore not included above.

600 kg

(900 kg)

Plutonium in international shipment for which the Government of Belgium still retains Safeguards responsibility is included in the appropriate lines above. The Government with jurisdiction over the owner of the plutonium is responsible for resolving any residual difficulties.

0 kg

(0 kg)

It is open to Governments to add any further information or explanation which they believe helpful.

Guidelines for management of plutonium

**Estimated amounts of plutonium contained in spent
Civil reactor fuel**

BELGIUM

As of 31 Dec. 2000.

(Previous year's
figures in Brackets)

Rounded to 1000kg
plutonium.

1. Plutonium contained in spent fuel at civil reactor sites.	18 000 kg	(17 000 kg)
2. Plutonium contained in spent fuel at reprocessing plants	0 kg	
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3. Plutonium contained in spent fuel held elsewhere.	0 kg	

BELGIUM

NATIONAL STRATEGY ON NUCLEAR ENERGY AND FUEL CYCLE

GENERAL PLAN FOR THE NATIONAL MANAGEMENT OF PLUTONIUM HOLDINGS

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.

Belgium has published an update of its first statement in June 1999, describing the situation of the Belgian nuclear fuel cycle at the end of 1998.

Hereafter are given the few developments which have taken place until the end of April 2000.

2. Electricity generation and nuclear reactors

2.1. Situation of the nuclear energy production in Belgium

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

- Year 1998 : 43.888 Gwhe, a share of 55,2 % of the total electricity production in Belgium.
- Year 1999 : 46.507 Gwhe, a share of 57,8 % of the total electricity production in Belgium.

The performance of the Belgian nuclear power plants is excellent In the year 1999, their availability factor has reached a value of 93,1 %.

2.2. Political decisions

The previous government had created a committee of national experts in order to Issue a report, the purpose of which is to prepare the future choices with respect to the production of electricity.

The now government, which came Into power in July 1999, has decided to maintain the moratorium on the construction of new nuclear power plants. The government wants to engage in the gradual phase-out of nuclear energy in the long run, while respecting the aims of the conference of Rio and the Kyoto protocol with respect to CO₂-emissions. In order to leave the necessary time to the scientists for the development of alternative, renewable and clean new mass energy sources, Belgium has to enter in a scenario whereby the disactivation of the nuclear power plants shall be started when they have reached the ago of 40 years. The government will consult the European Agency for the Environment and will interrogate a committee of International experts about the feasibility and the implementation of this scenario. In fact this international committee will be asked to do a peer review of the report of the AMPERE committee.

3. Front-end of the nuclear fuel cycle

No special events have taken place.

The two fuel fabrication plants (uranium oxide fuel plant of FBFC and MOX fuel plant of BELGONUCLEAIRE) have continued their operation in a normal way.

In particular, at the end of the year 1999, the MOX-plant has reached a cumulative production of about 450 tons. This has allowed to recycle about 25 tons of plutonium in light water reactors.

4. Back-end of the nuclear fuel cycle

At the end of the year 1999 the quantities of spent fuel stored at the two nuclear power plant sites are the following :

DOEL : 1.930 elements (820 tons)
TIHANGE : 1.677 elements (810 tons)

From these quantities the following parts are stored outside the reactor ponds in the complementary storage facilities which have been constructed on these sites :

DOEL : 492 elements (246 tons)
TIHANGE: 575 elements (272 tons),

Towards the end of the year 1999 the last transports of spent fuel have taken place to La Hague in the framework of the reprocessing contracts concluded with COGEMA. This

brings the total quantity of Belgium spent fuel which will have been reprocessed at 670 tons.

In April 2000 the intermediate storage facilities, which have been constructed for the waste corresponding to the concluded reprocessing contracts, have received the first 28 canisters of vitrified waste.

The Belgian waste organisation ONDRAF/NIRAS is continuing the following two programmes :

- a) A programme with respect to the long term management of low level and short-lived waste, which must lead around 2001/2002 to integrated preliminary near surface or geological disposal concepts for each nuclear zone.
- b) A programme with respect to the disposal of intermediate, high level and long-lived waste in stable underground clay formations. The extension of the already existing underground laboratory is going on. The new shaft has been completed and the preparations for the connection gallery between this shaft and the existing laboratory are continuing. Once this gallery completed, a short side gallery will be constructed in which the feasibility of the present day disposal concept will be demonstrated on a real scale. The drafting of the SAFIR 2 report has also continued. This report will present the state-of-the-art of the geological disposal research and will indicate the future R&D orientations, This programme applies to waste as well as to conditioned spent fuel.

The safety and feasibility studies of a conditioning plant of spent fuel, as asked by the Government, was completed at the end of 1997. Since then, work has continued to qualify some techniques to be used in the plant and to optimise the plant from the economic point of view.

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

The previous government had already taken the decision that new reprocessing contracts could only be concluded after its formal approval, It had asked the competent administrations to complete the already existing report about the comparison between the reprocessing and non-reprocessing options by taking into account the progress of the work. With respect to the disposal of the reprocessing waste and to the conditioning and the disposal of spent fuel and by deepening the economics of the two options.

The now government has decided to maintain the moratorium on the implementation and conclusion of additional reprocessing contracts without its formal agreement. This decision has reduced the immediate need for the more complete comparison report asked by the government.

6. Controls and Transparency

The additional protocol to the safeguards agreement of 1975 between the non nuclear weapon states of the European Community of Atomic Energy, the Community itself and the I.A.E.A. has been submitted to Parliament for ratification. The law, which must permit the Implementation of the protocol on the Belgian territory has been submitted at the same time.