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Communication Received from Switzerland Concerning its Policies Regarding the Management of Plutonium

1. The Secretariat has received a Note Verbale dated 3 September 2007 from the Permanent Mission of Switzerland to the IAEA in the enclosures of which the Government, in keeping with Switzerland's commitment under the Guidelines for the Management of Plutonium (contained in INFCIRC/549 of 16 March 1998 and hereinafter referred to as "Guidelines"), has made available a document concerning the Swiss Policy on Nuclear Energy and Recycling of Plutonium.

2. In light of the request expressed by Switzerland in its Note Verbale of 1 December 1997 concerning its policies regarding the management of plutonium (INFCIRC/549 of 16 March 1998), the enclosures of the Note Verbale of 3 September 2007 are attached for the information of all Member States.

August 2007

The Swiss Policy on Nuclear Energy and Recycling of Plutonium

Policy

Nuclear energy is a controversial issue in Switzerland. At the federal level there have been five popular initiatives proposing a moratorium for the construction of new nuclear power plants or the phasing out of nuclear energy. The last referendum of May 18 2003 called a) for an extension of a moratorium for the construction of new nuclear power plants decided in 1990 for a time span of 10 years and b) for the decommissioning of all Swiss reactors after a service life of 30 years. Both initiatives were rejected.

The new Nuclear Energy Act came into force on 1 February 2005. It allows the possibility of building new reactors, with the possibility of a referendum against their construction; no time limit is imposed on the life of existing nuclear power plants. The law introduces a 10-year moratorium on the export of nuclear fuel for reprocessing starting in July 2006.

At the international level, Switzerland ratified and implemented the Additional Protocol on 1st of February 2005.

Nuclear Power Plants

Today, five nuclear reactors are in operation in Switzerland with a total net capacity of 3220 MWe. In 2006 they generated 27,65 TWh, about 42% of Switzerland's total electricity production.

Power plant	Type	Commissioning	Net power
Beznau I	PWR	1969	365 MWe
Beznau II	PWR	1972	365 MWe
Mühleberg	BWR	1972	355 MWe
Gösgen	PWR	1979	970 MWe
Leibstadt	BWR	1984	1165 MWe

Fuel Cycle

Because of the limited size of the nuclear programme, there are no fuel cycle facilities in Switzerland. Thus international cooperation is necessary. Responsibility for planning and decisions about the fuel cycle lies with the owners and operators of nuclear power plants. They make contracts in accordance with national legislation and international agreements

The activities of the government and its administration are of subsidiary nature, e.g. accounting and controlling nuclear materials, licensing of imports and exports of nuclear material as well as negotiation of the necessary international or bilateral agreements.

Fuel supply and enrichment:

Natural uranium is currently procured from three sources: partnership or joint-venture production, long-term contracts and spot market contracts.

Enrichment is provided by the U.S., Russia and the European Community (France, Germany, United Kingdom, the Netherlands). The fuel elements were manufactured in the U.S., the European Community (Belgium, Germany, United Kingdom, Spain, Sweden) and Russia.

Reprocessing and use of MOX-elements:

Reprocessing contracts with COGEMA and the BNFL of Swiss nuclear power plant operators cover about 1200 tons of heavy metal. MOX elements with recycled plutonium have been used in the Beznau I power plant since 1978 and in the Gösgen power plant since 1997. Today, the use of MOX elements is a standard operational procedure in both Beznau reactors as well as in the Gösgen reactor.

According to the new Act on Nuclear Energy, a 10-year-moratorium for the export of spent fuel for reprocessing will begin in July 2006.

Waste management and storage

The Nuclear Energy Law lays down that all radioactive waste produced in Switzerland shall, as a general rule, be managed in Switzerland. The waste has to be transferred to a deep geological repository and the funds required for the monitoring period and the eventual closure have to be secured. A licence for a deep geological repository will be granted if the findings obtained during construction confirm the suitability of the site and if it is possible to retrieve the radioactive waste without undue effort until closure of the repository.

Intermediate storage:

The utility-owned ZWILAG facility for interim storage of spent fuel, high level waste (dry storage) and other radioactive waste in Würenlingen went into operation in 2001. An additional facility for the wet storage of spent fuel is under construction at the Gösgen nuclear power plant. At the Beznau plant an existing storage building is equipped for the dry storage of spent fuel.

Final disposal:

Based on the Ordinance on Nuclear Energy of August 2004, a site selection process for radioactive Waste repositories will be defined through a Sectoral Plan within the framework of the existing Land Use Planning Legislation. The site selection process will be based primarily on technical criteria but must also address socio-economic aspects.

For low- and intermediate level waste, a first repository project was abandoned after the local population rejected the plans for underground investigations in a referendum decision. A new site selection process is under way .

Within the program for high-level and long-lived wastes, both options for final disposal, disposal of high level waste arising in vitrified form from reprocessing and disposal of spent fuel-elements, are kept open. A project aiming to demonstrate that a safe repository for spent nuclear fuel, vitrified high-level radioactive waste and long-lived intermediate-level waste can be implemented and that a corresponding site exists in Switzerland was accepted by the Federal Council in June 2006.

Research activities

Nuclear research activities are divided into nuclear fission and fusion. The main research topics in the fission area are safety analysis of reactors and fuel and the disposal of radioactive waste.. For fusion the focus is on experiments, making use of the facilities and competence within the framework of international projects. The goal is to deliver high-quality contributions to this collaboration.

Main features of plutonium management

- As a state party to the NPT, Switzerland is strongly committed to non-proliferation and has no intention to use plutonium for the manufacture of nuclear weapons or other nuclear explosive devices.
- All nuclear material within the territory of Switzerland is subject to IAEA full scope safeguards.
- Switzerland ratified and implemented the Additional Protocol on 1st of February 2005.
- Nuclear installations in Switzerland are restricted to nuclear power plants, intermediate storage facilities and research institutes. There are no fuel cycle facilities or major research activities in our country.
- Swiss operators of nuclear power plants have signed reprocessing contracts with COGEMA and BNFL for about 1200 tons of heavy metal.
- Plutonium resulting from reprocessing abroad is re-fabricated to MOX-Fuel and re-imported to Switzerland in form of fuel-elements.
- MOX-elements have been in use in the power plants of Beznau since 1978 and in the power plant of Gösgen since 1997.
- A 10-year moratorium on the export of nuclear fuel for reprocessing started in July 2006.