

GREENPEACE

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Russia importing nuclear waste for final disposal and reprocessing

A GREENPEACE CRITIQUE OF MINATOM NUCLEAR LAW CHANGE AND NUCLEAR PROLIFERATION TRUST (NPT) PROPOSAL

Official documents reveal plans for dumping and plutonium reprocessing

Summary

Greenpeace has obtained a confidential document which provides background details on plans of the Russian Ministry of Atomic Energy to import up to 20,000 metric tonnes of spent nuclear fuel from foreign countries not only for intermediate storage – as had been proposed, but also for final disposal and even plutonium reprocessing in Russia. The document calculates an income for these services of \$US 21 billion. The document, dated 1999, is signed by First Deputy Minister Valentin Ivanov.

The document envisages the import of up to 20,500 tonnes of spent nuclear fuel (SNF) to get revenues of US\$ 21 billion. Greenpeace described this as an extremely dangerous and cynical deal to generate billions of dollars which will only add to the enormous environmental problems that already exist in Russia, as well as increasing security risks and nuclear proliferation.

“The proposed amendment of the Environmental Law weakens environmental protection and will mean Russia becoming the world’s largest nuclear dump site,” said Greenpeace nuclear campaigner Tobias Muenchmeyer. “Payments of US\$ 21 billion (Minatom document) or US\$ 15 billion (NPT proposal) are equivalent to bribes to the Russian nuclear industry for taking nuclear wastes from other countries”

The countries listed as being potential clients, Germany, Japan, South Korea, Switzerland, Spain, Taiwan all indeed have a spent fuel problem. It is a problem of their own creating, and it is for their government and citizens to seek to solve the problem of nuclear waste that presents a hazard to the environment for tens of thousands of years to come. As there is no current solution, they should move as early as possible to a phase out of nuclear power, and to opt for national, monitored, above-ground dry storage. In addition, the Minatom proposal as well as the NPT initiative undermine national laws of countries prohibiting the export of SNF (e.g. Germany).

The Minatom-Document gives the technical and economic basis for the amendment of the Russian Environmental law which currently prohibits the import of spent nuclear fuel (SNF) to Russia. The document represents a feasibility analysis on management of SNF from foreign countries. It shows in detail the capacity for transport, storage and reprocessing of SNF from foreign countries and calculates expenditures for and revenues from the import of SNF.

It coincides with a proposal of the U.S. company "Non Proliferation Trust Inc. (NPT)", to ship spent fuel to Russia for interim storage, and possible disposal. The funds generated would go to environmental clean-up, geological repository and storage facilities. The NPT proposal leaves the question of later reprocessing of the SNF open. Greenpeace's assessment is that the plans of Minatom, including amendment to the current Russian law, which prohibits the import of SNF for final storage, are aided and inspired by the NPT proposal.

Greenpeace is strongly opposed to any plans to export SNF to Russia for interim storage, reprocessing and final disposal. The world's nuclear waste problem should not be solved by dumping the problem on a poor country which suffers already from the legacies of its nuclear industry. The funds to be provided by foreign clients will certainly be used to expand Russia's nuclear program, including the plutonium economy.

Seven reasons why the Russian environmental Law should not be changed and any proposals to export SNF to Russia should be abandoned:

1. Dumping domestic waste problems on cash short Russia

According to the Minatom document, 20,500 t SNF would be imported during the years 2001-2010 and stored for at least 20 years. 4,500t would stay for final disposal while 16,000t would be reprocessed during the years 2020-2040. The highly radioactive SNF is not only a severe threat to the environment, but also causes proliferation risks because of its plutonium content, which can be used for nuclear weapons. There is no solution to the problem of nuclear waste, in this case SNF, anywhere in the world. But there is growing awareness, that storage of SNF is a major environmental and proliferation problem and will remain so for thousands of years. The Russian lawmakers currently have prohibited the import of SNF to protect the territory of the Russian Federation from additional environmental problems - imported SNF would add to the existing problems with domestic SNF. The proposed amendment of the Environmental Law weakens environmental protection and will mean Russia becoming the world's largest nuclear dump site. Given the current economic crisis in Russia, is extremely cynical to export the nuclear waste to an impoverished country with poor environmental records.

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storage. In addition, the Minatom proposal as well as the NPT initiative undermine national laws of countries prohibiting the export of SNF (e.g. Germany).

Greenpeace believe that the figures contained in the Minatom and NPT documents are only primers to establish the principal of importation of foreign waste into Russia, and that once that has been established, the amounts would be increased as and when new customers arose.

2. Increasing environmental damage by reprocessing

Reprocessing is the most dangerous and dirty part of the nuclear fuel cycle. Radioactivity contained in the spent fuel is released into the environment in the form of liquid and gaseous waste. In addition, the overall volume of waste produced increases significantly due to contamination of liquids used in the chemical reprocessing process. High active liquid waste which is separated from plutonium and uranium, presents a unique hazard in that the storage tanks can overheat and explode, as occurred in the former Soviet Union's Mayak complex in 1957. The separated plutonium is direct-use nuclear weapons material, thus any increase in the current stocks adds to the proliferation threat posed by this material.

The Minatom document proves that they are not only offering final disposal of SNF in Russia, but clearly intend that the majority of spent fuel imported (16,000t out of 20,500t) will be reprocessed at the Krasnoyarsk and Mayak reprocessing sites. This would give rise to around 160 tons of plutonium. It is here that the NPT document, which declares that no imported spent fuel or monies received would be used for reprocessing, is flawed. Transfer of ownership of the spent fuel to Russia, which is permitted under the NPT would remove what little control there would be over the spent fuel and its disposition. In addition, to believe that the Russian Federation in general, and Minatom in particular, can be trusted to abide by an agreement when the spent fuel and the hard currency will have already have been transferred seems naive to the realities of Russian politics. Also the NPT proposal says that reprocessing would be possible, if "Minatom, NPT II, and the governments of both parties approve".

The restriction on spent fuel disposition once it is in Russia as laid out in the NPT proposal, and especially after the transfer of large sums of money directly to Minatom, is weak, and barely takes account of future political developments in Russia, including a breakdown in international relations. The last thing Russia needs at this moment is further plutonium reprocessing having a stock of separated plutonium of over 150 tons.

3. Subsidizing Minatom's dangerous programs

Not least of these will be new reactor construction, including the BN-800 Fast Breeder reactor, a project that First Deputy Valentin Ivanov is personally committed to. It is perhaps these options that would be a most immediate threat if the Law change and the NPT proposal were to be realised.

Both proposals taken together will lead to the further expansion of the Russian nuclear infrastructure, including plutonium fuel MOX plants, and possible new reactor construction, including fast reactors. Payments of US\$ 21 billion (Minatom document) or US\$ 15 billion (NPT proposal) are equivalent to bribes to the Russian nuclear industry for taking nuclear wastes from other countries.

4. Multiplying transport risks

The Minatom document also provides general route options for importation of foreign spent fuel to Mayak and Krasnoyarsk. In the case of transports to Mayak and Krasnoyarsk from European reactors, the example of German ports across the Baltic Sea to St Petersburg, followed by overland train is given. Other options mentioned are by train through central Europe, including Bulgaria, to Russian ports of the Black sea, and by river barge on the Volga, followed by train to Mayak or Krasnoyarsk. In the case of transports of spent fuel from East Asia, ships would dock in Vostochnyj and would be shipped from near by Nakhodka (100km East of Vladivostok), followed by train to Krasnoyarsk. A Northern Sea route is mentioned whereby the spent fuel would be transported up the Yenisey river system, but no explanation is given as to origin of the spent fuel that would use this route.(2.2) Every transport of SNF presents severe environmental risks, risks for the personnel involved and proliferation risks. Given the current catastrophic constitution of the Russian rail system, SNF transports in Russia are of extreme danger.

5. Facilitating Proliferation of fissile materials

The issue of international security and proliferation is ignored in the Minatom document, while the NPT proposal emphasises the benefits of managing fissile material in a secure way, funds for which would be provided by utilities shipping their spent fuel to Russia.

Following its name, the defined main objective of the Non Proliferation Trust is to “aid the non-proliferation of nuclear materials and weapons” Therefore NPT Inc. would make available not less than US\$ 1.5 billion for “improving the physical protection, control and accounting for Russian fissile materials not needed for national security purposes (...) The parties further agree that, to the maximum extent possible, they will seek to ensure that this Agreement operates in a manner that is consistent with the objectives of any bilateral agreement between Russia and the United States concerning disposition in either country of Excess Plutonium and/or other excess fissile materials.” The older version of the NPT proposal (May 5th, 1999) was even more specific including “programs associated with storage, chemical or physical conversion to forms less usable in weapons or explosives, disposition, research and development, and public awareness and assistance programs”.

Behind this formulation stand the efforts of the Russian and US government to convert weapon Plutonium from dismantled nuclear weapons to MOX fuel and to burn it in commercial reactors. Greenpeace is opposed to this approach of “disposition”, for a number of reasons. Firstly, the MOX route will require the operation of new plutonium facilities safeguards for which are wholly inadequate. It thus increases proliferation risk rather than reduces it. The use of plutonium MOX fuel decreases the safety margins for reactors, hardly a good idea anywhere, not least Russia. By burning MOX fuel, the nuclear waste problem is made worse, both in terms of more spent fuel, as well as greater radiological burden due to the presence of plutonium in the original fuel.

6. Weakening environmental laws

The Minatom document serves as a basis for the Russian government’s proposal to change Article 50 on Environmental Protection to permit the importation of foreign spent

fuel, for a combination of storage, reprocessing and disposal. The amendment of the law had been proposed as well by the NPT proposal.

The mutually beneficial relationship between the proposed law change document and the NPT proposal is highlighted by this. Although Minatom has sought for a number of years to change the law, the NPT proposal has lent credibility to the change, creating the impression that there is a legitimate market for spent fuel disposal in Russia. Without the law change the NPT proposal cannot proceed. The law change as proposed by Minatom, which most likely has been seen by those backing the NPT, however reveals the broader motives of Minatom.

7. Environmental damage instead of environmental benefit

Both documents –the Minatom document as well as the NPT proposal – claim to provide finances for large scale environmental programs. There are serious concerns based on the experience of other international environmental aid programs, that only a small share of the earmarked finances would be used for clean-up work.

But even given the situation, that a part of the \$ 7.2 billion for “regional social-economic and ecological problems” (Minatom document) or \$3 billion (NPT proposal) would be used for environmental work, the damage to the environment by final disposal and reprocessing of thousands of tons SNF would cause many more environmental problems than could be fixed on the other side by those programs.