

RUSSIAN RESEARCH CENTRE
«KURCHATOV INSTITUTE»

RRC KI, Kurchatov Sq., Moscow 123182, Russia

April 9, 2004

Mr. Kazuhisa Mori

Executive Vice Chairman

JAIF

Tokyo, Japan

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Dear Mr. Kazuhisa Mori,

As it was coordinated with Mr. Nicolay Borisov I send to you the Academician Velikhov's letter to Mr. Yoshiro Mori for subsequent transmission to addressee.

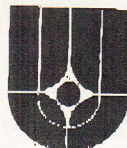
Thank you very much for advance.

Sincerely Yours

Vyacheslav Kuznetsov

Executive Director of RRC "Kurchatov Institute"'s

Institute of Innovative Energy



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April 9, 2004

Mr. Yoshiro Mori

Co-Chairman

of Russian Japanese

Council of the Sages

Dear Mr. Mori!

I suggest to discuss at the Moscow Russian - Japanese "Council of Sages" meeting in April 14 this year a question on realization, as a joint Russian - Japanese project of a nuclear power reactor on fast neutrons construction on the basis of Russian BH-800 project with the purpose of weapon and power plutonium disposition.

Recycling of components of the mass destruction weapon and, first of all – the nuclear weapon, is the main task of G8 in the field of disarmament and non-proliferation. Japan has declared about active participation in the G8 program and is ready to allocate significant means for the decision of this task.

The fuel cycle of nuclear reactors on fast neutrons allows to utilize more effectively plutonium in comparison with other possible ways. So, a reactor such as BH-800 can utilize up to 1,7 tons weapon and up to 1,9 tons energy plutonium per one year, developing thus a commercial electricity. The world nuclear community holds the opinion, that the fast reactors are the basis of nuclear power of the future, answering in the full to the sustainable development conditions.

In Russia fast reactors work more than 50 years. Here the fast reactors BP-10, BOP - 60, BH-350 and BH-600 have been created and successfully worked and are working. The general operating time of fast reactors in Russia reaches 120 reactor-years. After some break today in Russia the development of fast reactors is an actual task again and we are interested in the international cooperation in this field. Construction of reactor BH-800 is carried out in Russia on Beloyarsk APP in Ural. The necessary volume of financing makes 1,2 billion USD.

Japan possesses significant scientific and technological experience in the field of fast reactors. In Japan the program of fast reactors construction with the purpose, including, recyclings of plutonium has been launched. At present this program is suspended. At the same time, Japan accumulates plutonium, as a product of processing in France the spent nuclear fuel of the Japanese atomic power stations, now – more than 30 tons. In Rokachō the factory on processing the spent nuclear fuel with productivity up to 5 tons of power plutonium per one year also will soon start to work. Thus, efficiency of Japan participation in the decision of problems of critical materials non-proliferation is reduced.

Simultaneously, it appears the necessity of the set of 2-3 fast reactors BH-800 type construction for power plutonium disposition, which will be produced in Rokachō.

The important stage of plutonium recycling is the production of mixed uranium plutonium (MOX) fuel. Russia and Japan have big scientific and technological beginnings in

substantiation of production method of such nuclear fuel by method of vibropacking down, which differ by the best economic parameters and smaller amount of waste products. Under the joint program industrial samples of vibropacked MOX-fuel have been made and successfully tested in reactor BH-600.

To secure full-scale recycling of plutonium in reactor BH-800 a new MOX-fuel production by vibropacking down method will be required to create. Definition of a place (places) of the organization of such production will need economic calculations in view of non-proliferation requirements. It seems to be expedient to consider a variant of placement of vibropacked MOX-fuel production in Rokacho. In this case movings of power plutonium will be extremely reduced. The Russian enterprises can also take part in the processing of the Japanese NPP's spent fuel in view of lack in Japan of its own capacities. The ongoing development of the corresponding Russian legislative base creates legal conditions for decision of this question.

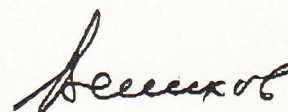
Thus, there are objective preconditions for cooperation of Russia and Japan in joint construction of fast reactors such as BH-800 and creation of MOX-fuel production for such reactors by vibropacking down method with the purpose of the accelerated disposition of weapon (Russian) and power plutonium of the Russian and Japanese origin.

The Russian - Japanese cooperation in the field of fast reactors and creation of effective vibropacked MOX-fuel with the purpose of plutonium disposition develops for a number of years at a level of the research organizations. The Joint Russian - Japanese efforts in the field of plutonium disposition are highly appreciated in the Joint statement on the results of official visit to Japan of the Russian Premier Minister Mikhail Kasjanov in December, 2003.

Joint construction of reactors such as BH-800 can become a part of the scaled Russian-Japanese-American project of creation of nuclear fuel cycle structure as a whole. Besides already mentioned fast reactors such as BH-800, the factory on processing the spent fuel in Rokacho and a new MOX-fuel production by vibropacking down method this structure should join the Krasnoyarsk mining and chemical plant as storehouse of the spent fuel and other scientific and technological organizations. Such international structure will carry out the control over a significant part of the world turnover of critical nuclear materials, promote strengthening of non-proliferation regime and answer to the task of realization of the IAEA General Director Initiative ElBaradei, who formulated a task of creation of the international organization on a fuel cycle.

With the deep regards

President
RRC "Kurchatov Institute",
academician



E.P. Velikhov