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<p>Summary Report of Peer Review</p>

(Provisional Translation)

Place of Review:	Japan Nuclear Fuel Co., Ltd. (Yokosuka city, Kanagawa Prefecture)
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1. Objectives

The purpose of the NSnet peer review is to achieve an improvement in the “safety culture” of the entire nuclear power industry by sending review teams of member specialists to member facilities, where they conduct reciprocal evaluations on common nuclear safety subjects among members and share mutual knowledge about the horizontal progress of good practices as well as subjects that have been singled out.

2. Areas of Review

A serious lesson was learned from the occurrence of the nuclear criticality accident that occurred last year at the JCO uranium processing plant. (Hereafter referred to as "the JCO accident".) Therefore, in this peer review, the areas of review at nuclear Fuel facilities center upon the appropriate performance of work on nuclear safety, including the prevention of serious accidents such as criticality and fires/explosions.

The review was divided into six areas: organization/administration, emergency measures, education/training, operation/maintenance, radiation protection, and serious accident prevention. An evaluation was made by comparing performance to the best practices in the nuclear energy industry.

In the area of serious accident prevention, nuclear criticality accidents were added to accidents involving fires and explosions when the safety of nuclear fuel facilities was evaluated. The prevention of occurrence was the target of this review.

In the other areas, considering the factors underlying the JCO accident, the review targeted organizational policies and activities aimed at stimulating the development of a "safety culture," the system of organization and the clarification of responsibility, worker education/training, worker knowledge/skill, observation of written operation procedures, and the transfer of technical knowledge.

In the other areas, the review targeted a number of issues that relate to the factors behind the occurrence of the JCO accident. These are organizational policies and activities aimed at stimulating the development of a “safety culture,” the system of organization and the clarification of responsibility, worker education/training, worker knowledge/skill, observation of written operation procedures, and the transfer of technical knowledge.

Moreover, the company’s self-checking activities that affect operation safety were especially targeted in the review of the process, facilities, and equipment. Emphasis was

placed on the safety awareness and ethics of the employees.

At the time of the review, it was also thought that one factor behind the JCO accident was the implementation of efficiency improvement measures by the management that drastically reduced the number of personnel. These measures were implemented because of poor business performance, which was caused by the international price competition started in the 1990s.

3. Execution of Review

From June 6th to 9th, 2000, the peer review was conducted at Japan Nuclear Fuel Co., Ltd. in Yokosuka City, Kanagawa Prefecture. The review team consisted of seven specialists in all. There was one clerical manager from NSnet and six reviewers, one each from Chubu Electric Power Co. Inc., Shikoku Electric Power Co., Inc., Sumitomo Atomic Energy Industries, Ltd., Japan Atomic Energy Research Institute, Hitachi Zosen Corporation, and the NSnet headquarters. To conduct the review, the six reviewers were assigned to one of three groups, two reviewers per group.

The first group was responsible for reviewing organization/administration, emergency measures, and education/training. The second group handled operation/maintenance, and radiation protection. The third group reviewed the prevention of serious accidents.

The review recognized a number of good practices and some suggestions for improvement by mainly observing the plant, targeting various activities promoted by the workers themselves for the improvement of safety, and by interviewing workers, confirming documents presented, and asking questions based on the documents.

In the course of the review, the review team aimed at exchanging ideas about the nuclear power “safety culture.” One way the team attempted to accomplish this was through the communication of useful practices carried out by the members, such as an appropriate introduction of educational material related to the nuclear power “safety culture” and the fundamental power plant administration policies that specify safety priorities.

4. Summary of the Facility Operation

The company targeted in this review, Japan Nuclear Fuel Co., Ltd., was founded in May 1967. Its main business has been the manufacturing of boiling water reactor nuclear fuel (BWR fuel). In January 2000, the company was consolidated with Global

Nuclear Fuel Americas LLC, under the newly established Global Nuclear Fuel LLC, and integrated with the fuel design and development divisions at Hitachi, Ltd. and Toshiba Corporation, which are stockholding companies, to begin a new management system.

The manufacturing plant in Kurihama has uranium fuel processing facilities located in an industrial complex in Yokosuka City, Kanagawa Prefecture. The number of employees is approximately 350 persons. There are also approximately 150 employees in the Kami-Ooka office in Yokohama City, which is fuel design and development division of JNF.

BWR fuels are manufactured at the fabrication #1 and #2 of Kurihama Plant, which are nuclear fuel processing facilities under the regulatory approval. The approved uranium enrichment is not more than 5%.

Of these two fabrication buildings, in the fabrication #2 the main processes of pelletizing, the fuel rod assembling, and the fuel bundle assembling are consistently automated and integrated. The fabrication #1 is set up for the process of manufacturing uranium fuel pellets containing gadolinia and some parts for the auxiliary equipments.

One section of the fabrication #1 is the nuclear material using facilities under the regulatory approval. Similar to the nuclear fuel processing facilities, the approved uranium enrichment used in these area is not more than 5%. These facilities conduct the development of technology to measure nuclear fuel material.

The manufacturing of BWR fuel at this company has yielded 400-500 tons of uranium per year over the past 10 years. This meets about three-fourths of Japan's demand for BWR fuel.

5. Main Conclusions

Taking a broad view of the results of the review conducted on Japan Nuclear Fuel Co., Ltd., with respect to nuclear safety, such problems were not found that would lead to the occurrence of a serious accident if the improvement measures were not adopted immediately. Moreover, it is confirmed that managers and employees are united as one and are conscientiously working toward continuing and strengthening the guarantee of nuclear industry safety. It is desirable that the company continues making further efforts to foster a better "safety culture" and that the company will never forget the lessons learned from the JCO accident in the future.

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- Established is the "Integrity" as an ethical standard and to clarify standards of behavior for company activities, we expect an improvement in ethics and all employees consciously abiding by the laws.
- A system of equipment qualification is applied to manufacturing and inspection. This system certainly applies not only when new equipment is introduced but also when equipment is resumed operation from a shutdown during transfer or repair, and also when renovations have been carried out.
- Criticality prevention is tenaciously fulfilled by mean that all manufacturing processes including the grinders are dry processes and by mean that safe geometry control is adopted in all concentration to a part of uranium recovery, which is wet process.

In order to continue the good performance to date and further improve the present safety level of the Japan Nuclear Fuel Co., Ltd., some proposals are given, the main ones of which are listed below.

- Considering the areas where the importance of the human factor is indicated, it is desirable that problems be researched and analyzed, and that further investigation into the matters considered important for safety be carried out again.
- Concerning the agreements with other companies in the industry regarding cooperation and assistance in emergency situations, which are now coming to a conclusion, it is desirable that an effective system of cooperation and assistance be established.
- In the future as well, effective methods of education should be devised and given to employees on an on-going basis. This is to inform them of the JCO accident, without allowing the lessons to wear thin with time. In particular, we expect education about criticality safety to be given to continue for all employees including personnel of manufacturing and inspection.

Other details concerning this report may be found on the Japanese homepage.