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Current Status of J-MOX Safeguards Design and Future Prospects

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The construction of JNFL MOX Fuel Fabrication Plant (J-MOX) is proceeding toward active test using uranium and MOX in July 2017 and completion of construction in October 2017. Although the construction schedule is largely impacted by progress of licensing, according to domestic law, JNFL is making every effort to get necessary permission of business license and authorization of design and construction method as soon as possible.

On the other hand, it is desirable that integrated safeguards approach is effective, efficient and consistent with J-MOX facility features. Discussion about the approach is going on among IAEA, Japan Safeguards Office (JSGO) and JNFL, and IAEA is planning to introduce the measures into the approach such as application of Near Real-Time Accountancy with frequent declaration from operator, Containment/Surveillance measures to storages, internal flow verification with 100%, random interim inspection (RII) and so on.

RII scheme is intended to increase efficiency without compromising effectiveness and makes interruption of facility operation minimum. Also newly developed and improved safeguards equipment will be employed and it is possible to realize to increase credibility and efficiency of inspection by introduction of unattended/automatic safeguards equipment. Especially IAEA and JSGO share the development of non-destructive assay systems which meet the requirements from both parties. These systems will be jointly utilized at the flow verification, RII and PIV.

JNFL will continue to provide enough design information in a timely manner toward early establishment of safeguards approach for J-MOX. Also JNFL will implement the coordination of installation and commissioning of safeguards equipment, and Design Information Verification activities for completion of construction in October 2017.

Country or International Organization

Japan

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