

AEC Begins Deliberations on Feasibility of Co-disposal of TRU and HLW

On November 28, the Atomic Energy Commission's Working Group on disposal technology for long half-life radioactive waste (endothermic) held its first meeting. The group began deliberations on the technological feasibility of the combined disposal of TRU waste and high-level radioactive waste (HLW), and of disposing of TRU in the form of vitrified packages to be returned from France.

At the meeting, the Japan Atomic Energy Agency (JAEA) and the Federation of Electric Power Companies (FEPC) outlined a report on technological studies on TRU waste disposal (second TRU report), which was prepared last September, and which will serve as the basis for discussions by the working group. As for the possible interaction effects between TRU and HLW when disposed together, the report concluded that co-disposal would be possible if the two substances are separated by at least 300m. Specifically, TRU and HLW should be separated by at least 50m to avoid affecting the absorption properties of the cement, and at least 300m in the case of nitrates, which could cause metal corrosion.

Next, FEPC presented a report at the meeting on the French proposal. In comparison with bituminization – i.e., solidifying low-level liquid radioactive waste with asphalt – the vitrification proposed by France would reduce the volume to be vitrified from about 250m³ to 5m³ – only one fiftieth the prior total. Given that small amount, vitrification would have no significant effect on the entirety of TRU geological disposal.

The working group will consider the following matters, among other things: (1) whether the factors to be discussed on interaction effects with co-disposal are sufficient, (2) whether criteria for determining each factor and analysis models are appropriate, and (3) whether the latest information has been properly reflected. It will also discuss various aspects of the French proposal, including the safety of vitrified packages, and effects of the disposal of liquid waste and glass components.

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