

2004 Scientific Forum - Session 2 –“Waste and Spent Fuel Management Issues”

Three keynote speakers and four panellists reviewed related experience to date, including approaches from direct disposal to the closed cycle. Regarding the latter, reprocessing of irradiated power reactor fuel was noted to be a mature, commercially available technology. Experience to date has demonstrated that commercial reprocessing can be compatible with security and non-proliferation requirements. There has also been a continuing reduction in the volume of waste arising from reprocessing. This trend will continue with the implementation of improved technology and operating practices. R&D programmes to study the partitioning and transmutation of environmentally significant radionuclides are being pursued to further enhance the effectiveness of waste minimization programmes.

Regarding direct disposal, session 2 participants described significant progress to date. As described in the Director General’s statement to the 48th session of the General Conference, Finland and the USA have all moved forward with their geologic disposal programmes. The majority of technological issues were noted to have been satisfactorily addressed, but social issues, including public acceptance and political endorsement remain unresolved. Participants noted that safe and robust interim storage technologies are available to provide system flexibility while addressing longer term waste and spent fuel management issues. Issues raised by the audience during the discussion period included the following:

- In response to questions regarding recycle precluding the need for repositories, the consensus was that geologic disposal remains a requirement for the closed cycle as well.
- The question of relative economics associated with fuel cycles required interpretation regarding both the scope and duration of factors considered.
- In the discussions regarding national and multinational repositories, some participants noted that it would be desirable to have operating national repositories to facilitate further progress on multinational geologic repositories.