

WM2015 Conference Panel Report

PANEL SESSION 126: **International Strategies and Operational Management of Used Nuclear Fuel**

Session Co-Chairs: **Larry Camper**, *US Nuclear Regulatory Commission*
Gerard Bruno, *International Atomic Energy Agency (Austria)*

Panel Reporter: **Gregory Suber**, *US Nuclear Regulatory Commission*

Panelists:

- **Fredrick Bailly**, *Vice-President, Integration and Strategy Development, AREVA (France)*
- **Timothy A. Frazier**, *Director, Nuclear Waste Initiative, Bi-Partisan Policy Center*
- **William C. Ostendorff**, *Commissioner, US Nuclear Regulatory Commission*
- **Andrew Griffith**, *Acting Associate Deputy Assistant Secretary for Fuel Cycle Technologies (NE-5), Office of Nuclear Energy*
- **Everett Redmond II**, *Senior Director, Policy Development, Nuclear Energy Institute*
- **Carl Reinhold Brakenhielm**, *Chair, Swedish National Council for Nuclear Waste (Sweden)*

An interagency panel was convened at 2015 Waste Management Symposium to focus on the strategic and operational management of used nuclear fuel (UNF) both nationally and internationally. The panelists discussed a wide range of challenges including the long term planning for management options which included storage, disposal and reprocessing. A number of issues emerged including generational equity and the nature of outreach to host communities.

Summary of Presentations:

Each panelist was given the opportunity to make a presentation. The presentations reflected the range of approaches and the resultant challenges experienced in addressing the management and ultimate disposition of used nuclear fuel (UNF).

Panelists discussed the responsibility of current generations to address the challenges resulting from the generation of UNF. Intergeneration equity principles were discussed in the context of burdening future generations due to the inaction or indecision of the current generation. Conversely, arguments were presented that future generations may be better equipped to deal with UNF issues due to scientific advancements.

The panelists debated the lack of progress on siting a deep geological repository in the United States. One position repeatedly emphasized was that current law in the US is not being followed. Panelist acknowledged that US law designates Yucca Mountain as the home for the geological

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repository and that the law was not being followed. One panelist insisted that if U.S. agencies and administration did not like the law, they should petition to have it changed. But the status quo is unacceptable and represents a lack of leadership on the part of those responsible for site the repository. NRC was tasked to review the Yucca Mountain Application submitted by the Department of Energy and, after some delay, has issued the Safety Evaluation Report. The point was raised the law is still current and states that the Department of Energy is obligated to move forward with Yucca Mountain unless the US Congress states otherwise.

Some panelist called the lack of progress a failure of leadership by the nuclear community. International examples illustrated how an integrated effort has been more successful in other countries. It was stated that the nuclear industry is not focused on the development of a DGR because the lack of a disposal pathway has not stopped plants from being built and has not stopped current operations. The industry does not feel it needs to take the lead in repository development since that responsibility lies with the Department of Energy.

Additionally, some panelist suggested that the environment for action does not exist because there is no crisis. Citing examples like Social Security and Medical Insurance (Affordable Care Act), panelists discussed the type of national level discussion needed to make hard and difficult things happen does not currently exist for radioactive waste issues. The lack of a crisis allows the status quote and apathy to set in and relegate the issue to a parochial concern among intimately effected states and municipalities.

Despite the current setbacks, industry representatives on the panel expressed optimism that Yucca Mountain is still a viable option. Specifically, it was recommended that incentives for the State of Nevada could overcome current opposition to the repository.

The panel also discussed the issue of consolidated storage. Consolidated storage represents a small cost compared to the expense of siting a repository. Some panelist questioned the viability of consolidated storage as States may view away from reactor storage facilities as de facto disposal sites.

International perspectives focused on the overall approach to siting and community involvement as a possible success path for development of a DGR. One panelist recommended that a singular focused organization should be created with the sole purpose of developing a repository. The organization would be independent of the nuclear industry and other governmental and regulatory entities.

The panel also explored whether Used Nuclear Fuel reprocessing was a viable management approach for the US. Currently the US has a once through fuel cycle whereas France has successfully reprocessed used fuel for decades. The French program was described as cost

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neutral with a factor of 10 reduction in inventory needing disposal. The French integration in the French system creates inherent efficiencies and recycling (reprocessing) actual decreases the disposal costs. Since France has reprocessed fuel for so long, they have not created a backlog like the US. It was suggested that the US would not benefit from reprocessing and that the cost would be prohibitively large compared to the benefit.

Conclusion

The panel provided a vigorous debate on the major challenges facing the nuclear community regarding the approaches for management and disposal of UNF. One major conclusion was that most panelists supported a consent basis approach to siting a repository. There was also general consensus that an independent body would be more effective in leading the development process. Finally, it was emphasized that once established, the rule of law created for the repository must to be followed by all regulatory bodies and elected administrations.