

TA6 & IRP2 Q&A Transcript

Q: Is the 3D imaging of SNF canister internals intended for a specific stage of SNF handling, such as during transportation?

A: It's not specifically for transportation, in fact that's probably an unlikely time to do it. We're just looking generally at new 3D imaging technologies which can be useful for figuring out what's going on inside the canister.

Q: Should we assume that the overpack is present during the imaging process?

A: It would be nice if we could do it with the overpack present but because of the high radiation levels from the canister it's unlikely that we would want to take it out of the shielded environment. We're open on how we could do it if you have a way to do the imaging without the overpack.

Q: We are working on an innovative alternative for the Yucca Mountains, closely aligned with Area 5, SNF disposal research. However, in the meantime, this solution starkly reduces the transportation path. Which area is more applicable for us, or can we apply for multiple areas?

A: You can submit proposals to multiple areas, but they must be substantially different. It does sound like it could fit under topic area 6, but applicants should use their best judgement when picking an area to submit to. If a program manager feels it would be better in a different area they can move it with the applicant's permission.

Q: Is NEUP expecting the development of sensors that can be bonded or bolted to the external wall of canisters for SHM purposes?

A: Bonding would be the approach. We don't want to do things that would compromise the structure of the canister walls so drilling and tapping and bolting to the wall would not be appropriate.

Q: Does NEUP expect the development of wireless sensors, or the development of wired sensors tethered outside through the vent of the dry casket where the canisters are stored fine?

A: That would be okay.

Q: For Structural Health Monitoring of Canisters. Are you concerned with existing canisters or new canisters or both?

A: Both.

Q: Are you interested in robotic inspection, permanently installed sensors or both?

A: Both.

Q: What are the limitations/problems with current impact limiters in terms of their design, manufacturing, performance, etc.?

A: There is a concern that the materials being used for existing impact limiters aren't suitable. They are typically made of wood which is difficult to acquire enough of and isn't the best in this application.

Q: How important is manufacturability of components? Is there a specific process in place that you prefer or is it entirely open ended from a manufacturing standpoint?

A: It's entirely open ended.

Q: Do we need to have a very good understanding of the current limitations and problems specifically with the canisters or can we just talk broadly about the state of the art for impact limiters?

A: You have to know the canister well enough to know what the loads are going to be. If you're talking about sensors or 3D imaging you have to have a very good idea of what's going on in the canister.

Q: Is stability of storage casks under external events (earthquakes, wind, etc.) a topic of interest?

A: Yes, that's a topic of interest. It might also fit in some of the other topic areas as well.

Q: Do we need to monitor cracks only on welds or whole canisters?

A: We're focused primarily on the weld itself but all heat affected zones have issues. Technology that focuses on either would be acceptable.