Global Material Security

Transportation Operations:
"The Dance"
SARTT

Office of Global Material Security

U.S. Department of Energy
National Nuclear Security Administration

NNSA National Nuclear Security Administration

U.S. DEPARTMENT OF ENERGY

Introductions

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- Moderator, Mat King - I have been shipping radioactive material in the U.S. since 2006, and got involved with international projects of shipping spent nuclear fuel in 2016--including projects in Canada, Peru, Indonesia, Canada, Nigeria, and Ghana. Today, I continue to actively manage nuclear transportation projects for my company as well as assist the NNSA as a consultant in this area.
- Panelist 1
- Panelist 2
- Panelist 3
- Panelist 4
- To audience: Please write down your questions and ask them during the Q&A session at the end.

Nuclear Transportation: An Iceberg

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- Well-executed transportation event--as short as possible, as smooth as possible, and as boring as possible – the "tip of the iceberg"
- Planning for a transportation event can take weeks, months, or even years – the massive hidden part of "the iceberg that is far larger"
- Let's talk with our panelists about some of their experiences with planning and why it's so important to secure execution of nuclear shipment.
- [Panelist name] Can you highlight a transportation project you've been part of where planning paid off?

Friendly Neighborhood Regulator

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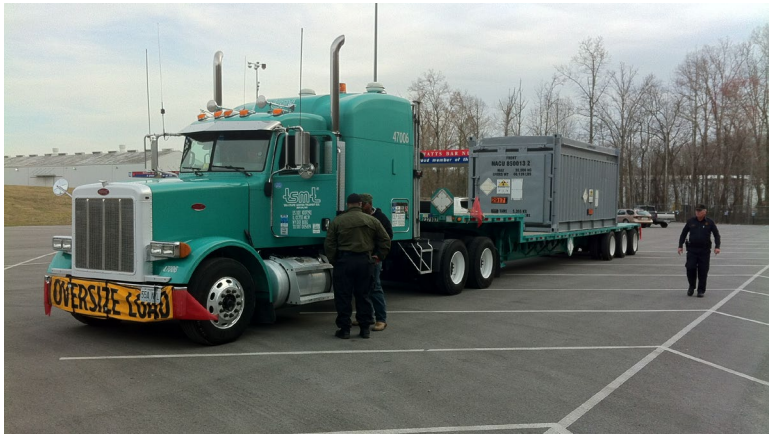
- The nuclear industry is among the most heavily regulated worldwide
- Governments have signed CPPNM, accepting responsibility for safety and security of nuclear material in their authority
- This responsibility is delegated to regulatory agencies in each country
- It’s up to operators to implement them



Friendly Neighborhood Regulator

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- Panelist question (to an operations person) - can you describe coordination you are required to do with your government prior to a nuclear shipment?
- Panelist question (to a regulatory person) – can you describe what this looks like from regulatory perspective? What goes on behind scenes when someone requests a license to transport?
- Let's talk about situations where coordination between you two might pay off and how might the coordination with regulator pay off in these situations?
  - Radiation leak
  - Terrorist attack
  - Mass protest

Predicting the Future: Contingency Planning

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- Things don't always go as planned. When things go wrong, we need contingencies.
- [To all panelists] Are we able to foresee the infinite possibilities of what could go wrong and plan for them all?
- [Go around the room] A contingency plan is a functional document that should be used in an emergency: "If this happens, then do this."
- You don't want a lengthy document that is difficult to navigate:
  - What formats have you found work best?

Contingency Planning--Continued

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- Let's talk about different levels of contingency planning--from a trucking company up to a national level event:
  - Trucking company–what kinds of things might they have to plan for and have control over?
  - What about the shipper?
  - Law enforcement must follow their own response protocols and procedures-- How does the security plan or shipment planning make their job easier?
  - What about the regulatory agency? If a large event happens, what kinds of plans can a government agency have that will mitigate consequences of an event?

Pre-Shipment Planning

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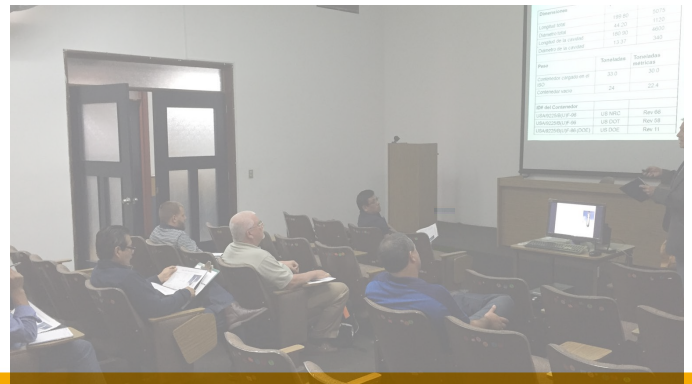
- [Question to an operations panelist] We've talked about coordinating with the regulator, and we've talked about contingency planning– but what other types of planning goes into operations?
- [Question to regulatory and LLEA panelist] What value do exercises have in planning for a nuclear shipment?



Nuclear Fuel Shipments

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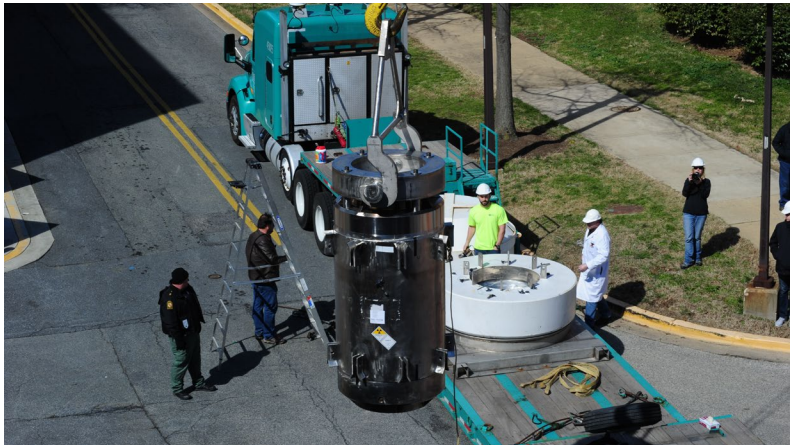
A truck load of spent nuclear fuel is loaded; it is permitted and licensed for transport; and it has passed inspection and is ready to go. This shipment is going from Country X to Country Y which takes 27 hours. Let's walk through the shipment operations.



Review

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Questions?