# Spent Nuclear Fuel Transportation – Inspection Readiness

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# Overview

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- Transportation Inspection Background
- DSFM Initial Assessment
- Next Steps
- **Feedback and Discussion**

# Point of Origin Inspections

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- Discussions at the National Transportation Stakeholders Forum (NTSF)
  - Ad hoc working group on rail transport
- NRC transportation inspections
  - Record review
- Shipments of spent nuclear fuel (SNF)
  - Type B shipment
  - 10 CFR 71.5 → 49 CFR for Class 7 material

# Initial Assessment

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- Where will SNF be shipped from
- Who has the responsibility for transportation inspections
- Does the applicable inspection program cover transportation of Type B packages
- Is the inspection program adequate today or would a new program need to be developed and implemented
- Receipt inspection at Consolidated Interim Storage Facility (CISF) excluded from this assessment
  - Transportation ends when package leaves the public roadway
- Transportation security inspection excluded

# Initial Assessment

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- Where?
  - Away-from-Reactor (AFR) Independent Spent Fuel Storage Installations (ISFSIs)
  - Decommissioning Reactors
  - Operating Reactors
- Who inspects?
  - ISFSI inspectors from Regions I, III, and IV
  - Decommissioning inspectors from Regions I, III, and IV
  - Radiation Protection inspectors from all Regions
- Inspection program covers transportation?
  - Inspection Manual Chapter (IMC) 2690 – yes, but not a specific Inspection Procedure; IP 60858 – No
  - IMC 2561 – yes, annual hour requirement; IPs 86750, 86740, and 88035
  - IMC 2515 – yes, biannual; IP 71124.08

# Initial Assessment

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- Is the inspection program adequate today?
  - Revision to IMC 2690 necessary
    - Point to a current transportation IP or update IP 60858
  - Decommissioning Reactor and Operating Reactor inspection programs should be updated
    - IMCs and IPs should be revised, at a minimum, to provide specific guidance for SNF shipments, for example:
      - Increase in frequency and resources for inspection across multiple business lines
      - 72.48 reconciliation to Part 71 CoC approved contents requirements
      - Dual-purpose vs. storage only canisters
      - On-site for transportation activities vs. paperwork review
  - All inspectors would need supplemental training

# Initial Assessment

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- Should a new inspection program be developed?
  - A specific group of SNF transportation inspectors would be trained and qualified to perform inspections at all licensee facilities
    - Would include a documented training and qualification program
  - Would be budgeted and implemented from the spent fuel inspection business line division
  - A new IP and/or Temporary Instruction (TI) would be implemented to specifically perform SNF transportation inspections
  - Pros and Cons
    - Provides for consistency across all SNF transportation inspections
    - Require training and qualification for a few individual experts vs. many inspectors across all Regions
    - Take more time and resources to stand up with possibility of less resources in the long run

# Next Steps

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- Develop near and long-term actions based on internal review and stakeholder feedback
- Coordinate with all agency Offices (NSIR, NRR, Regions) that have a role in SNF transportation inspection
- Ensure necessary resource requests are made for FY2022 budget and beyond

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# Discussion/Feedback/Questions

# References

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- NUREG-2125: "Spent Fuel Transportation Risk Assessment – Final Report" (2014) [ML14031A323]
- NUREG/BR-0292, Rev. 2: "Safety of Spent Fuel Transportation" (2017) [ML16237A133]