

NOTICE: This draft Sample Needs Assessment was created by Department of Energy Nuclear Fuel Storage and Transportation Planning Project staff, and is provided to support the 2015 Section 180(c) Policy Implementation Exercise. Exercise volunteers may use this Sample Needs Assessment as-is, modify it, or use their own needs assessments to evaluate their training needs for the purposes of the Exercise.

Sample Needs Assessment

For the Section 180(c) Implementation Exercise

PURPOSE

The U.S. Department of Energy's (DOE) Nuclear Fuels Storage and Transportation (NFST) planning project is working in collaboration with the State Regional Groups and with participating Indian Tribes to develop and conduct a 180(c) Proposed Policy Implementation Exercise (the Exercise) designed to help evaluate proposed concepts and guide future policy development for implementing Section 180(c) of the Nuclear Waste Policy Act of 1982 (NWPA), as amended. The specific objectives of the Exercise would be to test and evaluate the application process, to compare¹ potential funding allocation approaches, and to evaluate the role of the recently developed Stakeholder Tool for Assessing Radioactive Transport (START) routing model in supporting the completion of a needs assessment. As part of the Exercise, DOE and volunteer States and Tribes will work together to complete a mock grant application process and an assessment of needs along a hypothetical potential route for spent nuclear fuel (SNF) shipments selected by the volunteer State or Tribe for the Exercise.

The DOE's Transportation Emergency Preparedness Program (TEPP) published a model needs assessment for radiological emergency preparedness that is available to emergency responders nationwide. This Sample Needs Assessment was developed using elements from that existing DOE model needs assessment with modifications necessary to account for the unique and specific elements of Section 180(c), including procedures related to safe routine transportation, which is generally understood to include shipment inspections and enforcement activities. Completion of a needs assessment will be an essential step in applying for Section 180(c) funding and, as part of the Exercise, participating States or Tribes would need to complete this (or a similar) needs assessment.

This Sample Needs Assessment is for illustrative purposes only and represents the subject matter and the types of inquiries that could be used to evaluate planning, training, and technical assistance needs for public safety officials in State and Tribal emergency preparedness, inspection/enforcement, and radiological response programs. This questionnaire (or a similar tool) could assist State and Tribal officials in identifying key planning elements and determining what the "increment of need" is between current radiological response capabilities and the additional training that would be necessary to be adequately prepared for shipments of SNF from commercial nuclear power reactors, including procedures for safe routine transportation as well as procedures for dealing with emergency conditions.

¹ The SRGs formed an Inter-regional Team to try to reach consensus on the funding allocation approach and other Section 180(c) policy issues. If they cannot reach agreement, the Exercise offers an opportunity to compare options.

This sample needs assessment could also be used as a planning tool to help the user identify what information and databases are available through the web-based START program that could be useful for collecting baseline information and facilitate completion of an eventual application for funding under Section 180(c) of the NWSA. While START can assist in the identification of the number and geographic distribution of first responders with training needs, it does not address training materials, training equipment, travel expenses, and other planning/training functions that may be covered by the “allowable activities” associated with 180(c) funding. Estimates for these types of expenses should be included in the mock scope of work and grant application portion of the Exercise.

Because emergency response authority and responsibilities are organized differently in different State and Tribal governments, this document may not reflect your specific organization or response structure. States and Tribes participating in the Exercise will be encouraged to make changes to this sample needs assessment as necessary to more appropriately reflect the organization of key response elements in their State or Tribe. They will also be encouraged to edit, clarify, or add questions, as needed, to more accurately identify their organizational structure and training needs.

KEY RADIOLOGICAL RESPONSE ELEMENTS

The document is designed to evaluate State, Tribal, and local emergency response assets as well as State or Tribal organizations engaged in inspection and enforcement, shipment tracking and other activities associated with safe routine transportation of SNF; to assess current training and capabilities; and to identify gaps that could be addressed through funding and technical support available under Section 180(c). In addition to the questions below, participants should complete the data tables in Appendices A and B as applicable. When completed, these appendices should summarize information on programs that exist within your State, Tribal, and local communities, current staffing levels, and what training will be needed to maintain the appropriate level of preparedness. Participants may choose to use the START system to access existing information such as local fire service, local or regional HAZMAT teams, the nearest radiological response unit, and State or local law enforcement along potential transportation corridors. Databases documenting training already conducted by the TEPP program are also available to assist in estimating overall training needs.

There are various emergency response elements that could be evaluated with a sample needs assessment, including State/Tribal emergency management and operations centers, local or county emergency management agencies, State/Tribal law enforcement organizations, State/Tribal transportation inspection/enforcement authorities, local fire response organizations, local/regional HAZMAT teams, and hospitals or emergency medical services along potential shipping corridors. In many cases, multiple response elements may be housed within a single agency or organization. It is also possible that response elements for a particular State or Tribal government could include more or fewer elements than those listed because of their internal organizational structure or because of the transportation mode chosen for shipments through their jurisdictions. Those elements included below are intended to help facilitate completion of the exercise and are not intended to be all inclusive or representative of any particular State or Tribal entity.

EVALUATION OF INDIVIDUAL ELEMENTS

The following sections represent the type of questions that could be used to assist States and Tribes with evaluation of their current level of preparedness with regard to radiological response for transportation accidents and aid in determining areas where additional planning, coordination, or training may be needed. For the purpose of this exercise we are assuming that evaluation of local emergency response capabilities along transportation corridors will be evaluated by the State or Tribal agency responsible for training coordination and completion of the mock grant application. While individual answers are not tabulated or scored separately, a significant number of “no” answers would suggest a need for a detailed review of radiological response plans and capability. The planning and training funds and technical assistance that will be available through the 180(c) program should augment existing radiological response programs to address the increment of need necessary to be adequately prepared for incidents or accidents involving DOE shipments of SNF from commercial nuclear power reactors.

I. EMERGENCY MANAGEMENT AGENCY PLANS AND PROCEDURES

The following list of questions apply to a State, local, or Tribal emergency management agency (EMA) with responsibility for coordinating incident and accident response activities for hazardous materials or radioactive materials and who may also be involved in monitoring or tracking radiological shipments moving through their jurisdictions.

1. Based on your geographic location and current DOE NFST planning documents, what modes of transport could be technically feasible to move SNF through your jurisdiction?
 Highway Rail Barge
2. Does your jurisdiction’s Emergency Operations Plan (EOP) have an annex that includes response to transportation incidents involving SNF or other radioactive material?
 Yes No
3. Was your EOP for transportation accidents involving radioactive materials developed using guidance provided in the FEMA REP-5 Rev 2 document?
 Yes No
4. Does the EOP identify the State/Tribal radiation authority and provide a 24-hour contact number for that agency?
 Yes No
5. Does your agency receive 7-day advance notifications of movements of SNF classified as safeguards² information?
 Yes No

² “Safeguards information (SGI): A special category of sensitive unclassified information that must be protected. Safeguards information concerns the [physical protection](#) of [operating power reactors](#), [spent fuel shipments](#), [strategic special nuclear material](#), or other radioactive material.” U.S. Nuclear Regulatory Commission, Glossary, available at <http://www.nrc.gov/reading-rm/basic-ref/glossary/safeguards-information-sgi.html>.

6. If the answer to question 5 was “yes,” have emergency management officials been trained on receipt, handling, distribution, and disposition of safeguards information?
 Yes No
7. Have emergency management officials been trained on use of the national incident management system (NIMS) and the use of forms and procedures required by HSPD-5?
 Yes No
8. Have appropriate State, local and Tribal emergency management officials been trained on and are they familiar with packaging and transport of spent nuclear fuel including appropriate response actions necessary for incidents or accidents involving SNF shipments?
 Yes No
9. Have emergency management officials been provided with access to and been trained on use of TRANSCOM or equivalent satellite tracking system for use in monitoring DOE shipments of SNF or other radioactive materials?
 Yes No
10. Has your State/Tribal emergency management agency conducted radiological response training for local or regional fire service, law enforcement, or other response agencies along major transportation corridors?
 Yes No
11. Has your State/Tribal emergency management agency received training provided by other DOE technical assistance programs, like the DOE Office of Environmental Management’s TEPP?
 Yes No
12. Has your State/Tribal emergency management agency conducted a radiological response drill for radioactive materials shipments moving through your jurisdiction in the last 3 years?
 Yes No
13. Does your State/Tribal emergency management agency have staff that function as Public Information Officers (PIO)? Yes No. If yes, have they been trained on public perception of radiological risk and appropriate means of communicating radiological risk?
 Yes No
14. How many employees from your agency would respond to or participate in a response to a radiological incident involving SNF in transit? _____.

Use data available in the START program for primary and alternative SNF routes through your jurisdiction to estimate the number of EMA staff and the type or level of training that would be appropriate to address the increment of need between existing radiological response training and the training necessary to reach the appropriate level of preparedness. Use Appendix B to document the number of staff and the appropriate training categories.

II. STATE EMERGENCY OPERATIONS CENTER

The following list of questions applies to a State/Tribal emergency operations center (EOC) with responsibility for coordinating incident and accident response activities for hazardous materials and may also be involved in monitoring or tracking radiological shipments and coordinating resources for the State/Tribe during response activities. The assistance available through the Section 180(c) program should augment existing radiological response programs to address the increment of need necessary to be adequately prepared for incidents or accidents involving DOE shipments of SNF from commercial nuclear power reactors.

1. Are EOC dispatchers required to participate in minimum levels of training to meet local, state, or federal performance standards?
 Yes No
2. Have EOC dispatchers been trained to the appropriate level of the NIMS?
 Yes No
3. Do EOC dispatchers routinely check/test the call-list/radio to confirm communication capabilities with the mutual aid support agencies?
 Yes No
4. Are EOC dispatchers familiar with existing mutual aid agreements and have they tested these agreements during a drill or actual event?
 Yes No
5. Does each EOC dispatcher position have an incident information form or computer system that is used to document information during emergencies?
 Yes No
6. Are EOC dispatchers knowledgeable regarding procedures for contacting the state radiation authority?
 Yes No
7. If the answer to question 6 is yes, do they have a 24-hour contact number for that agency?
 Yes No
8. Have EOC staff been trained on packaging and transport of spent nuclear fuel and appropriate response actions necessary for incidents or accidents involving SNF shipments?
 Yes No
9. Does your EOC receive 7-day advance notifications of movements of SNF classified as safeguards information?
 Yes No
10. If the answer to question 9 is yes, have EOC staff been trained on receipt, handling, distribution, and disposition of safeguards information?
 Yes No

11. Does the EOC staff have access to TRANSCOM or equivalent satellite tracking system for use in monitoring DOE movements of SNF? Yes No If so, have they been trained on the use of this system?
 Yes No
12. Has radiological response training been provided through other DOE technical assistance programs, like the DOE Office of Environmental Management's TEPP?
 Yes No
13. Has your State EOC participated in a response drill for radioactive materials shipments in the last 3 years?
 Yes No
14. How many employees from your agency would respond or participate in a response to a radiological incident involving SNF in transit? _____.
15. Have Public Information Officers been trained in briefing local elected officials, media, and the general public regarding radioactive materials transportation during normal and accident or incident conditions?
 Yes No

Use Appendix B to document the number of staff and the type of training needed for EOC staff that would be appropriate to address the increment of need between existing radiological response training and the training necessary to reach the appropriate level of preparedness.

III. HAZARDOUS MATERIALS TEAM PROCEDURES AND CAPABILITIES

The following list of questions applies to State/Tribal, regional or local HAZMAT teams with responsibility for responding to incidents or accidents involving hazardous materials at fixed facilities or in transit. While "all hazards" teams typically receive some level of radiological response training, the questions should help identify what level of training has been provided, what types of equipment are available to the different types of hazmat teams, and what training is appropriate to address the increment of need necessary to adequately prepare for incidents or accidents involving DOE shipments of SNF from commercial nuclear power reactors.

1. How many HAZMAT teams are there in your State/Tribal area?
 State Regional Local
2. What type of team(s) and how many teams would respond to incidents along potential SNF transportation corridors for the NFST program?
 State Regional Local
3. What level of training (OSHA 29 CFR 1910.120) Operations Technician Specialist – is required to be a member of a HAZMAT team in your State?
4. Have the HAZMAT Teams been specifically trained for response to transportation incidents involving radioactive material?

Yes No If yes, identify who provided the training

_____.

5. Have HAZMAT teams been trained on packaging and transport of SNF and response actions that would be appropriate for incidents or accidents involving SNF shipments?
 Yes No
6. Are mutual aid agreements in place to support hazardous materials incidents?
 Yes No
7. If the answer to question 6 is yes, are there mutual aid agreements for municipalities responsible for HAZMAT response along potential SNF transportation corridors?
 Yes No
8. Have the hazardous materials mutual aid agreements been exercised or practiced in the past year?
 Yes No
9. Does the HAZMAT Team have radiological survey instrumentation in its equipment inventory?
 Yes No
10. If the answer to question 9 is yes, identify the type of instruments and how many are available (include the manufacturer and model number)
_____.
11. Is there a program in place for routine maintenance, calibration, and operability testing for radiological monitoring equipment?
 Yes No
12. Have HAZMAT Teams been trained on the use of each type of radiological survey instrument?
 Yes No
13. If the answer to question 11 is yes, is a program in place to maintain/demonstrate proficiency?
 Yes No
14. Have the HAZMAT Teams developed response procedures that include a Site Safety Plan for radiological responses and radiation exposure guidelines?
 Yes No
15. Have Public Information Officers been trained in briefing local elected officials, media, and the general public regarding radioactive materials transportation during normal and accident or incident conditions?
 Yes No

Use Appendix B to document the number of HAZMAT responders along the primary and secondary transportation corridors for your jurisdiction, the current level of training, and

what additional training is appropriate to meet the increment of need to bring teams up to the appropriate level of preparedness.

IV. FIRE RESPONSE ORGANIZATION PROCEDURES AND CAPABILITIES

The following list of questions applies to local fire service organizations with responsibility for responding to incidents or accidents at fixed facilities or along potential SNF transportation corridors and/or functioning as an incident commander. Fire service representatives typically receive some level of radiological response training as part of their normal training regime. In addition, fire service personnel often function as the incident commander for large scale incidents. The questions should help identify what level of training has been provided, what types of equipment are available to local fire agencies, and what training is appropriate to address the increment of need necessary to be adequately prepared for incidents or accidents involving DOE shipments of SNF from commercial nuclear power reactors.

1. Are all emergency response vehicles equipped with the latest copy of the Emergency Response Guidebook (ERG)?
 Yes No
2. As directed in Homeland Security Presidential Directive 5 (HSPD-5), have all fire response personnel been trained on use of the NIMS including use of all appropriate forms, procedures, and checklists?
 Yes No
3. Have fire response organizations been trained for response to transportation incidents involving radioactive material?
 Yes No
4. Do fire response organizations have standard operating procedures (SOPs) for response to transportation incidents involving radioactive material?
 Yes No
5. Has fire response organization staff been trained on packaging and transport of SNF and appropriate response actions necessary for incidents or accidents involving SNF shipments?
 Yes No
6. Do fire response organizations have radiological survey instrumentation in its equipment inventory?
 Yes No
7. If yes, identify the type of instruments and how many are available (include the manufacturer and model number)
_____.
8. Is there a program in place for routine maintenance, calibration, and operability testing for radiological monitoring equipment?
 Yes No

9. Have fire response organizations been trained on the use of each type of radiological survey instrument?
 Yes No
10. If the answer to question 9 is yes, is a program in place to maintain/demonstrate proficiency?
 Yes No
11. Have Public Information Officers been trained in briefing local elected officials, media, and the general public regarding radioactive materials transportation during normal and accident or incident conditions?
 Yes No

Use Appendix B to document the number of firemen that would likely respond to a radiological incident along the primary and secondary transportation corridors identified within your jurisdiction, the current level of training, and the appropriate training categories and what training is appropriate to meet the increment of need to bring teams up to the necessary level of preparedness.

V. STATE/TRIBAL AND LOCAL LAW ENFORCEMENT RESPONSE PROCEDURES AND CAPABILITIES

The following list of questions applies to State/Tribal and local law enforcement organizations with responsibility for responding to incidents or accidents on transportation corridors, providing traffic control and on-scene security, or functioning as an incident commander. State and local law enforcement officers typically receive some level of radiological response training as part of their normal training regime. The questions should help identify what level of training has been provided, what types of equipment are available, and what training is needed to address the increment of need necessary to be adequately prepared for DOE shipments of SNF from commercial nuclear power reactors.

1. Are all local emergency response vehicles equipped with the most current version of the ERG?
 Yes No
2. Have law enforcement organizations been trained for response to transportation incidents involving radioactive material?
 Yes No
3. Have law enforcement staff been trained on packaging and transport of SNF and appropriate response actions necessary for incidents or accidents involving SNF shipments?
 Yes No
4. Have law enforcement organizations received training on security requirements for SNF, the level of armament that accompanies shipments, and means for communicating with security escorts?
 Yes No

5. Are law enforcement organizations willing and capable of providing shipment security in the event of an accident where federal escorts are incapacitated?
 Yes No
6. Does your State/Tribal law enforcement organization receive 7-day advance notifications of movements of SNF classified as safeguards information?
 Yes No
7. If the answer to question 6 is yes, has staff been trained on receipt, handling, distribution, and disposition of safeguards information?
 Yes No
8. Do law enforcement organizations have radiological monitoring equipment in their equipment inventory (not required)?
 Yes No
9. If yes, identify the number and type of instruments and include the model and the name of the manufacture. _____.
10. Is the monitoring equipment calibration current?
 Yes No
11. Is there a program in place to routinely test and maintain monitoring equipment calibration?
 Yes No
12. Have law enforcement personnel been trained on the use of each type of radiation instrument?
 Yes No
13. If the answer to question 12 is yes, is a program in place to maintain/demonstrate proficiency?
 Yes No
14. Have Public Information Officers been trained in briefing local elected officials, media, and the general public regarding radioactive materials transportation during normal and accident or incident conditions?
 Yes No

Use Appendix B to document the number of staff, the current level of training in the appropriate training categories, and what training is needed to meet the increment of need to bring teams up to the appropriate level of preparedness.

VI. EMERGENCY MEDICAL SERVICES PROCEDURES AND CAPABILITIES

The following list of questions applies to emergency medical service (EMS) organizations with responsibility for responding to incidents or accidents on transportation corridors. The questions should help identify what level of training has been provided relative to treatment and handling of radioactively contaminated patients, what types of equipment is available,

and what training is appropriate to address the increment of need necessary to be adequately prepared for incidents or accidents involving DOE shipments of SNF from commercial nuclear power reactors.

1. As directed in Homeland Security Presidential Directive 5 (HSPD-5), have EMS/Care Facility personnel been trained in NIMS and the use of appropriate forms, procedures/ checklists?
 Yes No
2. Have EMS personnel been trained in the use of the Emergency Response Guidebook?
 Yes No
3. Are all EMS response vehicles equipped with a copy of the most current version of the ERG?
 Yes No
4. Has the EMS response organization been trained on treatment and transportation of a potentially radiologically contaminated patient?
 Yes No
5. Does the EMS response organization have a procedure for the handling and packaging of a potentially radiologically contaminated patient?
 Yes No
6. Do EMS response organizations have radiological monitoring equipment as part of their equipment inventory (not required)?
 Yes No
7. If yes, identify the type of instruments and how many are available (include the manufacturer and model number)
_____.
8. Is there a program in place for routine maintenance, calibration, and operability testing for radiological monitoring equipment?
 Yes No
9. Has a drill been conducted utilizing a scenario involving a radiologically contaminated patient within the past 12 months?
 Yes No
10. Has a drill been conducted utilizing a scenario involving a radiologically contaminated patient within the past 3 years?
 Yes No
11. Have EMS personnel worked with the Medical Examiner/Coroner on determining the disposition of radiologically contaminated body/human remains?
 Yes No

Use Appendix B to document the number of EMS staff, the current level of training, and the appropriate training categories and what training is needed to meet the increment of need to bring teams up to the appropriate level of preparedness.

VII. HOSPITAL/CRITICAL CARE FACILITY PROCEDURES AND CAPABILITIES

The following list of questions applies to hospitals or critical care facilities that may treat patients involved in accidents on or near potential SNF transportation corridors. The questions should help identify what level of training has been provided relative to treatment and handling of radioactively contaminated patients, what types of equipment are available, and what training is appropriate to address the increment of need necessary to be adequately prepared for DOE shipments of SNF from commercial nuclear power reactors.

1. Does the hospital have an EOP that contains information on how to respond and treat a radiologically contaminated or irradiated patient(s) or how to disposition a contaminated body or human remains?
 Yes No
2. Have hospital personnel been trained in the handling, decontamination, and treatment of radiologically contaminated patients?
 Yes No
3. Does the hospital have radiological monitoring equipment as part of their equipment inventory (not required)?
 Yes No
4. If yes, identify the type of instruments and how many are available (include the manufacturer and model number)
_____.
5. Is there a program in place for routine maintenance, calibration, and operability testing for radiological monitoring equipment?
 Yes No
6. Is there a process in place to have the hospital Radiation Safety Officer or Nuclear Medicine Technician available to assist Emergency Department Staff in surveying potentially contaminated patients if needed?
 Yes No
7. Has a drill involving local responder agencies been conducted within the past 12 months?
 Yes No
8. Has a drill been conducted utilizing a scenario involving a radiologically contaminated patient within the past 3 years?
 Yes No

Use Appendix B to document the number of hospital or critical care staff in facilities along the proposed primary and secondary routes within your jurisdiction, the current level of

training and the appropriate training categories, and what training is necessary to meet the increment of need to bring teams up to the appropriate level of preparedness.

VIII. STATE/TRIBAL TRANSPORTATION/ENFORCEMENT AUTHORITY

The following list of questions applies to State/Tribal transportation enforcement agencies with inspection and enforcement responsibilities for highway route controlled quantity (HRCQ) shipments of radioactive materials. The questions should help identify the inspection training and certification processes that are necessary to meet the Commercial Vehicle Safety Alliance (CVSA) level VI point of origin inspections required by U.S Department of Transportation (DOT) regulations as well as equivalent rail inspection standards currently referenced in the Federal Railroad Administration (FRA) Safety Compliance and Oversight Plan (SCOP). Rail transport is expected to be the predominant mode for shipments of SNF to a future interim storage facility or repository. However, some sites will require the use of overweight trucks or barge for transport of casks from the point of origin to the nearest Class 1 railroad. The questions help determine what training is appropriate to address the increment of need necessary to be adequately prepared for DOE shipments of SNF from commercial nuclear power reactors.

1. What State/Tribal organizations are responsible for regulation of transportation of radioactive materials and other hazardous materials by highway?
_____.
2. Are the inspection staff in the organization identified above trained in use of the CVSA level VI inspection procedures?
 Yes No
3. What organizations are responsible for regulation of transportation of radioactive materials and other hazardous materials by rail? _____. Does this organization have an agreement with the FRA's State Participation Program? Yes No
4. Are inspection staff in the organization identified above trained in use of inspection procedures used by the FRA for HAZMAT? Yes No
Motive Power and Equipment? Yes No
Track Inspection? Yes No
5. Has State/Tribal transportation/enforcement agencies' staff been trained on packaging and transport of spent nuclear fuel and appropriate response actions necessary for incidents or accidents involving SNF shipments?
 Yes No
6. Have State/Tribal transportation/enforcement agencies received training on security requirements for SNF, the level of armament that accompanies shipments, and means for communicating with security escorts?
 Yes No

7. Are State/Tribal transportation/enforcement agencies willing and capable of arranging for or providing armed security in the event of an accident where federal escorts are incapacitated?
 Yes No
8. Do your State/Tribal transportation/enforcement agencies receive 7-day advance notifications of movements of SNF classified as safeguards information?
 Yes No
9. If the answer to question 8 is yes, have transportation/enforcement agencies staff been trained on receipt, handling, distribution, and disposition of safeguards information?
 Yes No
10. Do State/Tribal transportation/enforcement agencies have radiological survey instruments as part of their equipment inventory?
 Yes No
11. If yes, identify the number and type of instruments and include the model and the name of the manufacture. _____.
12. Is the monitoring equipment calibration current?
 Yes No
13. Is there a program in place to routinely test and maintain monitoring equipment calibration?
 Yes No
14. Have personnel at your transportation/enforcement agency been trained on the use of each type of radiation instrument?
 Yes No
15. If the answer to question 14 is yes, is a program in place to maintain/demonstrate proficiency?
 Yes No
16. Have State/Tribal transportation/enforcement agencies been trained for response to transportation incidents involving radioactive material?
 Yes No

Use Appendix C to document the State or Tribal regulatory agency and contact information, the number of staff, the current level of training in the appropriate disciplines, and what training is needed to meet the increment of need to bring teams up to the appropriate level of inspection/enforcement preparedness.

Technical Assistance – Prospective Modules

The training categories listed below represent hypothetical subject matter and competencies that could

be achieved for State/Tribal and local personnel with responsibilities related to planning, preparedness, coordination, tracking, monitoring, inspection, or radiological response for incidents or accidents involving DOE SNF shipments moving through their jurisdictions. Training materials and content could be developed by individual States and Tribes or could incorporate use of existing training materials developed under DOE's Modular Emergency Response Radiological Transportation Training (MERRTT) program, Nuclear Regulatory Commission (NRC), Federal Emergency Management Agency (FEMA), or Department of Homeland Security (DHS) radiological training programs. The sample modules described below collectively represent approximately one 8-hour training day. A second day would be needed to conduct an exercise necessary to demonstrate competencies. The modules do not exist at this time and would need to be developed at some point in the future.

1. Radiation Basics

This training module would provide attendees with a basic understanding of atomic structure and the fundamentals of ionizing radiation. Upon completion attendees should have the ability to identify four types of ionizing radiation, describe how ionization affects atoms, explain the concept of half-life activity, and differentiate between radiation exposure and radioactive contamination.

2. Biological Effects

This training module would increase the attendees understanding of how ionizing radiation affects the human body. The module contains an explanation of radiological units for dose and activity, methods by which radiation can enter the body, defines acute vs. chronic doses, and gives examples of affects observed in historical study groups and types of biological responses expected at specific radiation dose levels. The module is designed to help the first responder function with confidence during incidents that involve radioactive material.

3. Radiation Detection and Measurement

This training module would provide attendees with a basic understanding of radiation detection and measurement technologies including Geiger-Muller detectors, solid state detectors, ionization chambers and rate meters, their specific applications, and calibration requirements. When practicable, training modules should be developed to address the specific instrumentation used by or available to inspection personnel or first responders. Upon completion of this module attendees should be able to define radiation exposure and radioactive contamination, distinguish between the two, and describe methods for conducting operational checks, dose measurements and evaluation of radioactive contamination, including conducting personnel surveys on HAZMAT team members and/or accident victims.

4. Nuclear Energy 101

This training module would provide attendees with a basic understanding of the cradle to grave processes from mining of uranium ore to the placement of nuclear fuel into dry cask storage. The presentation should be sufficiently technical and detailed to provide attendees with information relative to primary and secondary hazards associated with SNF in transit.

5. Radioactive Materials Packaging/ Hazard Communication

This training module would present information on the construction of a Type B cask and the testing requirements for licensing and certification of casks that would be used to transport SNF. In addition participants would review requirements for marking, labeling and placarding as well as the content of properly completed shipping papers that will accompany each movement of SNF.

6. Pre-shipment Planning and Inspections - CVSA for Highway – FRA for Rail

This training module would provide basic background information on how shipments are planned, how routes are determined, and what vehicle, packaging, hazard communications and emergency response components are evaluated as part of compliance inspections performed under the CVSA Level VI program for highway, the FRA SCOP for rail, U.S. Coast Guard regulations for barge shipments. The module should identify the key pieces of information collected as part of inspections that would be valuable to teams responding to an incident or accident involving shipments of SNF.

7. Safety and Security requirements for SNF

This module would address safety and security requirements for SNF including receipt, handling, and distribution of 7-day advance notifications and information classified as safeguards information, and NRC regulations addressing telemetric positioning, continual surveillance, and level of armament for security personnel. Additional information on access and use of TRANSCOM or similar satellite tracking systems, communication with the movement control center, and methods for addressing on-air communication relative to shipments should also be covered.

8. Initial Response Actions and Special Considerations for SNF in the Rail Environment

This module would address special safety considerations for conducting an incident response in the rail environment. Information should include railroad terminology, communication with movement control centers and railroad employees, signals and signage, and secondary hazards. This module should also review use of the DOT Hazardous Materials Emergency Response Guidebook and contain guidance on initial response actions and handling of potentially contaminated patients including gross decontamination and transport to medical facilities.

9. Public Information and Risk Communication

This module would provide basic guidance to emergency management staff that may function as a Public Information Officer, interacting with local media during a radiological event. Individuals participating in this module should have completed the Radiation Basics and Biological Effects modules. The module should aid in development of a communications plan, briefings to local and state elected officials, and address the difficulties in communicating radiological risks to members of the media and the general public.

10. Exercise Demonstration (optional)

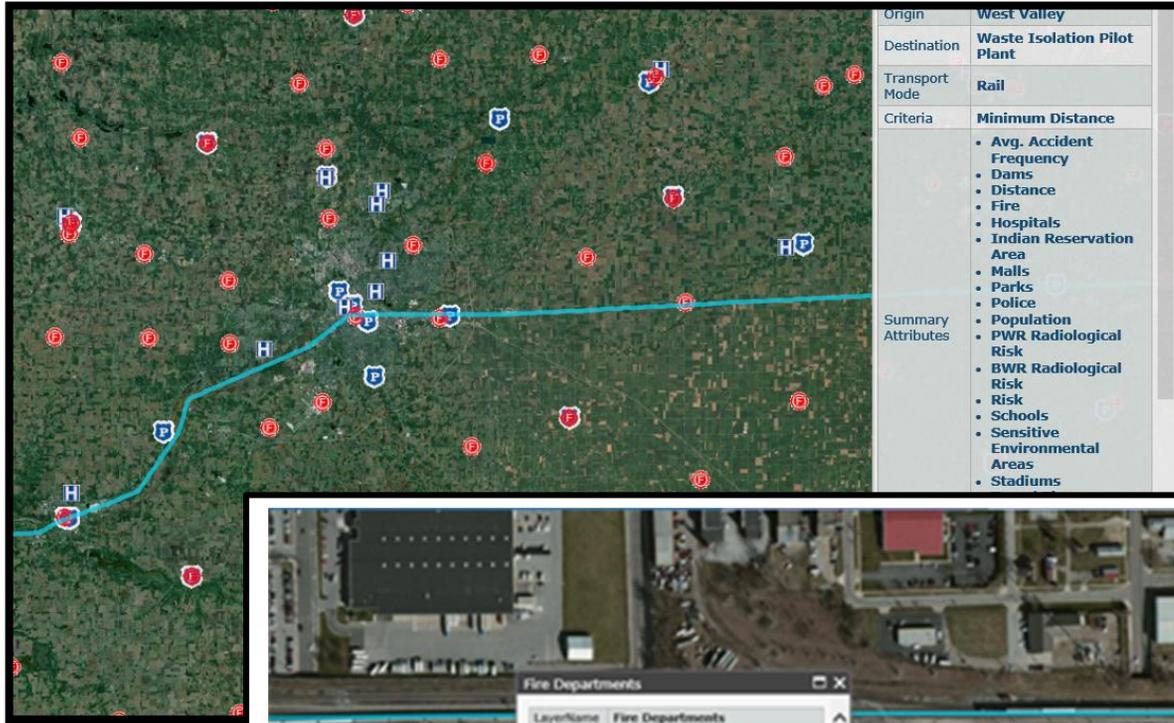
Completion of an exercise to demonstrate basic knowledge and competency in the training areas identified above is one means of assessing your level of preparedness, consistent with the merit review criteria in Table 2 of the 2008 Federal Register Notice describing DOE's revised proposed policy for implementing Section 180(c) (73 Fed. Reg. 64933, Oct., 31, 2008). It is anticipated that classroom and hands-on exercises in the proposed modules listed above represent a full 8-hour training session. A table-top or full scale exercise could be conducted on a second day of training to validate training and demonstrate the level of preparedness that is achieved through the training. DOE is also exploring the possibility of acquiring SNF casks for use in conducting full scale exercises with State, Tribal, and local responders.

APPENDIX A – GETTING STARTED WITH START

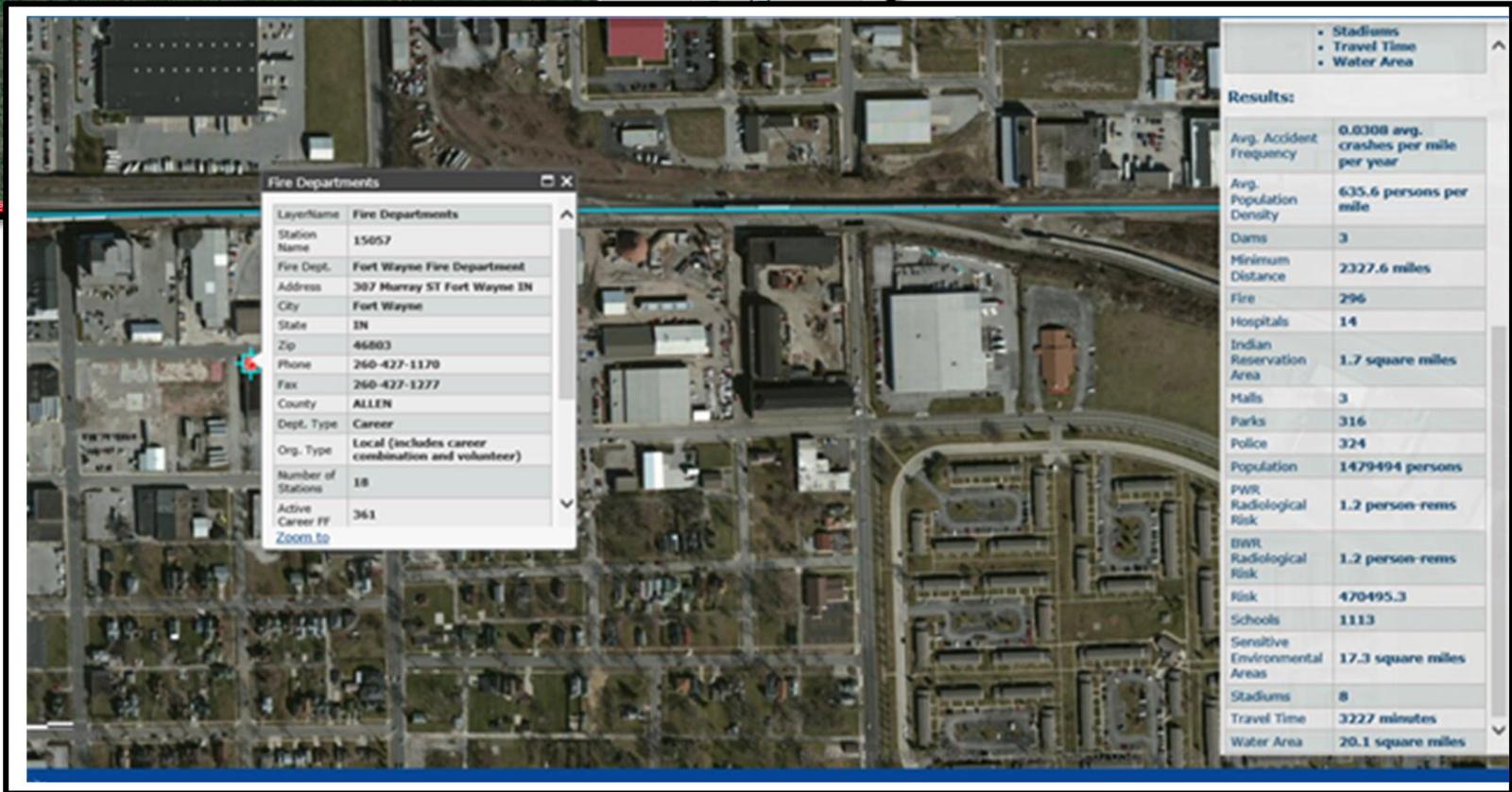
The following pages show examples of output available from the web-based Stakeholder Tool for Assessing Radioactive Transport or START. Once a potential SNF route has been selected from a specific point of origin to the destination, users can evaluate a significant number of detailed attributes, such as police departments, fire departments, hospitals, schools, etc., along that route. Details such as type of facility, addresses, contact numbers, number of employees, and specific qualifications are available for most first responder organizations. A summary of attribute data is generated based on the criteria used to establish a particular route. The summary tables can be exported to external spreadsheet programs for compilation and analysis. This data should prove valuable to individuals performing assessments of the existing capabilities and staff training needs along potential shipping corridors. The START system will be a secure DOE system with access limited to those individuals who have been approved as having a need for its use and have registered.

Appendix A

Stakeholder Tool for Assessing Radioactive Transportation

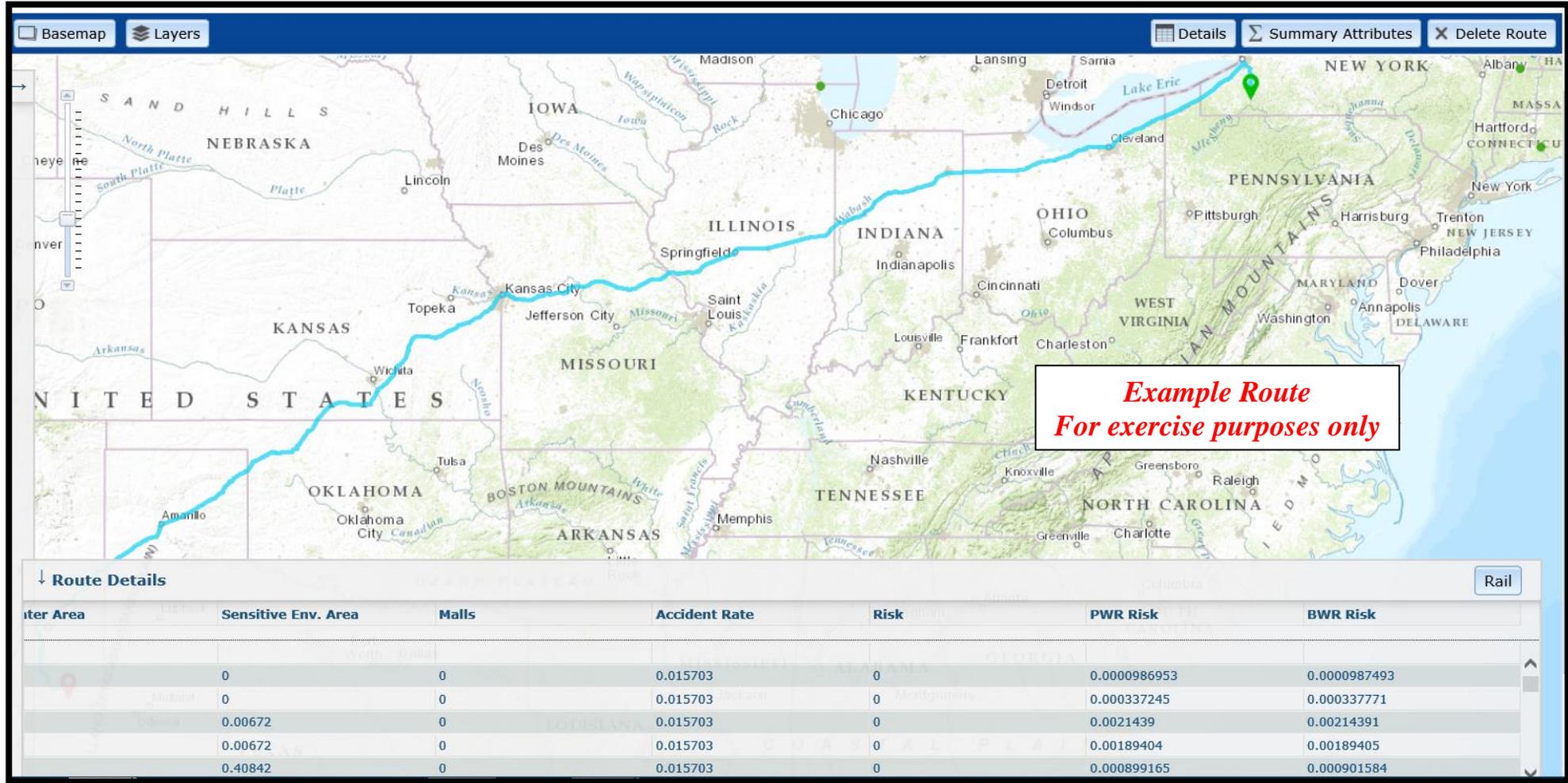


Appendix A shows some of the available output from the START program that could be beneficial in determining an estimate of the number of first responders along proposed transportation corridors that will require training on response to an accident involving SNF shipments.



Appendix A

Stakeholder Tool for Assessing Radioactive Transportation



*Mapping and detailed attribute data
available in the START system.*

