

Midwestern Radioactive Materials Transportation Committee (MRMTC) Spring 2023 Meeting Summary

St. Louis, Missouri
May 25, 2023

AGENDA ITEMS

1. Committee Business Session

a. Welcome and Introductions: Rodney Pitchford (Illinois)

Meeting is called to session and speaker commences with introductions. Approximately 30 members are in attendance.

Speaker acknowledges that this is the fourth time Midwest has hosted the [National Transportation Stakeholders Forum \(NTSF\) meeting](#). Speaker expresses happiness with the events of the week and the tour of Weldon Spring. Speaker also expresses enthusiasm for the new format as he believes it allows individuals to bring the information learned back to the group.

Speaker says we will dispense with traditional roundtable due to the time constraints associated with the Stakeholder Tool for Assessing Radioactive Transport (START) training.

b. Report from the Co-Chairs: Mr. Pitchford and Tad Rumas (Ohio)

Mr. Pitchford: resumption of 3 shipments from Argonne to the Waste Isolation Pilot Plant (WIPP), which are the first since 2019. These shipments allow them to practice and improve upon procedures involving inspections and escorts for states. A copy of the of the Southwest Research Institute (SwRI) plan is included in folders provided to attendees and speaker will be seeking feedback and input. A [final report](#) will be distributed prior to the final meeting, and all committee members are encouraged to engage in as much training as possible. The Council of State Governments (CSG) Midwest will reimburse said training. There will be a [Modular Emergency Response Radiological Transportation Training \(MERRTT\)](#) training in June as well as radiation training.

Mr. Rumas: Speaker indicates that the [Regional Tribal Engagement](#) and [Planning Guide](#) working groups had a slow start, but efforts will begin in earnest this summer. Speaker says U.S. Department of Energy (DOE) has an abundance of activities planned for summer 2023 including a transportation infrastructure tour of Iowa's Duane Arnold plant. The committee has six legislative members, though none are in attendance due to legislative sessions. They have all expressed robust interest in the efforts of this group. Speaker identifies legislative members:

- Illinois Sen. Ram Villivalam,
- Indiana Sen. Eric Koch,
- Kansas Rep. Mark Schreiber,
- Michigan Rep. Erin Byrnes,
- Minnesota Rep. Amanda Hemmingsen-Jaeger
- South Dakota Rep. Trish Ladner.

Speaker comments on the success of this annual meeting and indicates that he enjoyed the young panelists speaking about their excitement about the industry most.

c. Project Update: Mitch Arvidson (CSG Midwest)

Speaker asks whether Mr. Rumas can provide a pitch about the MERRTT training to be held Jun 6&7. Discussion of last year's training follows, as well as the observation that this year there are only 6 currently signed up. As such, rescheduling the training is likely but the determination has not yet been made. A Radiation Specialist training will also happen in Pennsylvania at approximately the same time. Logistics of both training may require a complete reschedule.

Speaker refers to the project update with text included in the briefing folders. He identifies and discusses the cooperative agreements, duration and terms. Application for new cooperative agreement was accepted and finalized, and it became effective in April 2023 and will run through April 2027. Speaker briefly articulates how funds included therein will be utilized.

Speaker discusses new appointments and departures from the [MRMTC](#). Members are asked to warmly welcome new appointees to the MRMTC. Speaker highlights the vacancy in Indiana.

Speaker states that regional tribal work group had a slow start and has not met since the [Fall 2022 Meeting](#). Another meeting will be held virtually in June or July in order to facilitate forward movement by that group.

The MRMTC *Planning Guide* review group was discussed. The recommended practices section will be reviewed and revised. The group has not yet met but will do so this summer. Members names and affiliations are read.

Speaker briefly discusses [NTSF webinars](#). Four were held in the last year, and recordings and slides can be found on the NTSF website. Speaker reminds attendees that Mr. Arvidson, Ellen Edge (DOE Office of Environmental Management (EM)), and Sara Hogan (DOE Office of Nuclear Energy (NE)) populate and maintain the website but individual stakeholders are expected to maintain their own sections.

Speaker states that the DOE-NE Transportation Core Group is made up of state regional group (SRG) staff and DOE-NE. A meeting of the group was held on March 7 & 8 in Washington, D.C. Topics discussed during that meeting are briefly reviewed.

Speaker discusses transportation planning and notifications received in the past several months. Long-term shipping campaigns designated by the DOE, as well as shipment volumes, routes, and time frames were discussed.

Speaker indicates that WIPP shipments from Argonne National Laboratory (ANL) resumed this year, states that the number, volume, and timing of shipments is covered in forecast.

Speaker reminds attendees that CSG Midwest continues to maintain the [legislative tracker for the 118th congress and Midwestern States](#); the trackers is available on the CSG website. Speaker states that Melissa Shahzadeh (CSG Midwest) has taken over responsibility for updating the tracker and asks attendees to contact Melissa if they are aware of legislation that should be included. Additionally, speaker states that Melissa has taken over responsibility for the monthly newsletters and invites attendees to contact her directly with information that should be included therein.

Speaker states that Waylon Sanford left the Michigan State Police to work for American Electric Power, who owns the D.C. Cook nuclear power plant, and an alternate for the state of Michigan has not yet been identified.

d. Fall Meeting: Mr. Arvidson

Speaker indicates that they are open to reasonable suggestions for possible locations for the meeting. Speaker indicates that North Dakota has never hosted a meeting and observes that it has been a long time since Kansas and Minnesota hosted. Speaker encouraged consideration of those locations. Alternatively, New Mexico is an option that would also permit a visit to WIPP. The WIPP team has encouraged attendance and are open to hosting the MRMTC. Speaker observes that if New Mexico is to host, only one or two members representing each stakeholder group will be able to attend due to the costs associated therewith. Speaker invites participants to express preferences and thoughts. First voice expresses interest in WIPP. That vote is seconded. North Dakota rep indicates that the winter weather may present difficulties in going to North Dakota. He states that it is logistically smarter to wait until Spring to visit North Dakota. Speaker says that consensus is not necessary right now but if New Mexico is selected, planning will need to commence with haste. Four votes are made for New Mexico and for WIPP. Speakers asks for dates that should be avoided. Attendee states that deer hunting season should be avoided, as participants will be otherwise occupied. Speaker says that October, November, and as late as early December can be considered. No particular concerns are voiced. Speaker invites participants to contact him with any date problems.

2. Transport Security Unified Stakeholders Group (TSUSG)

Mark Yeager (Oak Ridge National Laboratory (ORNL))

Speaker is introduced and his bio is read. Speaker thanks the committee for allowing him to be present at today's meeting. Speaker thanks Kelly Horn (Illinois), Waylon Sanford and other active members who have been very supportive of the work of TSUSG. Speaker also thanks Mitch for the [executive summary](#) provided by MRMTC in the folder. Speaker discusses the question: are security measures advancing with perceived threats to protect radioactive material as transportation? A review was conducted that did not identify any events but did feel that a group of folks who could be proactive regarding security threats would be beneficial. Thus TSUSG. Speaker discusses the general composition and makeup of the TSUSG, a vast and diverse group of stakeholders and expertise. Speaker states it is a member-driven organization, as the members identify the issues of greatest importance to them. The cross functional teams determine the actions necessary to mitigate or resolve any issues. There are shipments passing through USA from/to Canada and Mexico. TSUSG also watches those shipments. Speaker emphasizes that transport security regulations require collaboration. The industry may see challenges that are more detailed than extant regulations and government needs feedback on how to support and supplement security of these materials during transport. Speaker offers an overview of how that might happen. Challenging for all but creates a win-win for all.

An example of an "issue" or "security concern" was discussed involving Michael Snee's Ohio Department of Health help to the TSUSG. Speaker states that cross functional groups are how work gets done.

Speaker says the group focuses on results. Speaker lists and briefly reviews the nature of the following focuses of the group's priorities:

1. Create a standardized unified transport security plan
2. Create group charter for the Federal Advisory Committee Act
3. Insider threat training
4. Review procedures for escorts and incident response across the US and Canada
5. Continue to recruit TSUSG
6. Cybersecurity and Mitigation options
7. Transport security training opportunities
8. Managing security regulations with U.S. Nuclear Regulatory Commission (NRC), U.S. Department of Transportation (DOT), Canadian Nuclear Safety Commission (CNSC), and Transport Canada.

Speaker says that efforts are being made to “man up” each of the above panels and focuses. Only items 6,7,8, are currently active. Others are in development and being fleshed out. Speaker says he is impressed with the young people coming up through the ranks and has been impressed with buy-in by the neophytes.

Speaker discusses the benefits of membership. Quarterly and annual meetings in which future priority items are being developed. There is a website with templates, resources, and contacts for members. Finally, a bulletin is provided quarterly, which is an effort new to 2023. Speaker then asks for questions to be postponed until the break, as he has spoken too long. More information can be found at their website:

tsusg.ornl.gov

3. **Community Preparedness and Planning Pilot Framework Tool**

Amy Minor and Osvaldo Pensado (Southwest Research Institute (SwRI)).

Due to being significantly behind schedule, Rodney says he will forgo reading speaker bios.

Speaker (Amy Minor) begins by thanking attendees for the invitation. Speaker acknowledges the previous leader of the SwRI group – Miriam Juckett – and her excellent work in the previous years. Speaker calls this a pilot framework with the name Community Readiness Assessment Framework for Transportation (CRAFT) for Spent Fuel by Rail. It was conceptualized during COVID and was borne of interest in spent nuclear fuel (SNF) transportation and stakeholder focus. It started as a Western Interstate Energy Board (WIEB) project through DOE-NE cooperative agreement funding. The project identified indicators, developed indicator weights and grade system. They developed an executable tool using Excel.

Speaker states that Internal Research and Development (R&D) improvements were completed in February 2022, and half of the indicators are automated using visual basic for applications and review indicators, weights, and grade for the USA. WIEB case study (Salt Lake City, Utah) was completed in March 2022. CSG Midwest benchmarking and ground-truthing work started January 2023. WIEB ground-truthing work is planned for FY23.

Speaker says that the tool visualizes a community-focused decision framework that incorporates various community descriptors that identify and characterize preparedness along SNF transportation routes. It is based on experience with stakeholder concerns and does not replace or duplicate other performance-based tools. The tool facilitates targeted decision-making, resource allocation, and communication strategies. The framework identifies emergency services, transportation, land use, connectivity, air quality, water resources, socioeconomic position, minority status and languages as core indicators and then proceeds to cover the many possibilities of ranking according to criteria.

Speaker describes the total Framework Score as the sum of weighted indicator grades on a scale of 0-100. 100 indicates high preparedness/low vulnerability. The purpose of the CSG Midwest Benchmarking project is to provide context and meaning for individual sites scores to identify representative variability within a region. It allows them to identify indicators potentially requiring scaling or weighting adjustments to achieve a better representation of community characteristics. The benchmarking work started in January 2023. 24 Midwest cities were included. All but two cities have Class 1 rail lines. Grouped under rural vs. urban and near- vs. away-from-reactor. The findings show total scores exhibit S-shaped cumulative distribution. Benchmarking identified the importance of individual indicators to the total city scores and city ranking. Importance of indicator categories to the total score rankings.

Speaker shows graphics about the 24 cities analyzed in the initial work.

Recent framework adjustments include:

1. revised executable excel tool to display each indicator score that sums to the total city score;

2. clarified terminology used;
3. normalized the number of fire stations per 10,000 residents;
4. changed the sources for 2 air quality indicators to provide more consistent data and to better discretize the results; and,
5. revised the grading or traffic volume and English proficiency indicators to better discretize the results.

Benchmarking was Phase 1. The next phase will involve:

1. Conduct and gather results from a small group meeting and roundtable discussion with community leaders;
2. Ground-truth the framework and gain confidence in the framework characterization of the location;
3. Discuss whether adjustments to the framework tool would be warranted;
4. Discuss regional specificity or city specificity of adjustments;
5. Revise framework tool and re-run the results; and,
6. Develop final report.

Mitch Arvidson asks whether the weighting scores include a community's ability to change and adjust to improve conditions such as proximity to rail lines. Speaker says that such a component was not included in the weighted scores; however, speaker acknowledges that issue is becoming apparent and future analysis might include the ability to disaggregate items that are "Actionable" and "not actionable."

Greg Gothard (Michigan) asks whether the framework will be used in any other analysis for the individual cities already considered. The speaker says that the grade awarded to each city will not be used in any other application; however, they will continue to collect data on those cities. Osvaldo Pensado adds to the answer to say that these scores are intended to stimulate discussion to understand readiness of the communities and establish the dialogue. Greg indicates that "we want higher scores, but I'm not sure all of these indicators are things we want higher scores on." Osvaldo responds to acknowledge Greg's observation but reiterates that this tool is to stimulate discussion.

Speaker returns to the indicator grade graphic and identifies that there are both direct and indirect relationships captured in the metrics, which is built into the Excel formula. Tad Rumas says he agrees with Mitch that it becomes difficult to parse out static and dynamic factors affecting the ranking of the community according to this tool. Also acknowledges that Greg has a point in wanting to determine whether a high score or a low score is desirable. Osvaldo says the tool is intended to capture that dynamism. Allie Leber (North Wind Site Services) asks about the grading of the proximity to tribal land and how that specific question becomes ranked. Amy Minor says she is open to developing the nuance included or captured in the grading through discussion with stakeholders. The data is pulled from the Environmental Protection Agency (EPA) tool that offers geographic information system (GIS) data on proximity to tribal lands.

4. [Stakeholder Tool for Assessing Radioactive Transport \(START\) Training](#)

Mark Abkowitz (Vanderbilt University), Robert Claypool (Kanini Software Solutions), and Sara Hogan (U.S. Department of Energy Office of Nuclear Energy (DOE-NE))

Speaker (Sara Hogan) introduces her contracted team who will provide an overview of what START is and how to use it. Attendees will be walked through guided demonstrations. Speaker (Mark) moves briskly at a 30,000ft view of what START can do. Begins with a disclaimer and moves on to a terminology fact sheet in which GIS is defined, Layer = data that can be presented in geospatial context with x, y, and/or z coordinates. Can be vector or raster. Examples relative to START include:

- Rail network layer
- Nuclear power plant layer
- Tribal area
- Population data
- Buffer= area bounding a point or line

The DOE Office of Integrated Waste Management's (IWM) web based-GIS transportation decision-support tool developed START to enable visualization of analyses of geospatial data. Features and functions were quickly presented, including that geographic coverage extends fully across the continental US and that there are nearly 60 layers of data available with which to work. Speaker references a projected graphic with START DIS Data Layers including information such as shipment origin and transfer points; educational and elderly care facilities; environmental land uses; political jurisdictions; transportation infrastructure and operations; mass gathering places; existing routes; and others.

The program is utilized as a routing tool but has grown to serve other ends including:

- Routing Options and risk attributes
- Training preparations along DOE transport Routes
- Communications
- Environmental Analyses
- Integration with Systems Analysis

Start.Energy.Gov for official use only at the moment but it will be made more broadly available soon. Discussion ensues regarding projected screens showing examples of the data available on the START program. Shows a hypothetical slide for routing options and risk attributes of a hypothetical route for a shipment from Pueblo, Colorado to Columbus, Georgia. Routes can be filtered for minimum population, minimum travel, accident rates, training preparations along routes, etc.

Training preparations include the ability to identify equipment and personnel available to support a response. The tool can also consider expected response times to reach an incident, etc.

At the conclusion of the presentation, Speaker (Robert) begins the walk through with the START tool. The opening screen is a large map of the North America including Canada and Mexico. The side panel, called Base Maps, allows one to change the basic kind of map graphic – topographical, with cities, political lines, United States Geological Survey (USGS) national maps, USA population density, Bing aerial. The scale of the maps can be adjusted from neighborhood level in the USA all the way out to the global level. The task was to find the Prairie Island Nuclear Reactor in Minnesota. The reference layer is the base map. One can click on the "layers" tile that allows one to turn on additional layers. A pop-up menu appears providing specific details unique to Prairie Island.

Exercise is to find the nearest Transportation Emergency Preparedness Program (TEPP) trained personnel. Speaker indicates a preference for the grey base map as the surface onto which to overlay the layers. Then turn on the layer for the TEPP trained layer. Then use the measurement tool that will allow one to take a linear measurement. Greg notices that the TEPP-trained personnel identified in Des Moines, Iowa, reads as Illinois Emergency Management Agency (IEMA). Speaker uses this as an opportunity to encourage users to follow the link to send a notice to the team for things that are in error.

Next exercise is to locate the nearest rail line of at least Class II to Prairie Island. People are advised to zoom out so that smaller towns are visible. Next step is to click on the rail network layer that will

reveal only the rail lines. Then speaker shows how to filter for Class II. There is meta data available when clicking on the name of the filters rather than the button to select the filter. The meta data also includes links to the source for the information. The easiest way to arrive at a blank slate is to refresh screen; it erases all previous searches and data culling.

Next exercise is to route from Raleigh, North Carolina, to the Atlantic. There can only be one active route at a time. One can expand the color density of a route – actually thickening the line – to improve visibility. The route can be modified to add barriers, add stops, and force it through other areas, in this case, Greenville, North Carolina. Add the rail modifications and then create route. Speaker warns that the data downloads in real time may take longer when running longer routes across country.

The emphasis is that anything known about a route can be downloaded into an excel file, which then allows one to sort that data however one wants. A demonstration of the multiple ways to download the data follows. Data can also be shared with others, but only other users. A discussion ensues about what formatting is sent when the route is shared and which layers and bases are sent with the route file.

Final demonstration shows the photos in START that Steve Maheras (Pacific Northwest National Laboratory (PNNL)) took. Sara finished by expressing the hope of expanding access to START and incorporating items for improvement. The next version is in development so that the standard procedure for ensuring quality is in place. By the end of the FY there will be a stable 3.3. Next FY will see 3.4. Not looking at adding functionality for 3.3 but rather improvements of what is already there. The link to the user manual and feedback link were again pointed out.

5. **Wrap-Up**

a. Review Action Items:

Members are asked to consult their calendars and identify any currently extant conflicts that would affect the scheduling of the Autumn MRMTC meeting.

Members are asked to forward any newsletter items to Ms. Shahzadeh as they percolate.

Please provide feedback for the SWRI CRAFT draft report by 16 June. Please send that feedback to Mr. Arvidson.

b. Closing Remarks:

Rodney Pitchford. Speaker thanks people for attending and for the collaboration that took place.

6. **Adjourn**

ATTENDEES

State Attendees:

Christopher Boswell, Iowa
Greg Gothard, Michigan
Kelly Horn, Illinois
Mark Paulson, Wisconsin
Rodney Pitchford, Illinois
Tad Rumas, Ohio
Swapan Saha, Kansas
Ryan Seabaugh, Missouri
Matthew Shannon, Iowa
Michael Snee, Ohio
David Stradinger, North Dakota
Kaci Studer, Indiana

Other Attendees:

Mark Abkowitz, Vanderbilt University
Mitch Arvidson, Council of State
Governments (CSG) Midwest
Dina Carpenter-Graffy, Pacific Northwest
National Laboratory (PNNL)

Tom Clawson, Transportation Emergency
Preparedness Program (TEPP)
Robert Claypool, Kanini Software Solutions
Ellen Edge, U.S. Department of Energy Office
of Environmental Management
(DOE-EM)
Sara Hogan, DOE Office of Nuclear Energy
(NE)
Miriam Juckett, PNNL
Allie Leber, North Wind Site Services
Steve Maheras, PNNL
Amy Minor, Southwest Research Institute
(SwRI)
Osvaldo Pensado, SwRI
Mark Richter, Nuclear Energy Institute (NEI)
Melissa Shahzadeh, CSG Midwest
Laura Tomaka, CSG Midwest
Kathy Treland, CSG Midwest
Mark Yeager, Oak Ridge National Laboratory
(ORNL)

ACTION ITEMS

States:

- Members are asked to consult their calendars and identify any currently extant conflicts that would affect the scheduling of the Autumn MRMTC meeting.
- Members are asked to forward any newsletter items to Ms. Shahzadeh as they percolate.
- Please provide feedback for the SWRI CRAFT draft report by 16 June. Please send that feedback to Mr. Arvidson.
- All will provide updated state information for the [*Planning Guide for Shipments of Radioactive Material through the Midwest States*](#) to Mr. Arvidson when requested.

Staff:

- Staff will post all meeting materials to the [committee website](#).
- Staff will contact the U.S. Department of Energy Carlsbad Field Office (DOE-CBFO) to determine when they could support a tour of the Waste Isolation Pilot Plant (WIPP) in the Fall.
- Staff will begin a hotel search in the Carlsbad, NM, area for the MRMTC Fall 2023 Meeting.
- Staff will solicit state information updates for the *Planning Guide for Shipments of Radioactive Material through the Midwestern States*
- Staff will coordinate with DOE Office of Nuclear Energy (NE) on any site visit(s) that they may have in the Midwest region