Upper Mississippi River
Hazardous Spills Coordination Group

April 25-26, 2017
Davenport, Iowa

Meeting Summary

Participants

Roger Lauder	Illinois EPA
Joe Sanfilippo	Iowa DNR
Dorene Fier-Tucker	Minnesota PCA
Rick Gann	Missouri DNR
MAJ John Fletcher	Civil Air Patrol, Illinois Wing
LT COL Ray Walden	Civil Air Patrol, Illinois Wing
Adam Davis	NOAA
Leo Keller	USACE, Rock Island District
ENS Dana Schmitt	USCG, Sector UMR
Tim Marriot	USCG, Sector UMR
Matt Hensley	USCG, Quad Cities MSD
Garret Ragland	USCG, Quad Cities MSD
Steve Faryan	USEPA, Region 5
Ramon Mendoza*	USEPA, Region 5
Andy Maguire	USEPA, Region 5
David Morrison*	USEPA, Region 5
Ann Whelan	USEPA, Region 5
Joe Davis	USEPA, Region 7
Heath Smith	USEPA, Region 7
Annette Trowbridge*	USFWS
JC Nelson	USGS, UMESC
Robert Hite	Environmental Restoration
Brad Reed	Environmental Management Services, Inc.
Matt Stokes	STARS, LLC
Nic Winslow	BNSF Railway
Tony Houdyshell	Canadian Pacific
Dave Hokanson	UMRBA
Mark Ellis*	UMRBA
Tyler Leske*	UMRBA
Mike Robinson	UMRBA

** Participated by phone.*

Call to Order and Introductions

The meeting was called to order at 1:01 p.m. by Chair Rick Gann. Introductions of all participants followed.

Approval of Previous Meeting Summary

The summary of the October 25-26 2016 UMR Spills Group meeting was approved without modification.

Agency and Partner Updates

Iowa

Joe Sanfilippo said there had been no major spills affecting the UMR since the last meeting of the Group. He added that the cleanup of debris at Big Slough, which he had discussed during the October 2016 meeting, was underway with funding assistance from USACE and USFWS.

Illinois

Like Iowa, Roger Lauder indicated there had been no major spills affecting the Mississippi River in Illinois since the October 2016 meeting. He noted that, statewide, Illinois EPA has a focus on the issue of lead in school drinking water. Lauder said he is planning to retire in the near future and as such this is likely to be his last meeting representing Illinois to the UMR Spills Group.

Minnesota

Dorene Fier-Tucker said there had been no recent major spills in Minnesota which affected the Mississippi River.

Missouri

Rick Gann reported that Governor Eric Greitens had recently named Carol Comer as Director of Missouri DNR. He said there had been no recent incidents of note on the UMR in Missouri. However, there had been one recent incident on the Lower Mississippi River to which USCG's MSU Paducah had responded. Adam Davis noted that, in this case, there had been no release and the vessel had recently been raised.

USCG

Dana Schmitt said Sector UMR would provide a detailed briefing later in the meeting. MSD Quad Cities representatives indicated there had been no major incidents of late in their area of responsibility.

USGS

JC Nelson said he would provide a USGS update by way of a formal presentation later in the meeting.

NOAA

Adam Davis reported that a new Great Lakes Scientific Support Coordinator (SSC), LT Michael Doig, would soon be in place. He also noted a number of upcoming training opportunities including the International Oil Spill Conference in Long Beach, California on May 15-18, 2017, the Clean Waterways Conference in Louisville, Kentucky on June 27-28, 2017, and a NOAA Science of Oil Spills Class the week of June 19 in Seattle, Washington. He added that he is working with USEPA's Joe Davis to put together a shoreline cleanup assessment techniques (SCAT) class to be held in the near future.

USEPA Region 5

Andy Maguire said Region 5 has been very engaged in responding to a hexavalent chromium release to Lake Michigan from a US Steel facility. He explained that an expansion joint had failed in a chrome treatment line, which meant that hexavalent chromium-containing liquid was sent to a treatment plant not equipment to remove chromium. Maguire said no meaningful cleanup steps can be taken, given the discharge to Lake Michigan, but Indiana American Water had temporarily closed intakes and some beaches had been closed as well. He noted that water monitoring had continued for six days following the incident, with detections only occurring on the first day. Maguire said USEPA worked with the National Park Service and Indiana American Water in determining when to open beaches and restart use

of drinking water intakes. He said the City of Chicago also did its own monitoring but did not find any detections of hexavalent chromium.

Fier-Tucker asked whether the chromium-containing waste had gone to a publicly-owned treatment works. Maguire said no, that US Steel has its own NPDES-permitted treatment plants on site, and in this case the waste stream entered the wrong treatment plant. He added that US Steel will continue beach monitoring throughout the summer and water intake monitoring through Memorial Day.

USEPA Region 7

Joe Davis said US EPA Region 7 will be collaborating with US EPA Region 6 on a large exercise running September 18-22, 2017. He said Region 7 will host the event in Jefferson City, Missouri and that USEPA is seeking to also engage states in the exercise, which will simulate a large river flood. Davis explained that the exercise will include both conference room setting and field component, which will include use of the collector app for field data collection. He said more information will be made available closer to the date of the exercise.

Davis also noted that Region 7 has assembled its own electronic response atlas, which has incorporated data from field work along the length of the Missouri River. He said additional data will soon be added from the Meramec and Gasconade Rivers. Lastly, he noted that the SCAT training he is working to develop with Adam Davis will likely be conducted either in October 2017 or in the Spring of 2018.

USFWS

Annette Trowbridge noted the upcoming Department of Interior (DOI)-sponsored inland response training which will be held at Horicon Marsh, Wisconsin on July 31-August 4, 2017. She said individuals could contact her with any questions regarding the training.

USACE

Leo Keller said recent forecasts are indicating low risk of flooding along the river in the Rock Island District. He also said the District has a new chief of water control, but that the contact number in the UMR Plan will not change.

Environmental Management Services, Inc.

Brad Reed said Environmental Management Services has been working with industries in Bettendorf on a deployment exercise to be held May 22, 2017, beginning at 9 a.m. He said Flint Hills Resources and Mobil are among the industry partners taking part in the event.

Environmental Restoration

Robert Hite said Environmental Restoration had been involved in a few vessel-based responses recently and would also be participating in the upcoming TRIPR training in the St. Louis area.

Canadian Pacific

Tony Houdyshell said there had been no recent incidents on the river involving Canadian Pacific and that Canadian Pacific would also engage in the upcoming TRIPR training. He also noted the upcoming rail safety training to hosted the by TRANSCAER/The Chlorine Institute in Davenport, Iowa on July 11, 12 and 13, 2017.

Matt Stokes noted that Canadian Pacific had also recently held its annual conference call with the commercial navigation industry regarding the potential from train and barge incidents (i.e., where barges, in certain circumstances, may pass into the rail corridor). He said the group is working with

USACE to review navigation charts in order to identify potential incident areas. Stokes thanked USACE for all there assistance in this effort. Roger Lauder commented that there had been a near-miss of this type in the Paducah area, when flood waters had pushed a barge up onto rail line.

UMR Spill Plan

MOA Finalization and Incorporation

Hokanson reported that signatures had been obtained from all member agencies on the MOA governing implementation of the UMR Spill Plan. He thanked all the members of the Group who had helped facilitate the signature process. Hokanson commented that even though completion of the signature process took some time it is an important display of commitment to collaboration and to Plan implementation. He said the UMR Spill Plan would now be updated to include the signed MOA.

Emergency Action Field Guide Update

Another update to the Plan, Hokanson noted, will be a revised version of the UMR Emergency Action Field Guide. He explained that the Guide had recently been reviewed by the member agencies, one phone number had been added (for USFWS Midwest Region), and the formatting updated. In addition to being incorporated into the Plan, Hokanson noted that the updated UMR Emergency Action Field Guide would also be posted to UMRBA's website.

Hokanson then distributed laminated copies of the updated UMR Emergency Action Field Guide, thanking Steve Faryan and USEPA Region 5 for providing the laminated copies.

UMR Notification Drill

Hokanson summarized the outcomes of the UMR notification drill which took place on Tuesday, March 14. He thanked USCG and ENS Dana Schmitt for their willingness to integrate a notification drill into their previously scheduled marine transfer facility-based exercise.

Hokanson noted that a summary of the post-drill call is available on pages B3-B5 of the meeting packet. He said overall the drill was very successful, though a few issues arose, including: 1) notification did not reach USFWS (via DOI), 2) not all potentially impacted agencies were contacted by the NRC, and 3) not all water intakes answered at the phone numbers called.

In regard to the first issue, one measure taken in response is the addition of the USFWS Midwest Region spill coordinator to the phone number list on the Emergency Action Field Guide, as previously mentioned.

Regarding the second issue, Maguire observed that USEPA Region 5 seems to more consistently receive notice of incidents on the Ohio River than in regard to the Mississippi River. Joe Davis concurred, noting that notifications to USEPA Region 7 do not appear to be entirely consistent, though the Region would like to be notified of all incidents on the UMR adjoining its states, regardless of the lead agency or on which bank the incident occurs. Rick Gann noted that Missouri DNR has worked with the NRC to assure that email notifications to Missouri DNR are made for incidents in all border counties. Maguire observed that there are separate processes for receiving the email notifications vs. phone calls. Whelan noted that USCG is transitioning to a permanent, civilian staffing of the NRC, which should also help aid consistency in notifications resulting from NRC reporting.

In terms of water intake notifications, Hokanson said he is working with Heath Smith on a review of intake phone numbers in the St. Louis area.

Case Studies and Reports

USCG Sector UMR Report

Schmitt gave an overview of USCG Sector UMR activities in the period of October 2016 to April 2017. He noted a number of activities relevant to the UMR in which the Sector had engaged, including the UMR notification drill discussed previously and the Minneapolis-St. Paul Sub-area committee meeting held in February 2017. Schmitt also indicated that USCG staff had participated in a number of training sessions, including NOAA SCAT training and Science of Oil Spills course.

Schmitt said during the period of October 2016 to April 2017 a total of 50 NRC reports were made in Sector UMR's area of operation. Of these, 45 were releases to water and all of these releases were considered minor.

Schmitt next reported on the incident on the Mississippi River involving the uninspected towing vessel (UTV) Charlie G. He said at approximately 6:30 a.m. on December 6, 2016, Sector UMR received a call from the NRC reporting the UTV Charlie G was taking on water after it had grounded in the Chain of Rocks Canal after leaving the navigation channel. The hull (bow) of the UTV was ruptured, including two fuel tanks. However, the head pressure from the river kept the fuel contained within the tanks, though some sheen was observed during the incident.

Schmitt then described the response and recovery process, noting that dewatering pumps were placed below the fuel line to keep the vessel afloat and an OSRO was instructed to deploy boom around the UTV and put on standby with cleanup equipment if needed. Then, with USCG personnel onboard, the UTV Charlie G transited to National Maintenance to be dry docked and repaired. The OSRO stayed with the UTV during the transit in case of discharge. Schmitt said the OSRO had deployed 18 inch-skirted boom, which resulted in some entrainment, leading to discussion with contractor about using shorter-skirted boom in rapid current situations on the UMR.

Schmitt said the outcome of the response was a success overall due in part to the fast action by the crew of the Charlie G and USCG coordination. Due to these efforts, there was no loss of life and a closure of the Chain of Rocks Canal was avoided, something that would have significantly hindered commerce on the Mississippi River.

Regarding notification, Schmitt emphasized that upon discovery of an incident notification to the NRC is the most important initial action taken. He said Coast Guard will continue to educate before and during responses, ensuring that notification has been made to the NRC as well as contacting other government agencies that may potentially be impacted.

Schmitt added that OSRO equipment and response time is a topic of interest right now in the Sector. Currently, he said, Sector UMR is looking into equipment utilized by the OSROs within the Sector's area of operation and inquiring about decreasing response time.

NOAA Scientific Support Coordinator (SSC) Report

Reflecting on the preceding presentation regarding the UTV Charlie G, Adam Davis observed that NOAA is seeing periodic incidents involving this type of vessel. He also noted that, in a case such as this, it would be difficult to recover diesel if it is release but there can be a significant amount of slop oil present which may be more readily recovered if released.

Davis then showed a number of aerial photos and maps illustrating the area where the UTV Charlie G had grounded and described how NOAA had worked to assess the likely trajectory of product should a spill have occurred. He said NOAA works with the National Weather Service in cases such as this in regard to local and regional forecast information. Davis explained that NOAA does not have a formal

model in place for the river. Rather, it develops more specific trajectory modeling for the specific location and timing of an incident.

Maguire asked how long it typically takes for NOAA to be able develop a basic trajectory model. Davis said an initial model can typically be up and running in 1.5 to 2 hours and then can be updated using observations from the field.

USGS Science for Hazardous Spills Response

JC Nelson of the USGS Upper Midwest Environmental Sciences (UMESC) provided a presentation regarding USGS capacities relevant to hazardous spill response and how these capacities could be integrated into response. He noted that USGS has Science Centers throughout the Mississippi River watershed that can provide scientific expertise and data in the event of spills on the main stem of the river or its tributaries.

Nelson said USGS can participate with response teams at the federal and state level and in Regional Response Teams, Area Contingency Planning Teams, and spill exercises generally. He noted that USGS can conduct science that supports response and recover, and can be integrated into an incident command system (ICS) structure. However, Nelson explained that USGS does not have any independent role in response, but rather needs to be invited in to participate in a response.

Nelson then described a number of specific capacities available from USGS that can support response. These include: 1) passive sampling using semipermeable membrane device (SPMD) samplers, 2) National Geospatial Program data and information, 3) USGS Streamer tool, 4) National Hydrography Dataset (NHD) applications including NHDPlus and ICWater, 4) flood inundation mapping, and 5) remote sensing tools. Whelan asked whether the Streamer tool addresses overland movement of spilled product or if it is strictly for flowing water setting. Nelson said it is currently limited to movement in water bodies, but that USGS exploring development of a tool to address overland flows, though national LiDAR coverage would be needed to fully complete this. Nelson further explained that USGS has assigned a geospatial liaison to each state, and the individuals in these positions can aid in providing education about USGS resources and bring such resources into spill planning and response. He also said Scott Morlock could act as regional point of contact for USGS if that is desired by the group.

Nelson next moved from the national capacities available via USGS to a description of the resources available at UMESC. He explained that UMESC has remote sensing capabilities, including an 80-megapixel visible color digital aerial camera, a high-definition thermal infrared camera, and three small unmanned aerial vehicles (UAVs) which can carry a variety of imaging equipment. The UAVs could potentially be deployed in instances of hazardous spills or harmful algal blooms. Nelson noted that UMESC also has a number of decision support tools available, include the Wave Model (which could potentially help in understanding the impacts of waves on the dispersal of spilled product) and the Connectivity and Inundation Tool (which allows exploration of flows under a variety of scenarios). He also mentioned that UMESC had been involved in the initial creation of Region 5 Inland Sensitivity Atlas. Nelson explained that UMESC also manages a variety of data sets for the USACE Upper Mississippi River Restoration Program's (UMRR) Long Term Resource Monitoring component. He said these data sets may be of value in spill planning and response and include water chemistry, biology, bathymetry, and LiDAR.

In the final portion of his presentation, Nelson described how USGS capacities had been employed in responding to the 2010 Kalamazoo River spill, where diluted bitumen was released from a pipeline into Talmadge Creek and ultimately reached the Kalamazoo River. He explained that a focus of USGS' work in regard to this incident was in improving understanding of the fate of the heavier component of

the spilled product, which mixed with river sediment, moved downstream with the sediment, and was later resuspended during subsequent flooding events. He said some of the lessons learned here include:

- A portion of dilbit (10-20%) will likely submerge during such an event
- Submerged oil and oiled sediment containment and recovery will be needed
- Submerged oil and oiled sediment will episodically migrate downstream
- Cleanup endpoints will need to consider submerged oil and oiled sediment

Nelson said USGS' publication *Oil-Particle Interactions and Submergence from Crude Oil Spills* in Marine and Freshwater Environments provides state of the science information regarding oil-particle interactions and oil submergence. The publication also describes the implications for response resulting from this science.

USGS was also involved in the analysis of fish mortality related to the Kalamazoo River spill, Nelson explained. He said this included microscopic examination revealed structural changes in the spleen of fish exposed to oil from the release. More generally, he noted that histopathology can be a powerful tool to look at biological effects of oil. Nelson said these examinations may be conducted at the molecular, biochemical, and organ/tissue level.

Leo Keller asked if there is specific funding mechanism which would support USGS' engagement in a response. Nelson replied that this is likely vary based on the nature of the response and extent of USGS engagement, but that typically additional funding is not needed for consultation and data sharing. Keller said it is a similar situation for USACE, where data can be made available and consultation provided typically without reimbursement. Maguire said in cases where reimbursement is needed, it is possible for USEPA or USCG to use the Oil Spill Liability Trust Fund for this purpose.

Whelan said USGS' work in regard to the Kalamazoo River spill is very important and has caused responders and USEPA to re-examine how oil interacts in the environment and what cleanup techniques may prove most effective. In particular she noted that research into the importance of sediment and droplet sizes on resuspension and how this impacts selection of boom skirt size. She also noted that USGS has been engaged in long running research related to the process of natural attenuation associated with a spill in the Bemidji, Minnesota area.

Steve Faryan asked how the science regarding particle movement and resuspension should be considered in light of spill modeling, particularly the models used by contractors. Adam Davis said care needs to be taken in interpreting model outputs, that the model output should be considered among of suite of information in determining likely fate and trajectory of spilled product. Nelson concurred, adding that rivers can be particularly challenging given changes in flow conditions. Adam Davis added that products may have multiple components and that there are varied interactions with the environment, so a spill is not a uniform thing necessarily, but may include multiple elements to be considered.

Mapping and Planning Updates

Region 5 Regional Response Team (RRT) and Region 5 RCP/ACP

Whelan said a disinfection protocol has now been integrated into the Region 5 Plan. She said the Region 5 RRT is also considering integrating historic preservation tools from the Department of the Interior (DOI) in the Plan. Whelan noted that there is interest in working with DOI to document ownership within the UMR Refuge as it informs questions of "who pays for what" during a spill. She explained that this had been an issue during the derailment at Galena, Illinois.

Region 7 Regional Response Team (RRT) and Region 7 RCP/ACP

Joe Davis said there had been discussion of the use and approval of washing agents at the recent meeting of the Region 7 RRT. Adam Davis asked if the UMR Plan include a protocol or best practices for the use of washing agents. Hokanson replied that the UMR Plan does not address this specifically and that this would likely be developed in the RRT(s). Whelan noted that DOI has stated this is not a "first use" product and as such pre-approval is not needed. Joe Davis asked if the washing agent in question had been previously tested in the field. Whelan said it had been tested on the St. Mary's River, but there been difficulties in its use due to precipitation. She said it also had been utilized on hard surfaces in the Toledo area.

Region 5 Inland Sensitivity Atlas

Mark Ellis said UMRBA staff continue working to complete the Illinois statewide update of the Inland Sensitivity Atlas (ISA), with work now focused on the creation of maps, including inset maps.

Greater St. Louis Sub-area

Heath Smith first noted that there have been many updates to the information available for sub-areas on response.epa.gov, adding that a login is needed to reach all of the information. Andy Maguire observed that one element no longer available are incident pollution reports (polreps).

Smith said there is work ongoing to re-invigorate the Greater St. Louis Sub-area Plan and the Sub-area Committee; including updates to the plan and the addition of more response strategies. He said Ann Marie Pohlman is no longer staffing the group, but that Dave Kinroth and James Christopher are now the assigned contractor support staff for the sub-area. Gann asked whether the sub-area is seeing turnover in the participants from local entities. Smith said he is not currently familiar enough with the membership to answer this, but hopes that reinvigorating activity will enhance local partner participation. Smith also highlighted the upcoming TRIPR training in St. Charles as a near term event in the Greater St. Louis area.

Great Rivers Sub-area

Smith said the Sub-area group here appears to be coming together well and that he is working with Barbi Lee of USEPA Region 5 on the developing of geographic response plans in the sub-area.

Minneapolis-St. Paul Sub-area

David Morrison said efforts are underway to re-invigorate activity in the sub-area, and a first meeting of a re-formed steering committee was held recently. He reported that the steering committee had discussed the presence of multiple and overlapping response plans in the Minneapolis-St. Paul Sub-area. Morrison explained that the steering committee is also working on a mission statement for the sub-area committee and is seeking to identify the appropriate stakeholders for the committee. He said one of the goals for coordination in the sub-area is that responses are carried out in a consistent manner regardless of which entity is leading the response. Smith observed that the Great Rivers sub-area committee has also had conversations regarding the creation of a mission statement, as well as a charter for the sub-area committee.

Morrison noted that USCG Sector UMR and the Minneapolis-St. Paul Area Maritime Security Committee (AMSC) held a drill on April 19th which included a scenario where a barge impacted a railroad bridge, causing a train carrying vegetable oil to spill into the river. He said the exercise was very instructive and that he would like to see similar exercises in the future. Matt Stokes asked Morrison if he could provide any comment on the success of notification in the AMSC drill. Morrison replied that some notifications were completed, but this one was area where the exercise could have been more robust.

Quad Cities Sub-area

Mendoza said an AMSC exercise would be taking place on May 9-10 in the Quad Cities and that there is a hazardous spill component within the larger exercise. He said this piece will involve a barge-based release scenario at Lock and Dam 14 involving a spill of diluted bitumen (dilbit). Mendoza said water suppliers in the Quad Cities area have been very interested in the exercise due to the impact on their intakes which could result from such as spill. Mendoza said both he and Barbi Lee will be participating in the drill and are very focused on its notification component.

Smith also reported that the Greater St. Louis Sub-area Planning Committee had met in September 2016 and that the St. Louis Sub-area Plan is available via the EPA Region 7 site on the epaosc.net website. He added that an initial Incident Action Plan (IAP) is in development for the section of the Missouri River within the St. Louis Sub-area. Smith said EPA Region 7 is collaborating with EPA Region 5 to schedule a Transportation Rail Incident Preparedness and Response (TRIPR) training for St. Louis in spring 2017.

NRC Spill Reports Summary

Mike Robinson distributed a tabular summary of spill reports made to the National Response Center (NRC) affecting the UMR in the period of October 2016 to April 2017 (i.e., the period between UMR Spills Group meetings). He explained the methodology used to develop the report and noted that a table and chart had been added to the end of the report that aggregate reporting totals and volumes materials reported released. Robinson said he would present an interactive, web-based map of NRC-reported spills during the meeting's discussions the following day.

Fier-Tucker observed that internal state databases will include more records than are available via the NRC database alone. Lauder concurred, but noted that many of those records will also be inland spills and as such not relevant for a UMR-specific compilation. Gann said Missouri's spill reports list can be accessed from the internet (see https://dnr.mo.gov/env/esp/esp-eer.htm). Whelan suggested it may be worth investigating a subset of reports, either by time or geography, to compare state reports to NRC reports.

The meeting adjourned for the day at 5 p.m. and reconvened at 8:00 a.m. on April 26, 2017.

UMR Mapping Tools

NRC Spill Reports Map

Mike Robinson displayed the current version of the UMR NRC Spill Reports map, which is has now been converted to an ArcGIS Online format. He explained that while this format does not have some of the "preset" features such as the clustering function provided in the previous Leaflet format, the ArcGIS Online approach allows for greater flexibility, user-driven interaction, and is easier to update and maintain. Robinson invited feedback from the Group on both the content and format of the map. Heath Smith and Ann Whelan both suggested it would be important to consider what questions can be answered by this data set and, in general, how the Group saw this data set being used. Gann said it would be important to keep in mind the limitations inherent in NRC data (i.e., they are typically just the initial reports and may not necessarily capture the final volumes or all products involved in an incident). Adam Davis concurred that it is very important to convey both the source and limitations of the data in sharing the mapping application. Robinson and Hokanson suggested that some of this type of information could be provided via a welcome screen/splash screen on the application.

Robert Hite suggested that this type of data might be most amenable to being used as risk assessment, pointing to the likely sources and products which may create spills in certain areas of the river, with

necessarily being definitive about the amount spilled or other specifics of incidents. Faryan concurred in the use of the data set and map for risk assessment purposes. He added that such a risk assessment might help in making determinations regarding equipment staging. Hite suggested it might also make sense to explore expanding the radius of inquiry as spills on tributaries may be just as impactful as spills directly to the mainstem.

Morrison added that another potential application of the data is looking at cumulative impacts. For example, he explained, it is possible that numerous small spills may have as much of an impact to the environment as a single large spill. Whelan concurred that an examination of cumulative impacts would be valuable.

Ray Walden asked whether it is possible to change the imagery associated with the map display. Robinson replied that this could be done and various imagery sources could be loaded as services to the map.

UMR Spill Response Equipment Viewer

Robinson next provided a refresher demonstration regarding the UMR Spill Response Equipment viewer, which is a web-based map allowing users to identify equipment which is stored on the UMR river corridor. He explained that the viewer can be reached via the UMRBA website from the spills page (http://www.umrba.org/hazspills.htm) but that a password is still needed to view the map. This password is available from UMRBA staff upon request. Hokanson and Robinson stressed that the viewer is interactive and users can add and edit data, with these changes being tracked so that any inadvertent errors can be corrected as needed. Robinson also noted that the viewer also now includes a drive time calculator.

Geographically-Specific Response Planning

UMR Pools

Ellis said work on UMR Pool 9 will be initiated later in the summer, and that anyone who is interested can contact him for more information.

St. Croix National Scenic Riverway

Ellis said UMRBA also continues to work with the National Park Service (NPS) on spill response planning for the St. Croix National Scenic Riverway, with this project continuing throughout 2017. He added that this work has led to interaction with Tribal interests, particularly via the Great Lakes Indian Fish and Wildlife Commission (GLIFWC).

Geographic Response Plans (GRPs) for the UMR Developed the Rail Companies

Nic Winslow provided a presentation to update the group on the development of UMR geographic response plans (GRPs) being developed by BNSF Railway in collaboration with Canadian Pacific. He emphasized that these GRPs have been developed, in part, by building on existing tools in the region and in turn the rail companies will plan to make the final GRPs available to government responders and planners in the region. Nationally, he explained, one of the goals of the rail companies is to determine how GRPs are developed and designed in different regions and then to work those approaches in creating the rail GRPs. Additionally, Winslow said a primary goal of the rail GRPs (beyond safety) is source control, and that this emphasis makes them a bit different than the strategies developed via the interagency process on the UMR, as the latter tend to place more emphasis on protection of sensitive areas than controlling the spill source *per se*. He said, in practice on the UMR, that source control at minimum means containing a release within the pool where the incident occurred.

Winslow then walked the group through the contents of rail-developed GRPs, which include an initial response checklist (with supporting materials), a GRP report and GRP master table, and GRP overview figures. He noted that Appendices to the GRP include pool-specific figures, detailed response strategies, habitat fact sheets, endangered species profiles, a shoreline cleanup assessment technique (SCAT) manual, plume delineation guide, and the Region 5 inland response tactics manual. Winslow next demonstrated the draft online UMR GRP viewer, which contains themes including base layers, response strategies, emergency response equipment assets, and potential resources at risk. He explained that the resources at risk theme includes four subcategories: natural resources, water intakes, economic resources, and cultural resources. Winslow said BNSF is happy to show the viewer as it develops to the UMR Spills Group.

Lastly, Winslow described BNSF's ongoing efforts to provide fast water spill response training on the UMR and nationally. He said training fits in to an approach to best available protection that includes spill prevention, plans and response procedures, technology and equipment, and training procedures and staffing. Winslow described the extent of fast water training hosted by BNSF in 2016, which included a total of 19 events at a variety of locations across the country on fast mountain rivers, navigable waterways, and large lakes. He said a total of 550 individuals had participated in these trainings, including the private sector, local and Tribal fire departments, state agencies, and federal agencies.

Quad Cities AMSC Exercise

Tim Marriott of USCG, Sector Upper Mississippi River, provide additional information on the AMSC exercise to be held in the Quad Cities on May 9-10, 2017, as had been briefly discussed during the sub-area report the preceding day. He said the exercise would involve live play for some its components, but that the spill component would not be part of live play. Marriott explained that the Scott County (Iowa) Emergency Operation Center (EOC) would be the command post for the exercise and that there is a strong emphasis on exercising the Incident Command System (ICS) as part of the event. He said he could be contacted with any additional questions regarding the exercise.

Civil Air Patrol Capacities for Spill Response

Lt Col Ray Walden of the Illinois Wing of the Civil Air Patrol (CAP) provided a presentation regarding the capacities of the CAP in regard to spill response. He explained that the CAP is a federally chartered corporation (per Title 36, USC 40301) and is a volunteer civilian auxiliary of the US Air Force (per Title 10, USC 9442). Per CAP's Congressional charter, it has three primary mission areas: emergency services, cadet programs, and aerospace education. Walden explained that the CAP includes approximately 32,000 mission-qualified personnel across a variety of duties (with about 3,000 of these being pilots) and has over 500 aircraft. The bulk of these aircraft are Cessna types (Cessna 182, Cessna 206, and Cessna 172).

Walden next described the CAP Communications System, noting that it can provide secure tactical command and control communications between aircraft, ground teams, and incident command posts. He also described the VHF-FM and HF communication resources available to the CAP, as well as radio networks available to the CAP. Walden also detailed the handheld camera packages that can be used by CAP, which include nearly 600 carry-aboard cameras all of which are GIS enabled/compatible. He added that CAP's operations are integrated with the Domestic Operations Awareness and Assessment Response Tool (DAART).

Walden said CAP is also working towards becoming operational with mini-UAVs to complement its traditional aircraft. He explained that UAVs are subject to a 400-foot ceiling, while CAP aircraft can go no lower than 900 feet. As such, they do not conflict in airspace and can complement each other's

imaging capability. Walden said the long-range plan is for CAP to have operational capabilities with mini-UAVs in each CAP Wing by the end of 2020.

Walden described some of the response events of national and regional significance in which CAP had been involved, including Hurricane Katrina (2005), DeepWater Horizon (2010), Hurricane Sandy (2012), Hurricane Matthew (2016), and the Elk River, West Virginia Chemical Spill (2016). He also provided examples of how CAP is a relatively low-cost aerial platform as compared to other options. Walden then described the capacities of each CAP Wing in the five UMR states.

In order to request assistance, Walden explained that a state or other government entity should contact CAP's National Operations Center at 888-211-1812. He said an MOU will need to be in place for forces to be deployed, but that agreements already exist with a number of government entities including state governments, NOAA, USACE, USCG Auxiliary, FEMA, US Forest Service, NTSB, DHS – National Communications System, Federal Highway Administration, and the US Postal Inspection Service. Walden encouraged agencies to contact CAP's National Operations Center even if they are unsure of their agreement status. He added that CAP is happy to participate in drills and exercises as well.

Ann Whelan asks how CAP prioritizes when faces with multiple requests for assistance. Walden said each Wing works with the National Operations Center in prioritizing, though the system is largely first-come, first-served. Lauder asked if CAP is engaged in many exercises. Walden replied that CAP is often engaged in exercises, though it is helpful to have advanced notice of these events so they can be incorporated into training budgets. Hokanson asked about the process for non-CAP personnel to join CAP flights. Walden replied that 12 hours' notice is typically needed for non-CAP personnel to be able to join a flight.

UMR Training and Exercises

Hokanson noted that in discussions so far during the meeting a number of training and exercise events for the remainder of calendar year 2017 had already been identified including the following:

- May 9-10 Quad Cities AMSC Exercise
- May 22 Quad Cities Cooperative Boom Deployment Training
- May 23 TRIPR Training at St. Charles, Missouri
- June 8-9 Rail-Sponsored UMR Spill Response Training at Bellevue, Iowa
- June 19 Science of Oil Spills Class in Seattle, Washington
- July 11-13 TRANSCAER Chlorine Response Training in Davenport, Iowa
- July 18-20 DOI Inland Spill Response Training at Horicon, Wisconsin
- July 19 Red Wing CAER Training at Lake City, Minnesota
- September 2017 Joint EPA Region 6 and 7 Exercise
- September 26-27 Enbridge Pipeline Exercise in Bemidji, Minnesota

Hokanson observed that, given the number of training events already established for the spring and summer of 2017, the UMR Spills Group may be best served partnering with existing events as opposed to initiating an entirely separate training. He also noted the wildlife branch training module which had been previously developed and could be plugged into or added on to other, existing training events.

Whelan concurred that the schedule is fairly full for the next few months and perhaps the UMR Spills Group should target fall 2017 or spring 2018 for next training event, with the Open River being a likely training location. Smith said some areas to consider in the lower UMR would include St. Louis, Cape Girardeau, and "bootheel" area, noting that rail is also present in these areas. Joe Davis said the training in this section of the UMR would not necessarily have to be on the river itself, as training has been successfully held at Horseshoe Lake State Park in Illinois.

Tony Houdyshell suggested that it would be important to bring the commercial navigation sector into both discussions and training regarding spill response on the UMR. Winslow noted that it has also been helpful to engage spill response cooperatives in the design and implementation of training. Stokes suggested a successful training approach may be scenario-based test of geographic response plans.

Selection of Spills Group Chair and Vice Chair

Hokanson explained that if the typical rotation of the Spills Group Chair role is followed, current Vice Chair Joe Sanfilippo would take over as Chair at the conclusion of the meeting and Minnesota's Dorene Fier-Tucker would become the Group's Vice Chair. Both Sanfilippo and Fier-Tucker agreed to take on these roles.

Next Meeting

Hokanson said he would be in contact with the Group regarding the scheduling of a next meeting, which most likely will occur in October 2017.

With no further business, the meeting adjourned at noon on April 26, 2017.