I-WASTE Webinar Transcript

[Audio begins 11:30 minutes into webinar]

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But we do have the facilities in the tool for you to generate a waste inventory from a hypothetical airport scenario. There's a database of treatment and disposal facilities that has the location, technical information, if the permits are online – you can access them, and it also has the geolocation information so that you can use these databases in conjunction with other mapping activities that your agency might be doing as part of either your planning or your response. It has access to information on the contaminants and decontaminants. This is largely taken from other sources like CDC, so we didn't have to reinvent the wheel for some of the fact sheets on the contaminants. Finally, we've tried to pull together guidance that exists for worker safety, packaging and storage, and transportation that has been put out at the federal level, state level and local level - whoever put together useful information, we tried to pull it together so that you don't have to look on your tenth Google page to find the thing you're looking for.

[I-WASTE] has a couple caveats. First of all, this is not an expert system. The intent is not to tell the user what to do, but to try to synthesis the information that they need to consider during the decision making process. We do assume that the decision has been made to treat and dispose a certain amount of materials, so it doesn't ask the question whether or not we should get rid of it as waste. We try to present information in small quantities, while allowing the user to still drill down to more detailed information if they want it.

The target audience is both the EPA responders, state and local agencies – both on the planning side and on the response side, and also the treatment and disposal facility operators. We want to be able to have the planning be essentially able to be vetted through all the parties if they're interested in it. So if you set up a hypothetical scenario, you could share it with your local landfill and they could look at what you're planning to send them in the event that an incident could actually happen. [Then] you could take their input and adjust what you want to do in that regard.

This tool was put together by a number of people's input. We did not want to do this in a vacuum, so there were several offices within the EPA that contributed to this. We had several other federal agencies that had mission space that kind of overlaps the EPA's missions of protecting public health and the environment, including the Army Corp of Engineers, USDA, FEMA, the Department of Transportation, the Department of Energy and Homeland Security. We got several people from different state agencies, particularly the ones who were involved in the anthrax incident from 2001, and they were immensely helpful at providing us kind of mid-course corrections and suggestions on what we should add [and] interface suggestions. We worked with some of the waste industry groups and water industry groups in order to try to make sure we had the right type of items in our databases, and trying to vet the accuracy of the entries in the databases. We also worked with certain representatives from certain other industries in order to figure out how we could estimate what the waste would be from gutting a hotel or gutting a hospital. So we talked with Marriot [and] the Fairfax County School System, so we found out what typical stuff is in an elementary school for example, in order to develop our inventory databases.

When you login to I-WASTE, you come to the username and password. Like I said, the information is not sensitive, but we want to have people be able to freely share their scenarios that they develop with other people they may be working with to make their planning documents or working with them on a response.

Once you login, you are presented with a page that lets you access the four main functions of the tool. One is the *incident planning and response*, which essentially helps you develop an inventory of your waste you expect and what facilities you would like to be able to send that waste to, so that you can present those inventories to the facilities and negotiate whatever agreements you might want to have when there's not an incident going on. You can access the *waste materials estimator* and the *treatment and disposals facilities* databases. Finally, there is a library of information that we've gathered and try to put in place so that you don't have to get frustrated digging through page after page of Google hits that may not be quite relevant.

Here's a screen dump of the waste quantity estimator. This one, you can plug numbers in under these text fields of how big the incident is and numbers of certain types of buildings that were involved in the incident, and it will give you a print out of the materials that would be involved if you had to say demolish the buildings, or if you were to gut the buildings, or just remove the items in the buildings, and it breaks it all up. All of these building types have default parameters that you can change if you want. Like it assumes that a hospital is a certain number of square feet and has a certain number of beds for a large facility, and it assumes a certain number of beds and square feet for a smaller facilities - you can change those if you want and recalculate it. Here's an example of the output from the waste quantity estimator. You can get the output in the form of a table you can export into Excel and further refine your waste estimate. For example, if you're not going to demolish the building, you can delete the rows that involve the structural material; or if you're not going to gut the building down to the studs, you can get rid of the drywall and other types of materials that might not be involved. Then you can focus in on what are the waste materials that might be there depending on what your decontamination approach is. You can present this graphically. There are two or three different variances on the graph. This is bar graph [and] there's also a bubble chart and a pie chart that you can view this as.

We have a number of facility databases. Now, there are some of these like the municipal solid waste landfills – it's kind of a moving target – there's thousands of these across the country, and getting good data on that is almost a full-time job. In fact, some of the states probably have better data on that than we do on some of these facilities like the landfills. But we try to present a whole host of potential facilities even ones that you may not think might be particularly useful, but since we don't know what type of incident might occur, we figure we can put everything on the table and let the people who have to make the decisions take the stuff of the table that they don't think is appropriate, rather than us making assumptions of what might not be appropriate and eliminating potentially a useful pathway that might be good for getting rid of some of these materials. So we include things like waste energy facilities, hazardous waste combustors, different types of waste water facilities, medical waste autoclaves, and we also include a database of federal facilities – like army bases and things like that – because one of the things we found out through a number of workshops we've held is that maybe the landfill that is the local landfill - maybe they aren't willing to take the waste from this incident, but if the government were willing to build a facility on land that they own [then] maybe the company would be willing to operate the facility - so we include those. Now we can't guarantee that you can get permission to use it, but again if there's an incident that the President would likely declare a state of emergency and

activated the federal resources, there may be options that you might not think might be available. So we try to put everything on the table and let you guys decide what doesn't apply.

You can query the databases directly on the web, by looking at facility type, state or EPA region. There may be certain simplifications of the process that might work if you can find what you do to a given state or a given EPA region. Many of these type of incidents might cross state boundaries though, and we don't want to neglect that possibility. Here's an example output, I think this is municipal waste outputs from Montana - it's an excerpt from it. We put the contact information on it so that you can talk directly to the place. If it's a landfill that's owned by a larger company like Waste Management or Republic, we put the corporate contact on there because we figure if it's one of these high impact incidents, they may be making these decisions at the corporate level rather than at the local level. If you go to the individual facilities - if their permits are online - you can link directly to the permit, because one of the things we're thinking is that if you have waste that is of a particularly sensitive nature, you want to send it to a facility that has a good compliance record.

We also have a KMZ file, which is a Google Earth file that can be exported from the tool, and you can add that to whatever other mapping activities you might be doing as far as your planning or response. So that you can identify visually or geographically where some of the potential disposals sites might be that you would want to use, so that you can for example identify transportation routes that avoid population centers and things like that.

We've also gathered relative guidance, hopefully in an easy to search format, so that, for example, if you want to find Louisiana's debris management plan that they developed after Hurricane Katrina, they did an excellent job at developing a debris management plan, you could look that up and borrow it for your own purposes.

We have information on radiological and nuclear information for most types of contaminants. We have information chemical and biological contaminants. A lot of these link directly to, for example, CDC's fact sheets on some of the chemicals and biological agents, so if the CDC updates their information [then] we don't have do to anything as long as the link we have to their information stays updated.

[There is also] Information on natural disasters and debris management.

We've also collaborated with USDA's APHIS group to link into some of the activities they have in regard to animal carcasses from foreign animal disease incidents. We've linked directly into their training program that they have online, [and] they have a number of case studies. Again, they have additional contaminant information that are specific to the agricultural sector.

There's kind of a wide distribution of users of the tool. We have a number of commercial facilities, states, Army Corp of Engineers, USDA and US EPA are the three largest users on the Federal side, a number of academics, there's locals [and] there's a very small number of average Joe public that get in, but the vast majority are people who are waste management professionals in some way.

[Momentary interruption – slides were lost momentarily]

So in the past, people have used it to find facilities to dispose of some of the vast number of dead birds from the hypathogenic avian influenza outbreak that happened last year [and] from some of the California fires and some of the floods in the Midwest – trying to identify disposal options; identify

potential facilities in the Ebola response - trying to find facilities that might be willing to accept some of the waste. There have been a number of National level exercises involving radiological dispersal devices. Nuclear power plant accidents; biological contamination that have used this. A couple of years ago, EPA worked closely with New York City's emergency management and public health agencies in order to do a large bioremediation planning set of documents to address everything from sampling to decontamination to waste management. We've also incorporated certain aspects of I-WASTE into other tools. We have a tool to help people identify what approach to decontamination from an anthrax contamination incident, to recommend different types of decontaminants like fumigation or surface cleaning, and it ties in what do these decontamination approaches do as far as the waste from a given type of building. The EPA Solid Waste Office is also now working on a tool that's directed toward the states and locals that is to help them prepare pre-incident planning documents, and they access the I-WASTE information to help try to develop an inventory of what type of waste you might be planning for from your particular incident scenario. That tool is under construction right now, and it's going to be going into beta testing pretty soon.

For future enhancements, we'd like to get our geospatial data and facility information incorporated into EPA's GeoPlatform, which is an open access type of environment that everybody can use to get data sets that they can use for whatever mapping application they might have. They can include other data sets that EPA has published outside of the homeland security area, for example, looking at where the wetlands may be or looking at where you might have some of the ground water issues and things like that. So in all, there's a link here and you can download the slide deck off the web when they put it up after the webinar and you can get access to it. Send me an email, and I [will] approve your login ID, usually it doesn't take more than a day.

So the bottom line that we're looking at is that waste management is a critical component of responding to the wide-area disasters, whether they are man-made or naturally occurring. Decisions are made at several levels, including the waste management facilities themselves - that's an important consideration, because normal you send the landfill the garbage that you generate every day and you have an agreement for them to accept a certain amount of material. But these incidents present new challenges that kind of make the waste management facilities a participant in the decision-making process rather than just a contractor that you're paying them money to accept your waste. A key take home message is that waste is one of the aspects of the response that can really benefit from pre-incident planning in order to enhance the resiliency of communities to these type of incidents. We are hoping that this tool can support this type of planning as well as decision-making during an incident.

I would be happy to answer any questions.

There's my contact information if you care to call me or send me an email.