WEBINAR 2: ALTERNATIVES ANALYSIS FOR E-MANIFEST

REVISED SUMMARY

I. Background

On May 12, 2009, the U.S. Environmental Protection Agency (EPA) held a webinar to discuss design alternatives for a national e-Manifest system. This was the second of four webinars that EPA will hold to solicit user input into the design, development, and operation of the national system. The system would be an alternative to the current paper-based procedures found in 40 CFR Parts 262 to 265.

Section II of this document summarizes the webinar. Section III presents comments about the e-Manifest that were e-mailed to EPA after the webinar. A response is provided. A table of attendees is included at the end of this document. The presentation slides used during the webinar are provided as separate attachments.

II. Summary

The facilitator began the webinar by conducting a roll call to identify all attendees. He indicated that a summary of the first webinar held on April 22, 2009, had been sent to participants for their review and comment. He then briefly discussed the purpose and schedule of the four webinars.

Mark Eads of the Economics and Risk Analysis Staff of EPA's Office of Resource Conservation and Recovery presented cost information on the existing manifest system. Mr. Eads said that EPA has prepared an Information Collection Request (ICR) that estimates the burden of the manifest system. A federal agency must prepare and submit an ICR to the U.S. Office of Management and Budget (OMB) for approval to implement its paperwork requirements. An ICR describes and justifies the paperwork requirements and estimates their annual hour and cost burden to industry and the government.

Mr. Eads explained that the ICR prepared for the manifest system has a narrowly defined scope. For example, its burden estimates address only the federal manifest requirements and federally regulated waste handlers and hazardous wastes (*e.g.*, state-specific requirements are not addressed). The ICR's burden estimates are summarized in a May 28, 2008, Federal Register notice announcing that the ICR has been forwarded to OMB (73 FR 30614).

The ICR estimates that approximately 190,000 facilities use the manifest system annually and incur an annual paperwork burden of 3.7 million hours. Using national average labor rates, the ICR estimates labor costs of $107 million per year and capital, operating, and maintenance costs of $3 million per year (*e.g.*, for manifest copy storage, photocopying, postage). About 2.1 million paper manifests are processed every year for federally regulated hazardous wastes. This equates to about $53 per manifest. Mr. Eads noted that over 5 million manifests are processed for both federally and state regulated wastes.

Mr. Eads noted that, during the first webinar, the pilot presenters indicated that it costs over $500 to process a manifest. He stated that the ICR's narrowly defined scope helps to explain some of the difference between the ICR's estimate of $53 per manifest and the pilot's estimate of $500 per manifest.

The facilitator then explained the purpose and scope of the alternatives analysis that EPA is conducting. The analysis is mandated under the Capital Planning and Investment Control (CPIC) Program, which requires the analysis of at least three design alternatives for EPA's information technology investments. The purpose of this webinar is to obtain user input on the alternatives.

The facilitator provided an overview of the 3 alternatives:

- Alternative 1: Paper-Based with TSDF Upload. This alternative would continue the paper-based process, and at the end of the shipment, the TSDF would upload manifest data in Extensible Mark-up Language (XML) and scanned manifest images to the Central Data Exchange (CDX).
- Alternative 2: Mobile PC with Off-line Capabilities. This alternative would allow the batch download of draft manifests from the CDX by commercial transporters and TSDFs. Transporters then would complete the workflow off-line using their own mobile devices. The TSDF would upload the electronic manifests to the CDX by XML at the end of the shipment.
- Alternative 3: Fully On-line System. This alternative would allow all waste handlers to register and interface directly with the CDX. Transactions would be tracked in real-time.

The facilitator then discussed each alternative in greater detail and asked for user input.

II.1 Alternative 1: Paper-Based with TSDF Upload

The facilitator explained that, under this alternative, the manifest would be transacted by paper while in transit. When the TSDF uploads the manifest data to the CDX, it would become available to EPA, state agencies, and others. Uploading the manifest could complete the manifest cycle by giving the generator notification of the TSDF's receipt of shipment. Waste handlers could retain paper copies or scanned images to satisfy the recordkeeping requirements. The facilitator asked whether this is a feasible alternative and what needs should be addressed.

Mr. Fusco expressed concern with Alternative 1 that the TSDF would be assuming all of the responsibility of interacting with the electronic system, which would be significant.

Mr. Appelt said that this option is very feasible and probably the simplest to implement. The TSDF would be in possession of all of the data needed for upload, so the uploading process would be easy. In conjunction with this option, the paper manifest could be reduced to 3 parts (generator, transporter, TSDF) and allow for scanning of manifests so the generator and others could retain imaged copies as opposed to paper copies. This would be simple to implement.

Mr. Hammerberg asked if the TSDFs would be required to follow quality control procedures when entering manifest data into their systems. If not, how would the states know that the XML data match the paper manifests? A response was provided that the scanned images could be used to verify the XML data.

Mr. Conlon stated his belief that the TSDF only needs to upload scanned copies to the CDX. He asked why a TSDF would need to supply XML data. A response was provided that data cannot be readily extracted from a scanned document. The XML data would address this need.

Mr. Conlon asked if transporters would be required to submit information to the CDX. A response was provided that a transporter generally would not be expected to perform uploads. Designated TSDFs would upload the information at the end of the shipment. Mr. Conlon responded that transporters have various reporting responsibilities, such as transmitting manifests for exported shipments. As such, he believes that Alternative 1 could place additional burdens on transporters. He stated his opposition to the alternative.

A participant asked how the generator would monitor or be notified that its shipment was processed by the TSDF in a timely fashion.

The facilitator asked how a manifest would be corrected after upload, how the alternative would lend itself to integration with the Biennial Report, and how the alternative would improve manifest data quality.

In regard to timeliness, Mr. Conlon responded that the delivering rail transporter follows special procedures for obtaining the signature of the designated TSDF. He expressed concern that Alternative 1 could add complexity to this process.

Mr. Appelt said that there should be no reason to keep a paper copy at the designated TSDF after it has been scanned. His company is seeking approval from the states to be allowed to retain scanned images in lieu of paper copies. However, even if a scanned image is submitted to the CDX, he believes that the TSDF should still notify the generator directly that its shipment was received.

Ms. Aldrich stated that some of the states retain scanned images and that it is acceptable in New York for waste handlers to retain scans instead of paper copies.

A participant stated that a mechanism would be needed to track corrections made to manifests that reside on the CDX (*e.g.*, an audit trail). Such a tracking system should identify who made the corrections, when they were made, and which XML data/scanned images are the most up-to-date.

The facilitator asked if this option is desirable as an interim step in rolling out a full-scale e-Manifest system. Mr. Fusco responded that since this system would still retain some of the costs of the paper system, it actually might raise implementation costs instead of reducing them.

Mr. Appelt said he agreed with Mr. Fusco. If this alternative could eliminate the need for the Biennial Report, however, it would be a huge step forward.

A participant asked if the scanned images could be uploaded to states or other agencies. Mr. LaShier responded that the states should be able to access the CDX so uploads to specific states would not be needed. He noted that the primary incremental cost of this alternative would be the TSDF uploads at the end of the shipment.

The facilitator asked participants to comment on what could serve as the copy of record. Mr. Burman responded that he would consider the scanned image to be the copy of record. He expressed concern about secondary sources (*e.g.*, XML data) serving as the copy of record because of potential data entry errors and data corruption.

A participant said that clarification is needed on how the generator would be included in the uploading process.

A participant commented that the Department of Transportation (DOT) currently requires the transporter to carry a paper shipping document. This DOT requirement makes Alternative 1 the only viable alternative. Mr. LaShier responded that the two other alternatives also are viable under the DOT requirement.

II.2 Alternative 2: Mobile PC with Off-line Capabilities

The facilitator explained that, in Alternative 2, commercial transporters and TSDFs would download draft manifests and use their own mobile devices to transact manifests off-line. Manifests would be signed off-line with self-authenticating digitized handwritten signature devices. The TSDF would be responsible for uploading all signed manifests to the CDX at the end of the shipment. The facilitator asked participants to comment on the feasibility of this alternative.

Mr. Conlon said that railroads do not use mobile devices, so this option is not feasible for them. The railroads considered using portable devices in the past, but decided against it due to poor performance. Railroads already have a system in place to track where cars are and what is in them, and they do not want to change to using mobile devices. A response was provided that EPA was not asking the railroads to change their existing procedures or infrastructure. Railroads would be allowed to follow the existing procedures for manifest transactions.

Mr. Conlon noted that railroads are required to sign manifests when they accept a shipment and also before crossing the U.S. border. He asked how these scenarios would be addressed. A response was provided that, for this option to work, signature transactions would have to take place through the central system instead of a portable device. Mr. Conlon responded that he did not see this option working on a real-time basis.

Mr. Appelt said that this alternative is ideal for his company. His company already is carrying out many aspects of the alternative and could easily adopt it.

Ms. Aldrich asked how the generator would obtain a signed copy of the manifest. Mr. LaShier responded that an account could be established for generators and other waste handlers and their signed copy could be distributed to their accounts.

A participant asked about the durability and longevity of mobile PCs. Mr. LaShier responded that there is a range of mobile devices available at different price points with different capabilities and durabilities.

A participant expressed concern that a generator could lose control over the content of its manifests because they would be prepared by commercial waste handlers. Mr. LaShier responded that generators still would be required to sign the manifest to verify the data, so they would retain the same control they have under the paper system.

A participant asked for the definition of a self-authenticating digitized signature. Mr. LaShier stated that the digitized signature devices would be similar to devices at store checkout counters. However, some of the more sophisticated devices collect forensic information (*e.g.*, hand pressure). EPA is working with the U.S. Federal Bureau of Investigation to evaluate these devices.

A participant noted that some transporters and TSDFs may not have mobile PC capabilities and asked how they could participate in this alternative. Mr. LaShier stated that they could download the manifest to their desktop and/or laptop computers, if available. Otherwise, they would need to use the paper system.

II.3 Alternative 3: Fully On-line System

Under Alternative 3, the national system would match closely the multi-state e-Manifest pilot system discussed in the first webinar. The main difference is that users would interact with EPA's CDX. The facilitator asked participants to comment on the feasibility of this alternative.

Ms. Aldrich commented that the pilot proved that this alternative is very feasible. Her agency supports it.

Mr. Fusco commented that his company utilizes mobile devices to connect wirelessly to their database systems. They have found that there are large swaths of the country that do not have wireless coverage. Because of that, real-time data tracking is not feasible, but batch uploads at the end of the cycle are an easy alternative. Also, he said that manifests often require corrections as they are carried from the generator

to the TSDF. Real-time tracking of manifest corrections could create a lot of "noise" in the system.

Mr. Conlon said that he supports the idea of uploading data at the end of the shipment. His company's system reports a lot of information, so they would support an end-of-shipment report.

Mr. Burman said that Minnesota's underground storage tank (UST) program used a system based on mobile PCs and web forms and experienced tremendous wireless connectivity difficulties. There was spotty on-line availability throughout the state.

A participant asked how the e-Manifest system would be integrated with vendors' existing systems. A response was provided that system integration would have to occur over time. EPA would design an XML schema and vendors could adapt their software to it. The schema would not be changed without notification to the regulated community.

The facilitator asked participants to comment on whether industry uploads should be allowed at multiple points during the shipment. Mr. Bunker responded that this came up during the pilot. Industry users preferred to upload data as frequently as possible. States, however, were only interested in two versions of the manifest: the initial version signed by the generator and the final version signed by the TSDF. They could view both copies, but only one state actually looked at both. The other states looked at the final copy only.

The facilitator asked if participants thought this electronic system would improve manifest data quality over the current system and whether it would improve the timeliness of data updates. A participant noted that real-time updates are not needed. The paper system currently in place does not provide real-time updates to the states and others during shipment.

The facilitator asked how this approach would lend itself to integration with the Biennial Report and how feasible it is to expect real-time network access at all manifesting locations. Mr. Fusco responded that his company has had trouble with network connectivity in various parts of the country.

The facilitator asked how feasible it was to expect the system to operate 24 hours a day/7 days a week. A response was provided that the CDX does not operate on a 24/7 basis.

II.4 Comparison of Alternatives

The facilitator asked participants to consider all of the alternatives and offer opinions on which one is the most desirable (*e.g.*, based on feasibility, data quality, timeliness, burden reduction).

Mr. Conlon stated that he prefers Alternative 3. He was not completely sure how it would work, so he could not address the functional details. He was not concerned about data quality, and timeliness cannot be real-time for the railroads, but they can transmit information at the outset of a shipment. Burden reduction would be significant. He favored this approach over the current paper system, partly because they already track shipments on-line.

A participant stated that, although this was the first time he had looked at these alternatives, he favored Alternative 3 from the state government's perspective.

Ms. Martin stated that Alternative 1 would place too much burden on the TSDF. Many smaller generators in her state do not want to retain their manifest copies and rely on the TSDF to retain copies on their behalf. Alternative 1 would shift even more burden onto the TSDF.

Mr. Fusco said that he supports Alternative 2. He expressed concern about the difficulty of real-time tracking under Alternative 3. Mr. Dennen agreed with Mr. Fusco's comments on Alternative 2.

Mr. Burman said that his state almost always will need the ability to fall back on the paper manifest, so he prefers Alternative 1. Mr. Conlon replied that he expected that the paper version would continue to be used until a fully on-line system is tested and proved reliable.

A participant stated that Alternative 3 has the potential for burden reduction, while Alternatives 1 and 2 would add burden.

Ms. Canter said that from the viewpoint of a conscientious generator, Alternative 3 would be preferred because the generator would have the capability to create/view the initial manifest as well as the final version signed by the TSDF. The other alternatives do not include the generator as a primary participant in the system. If the generator has access, it can provide information required on the Biennial Report that is not part of the manifest. Mr. LaShier responded that mobile devices under Alternative 2 also could be used to track users' respective manifest copies.

II.5 Wrap Up

Mr. LaShier stated that EPA will continue to examine the alternatives this summer (*e.g.*, their feasibility, cost implications).

The facilitator ended the webinar by confirming that the next webinar will be held on Tuesday, June 9, 2009, from 1:00 to 3:00 PM EDT. A reminder will be sent to participants closer to the webinar's date. During the webinar, participants will be asked to provide feedback on manifest data quality and e-Manifest integration with the Biennial Report.

III. Comments Raised about e-Manifest Post-Webinar

Ms. Canter e-mailed EPA on May 14, 2009, expressing concern that its economic analysis is no longer accurate because it is out-of-date. She suggested that EPA consider whether some of the variables in the analysis should be re-calculated to produce updated results. This would strengthen the credibility of the analysis.

Ms. Canter also e-mailed a comment to EPA on May 14, 2009, from Hope Wright of the State of Illinois. Ms. Wright raised concerns about the potential savings from the e-Manifest that are estimated in the Agency's economic analysis. Ms. Wright expressed concern that the analysis is out-dated. She also stated that there were just a few areas in the analysis where large savings were projected and these areas already have been addressed. She stated that the biggest area of potential savings was reducing variability in state-specific requirements; this already has been addressed through the revised manifest form. Another area of potential savings was eliminating paper copies that are collected by various states. She suggested that the number of states collecting manifests might have decreased since the analysis was prepared. She also expressed doubt that paper submittals require much time relative to other manifest activities. Another area of potential savings was allowing waste handlers to store electronic manifests instead of paper copies. She suggested that a change allowing the storage of scanned or other imaged documents would address this. Finally, another area of potential savings was the decreased need for postage (*e.g.*, certified mail, overnight delivery) involved in sending manifests between the generator and TSDF. She stated that this would apply mostly to rail and barge shipments and indicated that a faxed copy could serve as the official copy of record. Because these potential savings already have been addressed, or could be addressed through simple methods, Ms. Wright does not believe that the e-Manifest is needed.

EPA thanks Ms. Canter and Ms. Wright for their views and suggestions. EPA agrees that the analyses that Ms. Canter and Ms. Wright refer to are out-of-date and need to be revised. Specifically, EPA conducted economic analyses of its proposed rule in 2001 to modify the manifest system. The rule proposed, among other things, a decentralized electronic manifest system, in which waste handlers would use their in-house computer systems to prepare and transmit electronic manifests directly to other waste handlers and the states and retain electronic copies. Since then, the Central Data Exchange (CDX) has become a more viable option, and EPA has clarified that its preferred approach is now a centralized system that utilizes the CDX. Because EPA's preferred approach has changed significantly since the 2001 analyses, EPA does not believe that the results of the 2001 analyses should be used to speculate on the savings under the current design alternatives.

With the assistance of an information technology (IT) contractor, EPA will prepare an up-to-date analysis of alternatives during the summer of 2009. This will involve re-specifying and re-comparing the technical requirements (*e.g.*, software, hardware, workflow features, ancillary requirements) and relative lifecycle costs for the three alternative e-Manifest designs. Later this year, EPA plans to use the findings of the alternatives analysis to update the "Regulatory Impact Analysis" for the e-Manifest final rulemaking, including a re-estimation of potential paperwork burden reductions. The analysis will include an examination of the current manifest system and user practices. For example, it will reflect impacts from the revised manifest form that became effective in September 2006.

Further, the Agency agrees that some of its past actions have helped to alleviate user burden (*e.g.*, standardization of the manifest). Nevertheless, EPA believes that there is still substantial burden that can be reduced through the e-Manifest. For example, there are a great number of repetitive and manual processes involved with completing and using the manifest forms, and EPA believes the automation of many of these processes will reduce manifest burden significantly, particularly for the 90% or more of manifest transactions that represent repeat shipments. In addition, the Agency has heard from many state and industry users who expect large savings to result from integrating the e-Manifest with the Biennial Report. EPA hopes to have better data on these burden impacts later this summer.

EPA encourages users to wait until its analyses are prepared later this year to learn about the potential costs and benefits under the design alternatives.

Ms. Wright also e-mailed EPA on May 28, 2009, noting that two different estimates of paper manifest processing costs were presented during EPA's webinars. The electronic manifest pilot test presenters cited a $500 per manifest cost during Webinar 1, and EPA presented an estimate of $53 per paper manifest average cost during Webinar 2. Ms. Wright asked for clarification on what is included in the $500 per manifest cost from Webinar 1, and what portions of this estimate would be reduced by the e-Manifest system.

EPA would like to clarify that the source of the $500 per manifest estimate is an EPA contractor study titled, "Hazardous Waste Manifest Cost Benefit Analysis." It was prepared for EPA in 2000 to estimate waste handler costs under the existing paper manifest regulations, as well as under electronic manifesting procedures that were proposed by EPA in 2001. Table 3-9 of the contractor study indicates an average cost of about $500 per manifest, taking into account costs to seven stakeholder groups involved in manifesting: small quantity generators, large quantity generators, small TSDFs, medium TSDFs, large TSDFs, transporters, and state governments.

However, the $500 per manifest estimate is incorrect in that study because it incorrectly totaled the average manifest cost across all seven stakeholder groups, whereas it should have only calculated the average cost involving one type of generator and one type of TSDF to represent a typical manifest cradle-to-grave lifecycle. EPA and the contractor did not detect the error before posting the study to the Internet and docket in support of EPA's 2001 electronic manifest proposal.

A correct average cost estimate for that study should have been calculated by dividing the total annual manifest cost identified in Table 3-8 of that study for all seven groups (*i.e.*, $427 million per year) by the total annual count of paper manifests assumed in Appendix A of that study (*i.e.*, 2.433 million manifests per year), which would have provided a much lower estimate in that study of $176 per manifest average cost.

This corrected $176 average cost estimate based on the 2000 contractor study is higher than the $53 per manifest cost estimated in Webinar 2, because the 2000 study assumed that 75% of company-wide computer costs for over 36,000 of the facilities involved in paper manifesting should be allocated as a paper manifest processing cost, in addition to labor costs. In comparison, the $53 per manifest cost estimate EPA presented in Webinar 2 was based on the current OMB-approved "Information Collection Request" paperwork burden cost estimate for the paper manifest, which does not include assumptions about computer costs, only labor costs, paper file storage costs, plus postage costs.

Later this year, EPA plans to conduct a new analysis to estimate costs under the current federal and state-specific manifest regulations for the IT options discussed in the e-Manifest webinar series, as well as the potential paperwork savings and other benefits from the e-Manifest system.

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