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U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE SUBCOMMITTEE ON
ENVIRONMENT AND ECONOMY
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES**

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Good morning, Mr. Chairman and Members of the Subcommittee. I am Barnes Johnson, Director of the Office of Resource Conservation and Recovery within the U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response. I am pleased to be here today to discuss the EPA efforts necessary to establish a national electronic manifest system, or e-Manifest, to track hazardous waste shipments more effectively and efficiently.

I will summarize the current process used to track hazardous waste shipments under RCRA, established by the EPA and the Department of Transportation (DOT) 30 years ago. In addition, I will describe EPA's efforts to revise and modernize the manifest system by establishing a national e-Manifest system that will enable transition of the manifest system from one that is paper-intensive and more burdensome than it should be, to a system that will rely on information technology to track waste shipments.

I want to thank Chairman Shimkus and Members of the House Energy and Commerce Committee for their successful bipartisan efforts to help enact e-Manifest legislation.

HAZARDOUS WASTE CONTROL AND THE RCRA MANIFEST SYSTEM

Subtitle C of the Resource Conservation and Recovery Act establishes the statutory framework for the regulation of hazardous wastes. The EPA has developed a comprehensive regulatory system prescribing “cradle-to-grave” controls on the generation, transportation, storage, and disposal of hazardous waste. As a threshold level of protection, Subtitle C of RCRA requires that the EPA establish a manifest system to ensure that when a hazardous waste leaves its point of generation it arrives safely at a designated permitted hazardous waste facility. The manifest system was the answer to frequent episodes of “midnight dumping” in the hazardous waste transportation and management industries.

The manifest implements the very important function in our “cradle-to-grave” hazardous waste management system of documenting that the hazardous waste shipments that originate at a specific “cradle” or generator site arrive intact at the selected “grave” or waste management facility. The manifest collects information about the quantity, composition, origin, and destination of all hazardous waste shipments. The manifest also documents the actual chain of custody for a waste shipment, by recording in turn the signatures of the generator, the transporters, and the receiving facility responsible for treating, storing, and disposing of the waste.

Under Section 3003(b) of RCRA, EPA’s hazardous waste transportation regulations must be consistent with certain Department of Transportation regulations. This requirement exists to minimize duplication and ensure consistency between RCRA’s hazardous waste transportation requirements and DOT’s hazardous materials regulations. EPA’s manifest

requirements have been coordinated with DOT, with the result that completing a hazardous waste manifest also assures compliance with DOT's requirements for completing a hazardous materials shipping paper.

The manifest requirements, which were jointly developed by EPA and DOT, require the use of the Uniform Manifest for the tracking of all hazardous waste shipments that are transported to an off-site destination facility for management. The Uniform Manifest is a multi-copy form that generators of hazardous waste must first complete before hazardous wastes can be delivered to a transporter for shipment off-site. The generator is responsible for entering information that describes its hazardous wastes and identifies the transporters and the waste management facility that will receive such waste.

The manifest form is then physically carried with the waste shipment. The form documents the change of custody that occurs during transportation; a signature is obtained from each waste handler receiving custody. Each waste handler that signs the manifest must also retain a signed copy of the form among its company records to document its compliance. Finally, when the hazardous waste arrives at the designated waste management facility, that facility must sign the manifest and either verify that all the hazardous waste types and quantities were received, or identify any discrepancies. This final copy verifying receipts must then be sent back to the generator, so that the generator receives confirmation of receipt by the designated facility.

Since the states are the primary implementers of the hazardous waste program, a number of authorized states also require submission to the state of one or more manifest copies so that the data may be entered into the state's tracking systems. There are currently 24

states that collect manifest copies, and use manifest data for program management, revenue collection, and enforcement purposes. The states that collect manifest copies generally enter the data manually into their tracking systems.

All of the manual processing steps described above add up to a significant paperwork burden. We estimate that each year, hazardous waste generators prepare about 3 to 5 million manifest forms, and that the completion and processing of these forms results in an annual paperwork burden of between 300,000 and 700,000 hours.

STATUTORY AUTHORITY

The Hazardous Waste Electronic Manifest Establishment Act was signed into law on October 5, 2012. The Act directs the EPA to establish and implement an electronic manifest system designed to track hazardous waste shipments that may be used by any user. The Act also requires the EPA to issue a regulation authorizing use of electronic manifests, and to establish a user fee for the system, as well as to establish a System Advisory Board to advise the EPA on system performance and user fees. In addition, the EPA must conduct annual Inspector General (IG) audits, and submit biennial reports to Congress.

An e-Manifest system extends to all federal and state regulated wastes requiring manifests. The Act authorizes the EPA to collect reasonable user fees for all system-related costs including development and maintenance. The Act requires the EPA to establish a uniform effective date in all states for e-Manifest, and the EPA must implement e-Manifest until states are authorized. Pursuant to the Act, an electronic

manifest approach will remain voluntary and the paper manifest would remain available for those entities that prefer to track their hazardous waste shipments with existing forms.

BENEFITS of an E-MANIFEST SYSTEM

There is a consensus in both the public and private sectors that there are significant benefits to an e-Manifest system -- both in cost savings and program efficiencies for the regulated community and regulators. One benefit of moving to an e-Manifest system is the cost savings that will accrue to manifest users in the hazardous waste industry and to the state agencies that collect manifests and process their data. When the EPA began analyzing the business case for the e-Manifest a number of years ago, we projected that an e-Manifest system that handled 75% of the current manifest traffic electronically could result in annual net savings that exceed \$75 million to users and to state agencies.¹ These cost savings result primarily from eliminating most of the manual processing steps that are necessary to support the completion, carrying, signing, filing, and mailing of paper manifests and data.

A number of other significant benefits also will be realized that are equally important, if not more important, to the hazardous waste program. An e-Manifest system will improve the overall effectiveness of the national hazardous waste tracking system and thus, provide increased protection to human health and the environment. I would like to highlight a few of these benefits.

First, an e-Manifest will produce better quality data and more timely information on waste shipments. The e-Manifest will be developed with automatic quality checks that

¹ U.S EPA E-Manifest Alternatives Analysis document, November, 2009.

will identify data entry errors, and the EPA and states will likely avoid many of the data interpretation errors that result currently from illegible handwritten entries or from illegible copies.

Second, the e-Manifest system will make it possible to have improved tracking capabilities for waste shipments. Users will be able to check the status of shipments from electronic manifests as needed, and will no longer need to wait 30 days or more for paper copies to be mailed and processed before they can determine if their hazardous waste shipments have been delivered. This electronic tracking capability will also provide for more rapid notification of any discrepancies, delays, or other problems connected with a particular shipment.

Third, industry users will be able to rely on the national e-Manifest system as their single point of contact for both their federal and state-required manifest data reporting. Since all states will be able to link to the e-Manifest network, the submission of one e-Manifest to the national system also will supply copies to those state programs that now collect the paper manifest. Thus, there will be central reporting of manifest data. Program management also will benefit by having access to manifest data that can be imported easily into a federal or state agency's tracking system, without having to re-enter data from paper forms.

Finally, the full implementation of e-Manifest could foster new data management possibilities, such as simplification or consolidation of existing requirements and systems for biennial reporting of hazardous waste data, for reporting of hazardous waste export

and import data, and possible consolidation or streamlining of duplicative federal and state tracking systems.

EPA DEVELOPMENT OF AN E-MANIFEST SYSTEM

In January 2014, Congress appropriated the first funding dedicated to developing an e-Manifest system authorized under the Hazardous Waste Electronic Manifest Act. The agency has been moving forward aggressively to implement the Act.

During the last year, the EPA has developed system architecture plans which marks an important step forward in system development. EPA has worked extensively with industry and state users to address the issues they raised, such as addressing state and industry data access needs and data quality assurance. Through these discussions, the EPA learned about current industry operations and IT systems they use in conjunction with the current paper manifest. The EPA also learned details of users' expectations and requirements for ensuring proper integration/interoperability of the e-Manifest system with existing industry systems. Many of these technical discussions were held with Environmental Technology Council member companies. The EPA has also remained engaged with other stakeholders, including participating regularly in our state partner organizations' meetings (e.g. Environmental Council of the States), coordinating with DOT (including meetings with first responder and law enforcement groups), and through public meetings.

To realize the benefits of an e-Manifest system, stakeholders must use it, and to help ensure that use, a system must meet these stakeholders' needs. The e-Manifest process occurs as part of a live, commercial transaction within waste industry sectors composed

of a large, diverse, user base, consisting of approximately 160,000 waste handlers. There is a high transactional volume with approximately 10,000 - 18,000 manifests used per business day. Transactions will need to occur in a mobile environment, on loading docks and trucks where there can be limited network connectivity.

The EPA's development work is focused on ensuring those needs are met from day one of system deployment. To accomplish this, the agency is conducting user-centered design and development, and is utilizing agile software development methodologies. This approach embodies continuous improvement through pilots and testing, using iterative processes, and continued regular engagement with users and stakeholders throughout the process to provide ongoing opportunities for input. This type of software development will continue until a full scale system is complete and fully tested by all entities

The agency is actively engaged with the U.S. General Services Agency's "18F" government IT development support group. In September, the EPA completed an initial system demonstration. This focused on a key aspect of the system; the transaction at the end of the chain-of-custody when the hazardous waste arrives at the designated waste management facility, and where that facility signs the electronic manifest to verify that all the hazardous waste types and quantities were received. Getting the system to properly electronically execute this all important stage in the manifest transaction was an important first step. The EPA worked with several industry users to complete this initial system functionality.

The agency will continue to work closely with users and ensure interoperability with industry systems. The EPA will add more functionality in an incremental manner while

relying on existing enterprise systems where they are available with the objective of evolving to a minimum viable product (MVP), and providing continuous improvement for the lifetime of the system. By taking this iterative approach, the EPA will refine remaining uncertainties from our architecture planning work in the most cost-effective manner. Research has shown that using this type of lean start-up methodology, with agile techniques lowers the cost of current and future system development by addressing uncertainties sooner rather than later, and by ensuring that the work being completed brings real value to stakeholders and users.

The agency will also utilize modular contracting strategies, which align with the iterative development approach and minimize costs by breaking investments into smaller components. This will drive more competition, and allow smaller businesses to compete more easily. The EPA will engage multiple vendor teams and services with specialized capabilities to cost effectively evolve the system from beginning to a mature product.

Below are the EPA's major milestones planned for system development:

System Development

September 2015– initial system functionality completed;

Winter of 2016 – minimal viable product development;

Spring through fall of 2016 – early full scale development;

Fall of 2016 through winter of 2018 – rolling iterative releases/testing of system;

Spring of 2018 – national deployment (collecting user fees).

Besides system development, the agency has also made progress developing the necessary regulations to support the new program. The EPA published a final regulation in February 2014, authorizing electronic manifests, codifying that electronic manifests in the national system will be the legal equivalent of paper manifests. We are now working toward a proposed user fee regulation which will outline how the agency will design its fee system including which e-Manifest users will be charged fees, and how fees will be calculated. In these efforts we have engaged extensively with stakeholders, including frequently participating in industry and state meetings. This rulemaking is scheduled to be finalized in time to fully deploy the national electronic manifest system in spring, 2018.

Lastly, in August, 2015, EPA formally established the e-Manifest Advisory Board and submitted the Charter to Congress. The agency is in the final stages of the member selection process for the Advisory Board.

CONCLUSION

The EPA continues to make progress on developing a hazardous waste electronic manifest system. An e-Manifest system will produce better tracking services for our citizens, better data for informed policy decisions and program management, greater accountability for how hazardous wastes are transported and managed, and provide significant cost savings to both the e-Manifest users and regulators. The EPA appreciates the support of Congress in enacting legislation to authorize development of a hazardous waste electronic manifest system, and looks forward to continued support to allow for

further development and completion of a hazardous waste e-manifest system. We are committed to keeping Congress informed of our progress.