Funding Breakout Session

RCRA Hazardous Waste Electronic Manifest Proposal

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http://www.epa.gov/epaoswer/hazwaste/gener/manifest/e-man.htm

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RCRA Manifest Background & Baseline

Congressional Authority for RCRA Hazardous Waste Manifest

Congress established the hazardous waste manifest system under the authority of the 1976 Resource Conservation & Recovery Act (RCRA) amendment to the 1965 Solid Waste Disposal Act -- the first statute that specifically focused on improving solid waste disposal methods in the US. RCRA modified the solid waste management system and laid-out the basic framework of the current hazardous waste management program. Subtitle C of RCRA authorizes and incorporates the **hazardous waste manifest system** at five references:

- Hazardous Waste Generator Standards in Section 3002(a)(5): "*[U]se of a **manifest system** and any other reasonable means necessary to assure that all such hazardous waste generated is designated for treatment, storage, or disposal in and arrives at, treatment, storage or disposal facilities (other than facilities on the premises where the waste is generated) for which a permit has been issued as provided in this subtitle, or pursuant to title I of the Marine Protection, Research, and Sanctuaries Act (86 Stat. 1052)...*"
- Hazardous Waste Transporter Standards in Section 3003(a)(3&4): "*[C]ompliance with the **manifest system** referred to in section 3002(5); and transportation of all such hazardous waste only to the hazardous waste treatment, storage, or disposal facilities which the shipper designates on the **manifest form** to be a facility holding a permit issued under this subtitle, or pursuant to the title I of the Marine Protection, Research, and Sanctuaries Act (86 Stat. 1052)...*"
- Hazardous Waste Treatment, Storage & Disposal Facility (TSDF) Standards in Section 3004(a)(3): "*[S]atisfactory reporting, monitoring, and inspection and compliance with the **manifest system** referred to in section 3002(5)...*"
- Federal Enforcement Criminal Penalties in Section 3008(d)(3,4,5): "*Any person who --- [K]nowingly omits material information or makes any false material statement or representation in any application, label, **manifest**, record, report, permit, or other document... [K]nowingly destroys, alters, conceals, or fails to file any record, application, **manifest,** report, or other document required to be maintained or filed.... "[K]nowingly transports without a **manifest,** or causes to be transported without a manifest, any hazardous waste [or any used oil not identified or listed as a hazardous waste under this subtitle] required by regulations promulgated under this subtitle (or by a State in the case of an authorized under this subtitle)...*"
- Export of Hazardous Waste in Section 3017(a)(1)(C): "*[A] copy of the receiving country's written consent is attached to the **manifest** accompanying each waste shipment...*"

Estimate of National Paperwork Burden Cost for the Current RCRA Hazardous Waste Manifest: **$193 to $770 million/year**

Estimate of National Average Annual Cost for the Current Paper-Based RCRA Hazardous Waste Manifest Under Alternative Annual Manifest Quantities & Under Alternative Annual O&M Cost Allocations for Baseline Legacy IT Systems Used for Preparing Paper Manifests		
	Alternative Estimates of Annual Quantity of RCRA Hazardous Waste Manifests	
Alternative IT System Cost Allocations	**LOWER-BOUND** If 2.433 million manifests/year (source: Table III-1 of OSW's Dec 2000 initial economic study* for May 2001 e-manifest proposed rule)	**UPPER-BOUND** If 5.090 million manifests/year (source: Environmental Technology Council Nov 2002 comments to USEPA docket** on May 2001 proposed rule)
0%: If no legacy IT systems (i.e. 0% of legacy IT costs) are currently used for preparing paper manifests	$193 million/year (source: Table III-6 of OSW's Dec 2000 economic study*)	$404 million/year (source: derived by OSW Eads 2004 proportionate multiplier = 5.090/2.433 = 2.092)
5% to 50% MIX: If about 5% to 50% of legacy IT system annual O&M costs (assigned differentially across LQGs, SQGs, TSDFs, states) are allocated to preparing paper (source: OSW Eads 2004 alternative runs of LMI's spreadsheets)	$247 million/year	$414 million/year (note: this is OSW Eads preferred "upper-bound" estimate)
75%: If 75% of legacy IT system annual O&M costs (across LQGs, SQGs, TSDFs, states) are allocated to preparing paper RCRA manifests	$427 to $580 million/year (source: page 3-6 of Oct 2000 LMI report*** & Sept 2002 LMI spreadsheets, respectively)	$595 to $770 million/year (source: OSW Eads 2004 alternative runs of LMI's spreadsheets)

References:

(a) * OSW's Dec 2000 economic study: http://www.epa.gov/epaoswer/hazwaste/gener/manifest/pdf/ebd.pdf

(b) ** USEPA docket nr. F-2000-UWMP-FFFFF; http://cascade.epa.gov/RightSite/dk_public_home.htm

(c) *** Oct 2000 Logistics Management Institute (LMI) report to OSW: http://www.epa.gov/epaoswer/hazwaste/gener/manifest/pdf/cba-rprt.pdf

Average Cost Per Manifest*

(current baseline w/out national e-manifest system; based on prior slide)

	Alternative Annual Manifest Assumptions	
Alternative	2.433 million/year	5.090 million/year
IT Legacy Costs	Lower-Bound	Upper-Bound
If 0% legacy IT	$79/manifest	$79/manifest
If 5% to 50% mix	$101	$81
If 75% legacy IT	$175 to $238	$116 to $151

Estimate of Current Baseline "As-Is"
Information Technology System Costs
Allocated for RCRA Hazardous Waste Manifest Applications

A	B	C	D (B x C)	E (75% x C)	F (B x E)
Facility type	Count of facilities with IT systems*	IT system average capital cost per facility*	Total IT capital cost ($millions)	75% fraction* of IT capital cost per facility allocated to manifest applications	Fraction of total IT capital cost allocated for manifest applications ($millions)
1. LQGs	18,290 x 100% = 18,290	$100,000	$1,829.0	$75,000	$1,371.8
2. SQGs	71,536 x 25% = 17,884	$50,000	$894.2	$37,500	$670.65
3. Large TSDFs	101 x 1% = 1	$1,000,000	$1.0	$750,000	$0.75
4. Medium TSDFs	506 x 4% = 20	$100,000	$2.0	$75,000	$1.5
5. Small TSDFs	1,417 x 8.5% = 121	$50,000	$6.05	$37,500	$4.54
6. Transporters	500** x 0% = 0	$0	$0	$0	$0
7. State govt's	56 x 43% = 24	$550,000	$13.2	$412,500	$9.9
Column totals =	36,340 (39% of 92,320)		$2,745		$2,059
				Estimate of annual O&M cost @10% of capital cost (LMI, Table 3-8, page 3-6) =	$205.9
				Estimate of annual O&M cost @17% of capital cost (LMI supporting spreadsheets) =	$352.5

Explanatory Notes:

(a) * Source of assumptions; Logistics Management Institute (LMI), "Hazardous Waste Manifest Cost Benefit Analysis", prepared for the USEPA Office of Solid Waste (OSW), Oct 2000, Tables A-31 and A-32 (page A-15); (http://www.epa.gov/epaoswer/hazwaste/gener/manifest/pdf/cba-rprt.pdf).

(b) ** The 2000 LMI report applies a 500 hazardous waste transporter universe borrowed from OSW's Supporting Statement for Information Collection Request 801.#, 19 July 2000, footnote 17, (http://www.epa.gov/epaoswer/hazwaste/gener/manifest/pdf/icr.pdf) which was based on a professional judgement source; in comparison, the US Dept of Commerce Census Bureau's 1997 Economic Census provides a count of 414 hazardous waste transporters ("collectors") in NAICS code 562112, with $1.096 billion in annual revenues and about 8,500 employees (http://www.census.gov/epcd/www/97EC56.HTM).

Summary of Five IT Options for the RCRA E-Manifest System

- **#1**: "Electronic Automation" option from OSW's May 2001 proposed rule:
  TSDFs would forward the appropriate data directly to the states. The states would then be responsible for having an infrastructure in place to handle electronic data submission. The state would be responsible for providing an architecture to support electronic reporting, including an EMI or XML translator. The states also would need the ability to upload files in a predefined format into their database. EPA's role limited to issuing standards for files, data transmissions, electronic signatures, and computer security, with broad latitude for IT hardware and software solutions. This became "Option A" in OSW's 2002 follow-on study.
- **#2**: "Model 2" option from OSW's pre-proposal Oct 2000 benefit-cost analysis:
  TSDFs would forward the appropriate data to the state via the EPA's Central Data Exchange (CDX). Use of the CDX would eliminate the state's responsibility to build an infrastructure capable of receiving EDI or XML and place the burden on the EPA. The state's responsibility would be limited to having the ability to upload a file in a predefined format into the state database. The CDX would have a state-specific file format so that states would be able to properly upload the manifest data. Electronic signatures occur via software-based PKI, hardware-based PKI, or software/digitizer pads. This became "Option B" in OSW's 2002 follow-on study.
- **#3**: "Option C" from OSW's post-proposal 2002 benefit-cost analysis:
  Implementation with CDX hosting of signing of e-manifests (CDX signing bulletin board).
- **#4**: "Option D" form OSW's post-proposal 2002 benefit-cost analysis:
  CDX implementation of entire e-manifest process (all routing, signatures, transactions).
- **#5**: "Shared Services" approach (presented in OSW's May 2004 public meeting):
  Layered version of #4 (Option D) involving "core" and "peripheral" shared services.

Summary of IT Cost Estimates for Four Alternative E-Manifest Approaches: Initial IT Investment

Summary of Estimated IT Investment Costs for Four Alternative RCRA E-Manifest Approaches (IT Systems)

Item	E-Manifest User Grou	Count of entities investing in e-manifest system (if 100%)	IT Investment Cost (Initial Year)* Option #1 Decentralized	Option #2 CDX host	Option #3 CDX host	Option #4 CDX host	Opt.#4 %
1	LQGs	3,429	$51,441,000	$51,441,000	$38,580,000	$38,580,000	55%
2	SQGs	0	$0	$0	$0	$0	0%
3	Large TSDFs	2	$1,347,000	$1,327,000	$1,842,000	$1,716,000	2%
4	Medium TSDFs	15	$3,715,000	$3,565,000	$4,315,000	$4,570,000	7%
5	Small TSDFs	91	$12,948,000	$12,494,000	$16,578,000	$15,398,000	22%
6	State govt's	28	$3,126,000	$2,338,000	$2,338,000	$2,338,000	3%
7	EPA	1	$0	$2,002,000	$4,002,000	$7,002,000	10%
	Column totals =	3,566	$72,577,000	$73,167,000	$67,655,000	$69,604,000	100%

Explanatory Notes:

(a) * Source: Logistics Management Institute (LMI), "Hazardous Waste Manifest Cost Benefit Analysis Result (supporting spreadsheets), prepared for USEPA Office of Solid Waste, Sept 2002.

LMI defined IT investment costs to include: (1) web-hosting software, (2) SQL database software, (3) infrastructure improvements, (4) XML charges, (5) servers for web application & SQL database, (6) XSLT transformation for state EPA, (7) firewall software, (8) intrusion detection software, and (9) loader software for flat files (state gov'ts).

(b) The EPA costs highlighted above applied in another table for purpose of illustrating potential core user fees

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E-Manifest Funding Mechanisms

Alternative Funding Mechanisms/Sources: Introduction

- There are many different types of financial mechanisms for funding environmental projects and programs. The USEPA has identified over 340 different methods for financing environmental systems in its 1999 Guidebook of Financial Tools (http://www.epa.gov/efinpage/guidbkpdf.htm)

- EPA's Environmental Finance Information Network also contains examples of funding alternatives (http://www.epa.gov/efinpage/efin.htm)

- For example, some possible mechanisms for funding in part or in whole, the initial up-front investment and recurring annual operation of a national e-manifest system, may involve one or more of the following options:

Federal E-Government Fund

- President Bush signed the E-Government Act of 2002 (Public Law 107-347) into law in Dec 2002, to promote the use of IT and the internet:
  - To deliver Federal government services and programs electronically to citizens, businesses, and other government agencies, and
  - To improve the effectiveness, efficiency, and quality of government services.
- The E-Gov Act assigned OMB the role of overseeing and controlling the implementation of IT throughout the Federal government, and assigned GSA the management of an "E-Gov Fund" to support Federal IT projects approved by OMB. Projects qualifying for E-Gov funds must meet set objectives and criteria.
- In its first year (FY2002) the E-Gov Fund approved $4.89 million for 10 IT projects ($489k average, ranging $100k to $2,000k), and approved $5.0 million for 8 IT projects ($625k average, ranging $200k to $1,600k) for FY2003. For additional information about the E-Gov Fund see http://www.whitehouse.gov/omb/egov and http://www.gsa.gov
- In 2004, the General Services Administration (GSA) projects a $75 million surplus in the GSA's General Supply Fund for FY2005, of which GSA has requested Congress to transfer $40 million to the Electronic Government Fund for funding Federal e-government initiatives (http://www.govexec.com/dailyfed/0204/020304d1.htm).

Alternative Funding Mechanisms/Sources: Share-in-Savings

- The 2002 E-Government Act (Public Law 107-347, Section 210) authorizes federal agencies to acquire and implement IT systems through "share-in-savings" (SiS) contracts. The premise behind SiS is that contractors are paid from the savings generated by the projects they're hired to complete such as:
  - monetary savings to an agency, or
  - savings in time or other quantifiable benefits realized by the agency, including enhanced revenues.
- Under SiS contracts, a federal agency could avoid paying large, up-front costs for a new IT system or service designed to improve an agency's mission-related or administrative processes.
- On 01 October 2003, the General Services Administration (GSA) published an "Advance Notice of Proposed Rulemaking" to solicit public comments for consideration in drafting implementing FAR regulations, and amending FAR Part 39 to establish a new subpart on SiS contracting for federal IT projects (Federal Register, Vol. 68, Nr. 190, pp. 56613-56616). More information about SiS contracting is available from GSA at http://www.gsa.gov/shareinsavings

Alternative Funding Mechanisms/Sources: User Fees

The US Senate defines government "user fees" as fees charged to users of goods or services provided by the Federal Government (http://www.senate.gov/reference/glossary_term/user_fees.htm). In levying or authorizing these fees, Congress determines whether the revenue should go into the US Treasury or should be available to the Federal agency providing the goods or services. The Office of Management and Budget (OMB) defines user fees as a general term referring to fees charged to users directly availing themselves of, or subject to, a government service, program, or activity, in order to cover the government's costs. OMB's October revisions to OMB Circular A-11 for the FY1999 budget expanded and clarified the term user fee. The revised definition excludes fees deposited in the general fund of the Treasury. According to a 1998 General Accounting Office (GAO) report (http://www.gao.gov/archive/1998/gg98161.pdf), Federal user fees at 27 agencies such as agricultural commodity grading fees, trademark registration fees, and park entrance fees provided the US government with $217 billion in revenues in FY1997, which represented 13% of all Federal revenues collected in FY1997, and was more than twice the amount collected from excise taxes, estate and gift taxes, and customs duties combined. User fee collections have grown steadily since the early 1980s and have played several roles in the Federal budget. They have financed new spending by replacing or supplementing agency appropriations capped by deficit reduction agreements. They also have fostered more business-like practices in the government by making some agencies wholly reliant on fees to finance their operations. In other cases, user fees have provided revenues for deficit reduction. Although federal agencies often collect user fees for similar purposes, not all user fees are treated alike in the federal budget. Some user charges must be deposited in the general fund of the US Treasury, while others are required by law to provide funding for specific purposes. Yet, even when fees are dedicated to the agency or activities that generated the fee, there are differences in when and how the fees are made available to the agency and in how much flexibility agencies have in using the fee revenue. The Chief Financial Officers Act (CFOA) of 1990 and OMB Circular A-25 (http://www.whitehouse.gov/omb/circulars/a025/a025.html) are designed in part to help ensure that Federal user fees are periodically reviewed and updated, where appropriate, to reflect changes in cost or in market value. User fees may be based on the:

- recovery of costs of providing the service
- market value of goods and services provided, or
- may be set by legislation..

As of 1997, the 24 Federal agencies subject to the CFOA reported 546 user fees, of which 418 were reviewed either annually or biennially (http://www.gao.gov/archive/1998/gg98161.pdf). These agencies provided various reasons for not reviewing fees, including insufficient cost data and because some of the fees set by legislation could not be changed without new legislation. The following table provides an agency-by-agency overview of Federal user fees as of 1996 (source: page 7 of 1998 GAO report cited above):

Table 1: CFO Agencies' Reported User Fees, Fiscal Year 1996

Agency	Number of user fees	Basis of fees		
		Cost recovery	Market value	Legislatively set (not full cost recovery or market value)[a]
Department of Agriculture	59	39	7	13
Department of Commerce	66	66	0	0
Department of Defense	35	25	5	5
Department of Education	4	3	0	1
Department of Energy	12	6	3	3
Department of Health and Human Services	20	16	0	4
Department of Housing & Urban Development	1	0	0	1
Department of the Interior	88	30	14	44
Department of Justice	12	9	0	3
Department of Labor	7	4	0	3
Department of State	7	5	0	2
Department of Transportation	150	148	1	1
Department of the Treasury	31	17	0	14
Department of Veterans Affairs	14	4	4	6
U.S. Agency for International Development	3	2	0	1
Environmental Protection Agency	5	2	0	3
Federal Emergency Management Agency	1	1	0	0
General Services Administration	3	1	0	2
National Aeronautics and Space Administration	6	4	0	2
National Science Foundation	1	0	0	1
Nuclear Regulatory Commission	9	8	1	0
Office of Personnel Management	1	0	0	1
Small Business Administration	3	2	0	1
Social Security Administration	8	5	0	3
Total	**546[b]**	**397**	**35**	**114**

Other Fee Mechanisms (State Governments)

Transporter Fee: This category of fees are usually charged to a company or individual, most notably for hauling and transporting solid or hazardous wastes, septage, petroleum products, and radioactive waste. Fees can be charged on volume of waste transferred, or as a flat charge per hauler (e.g. manifest fee). As of 2002, hazardous materials transporter fees are assessed in 40 states, involving 58 fee schemes, and generating $20 million dollars per year in state government revenues (http://www.hmac.org/FeeSurvey2002.pdf). These annual transporter fees could possibly be adjusted to finance the state government operating costs for a national e-manifest system. For purpose of simple illustration, relative to the 6.8 million tons of RCRA hazardous waste reported shipped offsite in 2001 (see Exhibit 3.1 at http://www.epa.gov/epaoswer/hazwaste/data/brs01/national.pdf), a $0.50/ton fee targeted at this 17% fraction of the 40.8 million tons of non-wastewater hazardous waste generated annually would raise $3.4 million/year in revenues nationwide. Alternatively, relative to the estimated 2.2 to 5.0 million hazardous waste manifests per year, a $0.50/manifest fee would raise $1.1 to $2.5 million/year nationwide.

Special Industry Fee: This type of state government fee is applied most notably to the hazardous waste industry, and is intended to capture revenues from the potential negative impacts of that industry. For example, special industry fees for hazardous waste may be assessed against waste generators, storers, treaters, or disposal facilities, as "waste-end charges". Fees may be flat charges on the volume of waste produced, stored or disposed, or be based on the waste or disposal method (or per manifest). The number of methods used by states reflects the complexity of measuring hazardous waste, and differences in their accounting and tracking systems. For hazardous waste, waste-end charges are similar to effluent and emission charges for water and air dischargers. Numerous States use these taxes to finance hazardous waste programs, including CT, IN, MN, NJ and WA. For purpose of simple illustration, relative to the 6.8 million tons of RCRA hazardous waste quantity reported shipped offsite in 2001 (see Exhibit 3.1 at http://www.epa.gov/epaoswer/hazwaste/data/brs01/national.pdf), a $0.50/ton fee placed on this 17% fraction of the 40.8 million tons non-wastewater hazardous waste generated would raise $3.4 million/year in revenues nationwide. Alternatively, relative to the estimated 2.2 to 5.0 million hazardous waste manifests per year, a $0.50/manifest fee would raise over $1.1 to $2.5 million/year nationwide.

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New Line-Item Congressional Appropriation to USEPA's Budget

- The Subcommittee on Environment & Hazardous Materials of the House of Representatives Energy & Commerce Committee (http://energycommerce.house.gov), and the Subcommittee on Superfund & Waste Management of the US Senate Environment & Public Works Committee (http://epw.senate.gov), have budget authorization/appropriation oversight of USEPA's RCRA hazardous waste program, and of the Office of Solid Waste's annual budget.
- The Congressional budgeting process is described at http://www.senate.gov/~budget/republican/major_documents/budgetprocess.pdf, and USEPA's budgeting process is described at: http://www.epa.gov/ocfo/budget/budget.htm.
- With advance internal USEPA budget planning, allocation of future USEPA appropriations and budgets to an e-manifest system could possibly be made via:
  - USEPA's Working Capital Fund (http://www.epa.gov/ocfo/wcf/wcf.htm)
  - USEPA's Environmental Finance Program (http://www.epa.gov/efinpage/efp.htm)
  - OSWER's Innovations Workgroup (http://www.epa.gov/oswer/iwg/about.htm)
  - OSW's operating budget for extramural contracting (FY2004 = $8 million)

USEPA Grants

- A grant is a sum of money awarded to an eligible entity without a demand for repayment. Typically, grants are awarded by the federal government to state or local governments, or by states to local governments, for the purpose of financing a particular activity or facility. In recent years EPA's $4 billion annual grants program constitutes over one-half of its annual agency budget. USEPA uses grants to implement its programs, and awards grants to over 4,000 recipients, including state governments (73% of grants), local and tribal governments (17%), nonprofit organizations (6%), and universities (4%). There are two types of EPA grants:
  - $3.5 billion (83%) in annual nondiscretionary grants (aka state revolving funds) which Congress directs and awards for major environmental infrastructure programs (e.g. drinking water, Superfund) and are awarded on the basis of formulas prescribed by Congress or USEPA regulation, and
  - Over $700 million (17%) in annual discretionary grants which USEPA has the discretion to independently determine the recipients and funding levels for these grants.
- OSW could target a portion of its annual discretionary grants to states and nonprofit organizations to implement an e-manifest system, for up-front investment and/or annually recurring O&M costs. OSW currently administers the "Hazardous Waste Management State Program Support" grant. For additional info about USEPA grants see: http://www.epa.gov/epahome/grants.htm; for additional info about all 15 types of Federal grant mechanisms see the Catalog of Federal Domestic Assistance at: http://12.46.245.173/pls/portal30/CATALOG.TYP_ASSISTANCE_DYN.show

Private Sector Grants

- Foundation and corporate giving are an important source of funding for activities in education, health and human services, civic and community affairs, and culture and the arts. They are also a significant and growing source of funding for environmental projects. Most such funding is in the form of grants for well-defined projects (i.e., time, cost, and deliverables) that meet the immediate priorities of the funding source, and are not funded by governments.
  - More than 7,500 major foundations in the United States with assets totaling about $170 billion make annual donations exceeding $10 billion.
  - Corporations alone support 2,300 philanthropic programs in the form of foundations or as direct-giving programs.
  - In 1995, 703 foundations made environmental gifts totaling more than $425 million.
- Foundation and corporate giving could fund innovative environmental projects in many areas, and total support could reach more than $1 billion dollars annually. Grants typically go for research, education, and demonstration projects, but also could be used to fund projects involving planning, monitoring, and technology. These grants are not directly dependent on tax dollars and grant conditions may be less burdensome. Innovation is encouraged and equity provided since grantees are not supported by governments. Grantees are forced to leverage other resources or become self-sustaining. Funding levels may be highly variable, competition for resources is very intense and awards are usually directed to innovative projects. Since funding is typically for very short, defined periods of time, this funding only covers, in part or in whole, initial (up-front) investment costs.

Partnerships With Private Sector

- A contractual public-private partnership (P3), commits the public sector and a private sector company to providing an environmental service, which is undertaken by the private sector for business (profit-making) purposes. The private party can be involved in a variety of ways from designing the service, to its financing, construction, operations, maintenance, management, and/or joint-ownership. Although each public-private partnership is unique, most fall into one of five general categories:
  - contract services
  - turn-key
  - developer financing
  - Privatization
  - merchant facility
- There are different responsibilities and benefits associated with each type. To encourage and facilitate private investment and involvement in local infrastructure, including Federal grant funded facilities, Executive Order 12803 was issued on May 4, 1992 directing Federal agencies to:
  - assist local privatization initiatives
  - remove Federal regulatory impediments to private sector involvement
  - relax Federal repayment requirements, thus increasing state and local governments proceeds from privatization arrangements, and
  - protect the public interest by ensuring that privatized assets continue to be used for original purposes and that user charges remain consistent with current Federal conditions.
- Depending on the specific arrangement, a public-private partnership may be able to capitalize on a number of private sector resources. If private financing is used, burden on public debt capacity may be reduced. If private operations, maintenance, and/or management is used, efficiency savings are generally realized. Private partnerships can transfer part or all of the responsibility for financial risk and environmental compliance from the public to the private company (risk-sharing).

Developer Financing (Direct Source Financing)

Another type of private sector partnership involves purchase of equipment (e.g. needed for environmental protection) using "direct source financing" in which the public sector receives equipment financing directly from the private sector vendor. This approach tends to streamline the borrowing process, simplify documentation & minimize intermediary involvement.

- Some companies may provide public finance services which work with tax-exempt borrowers to design financing programs to meet specific equipment needs at tax-exempt interest rates with flexible payment terms.
- Generally, reserve funds are not required and prepayment options are available throughout the term of the loan, rather than only on set call dates. In contrast, public bond offerings generally involve a more time consuming documentation process as well as the obligation to provide both continual notices of material events regarding the securities and annual financial information.
- Because it eliminates underwriter & rating agency fees, printing costs, and time-consuming documentation and disclosure processes, direct source financing can reduce front-end and total costs for projects.

Selective Sales Tax (State Gov’ts)

Selective sales taxes are taxes on the sale or generation of particular commodities, services, or materials. Selective sales taxes include all other sales and use taxes that are not applied to the general public as a whole. These taxes are sometimes termed excise taxes.

- For example, many states assess "hard-to-dispose" taxes on items that contribute heavily to solid waste disposal problems, such as new or used tires and lead acid batteries, paint and solvent containers, and used oil.
- They can be assessed at a flat rate per item, or as a percentage of the value of the item.
- When collected at the time of product/material disposal (i.e. point of waste generation), they are like solid waste disposal fees.
- These taxes now are used extensively by states and, for some items, as part of local government funding for recycling and waste disposal programs.
- The selective tax base could be broadened by imposing charges on any items contributing to landfill or waste disposal, such as hazardous wastes destined to disposal.
- Selective taxes also could be imposed on surrogates for waste disposal, such as plastic garbage bags, garbage and trash cans, recycling bins, and waste shipment manifests.
- One advantage of hard-to-dispose taxes are easily understood by the public and may provide a direct cost/benefit link when proceeds are targeted for cost-recovery of state waste programs, such as an e-manifest system.

3

User Fee Example for RCRA E-Manifest

Simplified Estimate of Core Services User Fee ($/manifest)

Estimate of User Fees for Core Services (EPA Office of Solid Waste) **For "Shared Services" IT System Approach for RCRA E-Manifest** **Recovery of Initial Front-End IT Investment Cost & Annual IT O&M Costs**			
Item		Lower-bound	Upper-bound
1	Annual hazardous waste manifest volume (transactions)* =	1,824,750	3,817,500
2	Central IT server front-end investment cost** =	$2,002,000	$7,002,000
3	Annually-amortized front-end cost*** =	$456,000	$1,596,000
4	Annual O&M cost** =	$1,600,000	$3,150,000
5 (3+4)	Total annualized costs to be funded (investment + O&M) =	$2,056,000	$4,746,000
6 (5/1)****	Implied user fee ($/manifest) =	**$0.54**	**$2.60**
Explanatory Notes:			
(a) * Proportion of annual manifest volume handled by the shared services IT system =			75%
This proportion illustrates a relatively high participation rate representing a small count of large TSD			
(b) ** IT investment cost source: LMI, Sept 2002, Options B & D for CDX-hosted approach, respectively.			
(c) *** Type of annuity: "Annuity due" (i.e. payment due at beginning of each year).			
	Amortization period (years) =		5
	Investment financing annual rate =		7%
(d) **** For computing user fee range, LB annual cost divided by UB manifest volumes, and vice versa.			

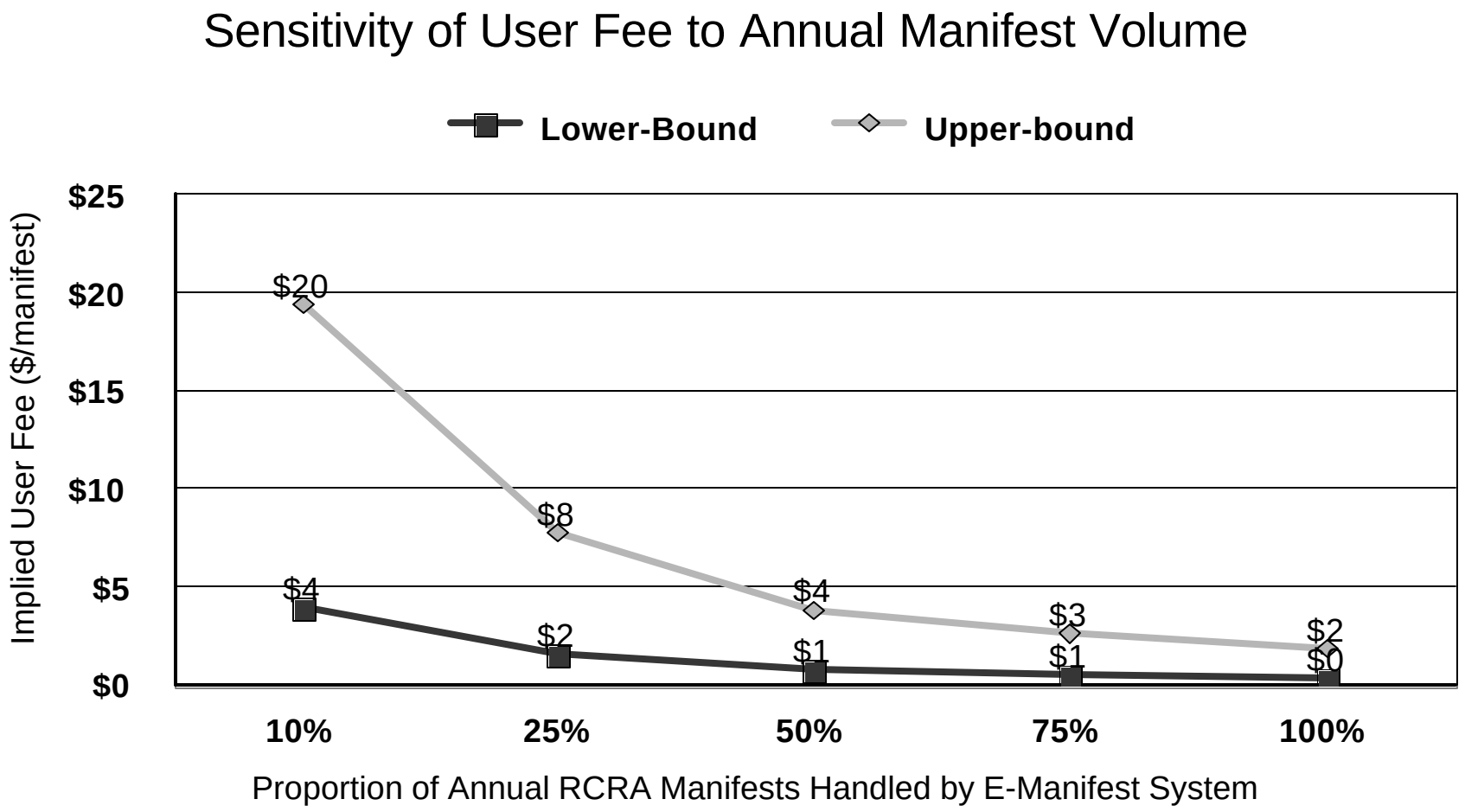
User Participation Rate Phase-In

- When USEPA's "Toxics Release Inventory" (TRI) migrated from a paper-based to an electronic online system in 2002, only 10% of the 20,000 companies user universe (customer base), began using the electronic version in the first year.

- Given the fact that most of the companies reporting each year to the TRI are also users of RCRA hazardous waste manifests, this 10% initial user group may be a reasonable assumption to apply to the initial start-up of a national RCRA e-manifest system.

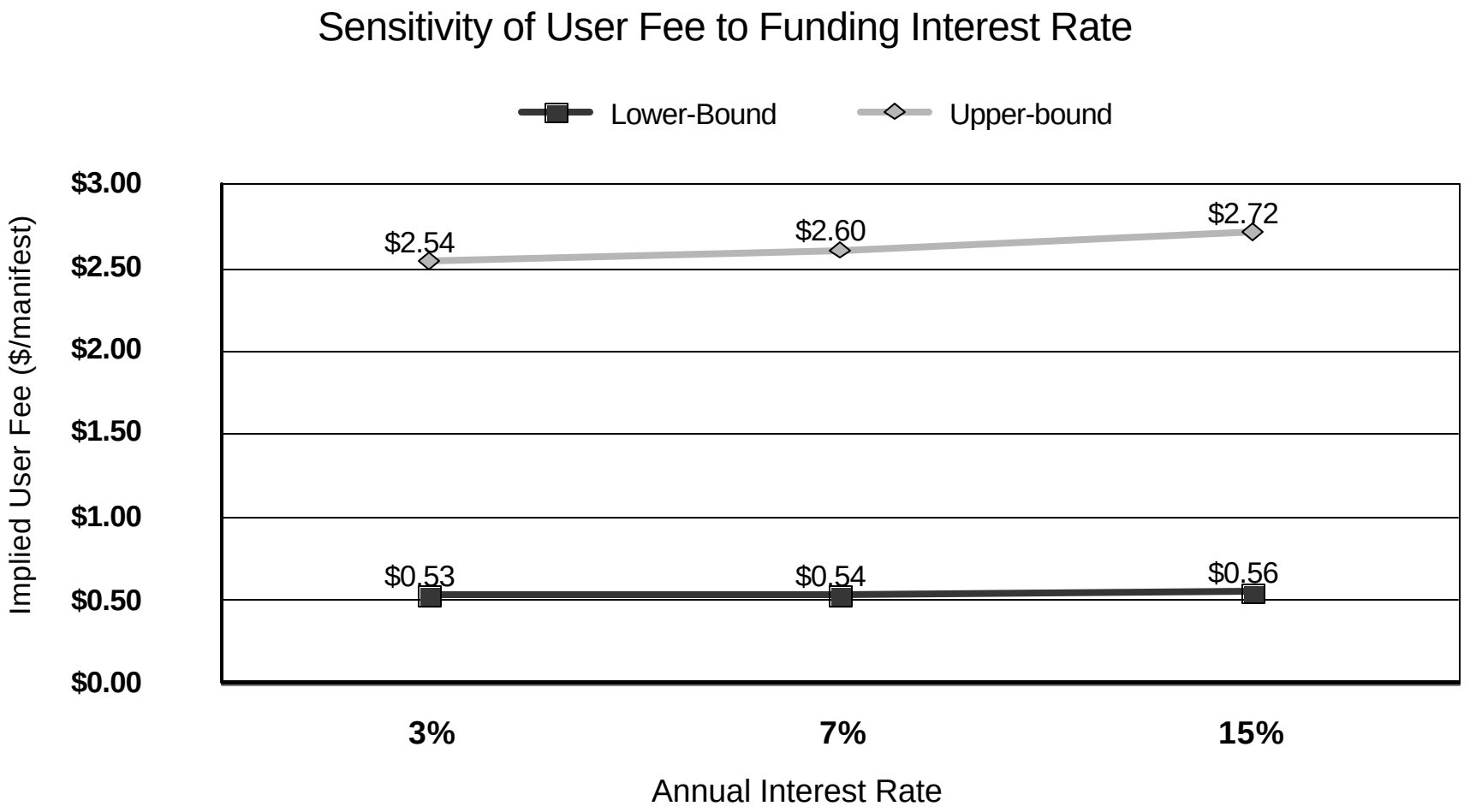
Source: http://www.gcn.com/vol1_no1/daily-updates/22475-1.html

Core User Fee Dependent Upon Three Major Factors: #1 of 3: proportion of annual manifests handled



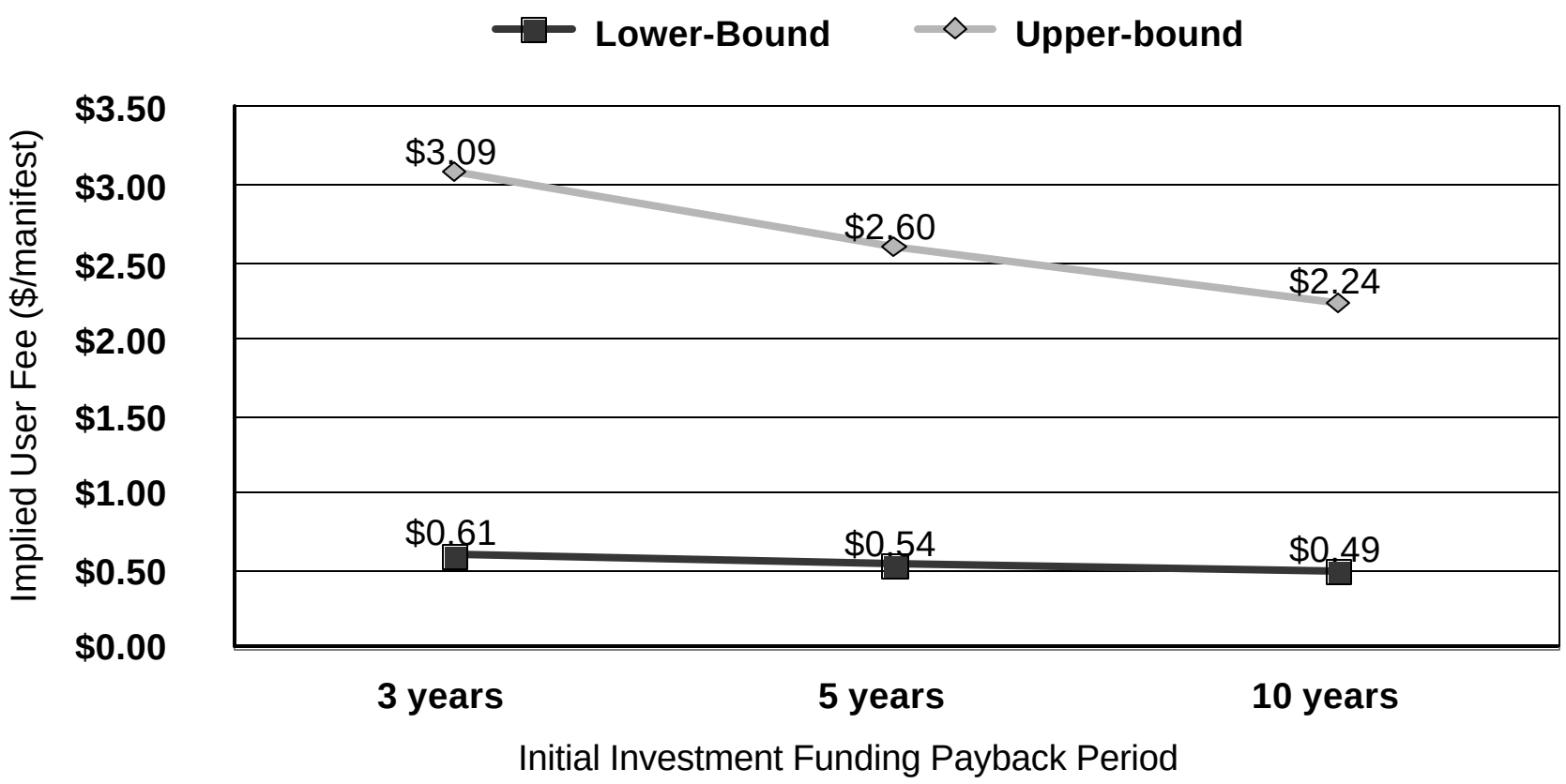
Above curves calculated at 7% annual interest rate and 5-year payback period.

Core User Fee Dependent Upon Three Major Factors: #2 of 3: investment finance interest rate



Above curves calculated at 5-year payback period and 75% manifest volume.

Core User Fee Dependent Upon Three Major Factors: #3 of 3: initial investment payback period (years)



Above curves calculated at 7% annual interest rate and 75% manifest volume.

4

E-Manifest IT “Business Case”

Requirements for Federal IT Investment in E-Government Projects: Office of Management & Budget (OMB) Requirements for "Business Case"

OMB Circular A-11 (June 2002, Sections 53 & 300) requires federal agencies to develop and submit a "business case" (BC) for major (>$500,000 initial cost) IT projects (http://www.whitehouse.gov/omb/circulars/index.html), which OMB scores according to the following ten criteria (1 to 5 points each):

1. AI: IT project support's the President's Management Agenda (i.e. collaborative project that includes multiple agencies, state/local governments, uses e-business technologies, & governed by citizen needs).
2. AS: Strong IT acquisition strategy that mitigates risk to the Federal government.
3. PM: Strong IT program management with resources in place.
4. EA: IT project is included in the Agency's "enterprise architecture" (EA) and "capital planning & investment control" process, and the BC demonstrates business, data, application, & technology layers of the EA in relation to the project.
5. AA: Comparison of **three viable IT alternatives**.
6. RM: IT risk assessment addresses all mandatory elements & risk management plan.
7. PG: IT project performance goals/measures are provided & linked to Agency's annual performance plan.
8. SE: Security & privacy issues addressed with details thru life-cycle & budget.
9. PB: Agency will use an "Earned Value Management System" to meet costs, schedule & performance-based goals.
10. LC: Life-cycle costs formulated & reflect all required resources & risk-adjusted.

Additional OMB Requirements for Federal IT Projects

- Framework: In addition to the list of Congressional statutes, White House Executive Orders, and OMB Guidances on Federal IT project investments I emailed last week (27 Feb), two new OMB reports on Federal IT projects (see weblinks at http://www.govexec.com/dailyfed/0304/031004d1.htm) also provide an framework consisting of a list of Federal Government IT investment requirements, constraints, objectives, and evaluative criteria, within which the e-manifest project will be evaluated/approved by OMB and/or Congress.

- Major principles: E-Manifest solution must conform to Federal IT and E-Gov Investment Guidelines for OMB approval such as:
  - Focus information technology funding on modernization efforts
  - Keep major IT projects within 10 percent of their cost and scheduling projections
  - Certify IT systems
  - Produce tangible returns on e-government initiatives
  - Reduce redundant IT spending

IT Business Case (continued): Additional OMB A-11 Guidelines on Funding Mechanism

- Year-to-Year Funding: According to OMB's Circular A-11 (June 2002, Section 300.11) which provides policy and evaluative guidelines for implementing new federal IT projects, OMB may be biased against approving and funding IT projects which have "lumpiness or spikes" in their planned budget (i.e. large, one-time increases in year--to-year funding).

- Capital Asset Account Structure: OMB's Circular A-11 (June 2002, Section 300.11) identifies three alternative types of IT financing account structures, and advises federal agencies to design account structures to ensure there is no bias against the acquisition of capital assets (i.e. up-front investment):
  - Mixed accounts: Have spending for both annual operating costs & up-front capital asset acquisition in the same account, allowing for competition between the two cost categories, which may result in "crowding-out"
  - Asset acquisition accounts: Are devoted exclusively to the up-front acquisition of capital assets (i.e. front-end costs), and do not include annual operating costs.
  - Revolving funds: May avoid financial lumpiness by "renting" asset purchases to other accounts, so that the accounts and programs using the assets have a roughly steady year-to-year payment structure.

Other Federal IT Project Requirements

- IT system privacy (26 Sept 2003): OMB Guidance for Implementing the Privacy Provisions of the E-Government Act of 2002, http://www.whitehouse.gov/omb/memoranda/print/m03-22.html
- IT system electronic signatures:
  - 30 June 2000, Electronic Signatures in Global & National Commerce Act, http://www.ainsight.com/educational/electronic_signature_act.pdf
  - 28 Nov 2000, Appendix II of OMB Circular A-130: Implementation of the Government Paperwork Elimination Act (GPEA), http://www.whitehouse.gov/omb/circulars/a130/a130appendix_ii.html
  - 25 Sept 2000, OMB Guidance on Implementing the Electronic Signatures in Global and National Commerce Act, http://www.whitehouse.gov/omb/memoranda/m00-15.html
- IT system management:
  - 10 Feb 1996, "Division E" of the Clinger-Cohen Act of 1996 (aka Information Technology Management Reform Act of 1996) http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=104_cong_public_laws&docid=f:publ106.104.pdf
  - 28 Nov 2000, OMB Circular A-130: Management of Federal Information Resources, http://www.whitehouse.gov/omb/circulars/a130/a130trans4.pdf
- IT system funding (13 May 2003): OMB Procedures for Requesting Funds from the E-Government Fund, http://www.whitehouse.gov/omb/egov/egov_fund_procedures.pdf
- IT system Government-wide interoperability supported by diverse private sector companies (16 July 1996): White House Executive Order 13011: Federal Information Technology (as amended), http://www.archives.gov/federal_register/executive_orders/1996.html
- IT system customer orientation (02 May 2000): OMB Guidance for Implementation of the Government Paperwork Elimination Act (GPEA), http://www.whitehouse.gov/omb/fedreg/gpea2.html
- IT system benefit-cost assessment (ibid)
- IT system reliability quantitative risk assessment (ibid)
- IT system information security:
  - 28 Nov 2000: Appendix III to OMB Circular A-130: Security of Federal Automated Information Resources, http://www.whitehouse.gov/omb/circulars/a130/a130appendix_iii.html
  - Dec 2003: National Institute of Standards & Technology: Standards for Security of Federal IT Systems, http://csrc.nist.gov/publications/fips/fips199/FIPS-PUB-199-final.pdf http://www.nist.gov/public_affairs/releases/fips199.htm
  - 2002, Federal Information Security Management Act of 2002, http://www.fedcirc.gov/library/legislation/FISMA.html
  - 28 Feb 2000, OMB Principles for Incorporating & Funding Security in IT Systems Investments, http://www.whitehouse.gov/omb/memoranda/m00-07.html
- Federal E-Government Strategy:
  - 27 Feb 2002: OMB Guidance for Implementing the President's Management Agenda for E-Government: E-Government Strategy, http://www.whitehouse.gov/omb/inforeg/egovstrategy.pdf
  - 01 Aug 2003: OMB Implementation Guidance for the E-Government Act of 2002, http://www.whitehouse.gov/omb/memoranda/m03-18.pdf

Resources to Help Identify All Potential Benefits to a RCRA Hazardous Waste E-Manifest System

- Prior USDOT studies have identified a suite of economic benefits from improvements to freight transportation systems (e.g. the first weblink below addresses benefits from converting from a paper shipping manifest to an electronic system). Perhaps OSW's additional work on quantifying benefits/costs for preparing a business case for the RCRA e-manifest system, may borrow benefit categories and benefit computation/estimation methods from these and other prior transportation-related economic studies:
  - http://www.benefitcost.its.dot.gov/ITS/benecost.nsf/ID/D2A809904B11141285256CB700636734
  - http://www.ops.fhwa.dot.gov/freight/econben/index.htm

- The weblinks below present a needs/benefits assessment for improving international hazardous waste tracking & security; which will help fortify the benefits of an enhanced RCRA e-manifest system functionality to provide interface with international (e.g. Canada, Mexico) waste tracking systems:
  - http://www.cec.org/files/pdf/LAWPOLICY/HazW-Ang.pdf
  - http://www.epa.gov/compliance/resources/briefings/monitoring/importexport/hazardtranscript.pdf

Additional Resources & Examples for Building an E-Manifest IT Business Case

- Building a Business Case for E-Government Portals

  http://www.vignette.com/Downloads/fed/FedValuePaper_pg1.pdf

- Getting the Most Out of Your Data: How Software Automation Can Increase the Efficiency of Hazardous Material Business Processes

  http://eponline.com/Stevens/EPPub.nsf/frame?open&redirect=http://eponline.com/stevens/eppub.nsf/d3d5b4f938b22b6e8625670c006dbc58/86c3876e02d63a1c86256e3c006c25dc?OpenDocument