

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb is filled with a dark blue color, and the bottom bulb is filled with a light blue color. The globe is centered in the narrow neck of the hourglass.

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*The U.S. Postal Service Response to the Threat of  
Bioterrorism Through the Mail*

Frank Gottron, Resources, Science and Industry Division

Updated June 5, 2002

**Abstract.** The mailing of anthrax spores has caused five deaths, twenty-two cases of anthrax, and massive disruptions to Congress and the USPS. Both the public and private sector are examining an array of methods to limit the risk of future attacks. The array of potential solutions include improving mail handling procedures, changing the USPS anonymous mailing policy, installing bio/chem. Agent detectors, and sterilizing the mail. Policymakers will need to decide if the USPS must ensure the safety of mail recipients. Policymakers will need to balance concerns for safety, cost, and practicality while deciding how to alter the practices of the USPS.

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# Report for Congress

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## **The U.S. Postal Service Response to the Threat of Bioterrorism Through the Mail**

**Updated June 5, 2002**

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<http://wikileaks.org/wiki/CRS-RL31280>

# The U.S. Postal Service Response to the Threat of Bioterrorism Through the Mail

## Summary

The deliberate mailing of *Bacillus anthracis* spores through the U.S. Postal Service (USPS) has caused five deaths, twenty-two cases of anthrax, and massive disruptions to Congress and the USPS.

Both the public and private sector are examining an array of methods to limit the risk of future attacks. The array of potential solutions include improving mail handling procedures, changing the USPS anonymous mailing policy, installing bio/chem agent detectors, and sterilizing the mail.

For the USPS these decisions are complicated by its precarious financial state. Some proposed solutions may require an increase in postage rates and/or decreased levels of service. Each of these may further depress postal revenues and threaten the continued existence of the USPS as an independent, self-supporting entity.

Policymakers may wish to consider if the USPS must ensure the safety of mail recipients. At this point it is not clear if this is practical or even possible with existing technology. It may be that it is practical to protect only the mail addressed to the most likely targets of future attacks.

Some of the measures that the USPS has taken or is planning to take to protect postal workers and mail recipients are common sense alterations to the mail processing procedures. These include measures to reduce cross contamination such as using vacuuming instead of pressurized air to dislodge dust and adding filters to air handling systems. The USPS is studying the feasibility of including biological weapon detectors during the sorting process. Additionally, the USPS has made gloves, masks, and educational materials available to all postal workers.

More controversial and potentially more costly are plans to sterilize the mail. Currently, all mail destined for federal offices in the Washington DC metropolitan area is shipped to a sterilization facility for irradiation treatment before delivery. The USPS is studying whether this solution can be scaled up to sterilize all mail from anonymous senders. To implement irradiation procedures nationwide could cost up to \$2.25 billion with up to another billion dollars each year in operating costs. This procedure will cause delays and may damage the contents of some mail.

Also controversial and costly are plans to increase product tracking systems that will include video images of all retail transactions. The planned system will enable mail dropped off at post offices to be tracked through to delivery and linked to facial images of senders. Mail dropped off at anonymous collection sites will be traceable to the drop off point. Stamps and envelopes could also be encoded with purchase location information.

Policymakers face a difficult balance to strike between concerns for safety, cost, and practicality while deciding how to alter the practices of the USPS. This report will be updated as events warrant.

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# The U.S. Postal Service Response to the Threat of Bioterrorism Through the Mail

## Introduction

The use of the U.S. Postal Service (USPS) to deliver agents of bioterror has caused 22 confirmed cases of anthrax including five deaths as well massive disruptions to Congress and the USPS.<sup>1</sup> The contamination caused by processing and opening of the letters shuttered the Hart Senate Office Building for more than three months and indefinitely closed mail processing centers in Washington DC and Trenton, NJ.

These attacks have radically changed the way the nation views mail delivery and mail safety. Both the public and private sectors are evaluating a variety of methods to reduce the risk of similar future attacks. These potential solutions include changing mail handling procedures, changing the USPS anonymous mailing policy, installing bio/chem agent detectors and sterilizing the mail.

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<sup>1</sup>Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Report. *Update: Investigation of Bioterrorism-Related Anthrax --- Connecticut, 2001*. December 7, 2001. Vol 48. No. 48. p. 1077. [<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5048a1.htm>].

For the USPS these decisions are complicated by its serious financial difficulties.<sup>2</sup> The USPS projects costs of \$762 million in FY2002 for clean up costs, medical treatment for postal workers, measures to decrease the threat of future mailings, protect postal workers, recovery costs medical treatments, mail irradiation, and to begin evaluating systems to protect mail recipients. In the face of these increased costs, the USPS predicts the decrease in mail volume caused by the attacks will cost \$2 billion dollars in lost revenues this fiscal year. USPS feels that its survival depends on being able to ensure the health of postal workers and to restore the faith of the American people in the safety of the mail.

## Interest and Role of Congress

The efforts of the USPS to respond to the threat of bioterrorism has been the subject of hearings before the Senate Treasury and General Government Appropriations Subcommittee, Senate Committee on Governmental Affairs and the House Committee on Government Reform. At the request of Committee on Government Reform Chairman Dan Burton and Ranking Member Henry Waxman, the National Academy of Sciences and the General Accounting Office have convened meetings between USPS officials and outside experts to discuss appropriate technology and methodological changes to limit the threat of future attacks.

Postmaster General John Potter has stated that he views the need to reduce the threat of terrorism through the mail as an integral part of homeland defense and thus plans to request Congress to appropriate billions of dollars.<sup>3</sup> In addition to the \$175 million it received from the White House Emergency Response Fund, the USPS initially estimated that it would need an additional approximately \$1.1 billion in FY2002 to respond effectively to the bioterror threat and to replace or repair facilities damaged in the September 11, 2001 terrorist attacks. The 2002 Department of Defense Appropriations Act (PL 107-117) appropriated \$500 million to the USPS for these expenses. Because of ongoing concerns over plans to screen and sanitize mail, the Conferees required the USPS to submit an emergency preparedness plan to the Committees on Appropriations, the House Committee on Government Reform and the Senate Committee on Governmental Affairs before the money for these activities would be disbursed.

...As part of its emergency preparedness plan, the conferees expect the Postal Service to include an assessment of threats to the health and safety of employees and customers of the Postal Service and the integrity of the mail; testing and evaluating the options for detecting and/or addressing those threats, including both technology-based and process-based options; a comparison of the costs and benefits of options under consideration; an evaluation of the strengths and weaknesses of the technologies under consideration for mail sanitization, including an analysis of risks to human

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<sup>2</sup> For a thorough review of the USPS financial situation, see CRS Report RL31069, *Postal Service Financial Problems and Stakeholder Proposals*, by Nye Stevens. [<http://www.congress.gov/erp/rl/pdf/RL31069.pdf>].

<sup>3</sup> Testimony of Postmaster John Potter before the Senate Treasury and General Government Appropriations Subcommittee November 8, 2001.

health and safety and to mail products associated with each of those technologies; and a timetable for implementing the options selected....<sup>4</sup>

In response to this request, the USPS published its comprehensive emergency plan in March 2002<sup>5</sup>. This document discusses how the USPS has responded to the attacks and the programs it plans to pursue over the next five years to further reduce the chances of a successful bioterror attack.

In addition to the \$675 million it has already received from Congress, the USPS indicated that it may ask for an additional \$4.1 billion over the next five years to implement this plan. Because of its high cost, this plan is likely to fall under careful scrutiny. Policymakers may want to explore questions that define the role the USPS should play. Clearly the USPS must protect postal workers, but should the USPS also take responsibility for the safety of mail recipients? Is that possible? If it is possible, how much are ratepayers or taxpayers willing to pay? Does safe mean safe from all potential biological attacks or only anthrax? What about chemical agents? What kind of reductions in USPS service are acceptable to ensure safety? Will changes to level of service add to the precarious financial position of the USPS? What portion of the costs should Congress appropriate and how much of the costs should rate payers bear?

## Initial Response

Previous terrorist attacks via the mail, such as those of the Unabomber, generally targeted the recipient of the mail. However, because anthrax spores are smaller than the natural pores in envelopes, the spores can leak out during mail sorting, putting postal workers at risk. Additionally, spores can be transferred to other envelopes (a phenomenon called cross contamination), which puts at risk anyone whose mail was processed at the same facility as the anthrax tainted envelopes. Before these attacks, these risks were generally considered negligible by experts in biological warfare and the Centers for Disease Control and Prevention (CDC) because it was thought that the few spores that could be transferred this way would not be sufficient to cause disease. Because this assumption proved wrong, the initial response of the USPS has focused on ways to protect postal workers from exposure and how to protect a subset of high risk addressees.

Shortly after the discovery of the contaminated letters, both mail processing facilities which handled the letters were closed indefinitely. The approximately 8,500 postal workers deemed at even remote risk for exposure to anthrax were

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<sup>4</sup> U.S. Congress. House. *Making Appropriations for the Department of Defense for the fiscal year ending September 30, 2002 and for other purposes*. 107th Congress, 1st session. H. Rept. 107-350. Washington, U.S. Govt. Print Off. 2001. p. 452.

<sup>5</sup> USPS. *The U.S. Postal Service Emergency Preparedness Plan for Protecting Postal Employees and Postal Customers from Exposure to Biohazardous Material and for Ensuring Mail Security Against Bioterror Attacks*. March 6, 2002. [http://www.usps.gov/news/2002/epp/welcome.htm]

offered a 60-day course of prophylactic antibiotics.<sup>6</sup> Following the initial 60-day course of antibiotics the CDC has recommended an additional 60-day course. The CDC also has made the controversial anthrax vaccine available for the workers.

The delay between the discovery of the tainted letters, facility closures and antibiotic treatments elicited criticism both from postal worker unions and Congress.<sup>7</sup> The USPS attributed the difference between the immediate closing and testing of workers in the Hart Senate Office Building and the delay before postal facilities and workers were tested to a reliance on the evolving recommendations of the CDC.

After these attacks, the USPS examined its practices and found some changes could be made to reduce the risk to both postal workers and mail recipients. One of the most obvious changes concerned dust abatement procedures. Processing mail generates an enormous amount of dust. Compressed air had been the method of choice to clean the processing machines. The USPS recognized that this practice would widely distribute fine anthrax particles throughout the processing facility. It is switching to vacuum systems both to clean the sorting machines and to replace the general maintenance practice of broom sweeping. These vacuums are fitted with high efficiency particulate air (HEPA) filters which are designed to capture very small particles such as the bacterial spores which cause anthrax. The USPS has also provided antimicrobial wipes, protective gloves and masks, and their related educational materials to ensure proper use to all postal workers.

Prior to the discovery of the tainted mail, no procedure was in place to sterilize potentially harmful biological agents in the mail. As an interim measure the USPS has decided to sanitize mail destined for all federal government offices in the Washington D.C. metropolitan area (zip codes 20200-20599). Initially this consisted of sealing the mail into secure containers and shipping it to subcontractors in Lima, Ohio and Bridgeport, New Jersey to be sterilized by irradiation. The USPS claims to have sterilized and delivered all of the mail that had been held undelivered since October, although some agencies including the Library of Congress contend that all of this mail has not yet been delivered.<sup>8</sup> Once the undelivered mail backlog was cleared, the USPS began shipping all the mail only to the Bridgeport facility. This sterilization procedure adds approximately five to seven days to delivery times. The USPS forecasts that this procedure will be in place for only six months while a permanent solution is implemented which could reduce the delay to two days.

The USPS has purchased eight sterilization machines from the Titan Corporation for a total of \$40 million. These will be used as part of an interim solution to sterilize the mail of what is considered high probability targets. These targets were determined by the USPS in cooperation with the Department of Justice.

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<sup>6</sup> Centers for Disease Control and Prevention. *Morbidity and Mortality Weekly Report*. Vol.50 No. 47, November 30, 2001, p. 1052.

<sup>7</sup> Washington Post. *U.S. Officials Defend D.C. Response*. October 24, 2001. p. A16.

<sup>8</sup> Letter from James Billington, Librarian of Congress to Postmaster General John Potter, April 3, 2002. See also, Gail Fineberg. *Library Seeks Mail Missing Since October*. The Gazette. Vol. 13. No. 14. Library of Congress. April 12, 2002.  
[<http://www.loc.gov/staff/gazette/pastissues/2002/041202/htdoc/gzst002.html>]



For national security reasons, the USPS will not disclose the exact make up of this list. However, they have publicly stated that some of these initial eight machines will be used to sterilize the mail destined for government offices in Washington D.C. If the decision to sterilize all mail is made, it may take several years before all of the required equipment can be installed. In this case, the target list will be used to prioritize which facilities to upgrade first.

The cost of some of this initial response was covered by the \$175 million received from the White House Emergency Response Fund (**Table 1.**) Other aspects of the initial response, such as the HEPA filtration systems, are to be covered by the \$500 million included in the 2002 Department of Defense Appropriations Act supplemental appropriation (**Table 2.**) In addition, the \$87 million that the USPS indicated was still needed to cover prevention and protection initiatives in FY2003 (**Table 3**) is part of the addition supplemental FY2002 appropriations. This passed the House (H.R. 4775) on May 24,2002 and is under consideration of the Senate (S. 2551.)

**Table 1. Usage of the White House Emergency Response Funds**

	Cost as of 2/28/2002 (\$ in millions)
Irradiation Equipment and Services	53.0
Employee Personal Protection	29.0
On-Site First Response Environmental Testing	24.0
Nationwide Mailing and Communications	15.0
Site Clean Up	45.0
Medical Costs	9.0
<b>Total</b>	<b>175.0</b>

**Source:** USPS. The U.S. Postal Service Emergency Preparedness Plan for Protecting Postal Employees and Postal Customers from Exposure to Biohazardous Material and for Ensuring Mail Security Against Bioterror Attacks. March 6, 2002.

**Table 2. Usage of the \$500 Million in FY 2002 Supplemental Funds**

	Cost (\$ in Millions)
<b>On-going Activities</b>	
Decontamination	35.0
<b>Proposed Activities</b>	
Threat Detection and Identification	200.0
Sorting Machines and Maintenance Vacuums HEPA Filter Retrofit	254.0
Emergency Response Plan Preparation	0.5
Facility Repair	10.5
<b>Total</b>	<b>500.0</b>

**Source:** USPS. The U.S. Postal Service Emergency Preparedness Plan for Protecting Postal Employees and Postal Customers from Exposure to Biohazardous Material and for Ensuring Mail Security Against Bioterror Attacks. March 6, 2002.

**Table 3. Supplemental Funding Requirements of USPS  
Emergency Plan**

	Costs (\$ in Millions)			
	FY2002	FY2003	FY2004	FY2005-2006
<b>Prevention</b>				
Collection Box and Drop Slot Modification*	10.0	50.0	292.0	
Retail Outlet Modification*		150.0	100.0	
Increasing Security at Truck Entrances		135.0		
<b>Protection and Health-Risk Reduction</b>				
Sorting Machines	71.0	164.8	30.0	
HVAC*	6.0	120.0		
<b>Threat Detection and Identification</b>				
Threat Detectors and Identifiers		180.0	120.0	
<b>Intervention and Sanitization</b>				
Mail Irradiation Facilities				1,000 – 2,250
<b>Investigation</b>				
Image Capture			24.0	
Image Analysis			112.0	
Mail-Piece Tracking			210.0	
Positive Product Tracking			9.5	111.0
<b>Total</b>	<b>87.0</b>	<b>799.8</b>	<b>897.5</b>	<b>1,111 – 2,360</b>

\* Estimated costs. Actual funding needed depends on outcome of further USPS study.

**Source:** USPS. The U.S. Postal Service Emergency Preparedness Plan for Protecting Postal Employees and Postal Customers from Exposure to Biohazardous Material and for Ensuring Mail Security Against Bioterror Attacks. March 6, 2002.

## Long Term Plan

The future viability of the USPS may depend on its long term response to this new challenge. The USPS has decided while it is impossible to completely eliminate all risk of a successful bioterror attack through the mail, a multifaceted response can greatly increase the safety of postal workers and mail recipients. The USPS constructed the Emergency Preparedness Plan around four objectives: deterrence of using the mail as a tool for bioterrorism, and the detection, containment and neutralization of biohazardous materials in the mail stream as soon as possible. To accomplish these goals the USPS proposes six initiatives: Prevention; Protection and Health-Risk Reduction; Detection and Identification; Intervention and Sanitization; Decontamination; and Investigation. Because several aspects of this plan are still under study, the USPS describes it as “dynamic” and subject to change. Only the Decontamination initiative has been completely funded by the appropriations to date. The estimated costs of the remaining five as yet unfunded initiatives are detailed in **Table 3**.

### Prevention

The USPS plan defines prevention to include programs that stop contaminated mail from entering the mail stream as well as efforts to reduce the attractiveness of using the mail as a delivery system for bioterror agents. The Emergency Preparedness Plan focuses on redesigning collection boxes, increasing security at retail outlets, developing security procedures for commercial mailers, and increasing security at truck entrances.

**Collection Box and Drop Slot Redesign.** Immediately following the anthrax outbreak, some people called for the removal of all collection boxes. The USPS considered this, but decided that such a step would produce an enormous drop in residential and small business patronage. The USPS concluded that removal of all collection boxes was inconsistent with its continued operation. Therefore attention was focused on minimizing the risk associated with anonymous mail drops.

Currently, when mail enters one of the 350,000 collection boxes or 40,000 post office drop slots, it falls into a three-sided bin. The USPS proposes to redesign these to have the mail enter a plastic bag which would be mechanically sealed before the postal worker collected the mail. The USPS is studying the feasibility of including a disposable biohazard detector in each bag to immediately identify dangerous mail. This combination would prevent exposing postal workers to bioterror agents and detect contaminated mail before it enters the mail stream. Although currently available biodetection strips are unlikely to be sensitive enough for this use, the USPS believes that either the next generation of strips will be useful or that another inexpensive detector system may become available soon.

Collection boxes and mail bags may also be modified to contain tracking information. Thus, if a tainted letter gets past the initial detector screen but is detected later, the entire route of the letter could be traced, which would help health care, clean up, and investigative operations.

**Increasing Retail Outlet Security.** This initiative calls for extensive deployment of security cameras to record all retail transactions. Images would be stored locally and could be linked with mail piece tracking to increase the investigative abilities as well.

Critics of this initiative may suggest that \$250 million is too much money for a system that a terrorist can easily thwart by avoiding post offices. Critics may also be concerned about the privacy issues raised by videotaping all postal patrons. The USPS acknowledges that this initiative may change public perceptions of its role, which may further depress revenue.

**Developing Security Procedures for Commercial Mailers.** Because two-thirds of mail comes from commercial bulk mailers, the USPS will work with industry to develop security standards to reduce the probability of receiving contaminated mail from this source. This mail will be considered “safe” and not subjected to further detection or possible decontamination processes. Currently there is no request for supplemental funding associated with this initiative because such a program has not yet been developed. However, the USPS predicts that any costs will be relatively low, with industry paying for the bulk of it while the USPS will hire compliance personnel.

**Increasing Security at Truck Entrances.** This initiative will upgrade and install mechanical and electronic security devices and add more security personnel at each of the approximately 400 large mail processing centers.

## Protection and Health-Risk Reduction

**Sorting Machines.** It is likely that mail became cross contaminated inside the processing machines when the pinch belts, used to propel mail, squeezed air out of the envelopes and caused a puff of spores. The USPS is in the process of designing HEPA filtration systems for these sorting machines. The installation of these filters should be completed by the end of FY 2004 and is expected to require an additional \$265.8 million in supplemental appropriations (**Table 3.**)

**Heating, Ventilating, and Air-conditioning Systems.** The USPS is also studying the use of HEPA filters in the heating, ventilating, and air-conditioning systems (HVAC) all of the mail processing centers. The USPS projects that these systems could be operational by the end of FY2003 for a total cost of \$126 million. Because the HVAC for each processing center is unique, a large portion of the implementation cost arises from the need for to design an individual system for each site. The USPS is also considering using an air sterilization system either instead of or in addition to HEPA filter retrofits. It may be possible to use ultraviolet light or ultrasound to kill any spores passing through the ventilation ducts. However, critics of HVAC modifications argue that only a small percentage of the air in a facility actually passes through these systems and therefore spores could stay airborne for days or weeks before entering a duct for filtration or sterilization.

## Detection and Identification

The USPS envisions a system which can continuously monitor facility air and the air ejected from mail during processing for potential threats. Current plans call for a two step system, detection of a likely threat and confirmation/identification of the agent. Following confirmation, appropriate steps could be taken such as shutting down the center and treating at-risk personnel.

**Particle Analysis.** The first step, also called the triggering step, would likely be carried out by a particle analyzer. These machines continuously sample the air and measure the size of all airborne particles. More sophisticated versions also measure the aerodynamic shape of the particles and can potentially discriminate between biological and nonbiological particles. These machines send an alert when it detects a change in particle number, size, shape or makeup from background levels. Adapting this technology to USPS needs is complicated due to the very high levels of paper dust that is generated during mail sorting. However, because paper dust particles tend to be larger than spores, it is likely that this technological hurdle can be overcome with appropriate filtering. Because this type of detection system has a relatively high false alarm rate, a second step is required for verification.

An alarm by the particle analyzer would trigger a second step to verify the presence of a threat and identify the agent. It is not clear what technology would be used for this step. Experts from the Department of Defense advised the USPS that the following technologies might be best suited for this application: biological indicator strips, polymerase chain reaction (PCR), and mass spectroscopy.

**Biological Indicator Strips.** Biological indicator strips work like a home pregnancy tests. A sample is placed on the strip and within minutes a result is known. This can be automated to fit with USPS plans. However, many experts think that biological test strips might require the presence of high levels of agent to work reliably. Therefore potentially lethal amounts of agent might not be detected. Another drawback is that each agent requires its own specially prepared test strip. Therefore samples can only be tested for only a finite number of known agents.

**Polymerase Chain Reaction.** PCR is a technology for detecting small quantities of DNA with a particular genetic sequence. Typically, tests are designed to be specific for a given species or strain of an organism. If the target DNA sequence is present in any of the DNA in the sample, the reaction produces multiple copies of the target sequence. These multiple copies can then be detected to give a positive test result. If no target sequence is present, no copies are made, and a negative test result is obtained. Multiple agents can be tested for simultaneously using PCR. PCR can detect much lower levels than biological test strips and it is relatively easy to expand the list of agents for which to test. However this test only works for agents which have genetic material. For example, PCR will detect bacteria such as the one that causes anthrax but it will not detect chemical agents nor biological toxins such as botulinum toxin.

**Mass Spectroscopy.** Mass spectroscopy is an advanced technology that is thought to be the “gold standard” for chemical detection. It breaks down samples into their constitutive parts then determines the mass of each piece. The instrument

produces a complicated graph, or spectra, that shows the masses of all of its parts. This spectra is unique for each agent. Chemical agents have relatively simple spectra and are easily identified by this method. In theory, this method will work equally well on biological agents. However, because biological agents have many more constituent parts, they produce much more complicated patterns. This makes discriminating between a dangerous bacteria and a harmless related organism very difficult. Although this technology may currently exist, it is unlikely be in a system that could be adapted quickly for the USPS to use. As this technology develops, it may become the method of choice for these types of applications, but some experts feel that this is at least a few years away.

## Intervention and Sanitization

Intervention procedures are used to neutralize potential mail contaminants for mail destined for high risk targets. As described above, this group currently consists of all federal government offices in the Washington D.C. metropolitan area (zip codes 20200-20599). After evaluating various forms of mail sanitization including gaseous and radiation methods, the USPS chose electron beam irradiation.<sup>9</sup> Electron beam, or e-beam, is essentially a very powerful version of the electron gun found in the cathode ray tubes of televisions and computer monitors. It is a commonly used method to sterilize medical supplies including baby bottle nipples and bandages.

The USPS is leaving open the option of expanding mail irradiation to include all noncommercial mail. However, in light of the problems generated by the current limited use<sup>10</sup>, this appears increasingly unlikely. Recipients have complained of various adverse health reactions to the irradiated mail as well as damage to mail contents. The USPS claims that lowering the radiation dose has solved many of these problems. The Emergency Plan predicts that a system-wide irradiation program would require \$1-2.25 billion in capital costs (**Table 3.**) Some experts suggest that annual operating costs for this system could run as much as \$1 billion. If implemented the USPS would likely seek an appropriation for the capital costs while relying on rate payers for the operating costs. This plan could be implemented as early as FY2005.

## Decontamination

These procedures differ from intervention procedures in that they would be used following the identification of a contamination event rather than prophylactically. This covers treatment of contaminated mail and facilities. Tainted mail was treated using e-beam irradiation. The USPS evaluated several methods to treat tainted equipment and facilities before deciding on chlorine dioxide. This is the same

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<sup>9</sup>For more information about mail irradiation, see CRS Report RS21184 *Irradiated Mail* by Frank Gottron.

[<http://www.congress.gov/erp/rs/pdf/RS21184.pdf>]

<sup>10</sup>Ibid.

technology used on the Hart Senate Office Building. The \$80 million required for decontamination came from both the \$175 million White House Emergency Response funds (**Table 1**) and from the \$500 million supplemental appropriation (**Table 2.**)

## Investigation

These procedures are designed to help the USPS investigate successful mail-based terrorist attacks. The technologies under consideration are based on letter image capture and analysis. These improvements are predicted to cost \$355.5 million in FY2004 and \$111.0 in FY2005 (**Chart 3.**)

**Image Capture.** The USPS is currently in the process of upgrading their ability to digitally capture an image of every mailpiece as it is sorted. Current capabilities only allow a portion of the address side to be captured. Deployment of the Wide Field of View Image Camera will allow the entire side to be imaged. The USPS considers this to be crucial for the ability to reliably analyze the images.

Currently, the images of each envelope are deleted immediately after being used for sorting purposes. The Emergency Plan calls for \$24 million in FY2004 to increase storage capabilities and complete deployment of the new cameras so that images can be stored for 30 days (**Chart 3.**)

**Image Analysis.** The USPS also plans to implement programs that could profile the images of mail-pieces in real-time. Some of this analysis could redirect mail that met specific suspicious criteria for special handling. It may also be possible to analyze handwritten addresses to search for and isolate mail-pieces currently in the system that satisfy specific criteria. For example, letters that share distinctive handwriting such as that found on the anthrax related mailings might be able to be matched automatically and redirected for special handling. The USPS predicts these projects will cost \$112 million and be available in FY2004.

**Mail-Piece Tracking.** The Emergency Plan calls for an expansion of the USPS' current mail tracking capabilities by linking a unique identification barcodes to each envelope image. This would allow investigators to trace the exact path through the system of any contaminated mail. This is expected to cost \$210 million and be implemented in FY2004 (**Chart 3.**)

**Positive Product Tracking.** This initiative would result in an increased ability to track mail. This system would encode all products with a specific identifier that would be traceable to specific retail transaction and video image of the patron. This includes any mail dropped off at a retail outlet and any products bought, such as stamps or envelopes. Furthermore, all USPS products could be encoded to allow investigators to determine the location of its sale (for example, the kiosk at which a specific stamp was purchased.) This information could be useful even without a linked video image of the patron that would be obtained if the transaction took place in a post office. The USPS sees this as complementing and extending the abilities discussed under retail outlet modifications. The USPS predicts that these modifications would cost \$9.5 million in FY2004 and \$110 million in FY2005.



Critics say this initiative raises privacy questions and could result in serious public relations difficulties for the USPS. They argue that this will cost much more than projected capital costs because of the revenue lost due to decreased patronage by concerned customers.

## Conclusions

The Emergency Preparedness Plan outlines a series of steps that the USPS has taken and is planning to take to decrease the threat of biological terrorism through the mail. Some of the steps, such as the change to HEPA filtered vacuums, are noncontroversial and easily implemented. Other steps, such as threat detectors are expensive and fraught with technical challenges. However the Plan also includes some expensive and very controversial steps such as the videotaping and tracking of all retail transactions and the irradiation of all noncommercial mail.

The USPS stresses that this plan is dynamic and will most likely change as new technologies become available. However, one thing that policymakers will have to decide is how much of these plans should be paid by taxpayers rather than ratepayers. If fully implemented, the USPS would seek up to \$4.1 billion in additional appropriations for FY2003 through FY2006. Critics who feel that the USPS was financially doomed before the anthrax attacks argue that funding these plans amounts to a large waste of taxpayers money. Other, less severe critics suggest that the cost of these plans should be borne entirely by the postal consumer who will benefit from the changes. However, the Postmaster General counters that these are actually costs associated with homeland security and should be funded by taxpayers. Furthermore, passing on these high costs directly to ratepayers may hasten the financial collapse of the Postal Service, which is already on the Comptroller General's High Risk List.

## Useful Links

USPS Mail Security Page

[<http://www.usps.gov/news/2001/press/serviceupdates.htm>]

Centers for Disease Control and Prevention Bioterrorism Page

[<http://www.bt.cdc.gov/>]

Federal Bureau of Investigation: Anthrax Investigation Page

[<http://www.fbi.gov/majcases/anthrax/amerithraxlinks.htm>]

GAO Report Benefits and Risks of Food Irradiation (GAO/RCED-00-217)

[<http://www.gao.gov/archive/2000/rc00217.pdf>]

GAO Report Diffuse Security Threats: Technologies for Mail Sanitization Exist but Challenges Remain (GAO-02-365)

[<http://www.gao.gov/new.items/d02365.pdf>]