

US EPA ARCHIVE DOCUMENT



Project XL Reinvention Proposal

*Internet-Based Regulatory Reporting and Information
Management System*

Final Project Agreement

July 12, 2000

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Acronyms and Abbreviations

ANSI	American National Standards Institute
BLM	Bureau of Land Management
BMP	Best Management Practices
CD-ROM	Compact Disk-Read Only Memory
CFR	Code of Federal Regulations
CPG	Certified Professional Geologist
DP	Discharge Plan
EA	Environmental Assessment
EDI	Electronic Data Interchange
EPA	Environmental Protection Agency
FIPS	Federal Information Processing Standards
FTE	Full Time Employee
GIS	Geographic Information System
HRMB	Hazardous and Radioactive Materials Bureau
HSWA	Hazardous and Solid Waste Amendments
HTML	Hypertext Mark-Up Language
ID	Identification
IE	Internet Explorer
IRS	Internal Revenue Service
ISO	International Standards Organization
ISS	Information Services Section
ITS	Information Technology Section
MS	Microsoft
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NFA	No Further Action
NM	New Mexico
NMED	New Mexico Environment Department
NOI	Notice of Intent
NOD	Notice of Deficiency
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standard
PCC	Post-Closure Care
PE	Professional Engineer
PKI	Public Key Infrastructure
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RSI	Request for Supplemental Information
SARA	Superfund Amendments and Reauthorization Act
SLO	State Land Office
SSL	Secure Sockets Layer
SWMU	Solid Waste Management Unit
SWPPP	Storm Water Pollution Prevention Plan
TRI	Toxic Release Inventory
TX	Texas
URL	Uniform Resource Locator (Internet page address)
WSMR	White Sands Missile Range
WSTF	White Sands Test Facility



1.0 INTRODUCTION

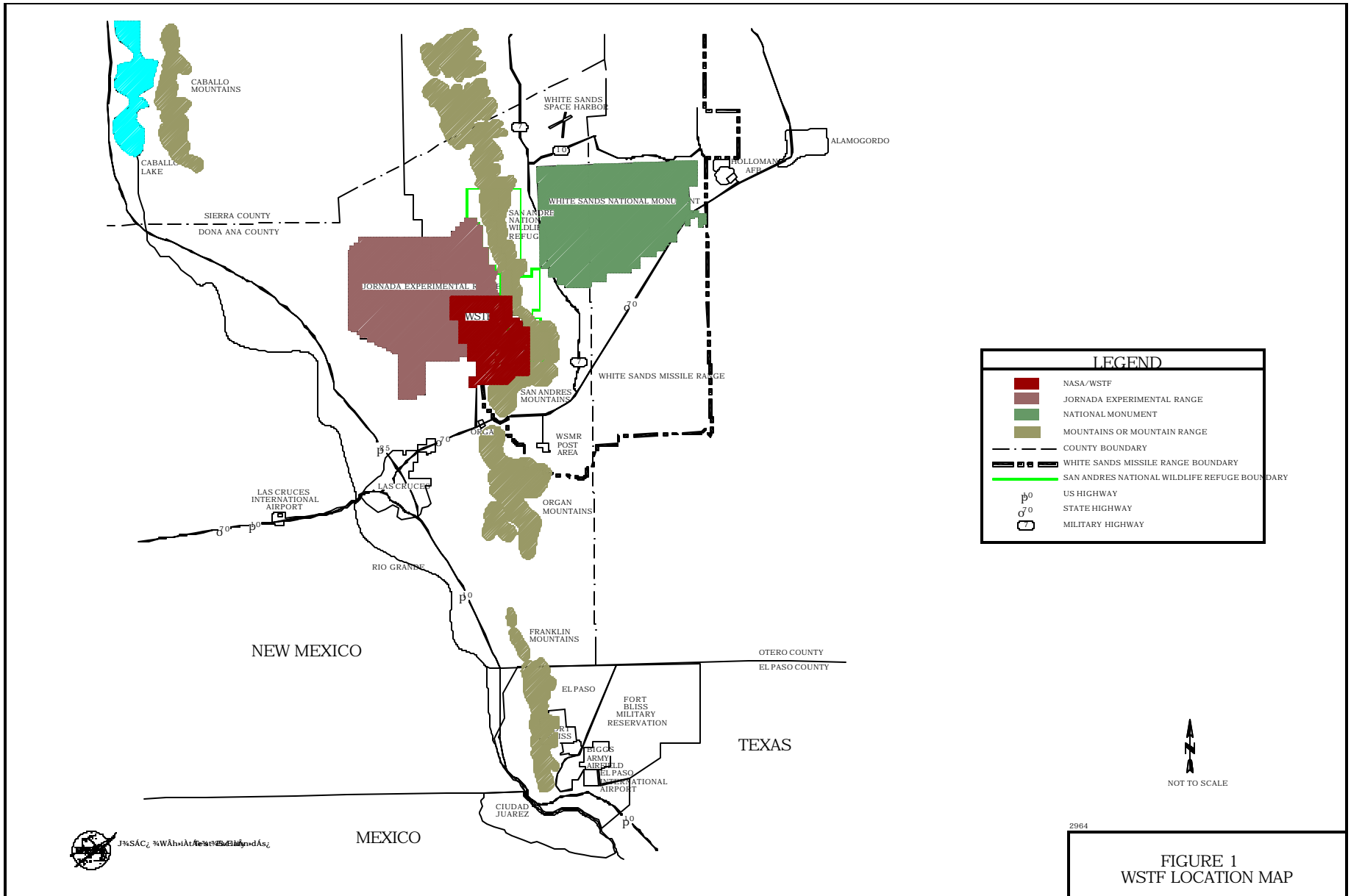
The NASA White Sands Test Facility (WSTF) proposes a Project XL reinvention initiative to implement an Internet (web)-based information management and regulatory reporting system. NASA proposes that the extensive paper reporting deliverable requirements of multiple Bureaus of the New Mexico Environment Department (NMED) can be simplified and streamlined by consolidation into a single web-based system that utilizes electronic mail notification procedures. This system will provide regulatory agencies with real-time desktop access to site-specific environmental compliance information and save resources including document preparation time, white paper usage, and triplicate reproduction requirements. In addition, information and resource sharing will enhance inter- and intra-Bureau communication and benefit the regulatory agencies by providing graphical illustrations of current conditions, real-time updates of plume-front remediation efforts, access to the groundwater monitoring database system, and electronic archival of historical documentation. The web-based system will also encourage public participation in Federal facility compliance initiatives by providing access to all regulatory reports and recordkeeping, information on current environmental conditions, remediation systems, and miscellaneous projects including compliance reporting, waste minimization, recycling, ISO 14001, community-right-to-know, and NEPA.

The U.S. Environmental Protection Agency (EPA), with the cooperation of State and local authorities, has initiated Project XL to work with interested companies or other potential Project Sponsors to develop innovative approaches to environmental protection. Project XL encourages potential sponsors to come forward with new approaches that can advance our nation's environmental goals more effectively and efficiently than current regulatory and policy tools or procedures.

2.0 FACILITY DESCRIPTION

WSTF is located approximately 18 miles northeast of Las Cruces, New Mexico, and operates as a field test installation of the NASA Lyndon B. Johnson Space Center, Houston, Texas (TX). Figure 1.1 provides a WSTF location map.

Figure 1 - WSTF Location Map



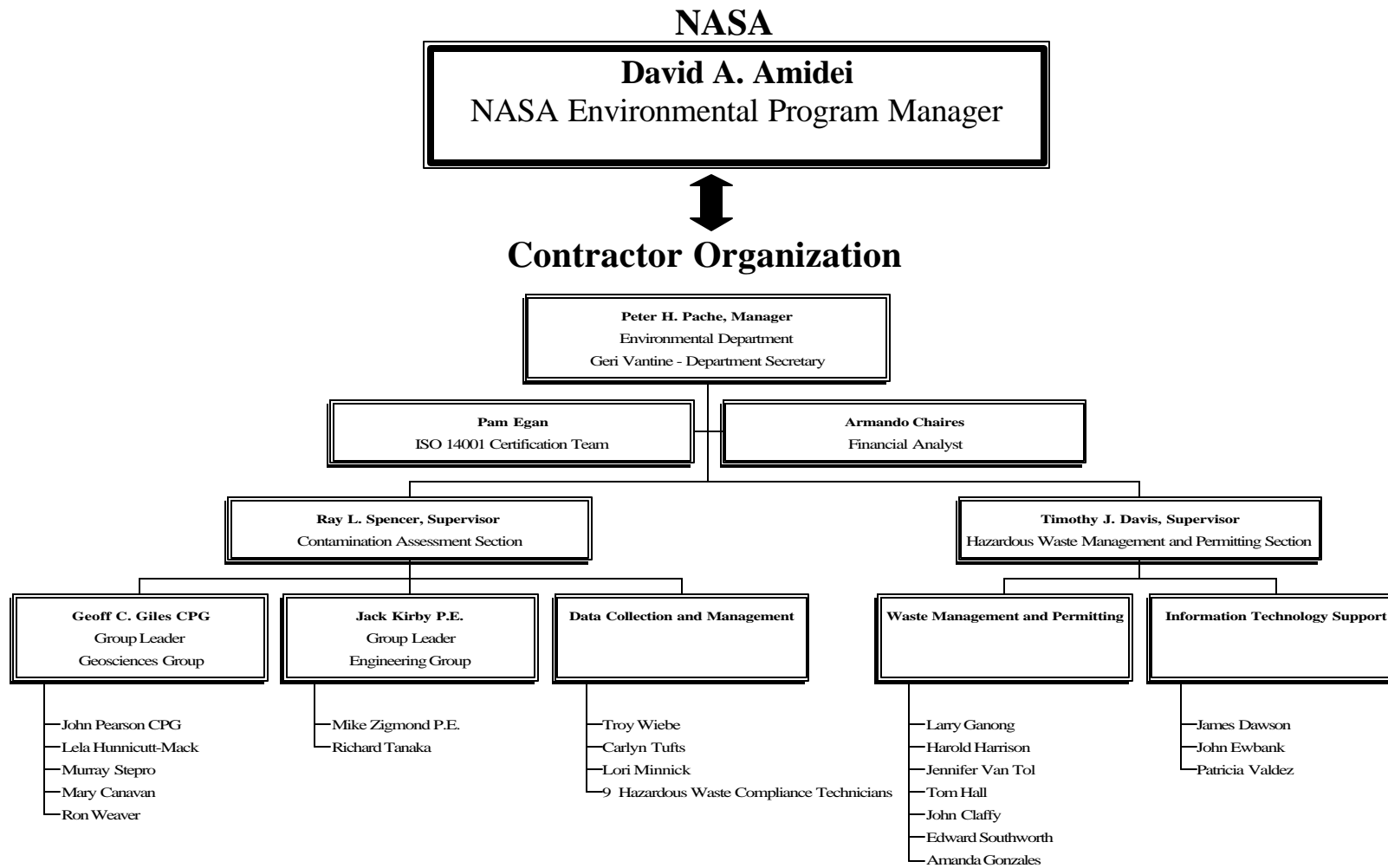
The facility's primary purpose is to provide testing services to NASA for the United States space program. However, it also provides test service and support for the Department of Defense, Department of Energy, private industry, and foreign government agencies. The primary WSTF mission is to develop, qualify, and test the limits of spacecraft propulsion systems and subsystems. The installation also operates several laboratory facilities that conduct compatibility and material test protocols.

Environmental compliance activities at WSTF are extensive and encompass all media; inclusive of air, groundwater, hazardous waste, surface water, and solid waste (closed landfill). Historical operations at WSTF have resulted in an extensive groundwater contamination plume. NASA is currently implementing investigative activities and interim corrective actions, including the design and construction of a plume-front containment pump and treat remediation system. There are currently more than 215 groundwater monitoring wells and multi-port sampling zones in operation at the facility; with nine hazardous waste compliance technicians performing daily field sampling operations.

In addition to the extensive groundwater monitoring program, NASA has four permitted operating units regulated by a RCRA Part B Hazardous Waste Operating Permit (No. 8800019434-1), five post-closure care hazardous waste management units regulated by a Post-Closure Care Permit (No. 8800019434-2), extensive air quality permit requirements, landfill post-closure care groundwater monitoring and plume investigation activities, and several groundwater discharge plans. The site's RCRA Facility Investigation (RFI) and corrective action initiatives are also regulated by NMED-oversight of the requirements of a RCRA §3008(h) Administrative Order on Consent (Consent Order) and a Hazardous and Solid Waste Amendments (HSWA) Permit. These environmental operations and permit requirements mandate extensive paper reporting deliverables, quality assurance and quality control procedures, and data manipulation and formatting. NASA estimates that a minimum of 10 full-time employees (FTEs) per year are required to prepare the necessary cross-media compliance documentation and regulatory reports.

The NASA Environmental Program Manager oversees all contractor Environmental Department operations. The contractor Environmental Department is currently staffed with 37 engineers, scientists, geologists, technicians, computer specialists, and management personnel. These personnel are divided into the Contamination Assessment Section and the Hazardous Waste Management and Permitting Section. Figure 2 provides an organizational chart of current personnel.

Figure 2 - WSTF Organization



3.0 PURPOSE OF THE AGREEMENT

This Final Project Agreement (“the Agreement”) is a joint statement of the plans, intentions, and commitments of the U.S. Environmental Protection Agency, NMED, and NASA to carry out this pilot Project approved for implementation at the NASA White Sands Test Facility (WSTF). This Project will be part of EPA’s Project XL program to develop innovative approaches to environmental protection.

The Agreement does not create legal rights or obligations and is not an enforceable contract or a regulatory action such as a permit or a rule. This applies to both the substantive and the procedural provisions of this Agreement. While the parties to the Agreement fully intend to follow these procedures, they are not legally obligated to do so. For more details, refer to Section 10.0 (Legal Basis for the Agreement).

Federal and State flexibility and enforceable commitments described in this Agreement will be implemented and become effective through a legal implementing mechanism such as a rule or a permit. All parties to this Agreement will strive for a high level of cooperation, communication, and coordination to assure successful, effective, and efficient implementation of the Agreement and the Project.

4.0 LIST OF SIGNATORIES

The parties to this Final Project XL Agreement are the U.S. Environmental Protection Agency (EPA), New Mexico Environment Department (NMED), and the National Aeronautics and Space Administration (NASA).

5.0 PROJECT CONTACTS

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6.0 PROJECT DESCRIPTION

6.1 Project Summary

Environmental law and regulations require an extensive number of regulatory reports, and other information of an official nature, to be made available to the EPA and the NMED. In order to replace the current inefficient practice of submitting multiple copies of paper reports to these agencies, NASA proposes to consolidate, streamline, and simplify the collection, management, reporting, and archival of extensive regulatory agency-required and NMED multi-Bureau environmental compliance data.

This proposal includes the construction, implementation, testing, and operation of an EPA and NMED Bureau-wide reporting system that will provide regulatory reports, and other information of an official nature, on a web-based information management and regulatory reporting system. An electronic mail (e-mail) notification process will ensure documents are submitted to the appropriate regulatory personnel, and will provide NASA with a documented time and date of agency receipt. This e-mail system will include a hypertext link to the specific document on the web-based system, and will also provide the regulatory agency with the necessary certification and secure signature procedures as required by regulations.

The web-based system will also include public information access areas and specific web locations (links) for each NMED Bureau. These specific web locations will include all regulatory reporting links and ancillary information, including graphical interpretations of current conditions, and archival data of historical information, by providing groundwater database access. The information provided by WSTF to the EPA and NMED will be incorporated into these links, and will be accessible to the general public, except for those WSTF reports, information, and data that are restricted from release by law, regulation, or policy. The ease and convenience of such access will encourage public involvement in Federal facility

compliance initiatives. All information will be easily managed, available on a real-time desktop basis, and will eliminate the extensive paper and personnel resource requirements for the preparation of written reporting deliverables.

This proposal will also provide supplemental environmental information that is not specifically required by documentation or permits. For example, the groundwater monitoring project's archived data and sampling schedules from the current searchable database system will be available. This will allow site-specific environmental research and inter-Bureau communication by the regulatory entities. In addition, the web-based system will eventually provide graphical information, including plume diagrams, vertical profiles, groundwater flow directions and gradients, time-concentration plots, well location maps, and other site diagrams that will enhance regulatory agency and general public data interpretations and visualization of site-specific conditions. The public access area will provide access to all regulatory reports and compliance submittals, in addition to site-specific environmental information and project progress reports. This site-specific information can include ISO certification, recycling, waste minimization, NEPA, community-right-to-know, and other associated compliance information.

6.2 Project Elements

NASA proposes a phased approach to achieving this regulatory reporting and information management innovative solution. The specific elements of these phases include the following:

- **Element No. 1** – Regulatory Relief and Flexibility;
- **Element No. 2** – CD-ROM Submittal and Web Page Construction;
- **Element No. 3** – Electronic Mail Submittal Notifications;
- **Element No. 4** – Public Access Section;
- **Element No. 5** – Testing, Technical Training, and Class I Permit Modification Phase-In; and
- **Element No. 6** – Graphics Interface and Archival Abilities.

6.2.1 Element No. 1 – Regulatory Relief and Flexibility

NASA will request regulatory relief from the EPA and flexibility from multiple NMED Bureaus to initiate an electronic mail submittal and web-based information management and reporting system. This request will also include a request to the EPA for specific regulatory relief regarding the electronic submission of 40 CFR §270.11 signatory to permit applications and reports requirements.

Regulatory flexibility will be requested from NMED for specific non-statutory permit requirements. This flexibility will also request a modification to the long-term data archival procedures regarding recordable CD-ROM data and report storage. This element will require NMED Bureau-wide concurrence that the proposed project will meet the requirements of each reporting deliverable specific to each permit and/or document requirement. The following NMED Bureaus will need to approve this project and provide the previously mentioned regulatory flexibility:

- Hazardous and Radioactive Materials Bureau (HRMB);
- Groundwater Bureau;
- Surface Water Bureau;
- Solid Waste Bureau; and
- Air Quality Bureau.

NASA has contacted the NMED Secretary, Mr. Peter Maggiore, to discuss the proposed project and NMED involvement. On June 29, 1999, the NASA Environmental Program Manager and WSTF contractor personnel met with Mr. Peter Maggiore in Santa Fe, NM, to discuss the proposed project. Also attending this meeting were the EPA Region 6 Reinvention Coordinator, Ms. Adele Cardenas, and the HRMB and Water Quality Bureau Chiefs, Mr. James Bearzi and Ms. Marcy Leavitt, respectively. The proposal was discussed and a consensus was reached concerning the applicability and viability of the project. A letter of support for the project was signed by Mr. Maggiore, and submitted to the EPA Region 6 Regional Administrator (Mr. Gregg A. Cooke).

A second meeting to discuss the NASA proposal was attended in Santa Fe, NM, on November 17, 1999. A representative from each affected NMED Bureau attended, in addition to several representatives from the NMED Information Technology Section and Ms. Adele Cardenas from the EPA Region 6 Office of Reinvention. This meeting discussed the proposal in depth, and each Bureau, including the NMED Information Technology Section, fully supported the proposal's intentions and long-term goals.

After completion of the final Agreement, NASA will schedule additional meetings, as necessary, with each NMED Bureau Chief, or their designee, to discuss the proposed project, obtain feedback on specific regulatory reporting, data archival, and signatory requirements, and ensure that comments, suggestions, and requests are incorporated into Element No. 2. NASA will also schedule public involvement meetings where the general public can provide comments, input, and/or specific requests concerning this proposal. NASA will publicize these public involvement meetings using a

written notification to each individual on the WSTF facility mailing list (See Section 17.0 - Appendix A) and a general meeting notice using the local print media.

6.2.2 Element No. 2 – CD-ROM Submittal and Web Page Construction

NASA is currently providing the NMED Hazardous and Radioactive Materials Bureau with an electronic version of the monthly groundwater activity report using a CD-ROM format. The monthly report is specified by the requirements of a §3008(h) Consent Order. This Consent Order was recently terminated by EPA Region 6 personnel, and the requirements of the Order were transferred to NMED. The report is currently provided on a recordable CD-ROM utilizing a Microsoft Access database format. NASA considers this electronic submittal a “first step” towards the goal of electronic reporting. The CD-ROM submittal had to be pre-approved by HRMB prior to usage, and NASA provided NMED with on-site training on CD-ROM format, usage instructions, and miscellaneous MS Access commands. NASA is currently upgrading this CD-ROM monthly report to provide the information in HTML (web-based) format. This upgrade will allow HRMB personnel to directly access the CD-ROM information using standard web browser software. This will also provide easy access to specific information by simply selecting highlighted hypertext links. NASA proposes that this HTML format on CD-ROM will familiarize Bureau personnel with web-based formats and simplify the eventual upgrade to an electronic mail notification with a hypertext link to the monthly report’s web-based information. After the eventual upgrade to the web-based system, the NMED monthly report will be provided using the same HTML format, in addition to Adobe Acrobat file formats. The Adobe Acrobat files will allow the download of hard copies, if necessary, for archival at the State agency level. As previously stated, the CD-ROM is currently being submitted to HRMB, in addition to the Groundwater Bureau, and has initiated these Bureaus to the format and benefits of electronic deliverable reporting systems. The personnel at these Bureaus have stated that the electronic format of this monthly report is far superior to the previous hard copy submittals, and provides monthly data in an organized, simplified, and easily reviewed format.

NASA will initiate the fabrication of the e-mail notification and web-based reporting system with Bureau-specific links. Figure 3 provides a flowchart with the proposed links from the web-based system. NASA will provide, if necessary, on-site training for end-users; specifically, the security aspects and general operation of specific links. Preliminary usage will be an upload and beta-testing program, where NMED and EPA can access the reports and

associated materials and provide comments and suggestions. The comments, suggestions, and specific requests from each Bureau will be reviewed and incorporated into the system. NASA will provide secure access to cross-media information; therefore, information and resource sharing will be available to personnel from separate Bureaus, and members of the general public. Discussions with NMED regulatory personnel have indicated that information sharing between Bureaus could eliminate numerous supplemental information requests and notices of deficiency. This will provide better visualization of site conditions and current projects. Therefore, the proposal will enhance inter-Bureau communication and provide site-specific, and project-specific, environmental data and associated information. This element will also incorporate the design and implementation of a secure e-mail notification system for transferring the signatory to permit applications and reports requirements of 40 CFR §270.11 and an electronic return receipt alternative for the submittal of Class I permit modification requests as specified in 40 CFR §270.42(a)(i) as specified in Element No. 5.

6.2.3 Element No. 3 – Electronic Mail Submittal Notifications

NASA recognizes that web-based reporting may not specifically meet the requirement of written hard copy “submittal” as specified in regulatory documents and current permits. NASA proposes to substitute electronic submittal notification to the regulatory agency using electronic mail (e-mail) instead of triplicate hard copies by postal mail. The benefits of web-based reporting versus a direct submittal are as follows:

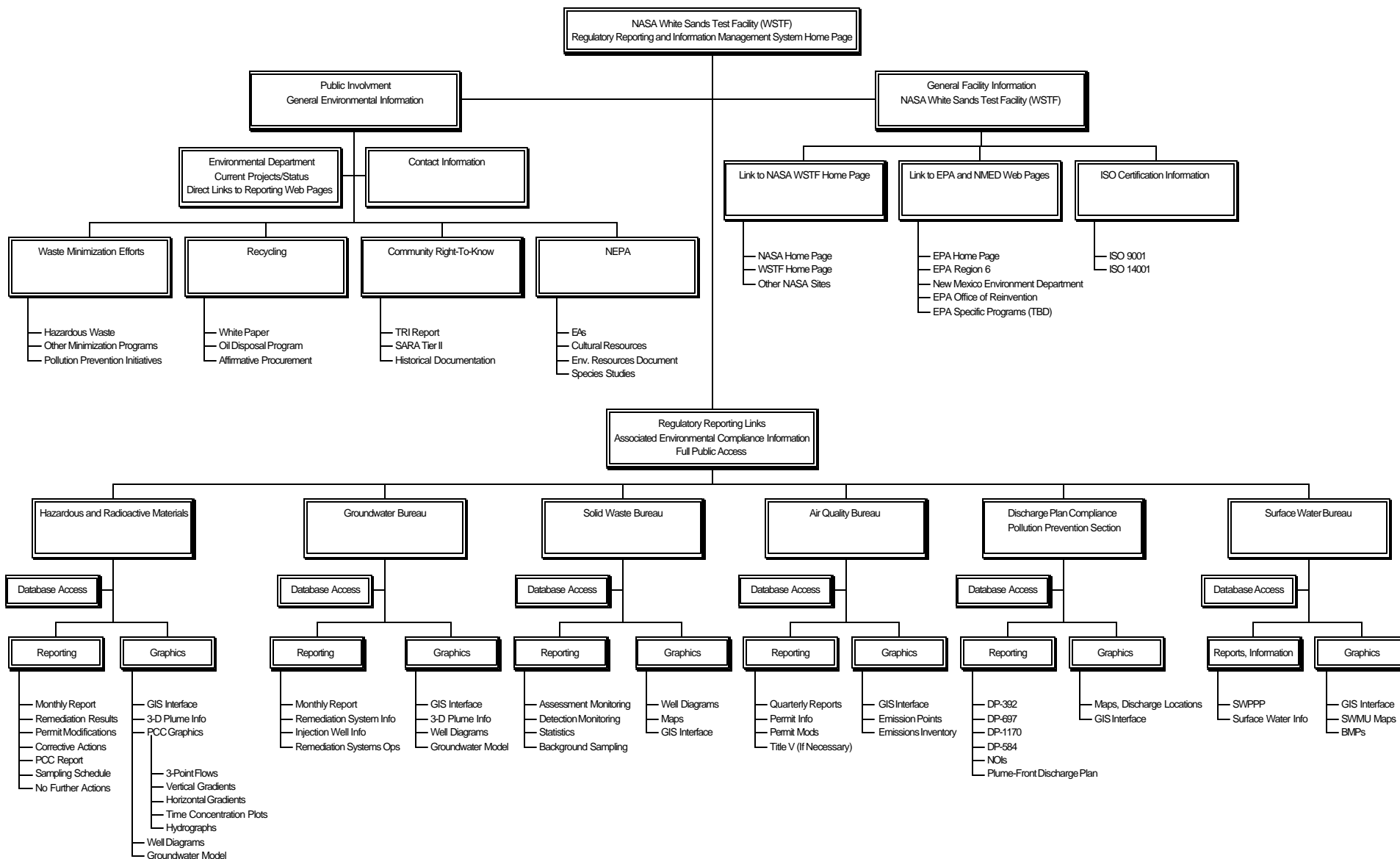
- The documentation is delivered directly to the intended audience;
- Multi-media documentation is available to all Bureaus;
- Increases multi-media visualization of current site conditions;
- Provides a “100%” open access policy for all information;
- Involves the general public in Federal facility initiatives; and
- Focus is on Agency-wide distribution of information, not Bureau-specific submittal.

This e-mail notification system will incorporate security procedures for the digital signature and certification requirements, and will provide a hypertext link to the web-based system. This hypertext link will direct the recipient of the e-mail to the specific report or information that is required to be submitted. The certification statement and signature requirements will be incorporated in the e-mail, in addition to being provided on the web-based system. This e-mail notification will incorporate a date/time stamp that will provide NASA with notification of agency receipt and a documented

“chain of custody” for each document. This notification of receipt will effectively replace the current postal mail with return receipt procedures.

The e-mail notification procedure will ensure that the current burden of “submittal” is still incurred by NASA, and that it is NASA’s responsibility to ensure receipt of the documentation and reports as specified by permits and associated documentation. NASA proposes that this direct e-mail notification procedure will offer superior performance than the hard copy, return receipt, postal mail system. On numerous occasions, NASA has submitted documentation to specific NMED Bureaus, return receipt is received and filed by NASA, but the document never reaches its intended audience. This indicates that NMED has received the documentation, but it is not specific proof that the NMED Director, or other specific agency personnel, have received the document in the allotted regulatory timeframe (i.e., 7 days for Class I permit modification notifications). The direct e-mail system ensures that the intended recipient actually receives the specific document; and removes a possible extra step (i.e., mail room employee) that could lead to lost documents or delivery mistakes.

Figure 3 – Proposed Web Based System



6.2.4 Element No. 4 – Public Access Section

NASA will incorporate a public access section into the web-based information management system. This will encourage public participation in Federal facility compliance initiatives and provide complete 100% access to site-specific environmental information. This information will include remediation information, current projects and environmental conditions information, community right-to-know facts, NEPA status, recycling effort information, waste minimization work, and personnel contact information. This public access and outreach sections will also be implemented in conjunction with the ISO 14001 certification effort; currently ongoing at WSTF and scheduled for registration in April 2000.

All web-page links utilized for agency-required regulatory reports and compliance documentation will be available in the public access areas. The public access area will provide detailed overviews of each media-specific program and include a contact link for requesting additional specific information by postal mail, facsimile, telephone, or electronic mail. All information on the web-based system will be available to the general public. This will provide a “100% open access” system for all environmental compliance information at a Federal facility.

6.2.5 Element No. 5 - Testing, Training, and Permit Mod Phase-In

NASA will upload and test the system, incorporate requests and suggestions from regulatory personnel and the general public, and provide on-site technical support/training to NMED, as necessary, to ensure that each Bureau can access and interpret the environmental reports and supplemental information. NASA anticipates working with the NMED Information Technology Section (ITS) to ensure compatibility, access/availability, and long-term archival issues are discussed and resolved. NASA attended a meeting in Santa Fe, New Mexico, between both NASA and NMED ITS personnel in early 2000. This meeting ensured that potential conflicts were discussed prior to Final Project Agreement completion and eventual testing, upload, and technical training. Additional meetings with NMED ITS personnel are anticipated as the Project progresses.

NASA will phase-in the submittal of Class I permit modification requests using an electronic deliverable format and the e-mail notification system. This phase-in will be scheduled after the basic system is constructed, operated, tested, and deemed suitable for electronic reporting. NASA anticipates that the submittal of permit

modifications will mirror the submittal procedures for standard regulatory reporting. However, the previously stated regulatory relief/flexibility for submittal by “certified mail or other means” will need to be addressed by the EPA, with concurrence from HRMB.

6.2.6 Element No. 6 - Graphics Interface and Archival Abilities

The e-mail notification and web-based reporting system will be upgraded to include graphical interface support, geographic information system (GIS) uploads (when available), historical data and report archives, full database access, complicated plume depictions, concentration time-plots, and other associated compliance information. The historical data archive section will be incorporated using links that are capable of directly accessing the current searchable database system.

6.3 Electronic Reporting Issues

6.3.1 Hardware

NASA has contacted NMED and EPA representatives to discuss current hardware configurations. NMED, EPA, and NASA have standardized on the Pentium (or equivalent)-compatible desktop computer system coupled with Microsoft (MS) operating systems. This system is compatible with the proposed project’s goal of access to the NASA Internet site. The public will have access through any hardware configuration. It is not a requirement that Pentium-based systems are utilized. Any computer system, including Apple Computer products, can access the web system with standard Internet access capability and commercially available browser software. Browser software requirements are explained further in Section 6.3.2 and 6.3.3.

6.3.2 Internet Access Capability

EPA and NASA currently have desktop access to the Internet using commercially available browser software such as Netscape Navigator/Communicator and/or Microsoft Internet Explorer (IE). NMED has Internet access and electronic mail capability throughout most Bureaus. However, several “pockets” of NMED personnel are still in the process of receiving upgraded computer systems with Internet and electronic mail capabilities. During the November 17, 1999, meeting in Santa Fe, NM, Ms. Renée Martínez, NMED Chief Information Officer, stated that computer hardware, Internet access, browser software, and e-mail capability

are considered a minor issue at NMED, and are easily rectified for Bureau personnel without Internet access capability.

This proposal assumes that interested general public stakeholders will have basic Internet access by a commercially available Internet Service Provider (ISP) or other access method (friend, neighbor, library, etc.). NASA recognizes that some interested parties may not have Internet availability in their homes or businesses. Therefore, NASA will provide a list of public locations where Internet access is available to all persons on the NASA facility mailing list. This list will include the public library and the local university (New Mexico State University). This information will also be provided in all public notices and pre-proposal meetings that NASA will initiate using the local print media.

6.3.3 Software

Standard web browser and e-mail software that is commercially available, and currently utilized by the EPA and NMED, will be compatible with the NASA e-mail system and Internet site. Agency or Bureau personnel, or the general public, will not require a specific e-mail program or browser version. In the event that browser versions become obsolete, an updated version can be downloaded from either the Microsoft or Netscape home page for no cost. NASA does not anticipate including any specialized documentation on the web-based system that will require add-ons or additional software; for example, Quicktime movies, Macromedia Flash, or audio files. This will ensure that a simple browser system, without peripheral add-on requirements, will be sufficient to access the NASA information.

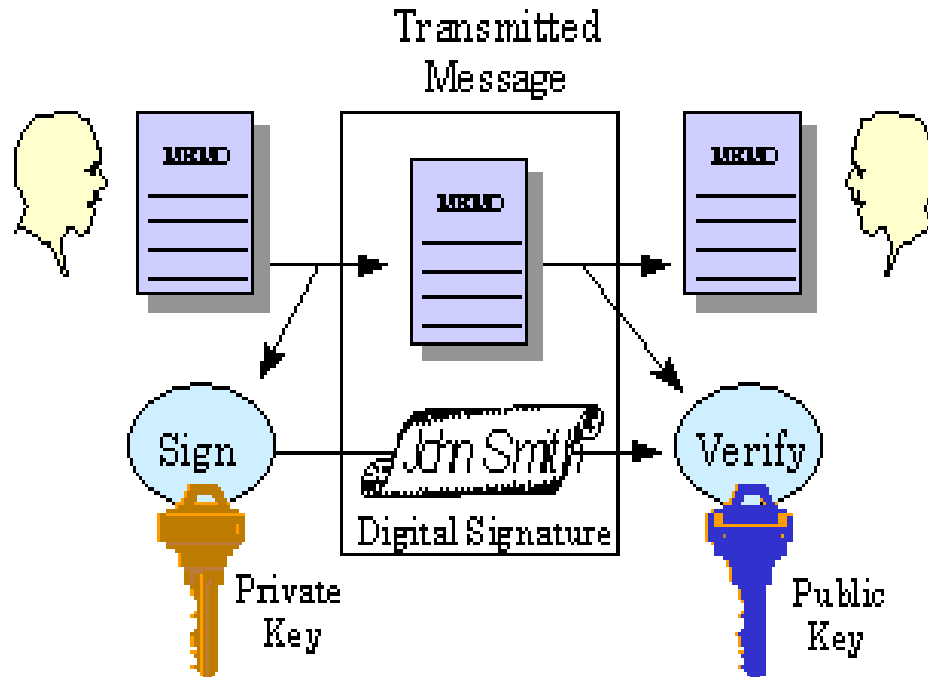
NASA will provide documents on the web-based system in both standard web page (HTML) format and as Adobe Acrobat files. Documents can either be printed directly from the Internet browser software or by using Adobe Acrobat Reader software. Adobe Acrobat Reader is available as a free download from the Adobe Systems web page (<http://www.adobe.com>). Acrobat Reader is also backward compatible when new versions of the software are released. Therefore, historical documentation will be readable if versions of the software are updated. NASA will ensure that all historical archived documents are maintained, and upgraded if necessary, in a format that is readable with current browser and Adobe software configurations.

The EPA, NMED, and NASA are currently standardized with Microsoft Office software. NASA has adopted the Microsoft Access platform for the groundwater monitoring database. This database system will be linked to specific web page addresses and will provide each end-user with detailed search capabilities. It will not be necessary for an end-user to have MS Access and be proficient in database manipulation. The Access database will be “invisible” to the end-users of the data; the access and search commands will be provided using HTML web page links. NASA anticipates that the database system will be upgraded to a Microsoft SQL Server platform in the near future, and proficiency in using SQL Server will not be required by the end-user; this system will also be “invisible” to the document end-user.

6.3.4 Server Security, Signature Authentication, and Document Control

The electronic mail and Internet site security, authentication, data and document appending, and electronic signature issues will be addressed using commercially available secure server technology, current cryptography procedures, and digital certificate technology. This technology will be incorporated using specific criteria identified in the EPA’s proposed Discharge Monitoring Report (DMR) rulemaking. Specifically, public-key infrastructure (PKI) cryptography will be utilized for e-mail security and digital signature authentication; incorporating a pair of related keys to ensure security and the authentication of the preparer’s report or document. This system provides a public key, which is freely distributed and can be seen by all users, and a corresponding unique private key, which is not shared among users of data, reports, and regulatory information. The private key ensures privacy and verifies the identity of the user. Public and private keys are used in tandem to perform inverse operations. If a message (i.e., e-mail with digital signatures) is encrypted with the public key, the private key will decrypt it, while a coded message with the private key can be validated with a public key. This “key” technology is provided by using digital certificates (digital IDs). Figure 4 provides a graphical presentation of this technology.

Figure 4 - Digital ID Technology



NASA will utilize a commercially available public key infrastructure (PKI) service to ensure secure access control, non-repudiation, provide authentication of senders/recipients of information, provide confidentiality between parties, and attach legally defensible digital signatures to electronic forms, reports, and data. This PKI technology will also provide a “hash function” that uses an algorithm to translate a document’s bits into a second smaller set. The hash results will always be identical for a document if it has not been modified. NASA anticipates incorporation of the Secure Hash Standard (FIPS PUB 180-1), as specified in the proposed DMR criteria. This will provide security that e-mail notifications and digital signatures are authentic and not appended after submission.

NASA will also ensure security of the web page documentation using standard, commercially available secure server technology (i.e., Verisign Corp.) and the incorporation of the previously mentioned hashing function. Additional information on cryptography techniques and secure server procedures can be reviewed from the Verisign Corp. web site located at <http://digitalid.verisign.com/server/help/hlpIntroCryp.htm>.

Digital certificates can be obtained commercially and distributed to the end-users of the regulatory reporting links. This digital certificate technology for e-mail notifications, digital signatures, and certification requirements, coupled with secure server protection (e.g., secure sockets layer (SSL) technology), and on-site, in-place, NASA server security (firewalls), will provide the necessary authentication, access control, confidentiality, data integrity, and non-repudiation services as specified in the proposed DMR criteria.

NASA proposes that the specifics of PKI implementation will be developed in conjunction with third party vendors of the technology to ensure all security issues are identified. The PKI technology that is proposed for this project is commercially available. NASA proposes to use enterprise PKI platform solutions including secure server technologies, electronic identification/signature processes (digital certificates), and peripheral support. Specific requirements of a complete PKI platform are dependent on the vendor-supplied system. For example, Verisign can provide an OnSite™ program that meets all the requirements to produce a secure document management system. An enterprise PKI platform installation, using the OnSite™ example, can include:

- Registration and certificate authority functions, including certificate configuration, administration rules, authentication, and revocation;
- Customized user interactions via web applications;
- Certificate lifecycle management including issuance, revocation, renewal, recovery, and reissuance;
- Key management including auditable root key generation, dual key support, key histories, and secure key recovery;
- Specific vendor-supplied toolkits to enable enterprise application integration;
- Integration with standard desktop software and enterprise and Internet applications;
- Automated server-side validation of certificate status;
- Incorporation of multiple standard formats and standard certificate types;

- Incorporation of non-stop carrier class delivery, including high capacity processing, audit and archive, data and network security, customer (NMED/public) service, and disaster recovery; and
- Procurement of a wide range of training requirements.

This certificate technology will be procured and incorporated into the project by NASA. The technology will be “invisible” to the information end-users (NMED, EPA). NASA will provide training to the affected Bureaus and/or agencies on digital certificates and PKI technology. The Certificate Authority (CA) will be a third-party vendor that provides authentication services. In addition, as specified in the proposed DMR criteria, a secure server technology that utilizes NASA-issued identification IDs and passwords may be incorporated to ensure site security. This password system may be included as part of a comprehensive server security program that utilizes SSL technology and other NASA security procedures (i.e., firewalls). This system would be very similar to secure electronic commerce web sites where IDs and passwords are issued to all interested stakeholders (including the general public). For example, Internet brokerage firms, e-commerce retailing sites, and other common Internet sites utilize these security procedures to ensure a web site that cannot be compromised and the general public can load and view at any time.

NASA has reviewed several applicable technologies to provide secure server and digital identification procedures. NASA selected these technologies based on current successful implementations and similar secure web site applications. This technology also closely mirrors the criteria specified in the proposed Discharge Monitoring Report (DMR) rulemaking. The PKI technology and digital certificates are currently implemented at several government agencies and are discussed in detail in Digital Signature Guidelines: Legal Infrastructure for Certification Authorities and Secure Electronic Commerce, prepared by the American Bar Association (ISBN 1-57073-250-7). In addition, the Government Paperwork Elimination Act tasked all executive agencies of the Federal government to implement on-line versions of standardized forms, and to accept these forms on-line using digital signatures. Some of the participating agencies that have implemented pilot tests of this PKI technology include the FBI, Energy Department, Patent and Trademark Office, Social Security Administration, Navy, Army, and Air Force. In addition, the Internal Revenue Service (IRS) has implemented this technology

for the Electronic Tax Form Filing Project (e-filing). The security requirements inherent during the electronic filing of tax returns are very similar to the NASA proposal; documents must be legitimate, cannot be appended in transit, digital signatures must be authentic, and the process needs to be legally defensible.

This PKI technology and the associated cryptographic procedures were selected to ensure the requirements of secure regulatory reporting are achieved. NASA will review the vendor supplied software and peripheral support and ensure its compatibility with the project objectives. To ensure compatibility with stakeholder computer systems, a meeting will be scheduled after final proposal approval, and the preliminary selection of the vendor, to ensure all affected parties are capable of receiving the web page information. At this time, any applicable training concerning operating of these systems will be provided by NASA. After all affected parties are briefed on the vendor selection and the proposed system, and after a consensus is reached regarding its viability, the final procurement will be completed.

6.3.5 Incorporation of Proposed Discharge Monitoring Report (DMR) Criteria

The EPA has proposed general guidelines and criteria for electronic reporting procedures using the draft Discharge Monitoring Report (DMR) rulemaking. These guidelines delineate general system security requirements, electronic signature criteria, certification statement usage, signature holder agreements, data receipt and proof of submission information, electronic archival (recordkeeping) issues, and chain of custody documentation techniques. NASA proposes to incorporate the appropriate and relevant DMR criteria into the proposed web-based system as follows:

General System-Security Requirements – NASA proposes that the incorporation of secure e-mail notifications using PKI technology with hypertext links to web-based reports can be implemented with adequate safeguards to ensure general document security and non-repudiation. Appropriate and relevant DMR criteria will provide secure signatures, prevent unauthorized access and usage, prevent modification or alteration of documents, and ensure an “audit trail” is generated to prove agency receipt.

Electronic Data Interchange (EDI) – EDI technology will be incorporated where appropriate to ensure Internet site security. However, due to the variable formats of multi-media compliance reporting, a system of standardized report formats will not be

achievable. Current formats for reports have been developed by NASA, and routine reports can vary from each reporting period due to changes in operational procedures, schedules, or timelines. Therefore, the standardized formats as specified in the DMR criteria for Transaction Sets and ANSI standards will need to be negotiated between NASA and NMED Bureau-specific personnel. NASA will provide all data in a format compatible with NMED Bureau-wide requirements. At this time, NASA does not provide any specific compliance reports to the EPA other than SARA Title III, Toxic Release Inventory (TRI), and a courtesy copy of the hazardous waste Biennial Report. These documents are already provided as an electronic deliverable using an EPA-supplied format and data disk. NASA does not anticipate any type of Internet-based reporting to an EPA Central Receiving Facility.

Standardized Secure Hashing Procedures (FIPS 180-1) - NASA will incorporate the FIPS 180-1 standardized hash function procedures into the electronic mail submittals and web-based documentation. This will ensure that regulatory personnel can authenticate each NASA submission and provide for a check on the permanency of each document. For example, documents that have been uploaded and on-line for an extended period of time can be deemed authentic by simply checking the hash numbers.

Standardized Digital Signatures (FIPS 186-1) - NASA will utilize standardized digital signature procedures to ensure that each document requiring certification statements and signature will be authentic and cannot be altered. This system will also incorporate standardized PKI authentication services (FIPS 196) obtained by NASA from a third party commercial vendor. This system will ensure that submittals are encrypted prior to submission and the regulatory agency personnel have the training and software to decrypt the message and determine its security and authentication.

Electronic Certification Requirements – NASA proposes that all regulatory submittals utilizing the e-mail notification system will incorporate a certification statement to ensure knowledge and truth of the submitted document. The certification statement that will be incorporated will be the RCRA 40 CFR §270.11(d) language currently used in paper submittals and permit modifications.

Signature Holder Agreement – To ensure that electronic signatures are authentic, NASA proposes to enter into a signature agreement with each affected NMED Bureau. This agreement will provide each Bureau with a notarized written signature and will include language to ensure that security requirements and

procedures will be followed during the usage of all digital signature submittals.

Receipt of Data, Proof of Submission, and Chain of Custody (Audit Trail) – NASA proposes that a documented “audit trail” or “chain of custody” can be provided for each submitted document based on the e-mail time/date stamp indicating document receipt. This information will be utilized to ensure the intended recipient has received and opened the submittal. In addition, the NASA server has the capability of tracking “hits” on individual web site links, and this information will also provide documentation of submittal receipt. These two “audit trails” will provide proof of submission for all electronic documents.

Electronic Recordkeeping – NASA will phase-in an electronic recordkeeping procedure to ensure that a submitted document is maintained on-site for archival purposes. This electronic recordkeeping procedure is proposed as recordable CD-ROM storage and database maintenance with regular back-ups to a separate electronic media.

Passwords and PINs – NASA will incorporate password systems and PINs as necessary to ensure secure access to the system. This system will also provide NASA with a documented record of each stakeholder that logs on to the system and reviews reports and regulatory information. This will effectively produce a “transmission log” of all interested parties, including the general public. General public stakeholders can be issued passwords and PINs through a simple, interactive, log-on screen. NASA will carefully review the viability of this type of security system to ensure it is effective and not burdensome to stakeholders that require access to the web-based reports and regulatory information.

Testing and Training – NASA will thoroughly test the system and incorporate suggestions and requests from all stakeholders. Public meetings to introduce the system to interested stakeholders, in addition to on-site training for NMED in Santa Fe, NM, will ensure that the system is operating as designed and security systems are fully implemented. NASA will personally test the system for security requirements by attempting unauthorized access and modification of documents. This will ensure that the system is fully functional and secure.

ANSI Transaction Set Guidelines - The incorporation of transaction set guidelines will require flexibility from the regulatory agency. The diverse report formats common with multi-media compliance reporting will be difficult to capture in a single, standardized, “fill-in-the-blank” format.

NASA considers an e-mail notification and Internet-based reporting system the best choice as the primary mechanism for the submittal of various reports, correspondence, and miscellaneous information. NASA proposes that an initial trial of direct e-mail submittals of document links, coupled with secure digital signatures and certification requirements, will ensure that the system is viable. This pilot-scale project will incorporate DMR criteria where appropriate and relevant.

7.0 PROJECT XL CRITERIA

7.1 Superior Environmental Performance

Proposal implementation will enhance environmental performance. This proposal’s superior performance will be demonstrated as follows:

- Provides real-time desktop access to environmental compliance report deliverables and associated data;
- Consolidates multi-Bureau reporting requirements into one system;
- Multi-bureau access will increase inter-Bureau communication;
- Desktop access will increase intra-Bureau personnel communication;
- E-mail notifications ensure delivery to the intended recipient;
- Graphical presentations will increase visualization of WSTF conditions and data interpretations;
- Archived data will be easily accessed for determinations of past results and comparisons to current conditions;
- Paper resources are saved by eliminating hard copy reports in triplicate (some documents require five copies);
- Personnel resources will be saved by minimizing hard copy reproduction requirements and extensive data formatting;
- The system will provide public access to encourage participation in Federal facility compliance activities;
- Data archival on recordable CD-ROM disks will eliminate massive hard copy storage requirements;

- Encourages electronic deliverables regardless of signatory requirements (40 CFR §270.11); and
- The proposal will be simple and easily transferable to other Federal facilities and private sector entities throughout the United States.

The implementation of these enhanced environmental performance indicators will be demonstrated using the documents listed in Table 1. These documents will provide the initial scope of the project. However, NASA does not consider Table 1 an exhaustive list of reporting obligations. The implementation of new compliance requirements, or changes to current requirements, are a dynamic process that may require the addition or deletion of reporting requirements over time. NASA proposes that the current reporting obligations are sufficient to demonstrate the viability of the project and any changes to the list will be negotiated with the specific NMED Bureaus to ensure appropriate reporting formats are utilized.

Table 1 - List of Environmental Compliance Reporting Deliverables

LIST OF ELECTRONIC DOCUMENT SUBMITTALS			
Document Submittal Requirement	Regulatory Bureau	Submittal Frequency	Approximate Annual Document Size
Groundwater Activity Report	HRMB and Groundwater	Monthly	>50 Pages
Post-Closure Care Report	HRMB	Annually	>300 Pages
RCRA Permit Modifications	HRMB	As Required	> 25 Pages
No Further Action Proposal	HRMB	As Required	> 200 Pages
Post-Closure Care Permit Modifications	HRMB	As Required	> 25 Pages
Discharge Plan DP-392	Pollution Prevention Section (Groundwater Bureau)	Semi-Annually	>10 Pages
Discharge Plan DP-584	Pollution Prevention Section	Semi-Annually	>5 Pages
Discharge Plan DP-1170	Pollution Prevention Section	Semi-Annually	>5 Pages
Discharge Plan DP-697	Pollution Prevention Section	Quarterly	>5 Pages
Landfill Post-Closure Report	Solid Waste Bureau	Annually	>50 Pages
Landfill Groundwater Report	Solid Waste Bureau	Semi-Annually	>100 Pages
Landfill Statistical Analyses	Solid Waste Bureau	Semi-Annually	>10 Pages
Landfill Background Report	Solid Waste Bureau	Quarterly	> 50 Pages
Remediation System Discharge Plan Reports	Pollution Prevention Section	To Be Determined	To Be Determined
Remediation System Operations Progress Reports	Pollution Prevention Section	To Be Determined	To Be Determined
Fuel Sulfur/Boiler Operations	Air Quality	Quarterly	>5 Pages
NPDES/Stormwater/SWMUs	Surface Water	To Be Determined	To Be Determined

7.2 Cost Savings

NASA estimates that cost savings will be immediately achievable after implementation of this system. NASA currently has three ITS personnel on-staff that will provide the initial system construction and set-up. After implementation, cost savings will be realized based on personnel resources to provide hard copy reports, copy center cost savings based on the elimination of triplicate copy requirements, postage requirements, and personnel requirements for providing supplemental requests for information and notices of deficiency. NASA proposes that the original preparer of the document will simply e-mail the document through a pre-specified approval loop, then forward it to the ITS personnel for upload to the web-based system.

The signature and certification requirements, if necessary, will be attached and an e-mail notification with hypertext links will be forwarded to the appropriate NMED personnel. Table 2 provides specific cost savings estimates.

Table 2- Project XL Cost Benefits

Item	Quantity	Cost Saving	Time
Personnel	4,000 Hours ¹	\$140,000 ²	Annually
White Paper	N/A	\$1,000	Annually
Copy Center	1,000 Hours ³	\$35,000 ²	Annually
Postage	N/A	\$500	Annually
RSIs and NODs	To Be Determined	Estimate ~\$10,000	Annually
Total Annual Cost Savings		\$186,500	
Five-Year Estimated Cost Savings		\$932,500	

¹Approximately two full-time employee's labor per year.

²Based on loaded average labor cost of approximately \$35/hour.

³Approximately one half-time employee per year.

7.3 Project Benefits

Table 3 provides a brief discussion of the benefits of implementing Project XL at the NASA White Sands Test Facility. The benefits are extensive and will result in a more efficient, cost-effective, environmental information management and regulatory reporting protocol.

Table 3- Benefits of Project XL Proposal Implementation

With Project XL Implementation	Without Project XL Implementation
Real-time desktop access	Extensive requests for supplemental information (RSIs)
Desktop availability of facility-specific information	Loss of documents, requests for duplicates, library searches
Better intra-Bureau personnel communication	Extensive RSIs and notices of deficiency (NODs)
Better inter-Bureau communication	Multi-Bureau communication, numerous courtesy copies
Minimization of white paper usage	Extensive white paper usage, triplicate copies, hard copy archival
Easy access to archived groundwater data	Extensive RSIs and notices of deficiency (NODs)
Encourages public involvement with Federal activities	Federal agency appearance of non-disclosure, closed door policy
Increases public/Federal agency goodwill	Possible conflicts during public meetings and after public notices
Easily transferable technology (nationwide adoptability)	Continue to accumulate white paper records facility and agency-wide
Encourages Class I permit modifications (electronic deliverable)	Out-of-date, possibly out-of-compliance permit
Increased visualization of site conditions (graphics)	Confusion about current conditions, extensive RSIs and NODs
Consolidation of multi-media compliance information	No cross-media information available to regulators, confusion
Increases personnel resources for compliance/remediation projects	Personnel utilized for document preparation/copying/formatting
Data archival simplified with CD-ROMs	Continued massive archival of hard copies in storage rooms

The cost savings associated with these benefits will be redirected to site-specific projects during the ramp-up of plume-front remediation system implementation, and the associated extensive well drilling effort that is currently in progress. The primary benefit of this effort/funding redirection is that plume-front capture and source area remediation can be assigned additional resources to ensure a timely completion. Additionally, personnel resources can be redirected to active waste minimization programs that will promote site-wide affirmative procurement, recycling, and proactive environmental management system implementation.

7.4 White Paper Reduction

NASA estimates that several thousand pages of documents, including triplicate reproduction copies, will be eliminated annually using this proposed information management and reporting system. This is an effective way of participation in the Federal government initiatives to reduce white paper usage and recycle paper resources.

Data archival of hard copy deliverables currently occupies a storage area not immediately accessible to NASA and contractor Environmental Department personnel. This document storage area is in addition to the large quantity of file cabinets located in the contractor Environmental Department and NASA office areas. The elimination of these written hard copy reports into the paper recycling program will preclude extensive storage requirements. In addition, the ability to store and utilize archived electronic reports in the work area will minimize file and library searches.

7.5 Operational Flexibility

NASA has the personnel, resources, and flexibility to initiate this proposal and ensure its completion. The contractor Environmental Department is appropriately staffed to initiate the proposal and direct it through the appropriate channels. The WSTF contractor Environmental Department and Information Services Section (ISS) are staffed with personnel with extensive expertise in Internet-based systems, web page development, and site security issues. WSTF also has the computer system network, servers, and web hosting capabilities to develop and upload the proposed system. WSTF currently has a functioning web page located at <http://www.wstf.nasa.gov> and an environmental compliance and regulatory reporting home page could easily be developed as an extension of this home page.

7.6 Stakeholder Involvement

7.6.1 New Mexico Environment Department

Regulatory personnel from the Groundwater Bureau and HRMB have expressed an interest and willingness to be involved in this proposal; other affected Bureaus were also briefed during a recent meeting in Santa Fe, NM. These additional Bureaus, in addition to personnel from the NMED Information Technology Section (ITS), were interested in pursuing the proposal. In fact, the ITS personnel were very enthusiastic toward a web-based electronic reporting project and did not foresee any problems with hardware/software/Internet access capabilities. In addition, a letter was received from Mr. Peter Maggiore, NMED Secretary, detailing full support for the proposal from all Bureaus of NMED. This proposal will benefit NMED personnel by providing cross-media, real-time desktop access to environmental compliance reports and associated data. In addition, access to historical data for site-specific research and comparisons to current conditions could provide a more timely review schedule for submitted permit applications and modifications packages.

7.6.2 Public Involvement

Public involvement in compliance activities at a Federal facility will be significantly enhanced. Interested parties from anywhere can access extensive environmental compliance information, and this “100% access” policy will increase goodwill between the general public and government entities. The ability to access the information by Internet connection will be included in public notifications and during public meetings. For example, notifications of permit modifications for the facility mailing list, or newspaper or radio notices could include Internet access locations and the web page address (URL) for further information. This will help provide site-specific and permit-specific information to the general public prior to public meetings.

7.6.3 U.S. Environmental Protection Agency

The EPA will be provided full access to the web-based regulatory reporting and information management system. The proposed system may also be used by the EPA to encourage transferability to other Federal facilities or the private sector. This will allow access to an example system and further promote the benefits of electronic deliverables and an information management system.

7.6.4 Stakeholder Plan

The intended audience for this proposal includes all interested stakeholders; inclusive of the general public, private and non-profit

environmental organizations and “watchdog” groups, other Federal and State-operated regulated facilities, privately operated regulated facilities, native American tribal entities, media organizations, Federal and State regulatory or general government agencies, local government agencies and personnel, the occasional casual Internet “surfer”, and any other interested party. NASA will provide open access to environmental compliance information after all standard internal reviews and approval procedures have been completed. This will ensure that all compliance data has been fully reviewed for accuracy and the appropriate QA/QC requirements for data and associated environmental records is maintained. This proposal will ensure that anyone interested in environmental operations at WSTF can conveniently and easily access and review the publicly releasable information provided by WSTF to the EPA and NMED.

Environmental compliance initiatives and associated issues have been previously shared with interested stakeholders during public notifications, public meetings, radio announcements, and written notifications to individuals on the current facility mailing list (Section 17.0 - Appendix A). Throughout the hazardous waste and post-closure care permitting process, new source air quality permitting process, plume-front remediation planning phase, discharge plan application procedures, and various permit modification proposals, NASA has not generated any public concerns, or significant requests for additional information, during environmental compliance activities.

The current facility mailing list (Section 17.0 - Appendix A) is a comprehensive list of interested parties that includes regulatory personnel, business owners/operators, state-wide public servants (mayors, senators, representatives), newspaper editors, tribal leaders, and the general public. After completion and acceptance of the final agreement, NASA will provide information concerning this proposal to each individual on the facility mailing list. These individuals will also be invited to the stakeholder involvement meetings that will be scheduled after completion of the final proposal. In addition, stakeholders from the State of New Mexico Land Office, White Sands Missile Range, USDA Jornada, and the Bureau of Land Management (BLM) will be included in all correspondence. Public involvement activities will be advertised using the local print media to provide interested parties the opportunity to review the proposal and attend stakeholder meetings; including the preliminary “kick-off” meeting, scheduled after submittal of the final agreement to EPA and NMED. To ensure the general public can review the proposal, a copy of the final draft will be maintained in the local library reference section.

The location of this copy will be provided in the general public notification (newspaper advertisement) and in the facility mailing list notifications.

NASA will provide copies of the proposal, if requested, to each stakeholder and forward the web site address (URL) to each stakeholder for initial testing after construction and upload to the Internet. The web site will provide a link to contact the facility and provide comments, suggestions, and general input. These comments and suggestions can also be mailed, faxed, or telephoned. NASA will review each suggestion and incorporate it if appropriate. If NASA determines the suggestion is not applicable or appropriate, a meeting will be held to discuss this determination with the stakeholder. A public meeting will be held after initial set-up and incorporation of comments and suggestions to discuss the proposal with interested individuals.

NASA will also meet with each affected Bureau after the proposal has been finalized. This meeting will discuss the proposal, determine the computer capabilities at each Bureau, and ensure that training and testing of the system is scheduled and completed in a timely manner. As with the public mailing list notification, any comments, suggestions, or general input received from the regulatory agencies will be incorporated. In conjunction with these meetings, NASA will contact the New Mexico Attorney General's Office, with assistance from NMED, to ensure that the proposed project does not violate any State law. Specifically, the use of digital signatures and electronic archival of compliance documentation will be addressed with the Attorney General.

7.7 Transferability

The proposed system is easily transferable to other Federal facilities or private sector representatives from the regulated community. With regulatory approval and concurrence, the web-based system can be implemented with a simple system of desktop computers, Internet access, browser software, server or web hosting availability, and associated security systems and technical support.

7.8 Monitoring, Reporting, Evaluation, and Accountability

Milestones have been identified in the project management plan (Section 18.0 – Appendix 2). These milestones are closely correlated with the previously identified elements. NASA will work with representatives from the NMED Bureaus to ensure a timely completion of this project. In the event certain elements are not completed as specified, NASA will

continue the current system of written deliverables as specified by regulation, permits, and associated documentation.

7.9 Shifting of Risk Burden

The proposal does not shift or minimize any environmental risks. The regulatory flexibility does not request the minimization or elimination of any reporting or recordkeeping requirements. The requested flexibility only integrates changes in formatting, delivery method, signatory requirements, and data archival procedures.

8.0 FLEXIBILITY AND IMPLEMENTING MECHANISMS

8.1 Requested Regulatory Flexibility

The proposed project will require specific regulatory relief from the reporting and signatory requirements of 40 CFR §270.11, in addition to reporting flexibility from several NMED Bureaus. The web-based system will not eliminate any regulatory reporting requirement; only modify the current format, delivery method, and archival procedures. NASA proposes that the regulatory flexibility issues requested in this proposal do not require specific regulatory relief and will be obtained through permit modifications, NMED Bureau-initiated changes, and/or mutually agreeable changes to current practices. NASA requests the following regulatory relief from the EPA (regulatory citations in bold-request for regulatory relief in italics):

§270.11 Signatories to permit applications and reports.

- (a) ***Applications.*** All permit applications shall be signed as follows:
- (b) ***Reports.*** All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative if:
- (d) ***Certification.*** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted

is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NASA proposes that this regulation be modified to provide a legal mechanism for the submittal of the applications, reports, and certification requirements utilizing electronic deliverables and a secure digital signature procedure. The NASA proposal for web-based electronic deliverables and digital signatures is provided in Section 3.2.4. This proposal closely follows the EPA's recently proposed NPDES Discharge Monitoring Report (DMR) rulemaking and will incorporate DMR criteria for security issues, digital signature procedures, and electronic submittal techniques. Actual "submittal" of the signature and certification requirements is proposed as an e-mail notification with hypertext links to the web-based documents, and will include a date/time stamp to document receipt, a secure digital signature, and the certification statement.

NASA also proposes that this regulatory relief be expanded to include regulatory reporting requirements agency-wide. A cross-media regulatory rulemaking that finalizes an electronic deliverable and secure digital signature system will provide all affected EPA sections with the flexibility to legally receive electronic deliverables with digital signatures for all aspects of environmental compliance initiatives. The DMR criteria is suggested as a preliminary outline of secure digital signature and electronic submittal issues. However, the diversity of multi-media documentation and report formats requires regulatory flexibility regarding the use of Electronic Data Interchange (EDI) and the DMR requirement for specific forms and document formats as specified in the DMR criteria (transaction set guidelines). NASA proposes that compliance documentation will not be submitted to a centralized data receipt center; rather a centralized "hub" on the Internet where e-mail notifications with hypertext links will guide the recipient to the specific document. All documentation and reports submitted to NMED have individual formats that were determined by NASA, and are forwarded to different personnel within several separate Bureaus. This situation requires flexibility on specific formatting requirements; specifically ANSI standardized formats in the form of X12 standards transaction sets like 863 (Report of Test Results). Standardized formats and transaction set issues are further discussed in Section 3.2.5.

NASA also proposes to phase-in the submittal of Class I permit modification requests in electronic deliverable format. This will require flexibility from the EPA and NMED concerning the Director notification requirements of 40 CFR §270.42 (a)(i). Currently, the submittal procedure consists of a hard copy deliverable sent by certified postal mail with a NASA request for a return receipt. NASA proposes that the regulatory language of "certified mail **or other means**" is sufficient for NASA to submit Class I permit modifications electronically. This regulatory flexibility is detailed as follows (regulatory citation in bold-NASA proposal in italics):

§270.42 Permit modifications at the request of the permittee.

- (a) ***Class I modifications.*** (1) Except as provided in paragraph (a)(2) of this section, the permittee may put into effect Class I modifications listed in appendix I of this section under the following conditions:
- (i) **The permittee must notify the Director concerning the modification by certified mail or other means that establish proof of delivery within 7 calendar days after the change is put into effect. This notice must specify the changes being made to permit conditions or supporting documents referenced by the permit and must explain why they are necessary. Along with the notice, the permittee must provide the applicable information required by §§270.13 through 270.21, 270.62, and 270.63.**

NASA proposes that Class I permit modifications can be submitted electronically to the Director, and suggests that the language “certified mail or other means” can include electronic delivery and electronic return receipt without requiring specific regulatory relief. The electronic return receipt will be provided using an electronic mail notification that is time/date stamped when it is received and opened. This e-mail notification will provide a hypertext link to the specific web-based document and will include the secure digital signature and certification requirements of 40 CFR §270.11 (using PKI technology). This information can also be provided by an Internet web page; the NASA server has the capability to time/date stamp the reporting link when it is opened by Bureau personnel. This will provide two separate notifications to NASA that proof of delivery has been established.

This project will also require specific regulatory flexibility, not specific relief, from NMED Bureau personnel to allow the electronic submission of multi-media compliance reports and supporting documentation. These changes to current practices do not require specific relief; only changes to current permit language, compliance documents, and/or Bureau-initiated modifications to current practices. The following details the requested regulatory flexibility:

- Allow e-mail notification and web-based submission of the §3008(h) Consent Order’s regulatory requirement for a written monthly status report. The monthly status report is currently submitted on a CD-ROM electronic deliverable format that required reporting flexibility from HRMB and on-site (Santa Fe, NM) training of HRMB personnel by NASA. The CD-ROM format is currently being upgraded to provide the report in an HTML (web-based) format, which will use standard, commercially available web browsers to read the contents of the CD-ROM. NASA anticipates a future upload to the web-based system (with an e-mail notification procedure), after approval and implementation of this proposal, and the HTML-formatted CD-ROM

will familiarize Bureau personnel with web-based formats and simplify the transition to a web-based reporting procedure;

- Allow the electronic submission of the annual Post-Closure Care written reporting requirements as specified in Post-Closure Care Permit No. 8800019434-2;
- Allow the electronic submission of quarterly and semi-annual reports as specified by NMED Groundwater Bureau Discharge Plans DP-392, DP-697, DP-584, DP-1170, and any future Notices of Intent to Discharge (NOIs);
- Allow the electronic submission of regulatory reports and associated information as specified by the NMED-issued Air Quality Control Permit No. 629 (Permit No. 629 is a new source review and NSPS permit, not a Title V requirement). This includes, as necessary, 300 Area, 400 Area, 700 Area, and Test Cell 844 information and/or emissions calculations;
- Allow the electronic transfer of groundwater monitoring data and status reports from the 700 Area Landfill as required by the Closure and Post-Closure Care Plan issued by the NMED Solid Waste Bureau;
- Allow the electronic transfer of progress reports, analytical data, and supplemental discharge plan reports (DP-1255; currently being prepared at NMED) and information regarding the proposed plume-front containment remediation system to NMED's Groundwater Bureau and Hazardous and Radioactive Materials Bureau; and
- Minimize the hard copy archival requirements of the §3008(h) Consent Order, the Post-Closure Care Permit, and the RCRA Hazardous Waste Operating Permit by allowing recordable CD-ROM long-term storage of archived data and regulatory reports.

The parties to the Agreement do not anticipate any need to provide flexibility from any additional Federal, State, and/or local requirements. If the parties agree that additional flexibility is necessary and appropriate, the flexibility may be added to this Project and will be subject to public notice and comment, as appropriate.

8.2 Legal Implementing Mechanisms

As a pilot-scale experiment to determine if electronic reporting is viable, NASA proposes that extensive regulatory relief from multiple multi-media regulations is unnecessary. NASA proposes that the legal implementing mechanism will be EPA regulatory relief from the "written" reporting

requirements specified in 40 CFR §270.11. This legal mechanism will be drafted after submittal of the Final Project Agreement. In addition, NASA proposes that this “written” reporting requirement be waived for all reporting requirements as a WSTF-specific, “global”, test case regulatory exemption. This will provide NASA with the ability to prepare and submit reports electronically to multiple NMED Bureaus for several different environmental media. This multiple Bureau reporting would only be submitted after consultation with each Bureau Chief, and after NMED incorporates the EPA regulatory relief into the State regulatory framework. In addition, NASA proposes that modifications to existing permits, discharge plans, or other compliance documentation can be completed to allow the electronic reporting of multi-media compliance information.

NASA also proposes that the Class I permit modification regulation of 40 CFR §270.42 can be modified without extensive rule-making. This regulatory flexibility can be incorporated with a policy statement stating that the language “or other means” implies the ability to submit electronically. As an experimental, pilot-scale project, this will provide the necessary flexibility to test the Class I permit modification submittal procedures.

Specific regulatory relief will not be required from NMED. The current requirements of in-place permits, discharge plans, and other compliance documentation can be sufficiently modified by Bureau-initiated changes, mutual agreements regarding procedural requirements, or specific permit modifications to incorporate electronic reporting. NASA will negotiate and initiate these changes with NMED Bureau personnel after completion and acceptance of the Final Project Agreement.

NASA has submitted copies of all compliance documentation, including hazardous waste permits, discharge plans, solid waste post-closure care plans, HSWA modules, Consent Order requirements, air permits, and other relevant documentation, to both EPA and NMED for review of specific regulatory requirements. These documents indicate that most regulatory flexibility for the start-up of this Agreement and Project can be initiated through NMED using implementing mechanisms that do not require regulatory rule-making and specific regulatory relief. During several meetings in Santa Fe, NM, with representatives from each Bureau, no opposition was encountered regarding electronic deliverables for specific Bureau-required reporting issues.

9.0 INTENTIONS AND COMMITMENTS

9.1 NASA’s Intentions and Commitments

NASA intends to initiate and complete this pilot-scale Project as specified in this Agreement. NASA will ensure the necessary personnel, resources, and equipment are available to complete the project in a timely manner, and will cooperate with personnel from each NMED Bureau to initiate and implement the reporting and archival requirements that are specific to each Bureau. On-site training will be provided, as necessary, to NMED personnel regarding electronic deliverables. This training will be provided by trained Information Technology Specialist personnel that are currently on-staff at WSTF.

9.2 NMED's Intentions and Commitments

NMED will work with NASA to legally incorporate any EPA-issued regulatory relief, flexibility, and/or policy statements into the State regulatory framework. NMED will also cooperate with NASA during the implementation of any NASA-initiated permit modifications and other environmental compliance documentation changes. NMED will provide flexibility with reporting requirements and institute Bureau-initiated administrative modifications to compliance documentation, whenever possible. As a pilot-scale electronic reporting experiment, NMED will participate with the Project during the implementation of each element/phase. In the event that problems with implementation are encountered at a specific Bureau, NMED and NASA will coordinate immediate corrective actions, including on-site meetings and training if necessary, to resolve each issue.

9.3 EPA's Intentions and Commitments

EPA will provide the legal mechanism to initiate the Project and allow NASA and NMED to negotiate and implement the Project as specified in each element of the proposal. This legal mechanism will incorporate a regulatory exemption from the reporting requirements of 40 CFR §270.11 and a policy statement, or other regulatory flexibility mechanism, for the Class I permit modification submittal requirements of 40 CFR §270.42. The EPA will assist NMED, if necessary, with the implementation of the Federal legal mechanism into the State regulatory requirements (i.e., incorporation by reference).

9.4 Project XL Performance Targets

The Project XL performance targets are incorporated as milestones in the Appendix 2 timeline schedule (See Section 9.5 and Section (Appendix 2) for additional information).

9.5 Proposed Schedule and Milestones

The proposed schedule, with associated milestones, is provided in the Microsoft Project timeline included in Section 18.0 (Appendix 2). This timeline provides estimated initiation and completion dates for major phases and elements of the Project. The timeline assumes the XL Project is approved for a pilot-scale test duration of five years.

9.6 Project Tracking, Reporting, and Evaluation

Milestones have been identified in the project management plan. These milestones are closely correlated with the previously identified elements. NASA will work with representatives from the NMED Bureaus to ensure a timely completion of this project. In the event certain elements are not completed as specified, NASA will continue the current system of written deliverables as specified by regulation, permits, and associated documentation.

9.7 Periodic Project Reviews

The Parties will hold periodic performance review conferences to assess their progress in implementing this Project. Unless they agree otherwise, the date for those conferences will be concurrent with annual Stakeholder Meetings. No later than thirty (30) days following a periodic performance review conference, NASA will provide a summary of the minutes of that conference to all Direct Stakeholders. Any additional comments of participating Stakeholders will be reported to the EPA.

9.8 Project Duration

The Agreement will remain in effect for five years, unless the Project ends at an earlier date, as provided under Section 12.0 (Amendments or Modifications) or Section 14.0 (Withdrawal or Termination). Prior to the end of the five-year period (at least 180 days) NASA may apply for a renewal or extension of the project period. The implementing mechanisms(s) will contain “sunset” provisions ending authorization for this Project five years after the effective date of the implementing mechanisms. They will also address withdrawal or termination conditions and procedures (as described in Section 14.0). This Project will not extend past the agreed upon date, and NASA will comply with all applicable requirements following this date (as described in Section 15.0), unless all parties agree to an amendment to the Project term (as provided in Section 12.0).

10.0 LEGAL BASIS FOR PROJECT

10.1 Authority to Enter Into Agreement

By signing this Agreement, EPA, NMED, and NASA acknowledge and agree that they have the respective authorities, discretion, and resources to enter into this Agreement and to implement all applicable provisions of this Project, as described in this Agreement.

10.2 Legal Effect of the Agreement

This Agreement states the intentions of the Parties with respect to NASA XL Project. The Parties have stated their intentions seriously and in good faith, and expect to carry out their stated intentions.

This Agreement in itself does not create or modify legal rights or obligations, is not a contract or a regulatory action, such as a permit or a rule, and is not legally binding or enforceable against any Party. Rather, it expresses the plans and intentions of the Parties without making those plans and intentions binding requirements. This applies to the provisions of this Agreement that concern procedural as well as substantive matters. Thus, for example, the Agreement establishes procedures that the parties intend to follow with respect to dispute resolution and termination (see Sections 13.0 and 14.0). However, while the parties fully intend to adhere to these procedures, they are not legally obligated to do so.

EPA intends to propose for public comment the regulatory mechanism needed to implement this Project. Any rules, permit modifications or legal mechanisms that implement this Project will be effective and enforceable as provided under applicable law.

This Agreement is not a “final agency action” by EPA, because it does not create or modify legal rights or obligations and is not legally enforceable. This Agreement itself is not subject to judicial review or enforcement. Nothing any Party does or does not do that deviates from a provision of the Agreement, or that is alleged to deviate from a provision of the Agreement, can serve as the sole basis for any claim for damages, compensation, or other relief against any Party.

10.3 Laws and Regulations That May Apply

Except as provided in the legal implementing mechanisms for this Project, the parties do not intend that this Final Project Agreement will modify any other existing or future laws or regulations.

10.4 Retention of Rights to Other Legal Remedies

Except as expressly provided in the legal implementing mechanisms described in Section 8.2, nothing in this Agreement affects or limits NASA’s, EPA’s, or NMED’s, or any other signatory’s legal rights. These

rights include legal, equitable, civil, criminal, or administrative claims or other relief regarding the enforcement of present or future applicable Federal and State laws, rules, regulations, or permits with respect to the facility.

Although NASA does not intend to challenge agency actions implementing the Project (including any rule amendments or adoptions, permit actions, or other action) that are consistent with this Agreement, NASA reserves any right it may have to appeal or otherwise challenge EPA or NMED action to implement the Project. With regard to the legal implementing mechanisms, nothing in this Agreement is intended to limit NASA's right of administrative or judicial appeal or review of those legal mechanisms, in accordance with the applicable procedures for such review.

11.0 UNAVOIDABLE PROJECT IMPLEMENTATION DELAYS

“Unavoidable delay” (for the purposes of this Agreement) means any event beyond the control of any Party that causes delays or prevents the implementation of the Project described in this Agreement, despite the Parties' best efforts to put their intentions into effect. An unavoidable delay can be caused by, for example, a fire or acts of war.

When any event occurs that may delay or prevent the implementation of this Project, whether or not it is avoidable, the Party to this Agreement who knows about it will immediately provide notice to the remaining Parties. Within ten (10) days after that initial notice, the Party should confirm the event in writing. The confirming notice should include: (1) the reason for the delay; (2) the anticipated duration; (3) all actions taken to prevent or minimize the delay; and (4) why the delay was considered unavoidable, accompanied by appropriate documentation.

If the Parties agree that the delay was unavoidable, relevant parts of the Project schedule (see Section 9.5) will be extended to cover the time period lost due to the delay. If they agree, they will also document their agreement in a written amendment to this Agreement. If the Parties don't agree, then they will follow the provisions for Dispute Resolution outlined below.

This section applies only to provisions of this Agreement that are not implemented by legal implementing mechanisms. Legal mechanisms, such as permit provisions or rules, will be subject to modification or enforcement as provided under applicable law.

12.0 AMENDMENTS OR MODIFICATIONS TO THE AGREEMENT

This project is an experiment designed to test new approaches to environmental protection and there is a degree of uncertainty regarding the environmental benefits and costs associated with activities to be undertaken in this Project. Therefore, it may be appropriate to amend this Agreement at some point during its duration.

This Final Project Agreement may be amended by mutual agreement of all parties at any time during the duration of the Project. The parties recognize that amendments to this Agreement may also necessitate modification of legal implementation mechanisms (*such as a rule or permit*) or may require development of new implementation mechanisms. If the Agreement is amended, EPA and NASA expect to work together with other regulatory bodies and stakeholders to identify and pursue any necessary modifications or additions to the implementation mechanisms in accordance with applicable procedures. If the parties agree to make a substantial amendment to this Agreement, the general public will receive notice of the amendment and be given an opportunity to participate in the process, as appropriate.

In determining whether to amend the Agreement, the parties will evaluate whether the proposed amendment meets Project XL acceptance criteria and any other relevant considerations agreed on by the parties. All parties to the Agreement will meet within ninety (90) days following submission of any amendment proposal (or within a shorter or longer period if all parties agree) to discuss evaluation of the proposed amendment. If all parties support the proposed amendment, the parties will (after appropriate stakeholder involvement) amend the Agreement.

13.0 DISPUTE RESOLUTION

Any dispute which arises under or with respect to this Agreement will be subject to informal negotiations between the parties to the Agreement. The period of informal negotiations will not exceed twenty (20) calendar days from the time the dispute is first documented, unless that period is extended by a written agreement of the parties to the dispute. The dispute will be considered documented when one party send a written Notice of Dispute to the other parties.

If the parties cannot resolve a dispute through informal negotiations, the parties may invoke non-binding mediation by describing the dispute with a proposal for resolution in a letter to the Regional Administrator for EPA Region 6. The Regional Administrator will serve as the non-binding mediator and may request an informal mediation meeting to attempt to resolve the dispute. He or she will then issue a written opinion that will be non-binding and does not constitute a final EPA action. If this effort is not successful, the parties still have the option to terminate or withdraw from the Agreement, as set forth in Section 14.0 below.

14.0 WITHDRAWAL OR TERMINATION OF AGREEMENT

14.1 Expectations

Although this Agreement is not legally binding and any party may withdraw from the Agreement at any time, it is the desire of the parties that it should remain in effect through the expected duration of five years, and be implemented as fully as possible unless one of the conditions below occurs:

- Failure by any party to (a) comply with the provisions of the enforceable implementing mechanisms for this Project, or (b) act in accordance with the provisions of this Agreement. The assessment of the failure will take its nature and duration into account.
- Failure by any party to disclose material facts during the development of this Agreement.
- Failure of the Project to provide superior environmental performance consistent with the provisions of this Agreement.
- Enactment or promulgation of any environmental, health or safety law or regulation after execution of the Agreement, which renders the Project legally, technically or economically impracticable.
- Decision by an agency to reject the transfer of the Project to a new owner or operator of the facility.

In addition, EPA and NMED do not intend to withdraw from the Agreement if NASA does not act in accordance with this Agreement or its implementation mechanisms, unless the actions constitute a substantial failure to act consistently with intentions expressed in this Agreement and its implementing mechanisms. The decision to withdraw will, of course, take the failure's nature and duration into account.

NASA will be given notice and a reasonable opportunity to remedy any "substantial failure" before EPA's withdrawal. If there is a disagreement between the parties over whether a "substantial failure" exists, the parties will use the dispute resolution mechanism identified in Section 13.0 of this Agreement. EPA and NMED retain their discretion to use existing enforcement authorities including withdrawal or termination of this Project, as appropriate. NASA retains any existing rights or abilities to defend itself against any enforcement actions, in accordance with applicable procedures.

14.2 Procedures

The parties agree that the following procedures will be used to withdraw from or terminate the Project before expiration of the Project term. They also agree that the implementing mechanism(s) will provide for withdrawal or termination consistent with these procedures.

- Any party that wants to terminate or withdraw from the Project is expected to provide written notice to the other parties at least sixty (60) days before the withdrawal or termination.
- If requested by any party during the sixty (60) day period noted above, the dispute resolution proceedings described in this Agreement may be initiated to resolve any dispute relating to the intended withdrawal or termination. If, following any dispute resolution or informal discussion, a party still desires to withdraw or terminate, that party will provide written notice of final withdrawal or termination to the other parties.
- If any party withdraws or terminates its participation in the Agreement, the remaining agencies will consult with NASA to determine whether the Agreement should be continued in a modified form, consistent with applicable Federal or State law, or whether it should be terminated.
- The procedures described in this Section apply only to the decision to withdraw or terminate participation in this Agreement. Procedures to be used in modifying or rescinding any legal implementing mechanisms will be governed by the terms of those legal mechanisms and applicable law. It may be necessary to invoke the implementing mechanism's provisions that end authorization for the Project (called "sunset provisions") in the event of withdrawal or termination.

15.0 POST-COMPLETION PROJECT COMPLIANCE

The parties intend that there will be an orderly and timely return to compliance upon completion, withdrawal from, or termination of the Project, as follows:

- If after an evaluation, the Project is terminated because the term has ended, NASA will return to compliance with all applicable requirements by the end of the Project term, unless the Project is amended or modified in accordance with Section 12.0 of this Agreement (Amendments or Modifications). NASA is expected to anticipate and plan for all activities to return to compliance sufficiently in advance of the end of the Project term. NASA may request a meeting with EPA and/or NMED to discuss the timing and nature of any actions that NASA will be required to take. The parties should meet within

thirty days of receipt of NASA's written request for such a discussion. At, and following, such a meeting, the parties should discuss in reasonable, good faith, which of the requirements deferred under this Project will apply after termination of the Project.

- In the event of a withdrawal or termination not based on the end of the Project term and where NASA has made efforts in good faith, the parties to the Agreement will determine an interim compliance period to provide sufficient time for NASA to return to compliance with any regulations deferred under this Project. The interim compliance period will extend from the date on which EPA and NMED provides written notice of final withdrawal or termination of the Project, in accordance with Section 14.0 of this Project Agreement. By the end of the interim compliance period, NASA will comply with the applicable deferred standards set forth in 40 CFR §270.11 and §270.42 and applicable NMED regulations. During the interim compliance period, EPA and NMED may issue an order, permit, or other legally enforceable mechanism establishing a schedule for NASA to return to compliance with otherwise applicable regulations as soon as practicable. This schedule cannot extend beyond 6 months from the date of withdrawal or termination. NASA intends to be in compliance with all applicable Federal, State, and local requirements as soon as is practicable, as will be set forth in the new schedule.

16.0 SIGNATORIES AND EFFECTIVE DATE

Mr. Joseph Fries
Manager
NASA White Sands Test Facility

Date

Mr. Gregg Cooke
Regional Administrator
Environmental Protection Agency, Region 6

Date

Mr. Peter Maggiore
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Date



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18.0 APPENDIX 2 – Project XL Estimated Timeline with Projected Milestones