

US EPA ARCHIVE DOCUMENT

Project XL Reinvention Proposal
Internet-Based Regulatory Reporting and Information
Management System

Final Project Agreement

August 31, 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
HWB	Hazardous Waste 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
WSTF

White Sands Missile Range
White Sands Test Facility



1.01 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 as a first step, the submission of electronic documents on CD-ROM. NASA also proposes that the extensive paper reporting deliverable requirements of multiple Bureaus of the New Mexico Environment Department (NMED) can ultimately 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.

1.02 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. NM8800019434-1), five post-closure care hazardous waste management units regulated by a Post-Closure Care Permit (No. NM8800019434-2), 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.

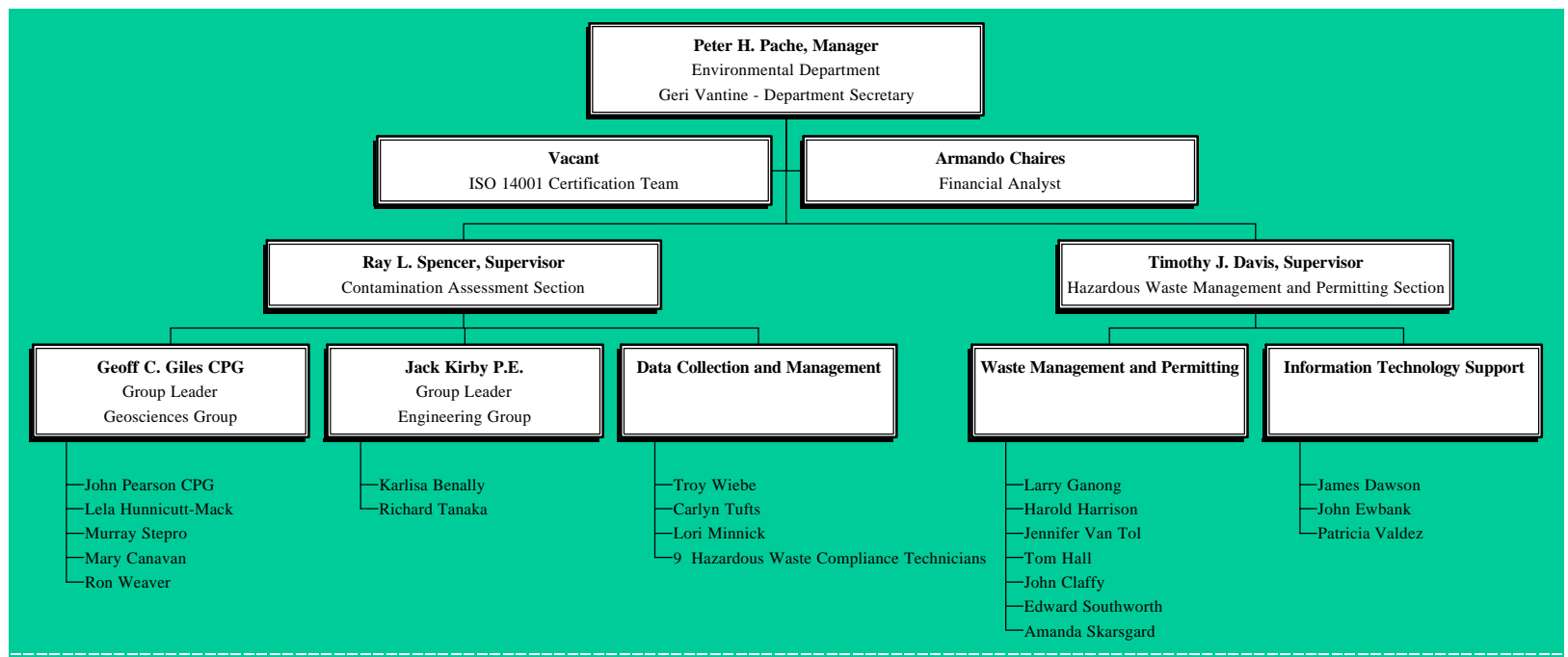
The NASA Environmental Program Manager oversees all contractor Environmental Department operations. The contractor Environmental Department is currently staffed with 37 engineers, scientists, geologists, technicians, computer specialists, and management personnel. These personnel are divided into the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

Figure 2 - WSTF Organization

NASA

David A. Amidei
 NASA Environmental Program Manager

Contractor Organization



1.03 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.

1.04 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).

1.05 PROJECT CONTACTS

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1.06 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 CD-ROMs and a web-based information management and regulatory reporting system. An electronic mail (e-mail) notification process will ensure documents are available 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 step-by-step approach to achieving this regulatory reporting and information management innovative solution. The specific elements of these steps 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.

NASA will phase-in these elements into the project over a specific timeline as presented in Section 18.0 - Appendix 2. This timeline incorporates the project phases as specified in Section 19.0 - Appendix 3. Appendix 3 details the 6 phases that incorporate the CD-ROM submittals, then phase-in the web-based reporting elements. Specific Bureaus will be affected during these phases with the Hazardous Waste Bureau (HWB), Groundwater Bureau, and Solid Waste Bureau receiving the initial submittals. After incorporating "lessons learned" during the initial phases of this project, the same CD-ROM and web-based reporting procedures will be incorporated for the Air Quality Bureau and the Surface Water Bureau. The specific requirements to implement CD-ROM and web-based submittals and the appropriate security and certification requirements are provided in Section 19.0 - Appendix 3. The phases for this project are provided in Table 1. Table 1 provides the phases only for compliance information that is required by specific permits and regulatory documentation. During the initial phase-in of the CD-ROMs and web-based submittals, NASA will also incorporate the elements that provide public access and supplemental information (see Section 18.0).

Table 1 - Phased Implementation

Phase	Action	Affected Bureau
Phase 1	NASA WSTF shall submit the reports and permit information listed in Table A on CD-ROM to the affected NMED Bureau with a paper certification statement for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
Phase 2	NASA WSTF shall submit the reports and permit information listed in Table A on CD-ROM to the affected NMED Bureau with a paper certification statement for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	NASA WSTF shall post the compliance reports and permit information listed in Table A to their web site for general information purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
Phase 3	NASA WSTF shall post the reports and permit information listed in Table A to the NASA web site for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	Eliminate CD ROM submittals for the reports listed in Table A.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
Phase 4	Post reports and permit information listed in Table A to the NASA Website for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	Submit reports and permit information listed in Table B on CD-ROM to the NMED Air Quality and Surface Water Bureaus for compliance purposes	Air Quality and Surface Water Bureaus
Phase 5	Post reports and permit information listed in Table A to the NASA Website for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	Submit reports and permit information listed in Table B on CD-ROM to the NMED Air Quality and Surface Water Bureaus for compliance purposes	Air Quality and Surface Water Bureaus
	Post reports and permit information listed in Table B to the NASA Web site for general information purposes.	Air Quality and Surface Water Bureaus
Phase 6	Eliminate CD-ROM submittals for the reports listed in Table B.	Air Quality and Surface Water Bureaus
	Post reports and permit information listed in Tables A and B to the NASA Web site for compliance with EPA and NMED reporting requirements.	Hazardous Waste, Groundwater, Solid Waste, Air Quality, and Surface Water Bureaus

5.1.1 Element No. 1 – Regulatory Relief and Flexibility

NASA will request regulatory relief from the EPA and flexibility from multiple NMED Bureaus for 1.) CD-ROM submissions and 2). an electronic mail submittal and web-based information management and reporting system. This request includes EPA and NMED review for specific regulatory relief for multiple programs. Requirements that will be reviewed to determine which specific regulatory changes will be needed to implement this project will include, for example, the signatory requirements for RCRA permit applications and reports (40 CFR §270.11).

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 Waste Bureau (HWB);
- 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 HWB 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.

The New Mexico Environment Department has informed NASA WSTF that they have acquired and are in the process of implementing an enterprise environmental data management system. The Department's new system will be a customized version of American Management Systems's (AMS) TEMPO™ software package and will serve as an agency-wide software application for regulatory data management. The system will be installed in phases, with one to three Bureaus converting at a time,

and will eventually accommodate all core functions (permitting, compliance, enforcement, measurements, collections, disbursements, and environmental reporting) for all environmental programs (e.g., air, water, waste, field operations). TEMPO™ capabilities for the regulated community that overlap with Project XL include: Electronic submittal of compliance reports and permit documents, electronic storage, retrieval and version management for regulatory documents, and web access to permit and compliance status information. NMED and WTSF will work together during the implementation of TEMPO™ and Project XL so that the systems operate in a complementary manner and do not create duplication of effort.

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 Waste 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 HWB 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

HWB 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 to simplify the transition to the Phase 3 web-based system. As specified by Section 19.0, the CD-ROM will include security features to ensure document authenticity and provide a digital signature (in conjunction with a hard copy certification and signature). 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 HWB, 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. 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.

As part of this project EPA, with the assistance of NMED and NASA, will review all regulatory requirements that apply to the White Sands facility and that require submittal of reports and other environmental information, to determine whether regulatory changes are needed to implement this project. Such requirements could include, for example, the signatory requirements for RCRA permit applications, modifications and reports (40 CFR §270.11, §270.42(a)(i)).

5.1.3 Element No. 3 – Electronic Mail Submittal Notifications

NASA proposes, as the ultimate goal of this project, to substitute electronic mail 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.

NASA proposes that 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.

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 on-going 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

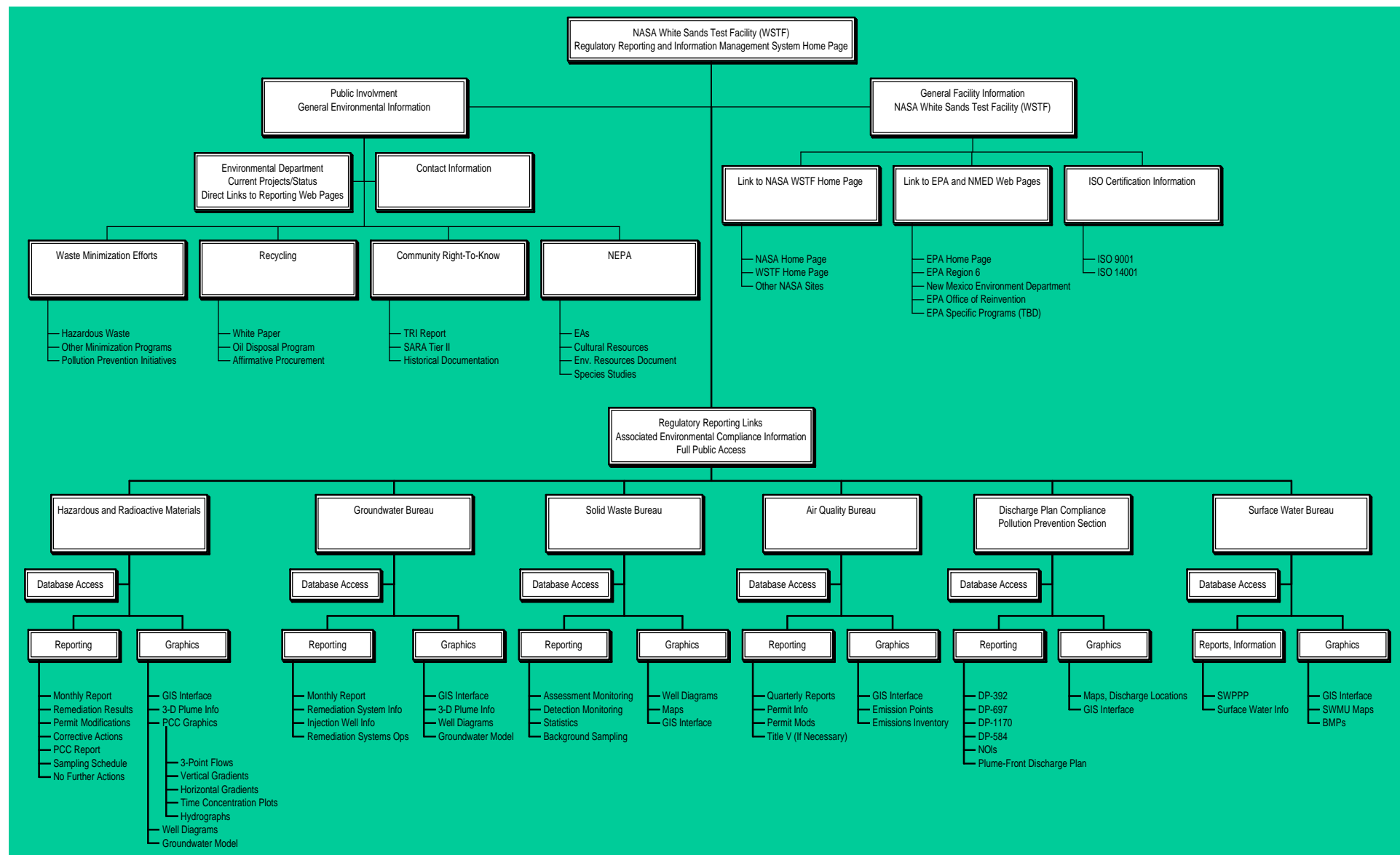
NASA will upload and test the system, incorporate requests and suggestions from regulatory personnel and the general public, and provide on-site technical support/training to NMED, as necessary, to ensure that each Bureau can access and interpret the environmental reports and supplemental information. 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.

5.1.6 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.

Figure 3 – Proposed Web Based System



5.2 Electronic Reporting Issues

5.2.1 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.

5.2.2 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.

5.2.3 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.

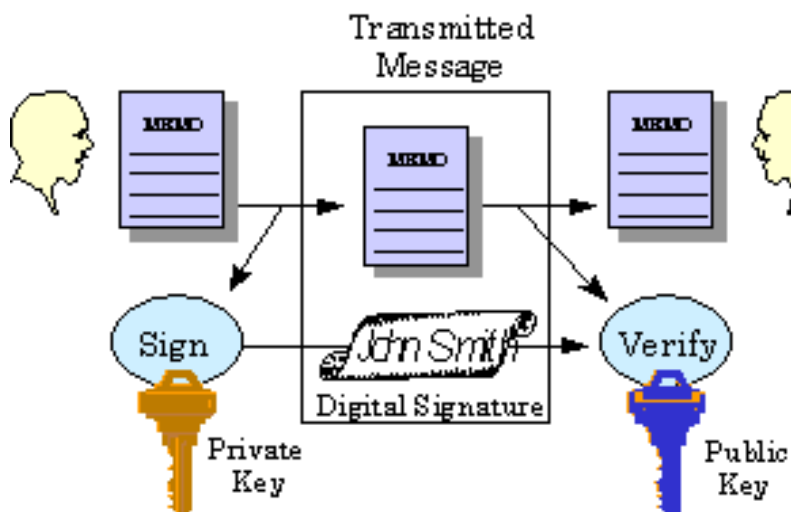
NASA will provide documents on the web-based system in both standard web page (HTML) format and as Adobe Acrobat files. Documents can either be printed directly from the Internet browser software or by using Adobe Acrobat Reader software. Adobe Acrobat Reader is available as a free download from the 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.

5.2.4 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 security criteria. 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. 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. For this project, digital certificates may be provided by the EPA. 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.

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 lifestyle 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, or obtained from the EPA, 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 or the EPA.

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. 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 (or EPA) 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 (if necessary, certificates may be obtained directly from the EPA).

10.0.1 General Security Criteria

These general guidelines delineate 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 these into the web-based system, when appropriate, 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. NASA also proposes that secure server technology will be implemented to ensure control of documentation and submittals.

Secure Hashing Procedures - NASA will incorporate a standardized hash function procedure into the electronic mail submittals, CD-ROMs, 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.

Digital Signatures - 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 (digital certificates) obtained by NASA from a third party commercial vendor or the EPA. This system will ensure that all submittals (including CD-ROM documents where appropriate) 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. This statement will incorporate specific Final Project Agreement requirements as specified in Section 19.0 - Appendix 3.

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.

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. In addition, a "feedback" page will be incorporated to allow comments and suggestions to be directly submitted to NASA for review and implementation.

1.11 PROJECT XL CRITERIA

11.1 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; 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 2. These documents will provide the initial scope of the project. However, NASA does not consider Table 2 an exhaustive list of reporting obligations. The documentation listed in Section 19.0 (Tables 1 and 2) is much more extensive. 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.

13.1 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

Table 2 - 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	HWB and Groundwater	Monthly	>50 Pages
Post-Closure Care Report	HWB	Annually	>300 Pages
RCRA Permit Modifications	HWB	As Required	> 25 Pages
No Further Action Proposal	HWB	As Required	> 200 Pages
Post-Closure Care Permit Modifications	HWB	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

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 3 provides specific cost savings estimates.

Table 3- 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.

13.2 Project Benefits

Table 4 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.

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.

Table 4- 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
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

13.3 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.

13.4 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.

13.5 Stakeholder Involvement

7.6.1 New Mexico Environment Department

Regulatory personnel from the Groundwater Bureau and HWB 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.

6.5.3 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.

6.5.4 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.

6.6 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.

6.7 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.

6.8 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.

1.07 FLEXIBILITY AND IMPLEMENTING MECHANISMS

7.1 Requested Regulatory Flexibility

EPA, with the assistance of NMED and NASA, will perform a legal analysis of EPA-administered environmental regulations that apply to NASA's facility, to determine which current information-related requirements (if any) will require regulatory modification to implement this project. Such requirements could include, for example, the signatory requirements for RCRA permit applications, modifications and reports (40 CFR §270.11, §270.42(a)(i)). Based on this analysis, EPA will initiate two multi-media rulemakings effort to promulgate any regulatory changes necessary to facilitate this project. The first rulemaking will cover submissions on CD-ROM, the second rulemaking will cover web based submissions for compliance purposes in phases 3 through 6.

It is expected that such a final rulemaking will enable an electronic deliverable and secure digital signature system to provide all affected EPA offices with the flexibility to legally receive electronic deliverables with digital signatures for all environmental compliance requirements. 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.

The web-based system will not eliminate any regulatory reporting requirement; only modify the current format, delivery method, and archival procedures. The NASA proposal for web-based electronic deliverables and digital signatures is provided in Section 3.2.4. 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.

In addition to any regulatory changes that may be needed for this project, EPA and NMED, in consultation with NASA, will also amend or modify other existing documents (e.g., permits, enforcement orders) and policies that now require submission of information in hard copy, to instead allow electronic reporting of such information and documentation. Such changes may require modifications to existing permits, orders or other documents or agreements. Specific examples of such information requirements could include the following:

- 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 HWB and on-site (Santa Fe, NM) training of HWB 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 (NOI);
- 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 Waste 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.

7.1 Legal Implementing Mechanisms

EPA, with the assistance of NMED and NASA, will perform a legal analysis of EPA-administered environmental regulations that apply to NASA's facility, to determine which current information-related requirements (if any) will require regulatory modification to implement this project. Such requirements could include, for example, the signatory requirements for RCRA permit applications, modifications and reports (40 CFR §270.11, §270.42(a)(i)). Based on this analysis, EPA will initiate a multi-media rulemaking(s) effort to promulgate any regulatory changes necessary to facilitate this project. NMED will, in addition, develop and promulgate any changes to state regulations (consistent with the changes made by EPA) that may be necessary to implement this project.

This project will allow NASA to prepare and submit reports electronically to multiple NMED Bureaus, for several different environmental media program requirements. 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.

Current requirements of in-place permits, discharge plans, and other compliance documentation will be modified as necessary through 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 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. In addition, the EPA has provided text for the inclusion of Section 19.0 - Appendix 3. This Section provides the specific requirements for electronic deliverables to regulatory agencies.

There may be additional requests for regulatory relief not included above.

1.08 INTENTIONS AND COMMITMENTS

8.1 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.

8.2 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.

8.3 EPA's Intentions and Commitments

EPA will initiate a rulemaking effort, if necessary, to provide appropriate legal mechanisms to initiate the Project and allow NASA and NMED to negotiate and implement the Project as specified in each element of the proposal. The regulatory flexibility that will be provided in this rulemaking will be determined based upon completion of EPA's legal analyses for each program involved in this project. 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).

8.4 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).

8.5 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.

8.6 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.

8.7 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.

8.8 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).

1.09 LEGAL BASIS FOR PROJECT

9.1 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.

9.2 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.

9.3 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.

9.4 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.

1.10 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.

1.11 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.

1.12 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.

1.13 WITHDRAWAL OR TERMINATION OF AGREEMENT

13.1 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.

5.1 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.

1.05 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/or 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. 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.

1.03 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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New Mexico Environment Department

Date

**1.04 APPENDIX 1 - NASA White Sands Test Facility
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**1.08 APPENDIX 2 – Project XL Estimated Timeline
with Projected Milestones**

1.09 Appendix 3 - NASA Electronic Submittal Procedures

This appendix sets forth the procedures under which the EPA and NMED would accept electronic data for purposes of compliance with provisions set forth in the NASA WSTF Final Project Agreement (FPA). This appendix does not obligate the EPA or NMED to accept electronic data except as individually agreed between NASA WSTF, EPA & NMED in the Final Project Agreement. Implementation of the electronic reporting instructions in this appendix are contingent upon 1. promulgation of a site specific rule by EPA which will incorporate by reference the electronic reporting procedures and guidelines specified in this appendix and 2. modification of the necessary operating permits by NMED.

This XL project, will establish reporting criteria and procedures in order to protect NMED and Federal enforceability and ensure the integrity and reliability of NASA's electronic data submissions. The procedures are intended to ensure the appropriate levels of data integrity, information security, and corporate and individual accountability for the accuracy, validity, and completeness of the submitted data. The project will be implemented in the six phases described in the Table 1 below.

Table 1. NASA WSTF XL Phase Descriptions

Phase	Action	Affected Bureau
Phase 1	NASA WSTF shall submit the reports and permit information listed in Table A on CD-ROM to the affected NMED Bureau with a paper certification statement for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
Phase 2	NASA WSTF shall submit the reports and permit information listed in Table A on CD-ROM to the affected NMED Bureau with a paper certification statement for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	NASA WSTF shall post the compliance reports and permit information listed in Table A to their web site for general information purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
Phase 3	NASA WSTF shall post the reports and permit information listed in Table A to the NASA web site for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	Eliminate CD ROM submittals for the reports listed in Table A.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
Phase 4	Post reports and permit information listed in Table A to the NASA Website for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	Submit reports and permit information listed in Table B on CD-ROM to the NMED Air Quality and Surface Water Bureaus for compliance purposes	Air Quality and Surface Water Bureaus
Phase 5	Post reports and permit information listed in Table A to the NASA Website for compliance purposes.	Hazardous Waste, Groundwater, and Solid Waste Bureaus
	Submit reports and permit information listed in Table B on CD-ROM to the	Air Quality and Surface

Phase	Action	Affected Bureau
	NMED Air Quality and Surface Water Bureaus for compliance purposes	Water Bureaus
	Post reports and permit information listed in Table B to the NASA Web site for general information purposes.	Air Quality and Surface Water Bureaus
Phase 6	Eliminate CD-ROM submittals for the reports listed in Table B.	Air Quality and Surface Water Bureaus
	Post reports and permit information listed in Tables A and B to the NASA Web site for compliance with EPA and NMED reporting requirements.	Hazardous Waste, Groundwater, Solid Waste, Air Quality, and Surface Water Bureaus

CD-ROM Reporting Procedures:

During the first, second, fourth and fifth phases of the NASA WSTF XL project, the NASA designated representative shall forward the applicable compliance reports (See Table A or B) and permit information on CD-ROM by certified mail to the appropriate NMED Bureau in accordance with the submission implementation schedule in the NASA WSTF Final Project Agreement. These electronic reports shall comply with the following:

- 1. Data Format.** Each electronic report submitted to the NMED as part of the NASA WSTF XL project shall be in HTML and Adobe formats.
- 2. Electronic Media.** Each electronic report shall be submitted to the appropriate NMED bureau on a CD-ROM (Write Once Read Many).
- 3. Frequency.** Each electronic submission shall be submitted at the frequency prescribed under existing NMED and EPA regulations.
- 4. Compliance Certification.** Each NASA WSTF CD-ROM submission shall be accompanied by a signed, paper compliance certification. The compliance certificate must contain the following information:
 - a. Applicable report name - name of regulatory report being submitted
 - b. Report Date
 - c. NMED Bureau - Appropriate Bureau name and contact person
 - d. Digital Signature Information - (Hash function information)
 - e. NASA Designated Representative written signature
 - f. Certification Statement below:

I am authorized to make this submission on behalf of the NASA White Sands Test Facility for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

To the extent that information has been submitted electronically, I acknowledge that NMED will rely solely on the electronic information as accurate and complete information and that it is this data that will be used for compliance and enforcement purposes pursuant to the provisions set forth in the NASA WSTF Final Project Agreement.

5. Record-keeping requirements. NASA and NMED shall maintain records in accordance with the following:

- (a) All electronic documents transmitted to NMED must be stored in the electromagnetic form transmitted, by both the transmitting and receiving entities.
- (b) NASA WSTF and NMED must maintain at least one unaltered, untranslated copy of every electronic document transmitted or received.
- (c) NMED Bureaus and NASA WSTF must:
 - (i) maintain stored electronic documents that are accurate and complete copies of the electronic document transmitted or received and protect such documents from tampering during storage and at all other times.
 - (ii) maintain electronic documents transmitted or received for a minimum of five years.
 - (iii) retain both translated and transmitted form of each transmission.
 - (iv) make electronic copies of electronic documents transmitted or received available on an individual, collective, or standing basis to the NMED upon written request. These electronic documents must be promptly transmitted, mailed, or available for inspection as the NMED requests.

6. Authentication: When submitting reports on CD-ROM, the authorized NASA Designated Representative shall utilize digital certificates issued by the EPA to bind an identity to a pair of electronic keys that can be used to encrypt and sign digital information that will enable the receiving parties to:

1. determine whether the NASA WSTF submission has been modified after the electronic signature has been affixed.
2. Confirm the identity of the sending entity.

Table A.

State Permit	Report Name
Post Closure Care Permit NM88000194-2	Application for renewal submittal
Post Closure Care Permit NM88000194-2	Duty to provide requested information
Post Closure Care Permit NM88000194-2	Revision/Modification Notification Report
Post Closure Care Permit NM88000194-2	Non compliance report
Post Closure Care Permit NM88000194-2	Notification of Emergency Coordinators list change
Post Closure Care Permit NM88000194-2	Annual compliance monitoring report
Post Closure Care Permit NM88000194-2	Annual potentiometric flow net report
Post Closure Care Permit NM88000194-2	Incident reports
Post Closure Care Permit NM88000194-2	Request for modified post closure care period
Post Closure Care Permit NM88000194-2	Completion of post closure care requirements submittal
Post Closure Care Permit NM88000194-2	Appendix IX analysis new defects notification
Post Closure Care Permit NM88000194-2	Annual effectiveness / conclusions report
Post Closure Care Permit NM88000194-2	Well Replacement notification
Post Closure Care Permit NM88000194-2	Modification of groundwater monitoring plan submittal
Landfill Post Closure Care Plan	Plan revision submittal
Landfill Post Closure Care Plan	Methane and groundwater
Landfill Post Closure Care Plan	Inspections and maintenance reports
Discharge Plan DP-392	Annual Wastewater flow volumes submittal
Discharge Plan DP-392	Spill contingency notification
Discharge Plan DP-392	Contingency Plan notification
Discharge Plan DP-392	Duty to provide requested information
Discharge Plan DP-392	Modification notifications
Discharge Plan DP-392	Right to appeal petition
Discharge Plan DP-392	Transfer of ownership notification
Discharge Plan DP-392	Application for renewal submittal
Discharge Plan DP-392	Internal written recordkeeping
Discharge Plan DP-584	Semi-annual Monitoring Reports Submittal
Discharge Plan DP-584	Semi-annual wastewater discharge volumes report submittal
Discharge Plan DP-584	Closure sampling results submittal
Discharge Plan DP-584	Internal written recordkeeping
Discharge Plan DP-584	Duty to provide requested information
Discharge Plan DP-584	Spill contingency notification
Discharge Plan DP-584	Modification notifications
Discharge Plan DP-584	Right to appeal petition
Discharge Plan DP-584	Transfer of ownership notification
Discharge Plan DP-584	Application for renewal submittal
Discharge Plan DP-697	Leak contingency notification and reporting
Discharge Plan DP-697	Mitigation summary report submittal
Discharge Plan DP-697	Quarterly monitoring reports submittal
Discharge Plan DP-697	Internal written recordkeeping
Discharge Plan DP-697	Duty to provide requested information
Discharge Plan DP-697	Modification notifications
Discharge Plan DP-697	Right to appeal petition
Discharge Plan DP-697	Transfer of ownership notification
Discharge Plan DP-697	Application for renewal submittal
Discharge Plan DP-1170	Leak contingency notification and reporting

State Permit	Report Name
Discharge Plan DP-1170	Semi annual monitoring reports submittal
Discharge Plan DP-1170	Internal written recordkeeping
Discharge Plan DP-1170	Duty to provide requested information
Discharge Plan DP-1170	Modification notifications
Discharge Plan DP-1170	Right to appeal petition
Discharge Plan DP-1170	Transfer of ownership notification
Discharge Plan DP-1170	Application for renewal submittal
Landfill Post Closure Care Plan	Inspections and maintenance reports
Landfill Post Closure Care Plan	Methane and groundwater monitoring data reports
Landfill Post Closure Care Plan	Plan revision submittal
Landfill Post Closure Care Plan	Change of responsible parties notification
Landfill Post Closure Care Plan	30 year reporting requirement
Landfill Groundwater Monitoring Plan	Plan revision submittal
Landfill Groundwater Monitoring Plan	Request to modify sampling frequencies submittal
Landfill Groundwater Monitoring Plan	Monitoring level exceedance notification
Landfill Groundwater Monitoring Plan	Analytical data reports
RCRA Operating Permit NM8800019434-1	Revision / Modification notification
RCRA Operating Permit NM8800019434-1	Waste Analysis Plan modification submittal
RCRA Operating Permit NM8800019434-1	Submittal signatory requirements
RCRA Operating Permit NM8800019434-1	Requests for deadline extension
RCRA Operating Permit NM8800019434-1	Newly identified SWMUs notification
RCRA Operating Permit NM8800019434-1	Newly identified SWMUs notification plan
RCRA Operating Permit NM8800019434-1	Newly discovered release notification
RCRA Operating Permit NM8800019434-1	Newly discovered release investigation plan
RCRA Operating Permit NM8800019434-1	Transfer of ownership notification
RCRA Operating Permit NM8800019434-1	RFI/CMS and monthly progress reports
RCRA Operating Permit NM8800019434-1	Revised reports submittals
RCRA Operating Permit NM8800019434-1	Non EPA analytical method protocol submittal
RCRA Operating Permit NM8800019434-1	Off site access agreements submittal
RCRA Operating Permit NM8800019434-1	Monthly analytical data reports
RCRA Operating Permit NM8800019434-1	Project coordinator change notification
RCRA Operating Permit NM8800019434-1	Reports, plans, notifications, etc "in writing" requirement
RCRA Operating Permit NM8800019434-1	Lack of funds notification
RCRA Operating Permit NM8800019434-1	Written statement of dispute submittal
RCRA Operating Permit	"Force majeure" event notification

State Permit	Report Name
NM8800019434-1	
RCRA Operating Permit NM8800019434-1	Final RFI/CMS submittal
RCRA Operating Permit NM8800019434-1	Application for renewal submittal
RCRA Operating Permit NM8800019434-1	Duty to provide requested information
RCRA Operating Permit NM8800019434-1	Annual ETU liner assessment report
RCRA Operating Permit NM8800019434-1	Notification of non compliance
RCRA Operating Permit NM8800019434-1	Notification and certification of closure and survey plat
RCRA Operating Permit NM8800019434-1	Emergency coordinator personnel change notification
RCRA Operating Permit NM8800019434-1	Contingency plan modification submittal
RCRA Operating Permit NM8800019434-1	Spill incident reports
RCRA Operating Permit NM8800019434-1	Spill response and corrective action reports
RCRA Operating Permit NM8800019434-1	Certifications of major repairs submittal and recordkeeping
RCRA Operating Permit NM8800019434-1	ETU secondary containment useful life extension request
RCRA Operating Permit NM8800019434-1	ETU steel structure useful life extension request
RCRA Operating Permit NM8800019434-1	ODU waste quantity exceedance notification
RCRA Operating Permit NM8800019434-1	ODU statistical results and constituent exceedance report
RCRA Operating Permit NM8800019434-1	FTU waste quantity exceedance notification

Table B.

State Permit	Report Name
Air Quality Permit # 629-M-1	40 CFR Notification Requirements
Air Quality Permit # 629-M-1	Revision/ Modification Notice
Air Quality Permit # 629-M-1	Compliance Testing schedule notification
Air Quality Permit # 629-M-1	Written test protocol submittal
Air Quality Permit # 629-M-1	Compliance test report submittal
Air Quality Permit # 629-M-1	Quarterly reports submittal
Air Quality Permit # 629-M-1	Duty to provide requested information
Air Quality Permit # 629-M-1	Transfer of ownership notification
Air Quality Permit # 629-M-1	Modification notifications
Air Quality Permit # 629-M-1	Change of operator notification
Air Quality Permit # 629-M-1	Right to appeal notification
Air Quality Permit # 629-M-1	Certifications of major repairs submittals and recordkeeping
Air Quality Permit # 629-M-1	ETU secondary containment useful life extension request
Air Quality Permit # 629-M-1	ETU steel structure useful life extension request
Air Quality Permit # 629-M-1	ODU waste quantity exceedance notification

State Permit	Report Name
Air Quality Permit # 629-M-1	ODU statistical results and constituent exceedance report
Air Quality Permit # 629-M-1	FTU waste quantity exceedance notification
Air Quality Permit # 629 M-3	40 CFR 60 notification requirements
Air Quality Permit # 629 M-3	Revision / Modification notification
Air Quality Permit # 629 M-3	Compliance Testing schedule notification
Air Quality Permit # 629 M-3	Written test protocol submittal
Air Quality Permit # 629 M-3	Compliance test report submittal
Air Quality Permit # 629 M-3	Transfer of ownership notification
Air Quality Permit # 629 M-3	Duty to provide requested information
Air Quality Permit # 629 M-3	Change of operator notification
Air Quality Permit # 629 M-3	Quarterly reports submittal
Air Quality Permit # 629 M-3	Right to appeal petition
Air Quality Permit #400 M-1	Revision / Modification notification
Air Quality Permit #400 M-1	40 CFR 60 notification requirements
Air Quality Permit #400 M-1	Change of operator notification
Air Quality Permit #400 M-1	Compliance testing schedule notification
Air Quality Permit #400 M-1	Written test protocol submittal
Air Quality Permit #400 M-1	Transfer of ownership notification
Air Quality Permit #400 M-1	Duty to provide requested information
Air Quality Permit #400 M-1	Right to appeal petition
Air Quality Permit #400 M-1	Transfer of ownership notification
Air Quality Permit #400 M-1	Duty to provide requested information
Air Quality Permit #400 M-1	Right to appeal petition
Surface Water	Best Management Practices Report
Surface Water	Solid Waste Management: Surface Water Worksheet