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**FACT SHEET**  
**MARCH 19, 2007**

**INTENT TO ISSUE A HAZARDOUS WASTE FACILITY PERMIT**  
**UNDER THE NEW MEXICO HAZARDOUS WASTE ACT**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**  
**WHITE SANDS TEST FACILITY**  
**DOÑA ANA COUNTY, NEW MEXICO**

**Facility Name:** National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF)

**EPA ID Number:** NM8800019434

**Type of Facility:** NASA-WSTF is a testing facility operated by NASA located on property owned by the United States Department of the Army (Army) at White Sands Missile Range and is classified as a hazardous waste treatment facility under the New Mexico Hazardous Waste Act (HWA), Sections 74-4-1 through 74-4-14, NMSA 1978, as amended, and the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 through 6992. The New Mexico Environment Department (NMED) proposes to issue a Hazardous Waste Permit that requires NASA-WSTF to: 1) manage certain wastes in two Operating Units – the Evaporation Treatment Unit (ETU) and the Fuel Treatment Unit (FTU); 2) conduct post-closure care for the four closed units at the 200 Area, 300 Area, 400 Area and 600 Area respectively; 3) conduct groundwater remediation and monitoring; 4) conduct corrective action activities for solid waste management units (SWMUs) and areas of concern (AOCs); and 5) conduct tasks in accordance with schedules of compliance, pursuant to the Hazardous Waste Act (Chapter 74, Article 4 NMSA 1978) and the New Mexico Hazardous Waste Management Regulations (20.4.1 NMAC. The Permit imposes certain requirements on these activities that are protective of human health and environment.

- Location:** NASA-WSTF is located in Doña Ana County, 18 miles northeast of Las Cruces, New Mexico and 65 miles north of El Paso, Texas.
- Owner:** United States Department of the Army White Sands Missile Range (WSMR)
- Operator:** National Aeronautics and Space Administration White Sands Test Facility (NASA-WSTF)

## **INTRODUCTION**

NASA-WSTF, as the operator of WSTF, is required to obtain a permit from NMED to manage hazardous waste pursuant to the HWA and RCRA. Prior to issuing a final permit, NMED is required to release a draft permit for public comment pursuant to 20.4.1.901.A(3) NMAC. This fact sheet is intended to facilitate public review of the draft Permit.

NASA-WSTF is a testing facility that was constructed in 1963 and 1964. Testing of the Propulsion systems for the nation space program began in 1964, and by 1967 NASA-WSTF developed the capability to evaluate the flammability and toxicity characteristics of materials used in the spacecrafts. This capability expanded in the following years to include all facets of materials characterization and compatibility and component verification in support of Skylab, Space Station, and a variety of other programs for the federal government and industry. From 1974 through 1977, NASA-WSTF modified and improved the propulsion test facilities to accommodate extensive testing of the Space Shuttle propulsion systems, including propellant supply systems, the altitude system, and electrical and data systems. Additionally, NASA-WSTF is an Orbiter and International Space Station Depot Repair Facility which performs flight hardware assembly, repair, and acceptance testing for private aerospace manufacturers. Today, six test stands provide vacuum test capability. Three test stands provide ambient testing, 5000 feet above sea-level, for the Space Shuttle, International Space Station, and other government agencies.

## **REGULATORY BACKGROUND**

Subtitle C of RCRA provides “cradle to grave” environmental regulation of the management of hazardous waste at hazardous waste treatment, storage, and disposal facilities. The United States Environmental Protection Agency (EPA) has authorized the State of New Mexico to implement and enforce Subtitle C requirements, including corrective action requirements, under its own hazardous waste management program. The State’s enabling authority for the program is the HWA, which authorizes the State’s Environmental Improvement Board (EIB) to adopt hazardous waste management regulations and NMED to implement and enforce the provisions of the HWA and the regulations.

As part of the State's program, the EIB has adopted regulations relating to, among other things, the issuance of hazardous waste permits. These regulations incorporate by reference pertinent sections of the code of federal regulations – 40 CFR parts 260 through 270, 273, and 280 – and are codified in the Hazardous Waste Management Regulations (HWMR), 20.4.1 NMAC.

The HWA and HWMR require each person owning or operating an existing facility or planning to construct a new facility for the treatment, storage, or disposal of hazardous waste to have a permit. *See* 42 U.S.C. 6925 and 20.4.1.900 NMAC (incorporating 40 CFR 270.1). A treatment, storage or disposal facility in existence on November 19, 1980 is eligible for "interim status." Interim status authorizes an existing facility to operate, subject to the interim status standards set forth in 20.4.1.600 NMAC, incorporating 40 CFR part 265, until NMED issues or denies a RCRA permit or until interim status is otherwise terminated.

The HWA and HWMR further require corrective action for all releases of hazardous waste or constituents from any SWMU at a facility seeking a permit, regardless of the time at which waste was placed in such unit. [42 U.S.C. 6924(u), Section 74-4-4.2(B), NMSA 1978, and 20.4.1.500 NMAC incorporating 40 CFR 264.101(a)]. Corrective action is also required beyond the facility boundary. [42 U.S.C. 6924(v) and 20.4.1.500 NMAC incorporating 40 CFR 264.101(c)].

## **PROCEDURAL BACKGROUND FOR THE NASA-WSTF PERMIT APPLICATION**

**General Permit Application Requirements:** Owners or operators of hazardous waste management facilities, including interim status facilities, are required to submit a comprehensive permit application covering all aspects of design, operation, maintenance, and closure of their facilities. The Permit Application consists of Parts A and B. Part A of the Permit Application (Part A Application) is a relatively short, standard form that summarizes general information about a facility including the name of the owner/operator, a list of the types of wastes managed, a facility layout diagram, and the hazardous waste management activities requiring a permit. Part B of the Permit Application (Part B Application) is an extensive document submitted in a narrative, tabular, and schematic format that describes the facility operations in detail and includes information necessary to establish corrective action requirements for releases from SWMUs and AOCs.

**Part A Permit Application:** In August 2002, NASA-WSTF submitted, in a timely manner, to NMED its Part A Permit Renewal Application for NASA-WSTF. The Part A Permit Application listed two hazardous waste treatment units (the Evaporation Treatment Unit (ETU) and the Fuel Treatment Unit (FTU)); and five post-closure care units located at the 200, 300, 400 and 600 Areas. NASA-WSTF has submitted several amended Part A Permit Applications since the initial submission to update and further describe the extent of treatment, closure, and post-closure activities.

**Part B Permit Application:** In August 2002, NASA-WSTF submitted, in a timely manner, its Part B Permit Renewal Application (along with its Part A) for operation of the ETU and FTU Unit as treatment units; post-closure care of the five closure units in the 200, 300, 400 and 600

Areas; for groundwater remediation and monitoring; and for corrective actions for SWMUs and AOCs.

## **TYPE AND QUANTITY OF WASTES**

**Type of Wastes:** The following hazardous wastes are associated with the ETU and the FTU.

**D Waste Codes** (Hazardous wastes exhibiting the characteristics of ignitability, reactivity, corrosivity, or toxicity): D002 (corrosive waste).

**F Waste Codes** (Hazardous wastes from non-specific sources): F001 and F002 (purged contaminated ground water).

**P Waste Codes** (Acute hazardous wastes from commercial chemical products): P068, P078 (oxidizer contaminated water).

**U Waste Codes** (Toxic hazardous wastes from commercial chemical products): U098, U133 (waste fuel and fuel contaminated water)

The “D,” “F,” “P,” and “U” Codes are EPA Hazardous Waste Numbers that are assigned to specific hazardous wastes. These codes are specified at 20.4.1.200 NMAC incorporating 40 CFR part 261 subparts C and D.

**Quantity of Wastes:** NASA-WSTF is requesting permission to treat a maximum of approximately 397,000 gallons of hazardous waste per year in the ETU and 165,666 gallons of hazardous waste per year in the FTU.

## **TYPE OF UNITS TO BE PERMITTED**

**Evaporative Treatment Unit:** Waste is treated in the ETU through waste reduction by evaporation, deactivation, or neutralization. All waste discharged to the ETU is limited to waste with an average volatile organics (VO) concentration of less than 500 parts per million as determined at the point of waste origination, and that meets Land Disposal Restrictions (LDR) treatment standards found at 20.4.1 NMAC 40 CFR parts 268.40, 268.45, and 268.49. Fuel-contaminated waste water (P068, U098, U133 listed hazardous wastes) may not be discharged to the ETU. The waste discharged to the ETU is limited to investigative derived waste (IDW), oxidizer-contaminated waste water, and corrosive waste that meets LDR treatment standards.

**Fuel Treatment Unit:** The FTU treats neat and aqueous fuel wastes generated throughout NASA-WSTF. Only wastes with less than 10% hydrazine(s) may be placed in the FTU.

**200 Area West Closure:** The West Closure located west of Building 200 contained an underground storage tank which stored the wastes originating from precision cleaning of system

components in the WSTF clean room. The stored types of waste included wastewater containing spent halogenated solvents (EPA waste codes F001, F002), spent nonhalogenated solvents (F005), cadmium (D006), chromium (D007), and lead (D008). The tank was in operation from 1964 to 1986.

**200 Area East Closure:** The East Closure located east of Building 200 consisted of two underground storage tanks which were in operation until 1986. The stored types of waste included waste water containing spent solvents (F005), dilute acids and bases, and trace quantities of inorganic salts, all originating from the WSTF analytical laboratory, the metallurgy lab, and the etching room.

**300 Area Closure:** The 300 Area Closure consisted of two impoundments adjacent to a concrete mixing tank. The function of the unit was to serve as spill containment and treatment for the hypergolic propellants used in rocket engine testing. The unit treated water with concentrations of hydrazine (U133), 1,2-dimethylhydrazine (U099), and monomethylhydrazine (P068). These wastes were oxidized with calcium hypochlorite in the mixing tank and then discharged to the adjacent surface impoundment and eventually to grade. The unit was in operation from 1964 to 1985 with an estimated total quantity of 10 million gallons being treated and disposed.

**400 Area Closure:** The 400 Area Closure consisted of two impoundments adjacent to a concrete mixing tank. The function of the unit was to serve as spill containment and treatment for the hypergolic propellants used in rocket engine testing. The unit treated water with concentrations of hydrazine (U133), 1,2-dimethylhydrazine (U099), and monomethylhydrazine (P068). These wastes were oxidized with calcium hypochlorite in the mixing tank and then discharged to the adjacent surface impoundment and eventually to grade. The unit was in operation from 1964 to 1985 with an estimated total quantity of 7 million gallons being treated and disposed.

**600 Area Closure:** The 600 Area Closure consisted of two impoundments separated by an earthen berm. The waste disposed of in the unit consisted of dilute aqueous solutions containing spent halogenated solvents (F001), spent halogenated solvents (F002), spent nonhalogenated solvents (F005), cadmium (D006), chromium (D007), and lead (D008). The unit was in operation from 1964 to 1986 with an estimated total quantity of 5 million gallons of waste being disposed.

## **DESCRIPTION OF THE PERMIT**

The draft Permit is organized into seven Permit Parts and 22 Attachments. The draft Permit generally follows the format, style, and general conditions in EPA permitting guidance including, but not limited to: *Model RCRA Permit For Hazardous Waste Management Facilities* (Draft), U.S. EPA (September, 1988); *Model Permit For Hazardous and Solid Waste Amendments* (Draft), U.S. EPA (July, 1995); and *RCRA Guidance Manual for Subpart G Closure and Post Closure Care Standards and Subpart H Cost Estimating Requirements*, OSWER 9476.00-5 (January, 1987). Because of the unique conditions at NASA-WSTF, NMED

proposes to impose, in addition to general permit conditions, several permit conditions that are necessary to protect human health and the environment pursuant to NMED's "omnibus authority" [see 20.4.1.900 NMAC incorporating 40 CFR 270.32(b)(2)]. In addition, the draft Permit imposes alternative requirements to address releases from the closed units to the ground water.

Each Permit Part is briefly described below and certain permit conditions are noted. The general regulatory authority for conditions in each Section is noted, more specific citations are provided throughout the draft Permit at the end of each condition.

**Permit Part I (General Permit Conditions)** contains permit conditions that apply to all hazardous waste management permits, most of which are based upon mandatory permit conditions set forth at 20.4.1.900 NMAC incorporating 40 CFR 270. Part I also references Permit Attachments that provide more information regarding NASA-WSTF, namely Permit Attachment 1 (*General Facility Description*), Permit Attachment 2 (*Permit Application Part A*), Permit Attachment 3 (*Contingency Plan*), and Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).

**Permit Part II (General Facility Conditions)** contains mandatory permit conditions for operation of hazardous waste management facilities set forth at 20.4.1.500, incorporating 40 CFR 264, subpart B through E. Part II also refers to Permit Attachment 4 (*Required Hazardous Waste Characterization Information*), Permit Attachment 5 (*Hazardous Waste Stream Inventory*), Permit Attachment 6 (*Security Plan*), Permit Attachment 7 (*Inspection Schedule*), Permit Attachment 8 (*Personnel Training Requirements*), Permit Attachment 10 (*Emergency Coordination Agreements*), Permit Attachment 11 (*Closure Plans*), and Permit Attachment 12 (*Waste Analysis Plan*).

**Permit Part III (Evaporation Treatment Unit)** contains permit conditions for the operation of the ETU set forth at 20.4.1.500, incorporating 40 CFR 264, subpart B through E. The subsections in this part describe permitted and prohibited wastes, secondary containment and leak detection requirements, response to leaks or spills, air emission standards, inspection schedules and procedures, record keeping and reporting requirements, and closure and post-closure care for the ETU. Permit Part III also references several Permit Attachments that provide more information regarding ETU operating requirements: Permit Attachment 5 (*Hazardous Waste Stream Inventory*), Permit Attachment 7 (*Inspection Schedule*), Permit Attachment 11 (*Closure Plans*), Permit Attachment 12 (*Waste Analysis Plan*), Permit Attachment 13 (*Spill and Overflow Prevention Procedures*), Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*), Permit Attachment 19 (*Monitoring Well Construction Requirements*), Permit Attachment 20 (*Reporting Requirements*), and Permit Attachment 21 (*ETU and FTU Drawings and Summary Description*).

**Permit Part IV (Fuel Treatment Unit)** contains permit conditions for the operation of the FTU set forth at 20.4.1.500, incorporating 40 CFR 264, subpart B through E. Like Permit Part III, the subsections of Part IV describe the permitted and prohibited wastes, secondary containment requirements, response to leaks or spills, air emission standards, inspection schedules and

procedures, record keeping and reporting requirements, and closure and post-closure care for the FTU. In addition, Permit Attachment 7 (*Inspection Schedule*), Permit Attachment 11 (*Closure Plans*), Permit Attachment 13 (*Spill and Overflow prevention Procedures*), Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*), Permit Attachment 19 (*Monitoring Well Construction Requirements*), Permit Attachment 20 (*Reporting Requirements*), and Permit Attachment 21 (*ETU and FTU Drawings and Summary Description*) are referred to in this part.

**Permit Part V (Post-Closure Care)** contains permit conditions and corrective action requirements for the four closed units located at 200, 300, 400 and 600 Areas set forth at 20.4.1.500, incorporating 40 CFR 264, subpart B through E. NASA-WSTF must conduct corrective action to investigate and remediate all releases of hazardous waste or hazardous constituents to soil, groundwater, or surface water pursuant to 20.4.500 NMAC incorporating 40 CFR 264.111 and Permit Attachment 15 (*Cleanup Levels*). For supplemental information this Permit Part refers to Permit Attachment 6 (*security plan*), Permit Attachment 14 (*Post-Closure plan*), Permit Attachment 16 (*Investigation Work Plan and Submittal Schedule*), Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*), and Permit Attachment 20 (*Reporting Requirements*).

**Permit Part VI (Ground Water Monitoring)** contains permit conditions for groundwater monitoring conducted at both regulated units and for the purpose of corrective action set forth at 20.4.1.500, incorporating 40 CFR 264.101, subpart F. NASA-WSTF shall conduct groundwater detection monitoring, compliance monitoring, and corrective actions in accordance with 20.4.1.500 NMAC incorporating 40 CFR 264 subpart F and 40 CFR 264.101. The subsections of this Permit Part describe the well locations, installation and construction of monitoring wells, the facility-wide groundwater monitoring plan, the plume-front remediation system, and record keeping and reporting. This permit part references additional information in Permit Attachments 17 (*Investigation and Sampling Methods and Procedures*), 18 (*Point of Compliance Wells for Permitted Units*), 19 (*Monitoring Well Construction Requirements*) and 20 (*Reporting Requirements*).

**Permit Part VII (Corrective Action For SWMUs and AOCs)** contains permit conditions necessary to meet the corrective action requirements for the SWMUs and AOCs identified in Permit Attachment 22 (*List of SWMUs and AOCs*), any newly identified SWMUs and AOCs, and any releases of hazardous waste or hazardous constituents from SWMUs and AOCs set forth at 20.4.1.500, incorporating 40 CFR 264.101. This Permit Part describes contamination beyond the facility boundary, newly discovered SWMUs and AOCs, release assessment, interim measures, RCRA facility investigations, risk assessment, corrective measures evaluation, corrective measure implementation the accelerated cleanup process and approval of submittals.

## **PUBLIC PARTICIPATION**

**Availability of Additional Information:** The Administrative Record for this proposed action consists of the draft Permit, Public Notice, Fact Sheet, NASA-WSTF Permit Application, and

supporting documentation. The Administrative Record may be reviewed, with prior appointment, at the following location during the public comment period.

NMED - Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Phone: (505) 476-6000  
*Monday – Friday: 8:00 a.m. to 5:00 p.m.*  
Contact: *Pam Allen*

A copy of the draft Permit, Public Notice, and Fact Sheet, and are also available on the NMED website at [www.nmenv.state.nm.us/HWB/nasaperm.html](http://www.nmenv.state.nm.us/HWB/nasaperm.html) under draft Permit. To obtain a copy of the Administrative Record or a portion thereof, please contact Ms. Pam Allen at (505) 476-6000, or at address given above. NMED will provide copies, or portions thereof, of the Administrative Record at a cost to the requestor.

**Comment Period and NMED Contact:** Any person who wishes to comment on the draft Permit or request a public hearing should submit their comments or requests in writing or electronic mail (e-mail) form including with the commenter's name and address to the address below. The comment period begins on **March 19, 2007**, to announce the beginning of a 60-day comment period that will end at **5:00 p.m., May 18, 2007**. Only comments and/or requests received on or before **5:00 p.m. May 18, 2007** will be considered.

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Ref: NASA-WSTF draft Permit

Written comments should be based on all reasonably available information and include, to the extent practicable, all referenced factual materials. Documents in the administrative record need not be re-submitted if expressly referenced by the commenter. Requests for a public hearing shall provide: (1) a clear and concise factual statement of the nature and scope of the interest of the person requesting the hearing; (2) the name and address of all persons whom the requestor represents; (3) a statement of any objections to the draft Permit, including specific references to any Permit conditions being addressed; and (4) a statement of the issues which the commenter proposes to raise for consideration at the hearing. Written comment and requests for Public Hearing must be filed with Mr. John Kieling on or before **5:00 p.m., May 18, 2007**. NMED will provide a thirty (30) day notice of a public hearing, if one is granted, pursuant to the New Mexico Hazardous Waste Management Regulations, 20.4.2.901.F NMAC.

**Final Decision:** After consideration of all the written public comments and public hearing requests, in accordance with the New Mexico Hazardous Waste Regulations (20.4.1.901.A(4) NMAC), if a timely written notice of opposition to the draft Permit and a request for a public

hearing is received, NMED, in conjunction with the applicant, will respond to the request in an attempt to resolve the issue giving rise to the opposition. If such issues are resolved to the satisfaction of the opponent, the opponent may withdraw the request for a public hearing.

If NMED modifies the draft Permit based on comment, and issues the Permit, the applicant shall be provided by mail a copy of the modified Permit and a detailed written statement of reasons for the modifications.

NMED should ensure that the approved draft Permit is consistent with the New Mexico Hazardous Waste Management Regulations (20.4.1 NMAC). All written comments submitted on the draft Permit will be considered in formulating a final decision and may cause the draft Permit to be modified. NMED will respond in writing to all public comments. NMED's response will specify which provision, if any, of the draft Permit have been changed in the final Permit decision, the reasons for the change, and briefly describe and respond to all public comments on the draft Permit or the Permit application raised during the public comment period. All persons presenting written comments or who requested notification in writing will be notified of NMED's decision by mail. This response will also be posted on the NMED website.

The Secretary of the New Mexico Environment Department will make the final Permit decision publicly available and shall notify the applicant by certified mail. The Secretary's decision shall constitute a final agency decision and may be appealed as provided by the Hazardous Waste Act (Chapter 74, Article 4 NMSA 1978).

## **ARRANGEMENTS FOR PERSONS WITH DISABILITIES**

Persons having a disability and requiring assistance or auxiliary aid to participate in this process should contact Judy Bentley at the New Mexico Environment Department, Human Resources Bureau, P.O. Box 26110, 1190 St. Francis Drive, Santa Fe, New Mexico, 87502, telephone 505-827-9872. TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331.