

**New Mexico Environment Department
Response to Comments for
the Draft Resource Conservation and Recovery Act
Post-Closure Permit for National Aeronautics and Space Administration Johnson Space Center White Sands Test Facility
March 2023**

On May 26, 2022, the New Mexico Environment Department (NMED) issued a draft Resource Conservation and Recovery Act (RCRA) hazardous waste permit to National Aeronautics and Space Administration (NASA or Permittee), the owner and operator of NASA White Sands Test Facility (Facility), to conduct corrective action in accordance with New Mexico's Hazardous Waste Act (§74-4 New Mexico Statutory Authority [NMSA] 1978) and its associated Hazardous Waste Management Regulations (HWMR) listed at 20.4.1 New Mexico Administrative Code [NMAC], which incorporates RCRA and its implementing federal regulations listed in 40 Code of Federal Regulations (CFR) 260 through 280 (Permit). The U.S. Environmental Protection Agency (EPA) authorized NMED to issue permits to ensure that corrective actions taken at the Facility to investigate and remediate sites where contaminant releases have occurred, with the intent of protecting human health and the environment in January 1996. The Permit requires the Permittee to conduct corrective action for releases identified at various solid waste management units (SWMUs), areas of concern (AOCs), and closed Hazardous Waste Management Units (HWMUs) at the Facility. This includes any newly discovered or identified SWMUs and AOCs.

Prior to issuing a permit, NMED is required by regulation to release a draft permit for public comment in accordance with 20.4.1.900 and 901 NMAC. A 60-day comment period was initiated by NMED on May 26, 2022. The Permittee requested an extension to the original 60-day comment period. The Permittee's formal request for a comment period extension was received by NMED on July 21, 2022. NMED extended the public comment period on August 1, 2022, to August 24, 2022. Comments in response to the draft permit were only received from the Permittee and are referenced in Tables 1 through 3: *Draft Permit Comments and NMED Response* below. The NMED response to the Permittee's comments are provided on each table.

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
1	Section 1.18, Approval of Submittals	This section states that approved work plans, etc. are incorporated into the Permit, but does not state that this incorporation is not a Permit modification	Section 1.18 of the draft Permit states that “Upon the NMED’s written approval, all submittals and associated schedules are incorporated into this permit and shall become enforceable as part of this Permit...” In the comparable section of the current Permit (I.L), NMED states that “Incorporation of a work plan to the Permit is not considered to be a permit modification.” NASA requests that a similar statement be included in the draft Permit.	Section 1.18 has been changed to add “Incorporation of a work plan to the Permit is not considered to be a permit modification.”	Yes
2	Section 2.5.3, Waste Accumulation Time	This section refers to Central Accumulation Areas (CAAs) but does not specifically discuss satellite accumulation areas. See Table 3, Comment 3	Section 2.5.3 of the draft Permit states, “In accordance 40 CFR 262 and any applicable provisions, the Permittee may accumulate hazardous waste on-site for 90-days or less without a permit or having interim status.” Though implied by reference to all of 40 CFR 262, this statement does not seem to consider allowable accumulation for greater than 90 days at satellite accumulation areas in accordance with 40 CFR 262.15. NASA requests that NMED clarify the statement, and others like it, to include waste accumulation in accordance with 40 CFR 262.15.	Section 2.5.3 has been revised to include hazardous waste accumulation at satellite accumulation areas in accordance 40 Code of Federal Regulations (CFR) 262.17 for 90-days or less and in accordance with 40 CFR 262.15 at satellite accumulation areas.	Yes

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
3	Section 2.7.2, Required Equipment, and Section 2.7.3, Testing and Maintenance of Equipment	Exclusion of reference to Part 262	Parts of the draft Permit references 40 CFR Parts 262 and 264. However, Sections 2.7.2 and 2.7.3 do not list the Part 262 references (§262.252 and 262.253, respectively) in tandem with the Part 264 references. NASA requests NMED clarify if this is an oversight or in keeping with the rest of the Permit, or an indication that NMED does not interpret these sections to be involved with waste generation.	Regulations for 40 CFR 264.32 and 264.33 and 262.252 and 262.253 are identical. NASA WSTF’s former status as a Treatment Storage and Disposal Facility requires corrective action in accordance with 40 CFR 264.101; therefore, provisions of 40 CFR 264 still apply for protection of human health and the environment (See Permit Section 2.1, Operation and Maintenance of the Facility). The permit does not relieve the Permittee of the obligation to comply with the provisions of 40 CFR 262 which contain some equivalent provisions in 40 CFR 264. Sections 2.7.2 and 2.7.3 have been revised to also reference the equivalent provisions included in 40 CFR 262.	Yes
4	Part 3: Corrective Action for Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Post-Closure Care Units (PCC Units)	The draft Permit does not include instructions for requesting a Permit modification to update corrective action status	Part 3 of the draft Permit includes requirements for corrective action at SWMUs, AOCs, and PCC units. However, the draft Permit does not include information on how NASA is to request a Permit modification to update the status of a regulated unit from “requiring corrective action” to “corrective action complete.” NASA notes that Permits issued to Sandia National Laboratories and Los Alamos National Laboratories include specific instructions on how to request a Permit modification for this purpose	Both the LANL and Sandia Permits were in the process of conducting corrective action under associated Orders dated 2005 and 2004, respectively. The referenced text is the same as the text in the Orders and was included for consistency at the time the Permits were issued. The process for modifying a permit to change the status of a SWMU or AOC is a Class 3 permit modification. The procedures for a Class 3 permit modification are described in 40 CFR 270.42(c). The Permittee must request to modify the permit to change the status of SWMUs and AOCs using the process specified in 40 CFR 270.42(c).	No

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			(Sections 8.7 and 11.7, respectively). NASA requests that comparable language be added to the WSTF Permit to provide a clear path forward when NASA seeks to update the status of units from “requiring corrective action” to “corrective action complete.”		
5	Section 3.3.1, Facility-Wide Groundwater Monitoring Plan	Updates to the Groundwater Monitoring Plan are not specifically excluded as Permit modifications	Section 3.3.1 of the draft Permit states, “Upon NMED approval, the Groundwater Monitoring Plan shall be incorporated herein by reference as an enforceable part of this Permit, and the Permittee shall implement its terms.” The section does not indicate that the annual updated GMP will not be considered a Permit modification. NASA requests that NMED include this statement after the sentence quoted above: “Annual updates to the Groundwater Monitoring Plan will not be considered to be permit modifications.”	See response to Comment 1 above.	No
6	Section 3.3.4, Detection Monitoring, & Section 3.3.5, Compliance Monitoring	Requirement for detection and compliance monitoring	Section 3.3.4 of the draft Permit requires NASA to perform detection monitoring as part of the Facility-Wide Groundwater Monitoring Program in accordance with the minimum requirements of Permit Section 4.3, the approved Groundwater Monitoring Plan, and 40 CFR 264.101, which is	The Permit addresses corrective action and post closure groundwater monitoring that has been ongoing for over two decades. The point of compliance is not a single point since the groundwater remediation and monitoring system applies on a facility wide basis and the contaminant plume extends well beyond the boundaries of any formerly permitted units,	No

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>incorporated by reference. However, the requirements of 40 CFR 264.101 do not specifically include the requirements for groundwater detection and compliance monitoring. NASA has identified this discrepancy in past submittals of the annual Groundwater Monitoring Plan (GMP Section 3.3). In lieu of specific instruction in 40 CFR 264.101, NASA consulted 40 CFR 264.98, which requires the collection of samples for analyses of Appendix IX constituents at the compliance point. NASA plans to continue effective detection and/or compliance monitoring of groundwater, including at the closed Hazardous Waste Management Units in accordance with applicable sections of 40 CFR 264. NASA requests that detection and compliance monitoring requirements be incorporated into the Groundwater Monitoring Plan, which meets the requirements of 40 CFR 264.90(f), and that sections 3.3.4 and 3.3.5 be removed from the draft Permit.</p>	<p>units undergoing post closure care, or SWMUs and AOCs. The term detection monitoring as used in Section 3.3.4 is in the context of corrective action rather than the context of monitoring specific to a hazardous waste unit as defined in 40 CFR 264.95. Permit Section 3.3.4, Detection Monitoring, requires the reporting of new detections of contaminants of concern.</p> <p>Permit Section 3.3.5, Compliance Monitoring, requires the Permittee to meet cleanup levels for contaminants of concern as established in the WSTF GMP and is subject to the cleanup requirements specified in Permit Section 3.5.1.</p> <p>The Permit required groundwater monitoring at WSTF is a component of corrective action required by 40 CFR 264.101 and provides data on the nature and extent of groundwater contamination released at SWMUs, AOCs, PCC Units, and other sites including any newly identified detections of contaminants of concern and is not a discrepancy.</p>	

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
7	Section 3.3.7, Periodic Monitoring Reports	The draft Permit requires the quarterly submittal of Periodic Monitoring Reports (PMR)	Section 3.3.7 of the draft Permit requires the submittal of quarterly periodic monitoring reports. NASA believes that the changes in groundwater flow and contaminant transport are of a magnitude that quarterly reporting provides minimal value. Therefore, NASA requests changing the PMR submittal schedule in the Permit from quarterly to semi-annually as described in Section 11.4 of the recently submitted 2022 GMP update (April 29, 2022).	Permit Section 3.3.7 states “...quarterly periodic monitoring reports (PMRs) comprised of three “routine” and one comprehensive PMR within 90 days of completion of the field activities conducted during the associated periodic monitoring event, <u>unless another time period is specified by NMED or according to the schedule in the Groundwater Monitoring Plan.</u> ” Based on the nature and extent of groundwater contamination at WSTF and continued investigation at SWMUs, AOCs, and other sites where contaminants of concern may have been released, a change is not warranted at this time even though Permit Section 3.3.7 provides the ability to change the reporting frequency. NMED’s October 31, 2022 Approval with Modification response to the 2022 Groundwater Monitoring Plan update has also required quarterly reporting.	No
8	Section 3.7, Variance from Cleanup Levels, Paragraph 2	Addition of references for impracticability	Section 3.7, Paragraph 2 of the draft Permit requires that NASA submit a demonstration of impracticability if NASA is to seek a variance from cleanup levels. Further, the draft Permit states “The Permittee may also refer to all applicable guidance concerning impracticability.” NASA requests that NMED include the following as examples of applicable	Section 3.7 outlines the general process for the formal submission of a request for a variance from environmental cleanup levels specified in Permit Section 3.5 and is not specific to groundwater. Permit Section 3.7 also specifies that any reference to applicable guidance documents must be included in the request for a variance for NMED review.	No

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>guidance: EPA’s Interim Final Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration (September 1993) and EPA’s Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action (April 2004).</p>		
9	Section 4.2.7, Sample Point and Structure Location Surveying	Requirement for map certification	<p>Section 4.2.7 of the draft Permit requires that NASA “...prepare site map(s), certified by a registered New Mexico professional land surveyor, presenting all surveyed locations and elevations including relevant site features and structures for submittal with all associated reports to the NMED.” Current NASA staff does not include a registered New Mexico professional land surveyor who can conduct such surveys and certify the myriad maps submitted to NMED in a timely and efficient manner. NASA believes that the professional-grade GPS survey equipment used by qualified GIS professionals within the WSTF Facility Engineering Department provides data of sufficient quality to generate maps that meet the requirements of the Permit. NASA requests that NMED revise the</p>	<p>Section 4.2.7 allows for alternative methods to be proposed in site-specific work plans. The alternate methods must be capable of meeting the location requirements specified in Section 4.2.7. Less precise location measurement methods may be proposed in site-specific work plans and approved by NMED prior to use.</p>	No

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			statement above to also include the option to use GPS instrumentation as currently allowed in the NASA RCRA Permit (Attachment 17, Section 17.2.2.f), which states: “Site attributes (e.g., soil sample locations, sediment sample locations, springs, outfalls, pertinent structures, monitoring stations, as well as staked out sampling grids), shall be located by using the global positioning system (GPS), another NMED-approved surveying system, or by using a registered New Mexico Registered Land Surveyor...”		
10	Section 4.2.8, Subsurface Vapor-phase Monitoring and Sampling	Requirement to use a pump not associated with the monitoring instrument	Section 4.2.8 of the draft Permit requires that soil vapor monitoring wells be purged by “...tubing shall be used to connect the sample port to a low-velocity pump not associated with a field instrument.” NASA typically uses a landfill gas monitoring instrument for soil vapor sampling that is equipped with a low-volume pump designed for vapor sampling. This method has produced representative soil vapor samples at monitoring events at WSTF. NASA requests that this requirement be removed from the draft Permit or modified to indicate that a field	Permit Section 4.2.8 presents minimum requirements for RCRA Permitted facilities conducting corrective action soil vapor sampling. The Permittee may propose alternative sampling methods and procedures in site-specific work plans with supporting evidence that the samples to be collected will result in representative samples as allowed by Section 4.1, Highlights.	No

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			instrument with a suitable low-volume pump can be used for soil vapor purging.		
11	Section 4.3.4.1, Per- and Polyfluoroalkyl Substances (PFAS) Sample Collection	PFAS analytical methods and minimum sampling requirements	In Section 4.3.4.1 of the draft Permit, NMED states, “At a minimum, the following practices shall be followed until improved methods become available...EPA developed Analytical Method 537 and draft Method 1633 for the determination of selected perfluorinated alkyl acids in drinking water by solid phase extraction and liquid chromatography/tandem mass spectroscopy (LC/MS/MS).” It is unclear if this statement requires NASA to use these methods for analyzing groundwater samples for PFAS compounds. In NMED’s November 15, 2021, Approval with Modifications of NASA’s 2021 Groundwater Monitoring Plan update, NMED directed NASA to use SW-846 Methods 3512 and 8327 for the preparation and analysis of groundwater samples for PFAS, respectively. Due to the evolutionary nature of PFAS state of science, continual developments and improvements of analytical methods, detection/reporting limits, and parameter lists, NASA requests that	The Permit has been modified to specify that the most updated methods must be used for PFAS sampling and analyses. The sample collection methods are provided as example. The section addresses the evolving nature of PFAS sample collection and analysis technology.	Yes

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			section 4.3.4.1 is removed from the draft		
12	Section 4.3.6, Sample Handling	Sample shipment times	Section 4.3.6, Sample Handling, Bullet 3 of the draft Permit requires that “At a minimum, all samples shall be submitted to the laboratory within 48 hours after their collection.” Most samples collected at WSTF have hold times of 7 days or greater, making this requirement unnecessary. NASA utilizes secure cold storage at WSTF to store and accumulate samples prior to shipment to the off-site laboratories. This allows for sample ice chests to be fully packed, maximizing the potential that samples arrive at the laboratory intact and within the specified temperature range. NASA believes that the preceding sentence, “All samples shall be submitted to the laboratory soon enough to allow the laboratory to conduct the analyses within the method holding times” provides sufficient direction for sample storage within allowable hold times and requests that the final sentence of Section 4.3.6 Bullet 3 be removed.	The statement “[a]t a minimum, all samples shall be submitted to the laboratory within 48 hours after their collection.” has been modified to state “all samples shall be submitted to the laboratory soon enough to allow the laboratory to conduct the analysis within the method holding time.	Yes
13	Section 7.2.1, Unit	This section does not include satellite	Section 7.2.1 of the draft Permit states, “Currently, NASA WSTF is a large quantity generator of hazardous waste	Permit Section 7.2.1 has been modified to acknowledge hazardous waste storage at satellite accumulation areas.	Yes

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
	Identification , Paragraph 7	accumulation areas. See Table 3, Comment 3	that manages hazardous waste at various less than 90-day accumulation areas at the Facility.” See NASA narrative for Table 3, Comment 3.		
14	Section 7.3.5.3, Post-Closure Inspections and Maintenance, Paragraph 3	Requirement to repair damage immediately at the 600 Area Closure cap	Section 7.3.5.3 of the draft Permit requires that damage identified to the 600 Area Closure cap “... must be immediately repaired by the Permittee.” In the subsequent paragraph, the requirements for repair of the 200 Area HWMU closures differs: “The Permittee shall repair any such damage within ten days after observing the damage unless the damage is too extensive to repair within ten days. In such circumstance, the Permittee shall notify the department and propose a schedule for completion of the repair.” NASA requests that the language in paragraph 3 of Section 7.3.5.3 (“Any damage identified must be immediately repaired by the Permittee.”) be replaced with the same language used in paragraph 4 of that section (“The Permittee shall repair any such damage within ten days after observing the damage unless the damage is too extensive to repair	Permit Section 7.3.5.3, Paragraph 3 has been modified to also add the 10-day closure impoundment cap repair requirement for the 600 Closure Cap with contingency to petition NMED for additional time as in other section discussions.	Yes

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			within ten days. In such circumstance, the Permittee shall notify the department and propose a schedule for completion of the repair.”)		
15	Attachment 3, Compliance Schedule, Table 3-1	See Table 1, Comment 7	Table 3-1 in Attachment 3 of the draft Permit requires the submittal of quarterly periodic monitoring reports. See NASA narrative for Table 1, Comment 7.	See response to Comment 7.	No
16	Attachment 4, Corrective Action Status Tables, Table 4-1	The WSTF groundwater plume is not recognized as AOC [Area of Concern]	Table 4-1 in Attachment 4 of the WSTF draft Permit provides a list of all known SMWUs and AOCs at WSTF that require corrective action. NASA reviewed the draft Permit definition of Area of Concern – “...any area having a known or suspected release of hazardous waste, hazardous constituents or other contaminant that is not from a solid waste management unit and that NMED has determined may pose a current or potential threat to human health or the environment. An AOC may include buildings, structures, and other locations at which releases of hazardous waste or constituents have not been remediated, including releases resulting from one-time or accidental events.” Although the WSTF groundwater contaminant plume was created at least partially by discharges	Since investigation of potential source areas is not yet complete, designation of the groundwater plume is not appropriate at this time. NMED may consider designating the groundwater plume as an AOC in the future.	No

Table 1 2022 Draft Permit Comments and NMED Response – NASA Draft Permit

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>at SWMUs, the complete history of plume genesis is unknown. Due to the current lack of receptors and an incomplete exposure pathway, it is not clear that the WSTF groundwater plume presents "...a current or potential threat to human health or the environment." However, NASA believes that the WSTF groundwater plume should be designated as an AOC because it is an "other location at which releases of hazardous waste or constituents have not been remediated..." NASA therefore recommends the inclusion of the WSTF groundwater contaminant plume as AOC 55 in Table 4-1 of draft Permit Attachment 4. This will provide NMED and NASA with an administrative tool for the management of the contaminant plume.</p>		

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
1	Title Page	Title page does not indicate the Permit includes corrective action	The title of the draft Permit is “Resource Conservation and Recovery Act Post Closure Permit...” This title provides no indication that the Permit also addresses corrective action. NASA requests that NMED revise the title of the Permit to “Resource Conservation and Recovery Act Corrective Action and Post-Closure Care Permit.”	All permits issued by NMED contain corrective action provisions. Since post closure care is included in the Permit, a reference to corrective action in the title is not necessary. Permit Section 1.1, Authority, and Section 1.3, Permitted Activity, clarify that the Permit applies to corrective action at WSTF SWMUs, AOCs, and five HWMUs under post-closure care.	No
2	Section 1.13.9.3, Monitoring Records Contents, Bullet 4	Requirement to provide analysts’ qualifications	Section 1.13.9.3, Bullet 4 of the draft Permit requires the inclusion of “The name and qualification of the individual(s) who performed the analyses;” in monitoring records. 40 CFR 270.30(j)(3)(iv) only requires “The individual(s) who performed the analyses;” NASA requests that NMED remove the requirement to include analysts’ qualifications in monitoring records maintained at the facility.	NMED requires that environmental investigation and analyses be conducted by qualified professionals and requires that at least basic qualifications be provided for individuals working on projects (e.g., chemist, project manager, geologist, engineer, etc.) as applicable.	No
3	Section 1.13.10.5, Five Day Written Report	This section refers to Section 2.8.4 of the draft Permit, which does not seem to apply	Section 1.13.10.5 states that “The Permittee shall include in the report all records of spill response activities as required by Permit Section 2.8.4.” Draft Permit Section 2.8.4 states in its entirety “The Permittee shall furnish upon request and make available at all	40 CFR 264.74(a) requires the Permittee to retain and make available to the Permit Administrator (NMED) all records required to be maintained by the Permit. The provision does not distinguish between records of releases and other types of records. Therefore, this requirement	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			reasonable times for inspection by the NMED or its designee all records required to be maintained by this Permit as stipulated in 40 CFR 264.74(a).” Section 2.8.4 does not include requirements for spill response activities. 40 CFR 264.74(a) provides requirements for records retention. NASA requests that NMED clarify the need to reference draft Permit Section 2.8.4 in Section 1.13.10.5.	applies to records documenting a noncompliance issue (e.g., a spill response).	
4	Section 1.13.10.6, Other Noncompliance	This section refers to “monitoring reports” as required by draft Permit Section 1.15	Section 1.13.10.6 of the draft Permit states that other instances of noncompliance not covered elsewhere in Section 1.13.10 must be reported in the “monitoring reports” required by Section 1.15. Draft Permit Section 1.15 provides requirements for Quarterly Environmental Activities Reports. NASA requests that NMED revise Section 1.13.10.6 to refer to “activities reports” required by Section 1.15 to avoid confusion with Periodic Monitoring Reports required by Section 3.3.7.	The section has been changed to reference activity reports in accordance with Permit Section 1.15.	Yes
5	Section 1.15, Quarterly Environmental Activities Report and	NMED designation of Quarterly Environmental	Based on the description of the Quarterly Environmental Activities Report in draft Permit Section 1.15 and 2.8.2, NASA requests clarification on whether NMED	NMED has historically not classified the activity reports as status reports as defined in 20.4.7.S(4) NMAC. NMED may require the Permittee submit the environmental activity report as a Status Report if the	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
	Section 2.8.2, Quarterly Environmental Activity Report	Activities Reports	considers the report a Status Report in accordance with 20.4.2.7 NMAC, which states ""Status report" means a report summarizing the progress of implementation of corrective actions or corrective measures..."	content warrants such a designation. This direction will be provided on a case-by-case basis.	
6	Section 2.7.2, Required Equipment	Omission of 40 CFR 262.252	Section 2.7.2 does not list the 40 CFR §262.252 in tandem with the Part 264 reference.	See response to Table 1 Comment 3.	Yes
7	Section 2.7.[3], Testing and Maintenance of Equipment	Omission of 40 CFR 262.253	Section 2.7.3 does not list the 40 CFR §262.253 in tandem with the Part 264 reference.	See response to Table 1 Comment 3.	Yes
8	Section 2.8, Record Keeping and Reporting	Requirement for paper and electronic copies of records	Section 2.8 of the draft Permit requires NASA to "maintain in paper form and in electronic form acceptable to the NMED all information and records required to be maintained by this Permit." The use of the qualifier "and" in this statement implies all records must be kept in both electronic and hard copy. NASA requests that NMED replace the qualifier "and" with "or" to allow for operational records to be kept in both media without the requirement for duplicating records in both media.	The section has been revised to state "The Permittee must be able to provide paper copies of records or electronic copies in a format acceptable to NMED, if kept in electronic form, upon demand if requested by NMED."	Yes

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
9	Section 3.7, Variance from Cleanup Levels	Inconsistent application of variances	When applying for a variance for cleanup levels, the language only includes SWMUs and AOCs. This variance potential does not apply to the five closed HWMUs. NASA requests that this statement be revised as follows: “In making such demonstration, the Permittee may consider such things as technical or physical impracticability of the project, the effectiveness of proposed solutions, the cost of the project, hazards to workers or to the public, and any other basis that may support a finding of impracticability at a particular SWMU, AOC, or closed HWMU.”	Clean closure of hazardous waste management units is not subject to the variance provisions described in Permit Section 3.7. 40 CFR 264.111(b) (Closure Performance Standard) states that the owner or operator must close the facility (HWMU) in a manner that “[c]ontrols, minimizes, or eliminates, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate....” The closure provisions in 40 CFR 264.197 and 264.228 also specify that the Permittee must “remove and decontaminate all waste residues contaminated containments system components, contaminated subsoils...” HWMUs that cannot achieve clean closure are subject to post-closure care.	No
10	Section 4.1, Highlights	Requirement to petition for alternate analytical method	Section 4.1 of the draft Permit states, “To use any alternative analytical method, the Permittee must submit to NMED a petition for approval in accordance with 40 CFR 260.21.” NASA does not understand the use of this reference in the Permit. 40 CFR 260.21 requires the submittal of a petition to add an analytical method to 40 CFR 261, 264, or 265. NASA does not anticipate proposing the addition of an	The Permit regulates corrective action at WSTF and establishes minimum standards for corrective action methods and procedures that are enforceable by regulation in New Mexico. The reference to 40 CFR 260.21 outlines the process and information standards required for consideration of any variance to use alternative analytical methods beyond those established or accepted by the United	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>alternative analytical method to 40 CFR 261, 264, or 265 and requests that NMED clarify the intent of referring to 40 CFR 260.21 in the draft Permit.</p>	<p>States Environmental Protection Agency for use during corrective action required by RCRA Permits. NMED is authorized to implement the RCRA Program in New Mexico and will review the petition and provide an appropriate response.</p> <p>The reference to 40 CFR 260.21 is not intended to imply that the variance will result in any change to overall federal regulations but will require the same information described in 40 CFR 260.21.</p>	
11	Section 4.2.8, Subsurface Vapor-phase Monitoring and Sampling	Requirement for vapor monitoring data sheet	<p>Section 4.2.8 of the draft Permit requires “Field vapor measurements, the date and time of each measurement, and the instrument used, shall be recorded on a vapor monitoring data sheet.” NASA does not currently use or plan to use specific vapor monitoring data sheets. NASA uses field logbooks and plans to transition to a commercial off-the-shelf data management system in the future. Therefore, NASA requests that this statement be revised to require that field vapor measurement data be recorded in the appropriate field record.</p>	<p>Permit Section 4.2.8 establishes the minimum requirements for recording soil vapor monitoring field data. The Permittee may propose alternative methods for recording data in site-specific work plans as allowed by Permit Section 4.1, Highlights.</p>	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
12	Section 4.3.1, Groundwater Levels	Requirement to record groundwater elevations on a site data sheet	Section 4.3.1 of the draft Permit requires “Measurement data and the date and time of each measurement shall be recorded on a site monitoring data sheet.” NASA does not currently use or plan to use specific site monitoring data sheets. NASA uses field logbooks and plans to transition to a commercial off-the-shelf groundwater and geological data management system in the future. Therefore, NASA requests that this statement be revised to require that groundwater level measurement data be recorded in the permanent site record as indicated in the Groundwater Monitoring Plan.	Permit Section 4.2.8 establishes the minimum requirements for recording groundwater elevation data in the field at RCRA Permitted facilities in New Mexico. The Permittee may propose alternative methods for recording data in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights.	No
13	Section 4.3.1, Groundwater Levels	Groundwater levels required within 48 hours	Section 4.3.1 of the draft Permit states “Groundwater levels shall be measured in all wells within 48 hours of the start of obtaining water level measurements.” NASA performs groundwater sampling, and thus groundwater level measurements, on an ongoing basis. As a result, there is no “start” of measuring groundwater elevations. NASA requests that NMED clarify this requirement in the context of year-round groundwater monitoring	Permit Section 4.3.1 establishes the minimum requirement for collection of groundwater elevation data in the field at RCRA Permitted facilities in New Mexico. The Permittee may propose alternative methods and procedures in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			at WSTF or remove the statement from the draft Permit.		
14	Section 4.3.2, Groundwater Sampling	Requirement to perform sampling with 15 days of starting sampling	Section 4.3.2 of the draft Permit requires that “All monitoring wells scheduled for sampling during a groundwater sampling event shall be sampled within 15 days of the start of the monitoring and sampling event.” NASA performs groundwater monitoring on an ongoing, year-round basis, with “sampling event” defined in Section 1.2 of the Groundwater Monitoring Plan as the “specific activities and relevant documentation associated with the collection, management, and analysis of groundwater samples from a distinct groundwater source.” Because sampling an individual groundwater source (a sampling event) requires fewer than 15 days, NASA believes that this requirement does not apply to groundwater monitoring at WSTF. NASA requests that NMED clarify this requirement in the context of year-round groundwater monitoring at WSTF or remove the statement from the draft Permit.	The Permittee may propose alternative methods and procedures in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
15	Section 4.3.2, Groundwater Sampling	Requirement to sample all saturated zones at each sampling event	Section 4.3.2 of the draft Permit states, “The Permittee shall sample all saturated zones screened to allow entry of groundwater into each monitoring well during each sampling event.” NASA’s sampling events are defined in Section 1.2 of the Groundwater Monitoring Plan as the “specific activities and relevant documentation associated with the collection, management, and analysis of groundwater samples from a distinct groundwater source.” Because sampling events are by definition only at one saturated zone, NASA believes this statement is unnecessary. Additionally, the current NMED-approved Groundwater Monitoring plan provides specific sampling frequencies for all WSTF groundwater monitoring wells. Groundwater monitoring wells, zones, and intervals are assigned varying sampling frequencies based on the needs of the groundwater assessment program at those locations. The requirement as written is not consistent with the current Groundwater Monitoring Plan or approved objectives of the assessment program at WSTF. NASA	See response to Comment 14.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			requests that this requirement be removed from the draft Permit.		
16	Section 4.3.3, Well Purging	Requirement to purge wells before sampling	Section 4.3.3 of the draft Permit states that “All zones in each monitoring well shall be purged by removing groundwater prior to sampling in order to ensure that formation water is being sampled.” NASA recognizes that pre-sampling purging is typical for most situations. However, NASA continues to use several Westbay multiport wells for groundwater monitoring as indicated in the NMED-approved Groundwater Monitoring Plan. The procedure for sampling these multiport wells does not include purging of significant groundwater volume prior to sample collection, though a small amount of groundwater is removed for the measurement of indicator parameters. NASA requests that NMED clarify this statement to state “Where applicable, all zones in each monitoring well shall be purged by removing groundwater prior to sampling in order to ensure that formation water is being sampled.”	Permit Section 4.3.3 establishes the minimum requirements for the adequate purging of groundwater monitoring wells at RCRA Permitted facilities in New Mexico. The Permittee may propose alternative methods for purging various well sampling systems in use at WSTF in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
17	Section 4.3.3, Well Purging	Parameter measurement requirement	Section 4.3.3 of the draft Permit requires that “Purge volumes shall be determined by monitoring, at a minimum, groundwater pH, specific conductance, dissolved oxygen concentrations, oxidation-reduction potential, and temperature during purging of volumes and at measurement intervals approved by the NMED.” NASA notes that this is the accepted practice when purging wells equipped with dedicated low-flow or similar equipment. However, when purging groundwater monitoring wells with some non-dedicated equipment, or when collecting groundwater samples from Westbay multiport wells, purged groundwater is first dispensed into a small container that is exposed to the atmosphere for a brief time, which precludes the measurement of dissolved oxygen and oxidation-reduction potential. NASA requests that NMED modify the requirement to indicate that indicator parameters will be measured during purging as appropriate for the groundwater sampling method in use.	Permit Section 4.3.3 establishes the minimum requirements for the collection of water quality parameters that ensure representative sampling of groundwater at monitoring wells at RCRA Permitted facilities in New Mexico. The Permittee may propose alternative methods and procedures in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
18	Section 4.3.3, Well Purging	Requirement to compare parameters to historical [sic]	Section 4.3.3 of the draft Permit requires “Field water quality parameters shall be compared to historical data to ensure that the measurements are indicative of formation water.” Historical groundwater parameters may not be indicative of future well performance and are not the most appropriate measure of representativeness. Instead, NASA recommends that representativeness be based on indicator parameter stabilization as indicated in EPA Guidance, NMED’s low-flow position paper, and NASA’s current Permit, which states, “In general, water samples may be obtained from the well after the measured parameters of the purge water have stabilized to within ten percent for three consecutive measurements.”	<p>The Permittee may propose alternative methods and procedures in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.</p> <p>As an additional minimum requirement, the Permittee is also required to verify that the data collected during each sampling event is representative of sampling conditions at the sampling location based on historical record. Deviation from a historical normal may indicate that water quality parameter data anomalies may be associated with significant changes in well or groundwater conditions or issues with sampling procedures.</p>	No
19	Section 4.3.4, Groundwater Sample Collection	Requirement to purge wells before sampling See Table 2, Comment 16	Section 4.3.4 of the draft Permit requires “Groundwater samples shall be obtained from each well after a sufficient amount of water has been removed from the well casing to ensure that the sample is representative of formation water.” See Table 2, Comment 16.	Permit Section 4.3.4 establishes the minimum requirements for the adequate purging of groundwater monitoring wells for representative sampling and data collection at RCRA Permitted facilities in New Mexico and is standard industry practice. The Permittee may propose alternative methods for purging various	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
				sampling systems in use at WSTF and collecting samples in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.	
20	Section 4.3.4, Groundwater Sample Collection	IDW disposal	Section 4.3.4 of the draft Permit requires, “All purged groundwater and decontamination water shall be characterized prior to disposal.” NASA currently manages IDW water and decontamination fluid generated from groundwater monitoring as hazardous waste in accordance with 40 CFR 262.15 before treatment and disposal at the Mid-plume Interception and Treatment System in accordance with the NMED-approved DP-1255 and Groundwater Monitoring Plan. NASA expects to continue this accepted practice and will continue to include this mechanism of IDW treatment and disposal in the forthcoming DP-1255 renewal and annual updates to the Groundwater Monitoring Plan.	Permit Section 4.3.4 provides the minimum requirements for managing investigation derived waste (IDW) such as purged groundwater and decontamination water at Permitted hazardous waste facilities in New Mexico. The Permittee may propose alternative IDW management procedures for groundwater monitoring project work in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
21	Section 4.3.6, Sample Handling	Glove requirement	Section 4.3.6, Sample Handling, Bullet 1, of the draft Permit requires “New disposable gloves shall be used to collect each sample” This statement appears to require that new gloves be donned for each individual sample, requiring many pairs of gloves for a single sampling event. NASA recommends clarifying this statement to indicate that new disposable gloves are required for each set of samples from a specific sample source rather than for each individual sample.	Permit Section 4.3.6 provides the minimum standard to ensure the collection of representative groundwater samples and to prevent sample cross-contamination between sampling locations and is accepted industry standard. The Permit requirement is not specific to each sample collected for each chemical analysis scheduled for a sampling location but is intended to require that whether one sample or multiple samples for analysis are collected at a sampling location, new disposable gloves must be used rather than gloves used at a previous location or well screen.	No
22	Section 4.3.6, Sample Handling	Temperature blanks for sample shipment	Section 4.3.6, Shipment procedures, Bullet 1, of the draft Permit requires “Temperature blanks shall be included with each shipping container;” NASA’s contracted analytical laboratories do not require the use of temperature blanks. Temperature measurements are obtained directly from sample containers to ensure that all samples in the shipment are at the required temperature upon receipt at the laboratory. This requirement is not necessary and NASA requests that this specific requirement be removed from the draft Permit.	Permit Section 4.3.6 provides the minimum standards for environmental media sample quality control at Permitted hazardous waste facilities in New Mexico. The Permittee may propose alternative methods and procedures in site-specific work plans and the Groundwater Monitoring Plan as allowed by Permit Section 4.1, Highlights. The approved work plan requirements control over the Permit requirement.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
23	Section 5.2.6, Surface Completion	Unnecessary specificity in well surface completion size	Section 5.2.6 of the draft Permit provides specific requirements for the size of a well surface completion: “In above-ground completions, a three-foot wide, four-inch thick concrete surface pad shall be installed around the well at the same time the protective monument is installed.” NASA’s current Permit allows for this to be the minimum size: “In above-ground completions, a minimum three-foot wide, four-inch thick concrete surface pad shall be installed around the well at the same time the protective casing is installed.” In order to accommodate situations in which a larger surface completion may be beneficial, NASA requests that NMED insert the word “minimum” before the term “three-foot wide” in the draft Permit.	Section 5.2.6 has been modified to include “minimum” before the term “three-foot wide” for the monitoring well surface completion specifications.	Yes
24	Section 6.1, Highlights	Requirement to submit two paper copies of work plans and reports	Section 6.1 of the draft Permit requires that “All work plans and reports shall be submitted to the NMED in the form of two paper copies and two electronic copies.” This differs from the comparable requirement in the current WSTF Permit, which states that “All work plans and reports shall be submitted to NMED in a format(s)	NMED requires that all work plans, reports, and other documents must be submitted to the NMED in the form of two paper copies and two electronic copies. This is the acceptable format and allows for a copy of the document to be included in the WSTF administrative record and one copy to be retained as a “working copy”.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>acceptable to NMED.” The requirement is not consistent with NASA’s policy of reducing the consumption of natural resources or with Executive Order 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, Section 207, Reducing Waste and Pollution, which mandates “...each agency shall minimize waste...by annually diverting from landfills at least 50% of non-hazardous solid waste by FY25 and 75% by FY30.” NASA requests that NMED replace the draft Permit statement with the quoted statement from the current Permit and work with NASA to identify more sustainable options for the submittal of work plans and reports.</p>		
25	Sections 6.2.1, 6.3.1, 6.4.1, 6.5.1, 6.6.1 (i.e., Title Page)	Requirement for information on document preparer	Sections 6.2.1, 6.3.1, 6.4.1, 6.5.1, and 6.6.1 require “A signature block providing spaces for the name, title, and organization of the preparer and the responsible representative of the Facility shall be provided on the title page in accordance with the signature requirements in 40 CFR 270.11(b).” 40 CFR 270.11 requires that reports provided to the agency be signed “by either a principal executive officer or	The policy has changed in recent years to address issues related to some RCRA-regulated facilities. The requirement is included to be consistent with the HWB policy change.	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>ranking elected official” or “by a duly authorized representative of that person.” NASA does not believe that the signature page/block must include information on the preparer of the document, only the signature of the person described in 40 CFR 270.11(a) and 40 CFR 270.119 [sic](b). NASA therefore requests this statement be revised to require that “A signature of the responsible representative of the Facility shall be provided on the title page in accordance with the signature requirements in 40 CFR 270.11(b).”</p>		
26	Sections 6.3.9, Site Contamination	Omission of requirements for reporting on groundwater and surface water	<p>Section 6.3.9 of the draft Permit provides requirements for including site contamination information in investigation reports. The comparable section of the current WSTF Permit, Section 20.3.9, includes requirements for reporting groundwater and surface water sampling, general chemistry, and chemical analytical results. NASA plans to include this information, when applicable, in investigation reports and recommends NMED consider including information on groundwater and surface water in the Permit.</p>	<p>The required evaluation of groundwater and surface water that would result in reporting data and other related information is addressed in Permit Sections 3.5.1, Groundwater Cleanup Levels and Section 3.5.3, Surface Water Cleanup levels as applicable to a site-specific scope of work. As stated in Permit Section 6.1 Highlights, “[t]he reporting requirements listed in this Part (6) do not include all sections that may be necessary to complete each type of report listed. The Permittee or the NMED may determine that additional sections are required to address additional site-specific issues or information collected</p>	No

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
				during corrective action or monitoring activities not listed below.” Sections addressing issues not listed in the Permit Part 6: Reporting Requirements may be added or omitted based on the specific project-related proposed or completed actions.	
27	Sections 6.3.9.6, Ambient Air and Subsurface Vapor Laboratory Analytical Results	Requirement for data tables and isoconcentration contours on maps	Section 6.3.9.6 of the draft Permit requires “Contaminant concentrations shall be presented as data tables and as isoconcentration contours on a map included in the Figures section of the report.” In other sections of the draft Permit (such as 6.2.12), NMED states that “Chemical analytical data corresponding to each sampling location can be presented in tabular form on the figure or as an isoconcentration map” NASA requests that NMED revise the quoted statement in draft Permit Section 6.3.9.6 and replace it with the quoted statement from draft Permit requirement 6.2.12 to be consistent.	Permit Section 6.2 addresses investigation work plans. Section 6.3 addresses investigation reports. The information included in a work plan serves a different purpose and is not identical to the information that is presented in an investigation report.	No
28	Sections 6.3.14.4, 6.4.13.3 (i.e., Chemical	Requirement for hard copy CoCs	Sections 6.3.14.4 and 6.4.13.3 of the draft Permit require that “Hard (paper) copies of the chain- of-custody forms shall be submitted with the reports regardless of whether the final	Section 6.3.14.4 and Section 6.4.13.3 have been modified to state, “Paper copies (or electronically scanned in PDF format) of all chain-of-custody records shall be provided with the reports.”	Yes

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
	Analytical Reports)		laboratory report is submitted electronically or in hard copy.” NASA currently generates both internal (to WSTF) and external chain-of-custody (CoC) forms to document complete custody of samples from the time of collection through analysis. Based on NASA’s current rate of sampling, this Permit requirement would result in the generation and submittal of several thousand pages of CoC forms to NMED. These pages would simply be printouts of PDF pages received from the laboratories, since NASA’s laboratories do not provide hard copy CoC forms. This is not consistent with NASA’s policy of reducing the consumption of natural resources or with Executive Order 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, Section 207, Reducing Waste and Pollution, which mandates “...each agency shall minimize waste...by annually diverting from landfills at least 50% of non-hazardous solid waste by FY25 and 75% by FY30.” NASA requests that NMED remove this requirement and accept PDF or other electronic versions of completed CoC forms.		

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
29	Section 7.2.1, Unit Identification	Use of “engineered environmental cover”	Section 7.2.1 of the draft Permit includes the term “engineered environmental cover.” NASA believes the industry-accepted term is “engineered cover” and requests that NMED remove “environmental” and replace the term “engineered environmental cover” with the term “engineered cover.”	Permit Section 7.2.1, has been revised to only state “engineered cover.”	Yes
30	Section 7.3.5.3, Post- Closure Inspection and Maintenance, Paragraph 3	Time constraint change requested	7.3.5.3 Paragraph 3 states, “Any damage identified must be immediately repaired by the Permittee.” A specified time limit with a contingency to petition the State for more time to make repairs is requested, e.g., repair time limit conditions for the 200 Area Closure landfills described in 7.3.5.3 Paragraph 4.	See response to Table 1 Comment 14.	Yes
31	Attachment 1, Site Location Section, Paragraph 1	Location incorrect	The attachment states, “The main entrance to the installation is six miles north of Organ, New Mexico.” The entrance to NASA Road is from U.S. Highway 70, 1 mile west of Organ, New Mexico as indicated in the last sentence of the paragraph. NASA recommends that the quoted sentence above be removed, and a new sentence be placed at the end of the paragraph indicating that the main	Attachment 1 has been revised to include that the main entrance to the facility is 6 miles north of the intersection of NASA Road and U.S. Highway 70.	Yes

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			entrance to the facility is 6 miles north of the intersection of NASA Road and U.S. Highway 70.		
32	Attachment 2, Figures A2-1 through A2-6	Missing SWMU and land ownership boundary	The maps provided as Figures A2-1 through A2-6 in Attachment 2 do not represent current land ownership or management. The maps were prepared prior to the identification of SWMU 54. NASA recommends that NMED replace all the maps in the Attachment 2 with the new maps provided as Enclosure 2. This change will make Figure A2-5 consistent with Attachment 4.	Attachment 2, Figures A2-1 through A2-6 have been replaced with the provided figure updates.	Yes
33	Attachment 5, Table 5-1, Row 1 and Section 7.3.5.3	Consolidation or Concurrence Requested	The requirements relating to inspection items in Section 7.3.5.3, Paragraph 4 do not correspond with the inspection items listed in the Inspection Schedule column of Attachment 5, Table 5-1 for the 200 Area Closure landfills. The maximum crack width of five millimeters is not reflected in the Table 5-1. Concurrently, the “general tidiness (e.g., removal of weeds)” and “settling” condition descriptors do not coincide with the outline of requirements in Section 7.3.5.3 Paragraph 4.	The Inspection schedule in Table 5-1 provides a general description and the requirements provided in Permit Section 7.3.5.3 apply. Section 7.3.5.3 has been modified to include references to settling and vegetation growth for consistency. A reference to Permit Section 7.3.5.3 has been added to Table 5-1.	Yes

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
34	Attachment 5, Table 5-1, Row 2 and Section 7.3.5.3	Consolidation or Concurrence Requested	The requirements relating to inspection items in 7.3.5.3 Paragraph 4 do not correspond with the inspection items listed in the Inspection Schedule column of Attachment 5, Table 5-1 for the 200 Area Closure landfills. The maximum crack width of five millimeters is not reflected in the Table 5-1. Concurrently, the “general tidiness” and “settling” condition descriptors do not coincide with the outline of requirements in Section 7.3.5.3 Paragraph 4.	See response to Comment 33.	Yes
35	Attachment 5, Table 5-1, Rows 3 and 4 and Section 7.3.5.3	Consolidation or Concurrence Requested	The requirements relating to inspection items in Section 7.3.5.3 Paragraph 2 do not correspond with the inspection items listed in the Inspection Schedule column of Attachment 5, Table 5-1 for the 300 and 400 Area Closures. Maintenance of the diversion structures and run-on and runoff controls are present in the body text but is not reflected in the Table 5-1. Concurrently, the conditions of closure cap erosion, cracks, potholes, settling, animal borrows, and general tidiness (e.g., removal of weeds and litter) do not coincide with the outline of requirements in Section 7.3.5.3 Paragraph 2.	See response to Comment 33.	Yes

Table 2 2022 Draft Permit Comments and NMED Response – Issues of Moderate Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
36	Attachment 5, Table 5-1, Row 5 and 7.3.5.3	Consolidation or Concurrence Requested	The requirements relating to inspection items in Section 7.3.5.3 Paragraphs 2 and 3 do not correspond with the inspection items listed in the Inspection Schedule column of Attachment 5, Table 5-1 for the 600 Area Closure. Maintenance of the diversion structures and run-on and runoff controls are present in the body text but is not reflected in the Table 5-1. Concurrently, the conditions of cracks, potholes, animal borrows, and general tidiness (e.g., removal of weeds and litter) do not coincide with the outline of requirements in Section 7.3.5.3 Paragraphs 2 and 3.	See response to Comment 33	Yes

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
1	Fact sheet page 1, Paragraphs 1 & 2	Inconsistent use of hyphen in “post- closure”	The first occurrence of the term “post closure” does not include a hyphen. In the second paragraph, the term used is “post-closure” with a hyphen. Based on the use of the term in 40 CFR 264, the hyphen appears correct.	The Fact Sheet is not part of the Permit.	No
2	Fact sheet page 5, Paragraph 4	Fact sheet provides an incorrect number of SWMUs at WSTF	The fact sheet states, “There are currently thirty-six SWMUs, one AOC, and also five HWMUs under post-closure care at the Facility.” According to NASA’s records, there are 37 SWMUs, one AOC, and one newly identified SWMU (not in the current Permit) at WSTF. Draft Permit Attachment 4 provides a complete and accurate list of the SWMUs and AOC at WSTF. NASA recommends updating the fact sheet to be consistent with the draft Permit language.	The Fact Sheet is not part of the Permit.	No
3	Fact sheet page 6, Paragraph 5;	Fact sheet does not refer to satellite accumulation areas	The fact sheet states, “WSTF currently manages hazardous waste generated at the Facility as a large quantity generator at various less than 90-day storage areas.” This statement does not consider allowable accumulation for greater than 90 days at satellite accumulation areas in accordance with 40 CFR 262.15. NASA requests that NMED clarify the statement, and	The Fact Sheet is not part of the Permit.	No

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			others like it, to include waste accumulation in accordance with 40 CFR 262.15. In this instance, NASA requests that NMED revise the statement to “WSTF currently manages hazardous waste generated at the Facility as a large quantity generator at various less than 90-day storage areas and satellite accumulation areas.”		
4	Fact sheet page 7, Paragraph 2	See Comment 3 above	The fact sheet states, “The Facility is a large quantity generator of hazardous waste and does not currently manage hazardous waste beyond 90 days.” See NASA narrative for Table 3, Comment 3.	The Fact Sheet is not part of the Permit.	No
5	Section 1.3, Permitted Activity	Commas between noun phrases	“This Permit requires the Permittee to conduct corrective action activities and to conduct tasks in accordance with a schedule of compliance for all solid waste management units (SWMUs), areas of concern (AOCs), and five closed hazardous waste management units (HWMUs) under post-closure care.”	A comma was added where appropriate.	Yes
6	Section 1.7, Enforcement	Remove “and” before its officers	“Any violation of a condition of this Permit may subject the Permittee, its officers, employees, successors, and assigns to:”	The statement is appropriate as written since the Permittee is the federal government.	No

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
7	Section 1.7, Enforcement	Comma omitted between dependent clauses	“The list of authorities in this paragraph is not exhaustive, and the NMED reserves the right to take any action authorized by law to enforce the requirements of this Permit.”	The addition of a comma is an editorial preference but does not change the Permit condition.	No
8	Section 2.2, Security	Comma omitted	“Pursuant to 40 CFR 264.14(a), the Permittee must prevent...”	A comma was added as requested.	Yes
9	Section 2.5.3, Waste Accumulation Time	Word omitted	Section 2.5.3 of the draft Permit is missing “with” after “In accordance with” 40 CFR 262.”	The omission has been corrected.	Yes
10	Section 2.5.7, Waste Dilution	Unnecessary comma	Section 2.5.7 of the draft Permit prohibits dilution; the comma before “as a substitute for treatment” is not necessary before a coordinating conjunction mid-sentence.	The comma has been removed.	Yes
11	Section 2.5.8, Waste Minimization	Incorrect tense	Section 2.5.8 begins with “In order to minimizes”; remove the “s”.	The typographical error has been corrected.	Yes
12	Section 3.3.6 Elevation of Groundwater, Surface and Other Measurements	Missing comma	Section 3.3.6 should have a comma between “Groundwater” and “Surface.”	Groundwater surface elevation is used appropriately in the context of the Permit condition.	No
13	Section 3.4, Plume Front and Mid-Plume Concentration	Incorrect names for remediation systems	Section 3.4 of the draft Permit refers to the WSTF groundwater remediation systems as “...the Plume-Front and Mid-Plume Constriction Area Remediation Systems...” twice in this	“Interception” has been substituted for “constriction area”	Yes

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
	Area Remediation System Monitoring		section. The correct designations of these systems are “Plume Front Treatment System” and “Mid-plume Interception and Treatment System.” NASA requests that NMED replace “Plume-Front and Mid-Plume Constriction Area Remediation Systems” with “Plume Front Treatment System and Mid- plume Interception and Treatment System.”		
14	Section 3.5.1, Groundwater Cleanup Levels	Cleanup levels incorrect	Refers to groundwater background levels influencing cleanup level, motivation to establish background groundwater levels. Cleanup levels not established by WQCC, MCL, RSL to be determined using risk methods – research risk methods PFAS evaluation included.	The comment is not clear. NMED has developed tap water screening levels for some PFAS since the draft Permit was issued including the three compounds listed as WQCC toxic pollutants. EPA is also developing screening levels for selected PFAS.	No
15	Section 3.5, Groundwater Cleanup Levels, Paragraph 2	Extra space prior to period after the word “Permit”	There is an extra space after the word “Permit” in the sentence “The Permittee shall comply with the adopted and established cleanup and reporting requirements described in this Permit. In addition, cleanup levels...”	The typographical error has been corrected.	Yes
16	Section 3.7, Variance from Cleanup Levels, Paragraph 2	Unnecessary comma	Section 3.7 of the draft Permit specifies a written requirement and adds an unnecessary comma before the phrase “if the NMED approves the impracticability demonstration.”	The comment expresses and editorial preference.	No

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
17	Section 3.12.5, Relationship to Corrective Measures Requirements	End period needs to be moved after regulatory references	“The Corrective Measures Evaluation shall serve as a Corrective Measures Study for the purposes of RCRA compliance. (55 Fed. Reg. 30875-77 (July 27, 1990) (proposed 40 CFR 264.520-264.524))”	The comment expresses and editorial preference.	No
18	Section 3.13, Remedy Approvals and Permit Modifications	Unnecessary subsection	Section 3.13 of the draft Permit includes a single subsection (3.13.1). This subsection is unnecessary, and NASA recommends retitling Section 3.13 to reflect the contents of the subsection (“Remedy Selection”) and removing the number and title of the subsection.	The subsection title has been removed	Yes
19	Section 3.15, Accelerated Clean-up Process & 4.2.2	Incorrect spelling “fieldwork”	Correct spelling of “field work” to “fieldwork.”	Field work can be express as either one or two words.	No
20	Section 3.15.1, Accelerated Corrective Measures Work Plan	Extra space between “I and “f”	“If” contains an extra space: “I f disapproved, the NMED will notify the Permittee in writing of the Plan’s deficiencies and specify a due date for submission of a revised Accelerated Corrective Measures Work Plan.”	The typographical error has been corrected.	Yes

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
21	Section 4.2.4, Logging of Soil, Rock, and Sediment Samples	Reference to ASTM	Section 4.2.4 of the draft Permit refers to “...ASTM (American Society for Testing and Materials)...” ASTM International no longer refers to itself by the full name included in the draft Permit. NASA recommends that NMED replace the term “...ASTM (American Society for Testing and Materials)...” with “ASTM International”.	The designation has been modified as recommended.	Yes
22	Section 4.2.4, Logging of Soil, Rock, and Sediment Samples	Reference to American Geological Institute	Sections 4.2.3.4, 4.2.4, and 6.3.7.2 of the draft Permit refers to the “American Geological Institute.” NASA recommends that NMED replace “American Geological Institute” with “American Geosciences Institute.”	The designation has been modified as recommended.	Yes
23	Section 4.2.7, Sample Point and Structure Location Surveying	Requirement for map certification	Section 4.2.7 of the draft Permit requires that NASA “...prepare site map(s), certified by a registered New Mexico professional land surveyor, presenting all surveyed locations and elevations including relevant site features and structures for submittal with all associated reports to the NMED.” NASA recommends that NMED include paragraph “Site attributes (e.g., soil sample locations, sediment sample locations, springs, outfalls, pertinent structures, monitoring stations, as well as staked	See response to Table 1 Comment 9.	No

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>out sampling grids), shall be located by using the global positioning system (GPS), another NMED-approved surveying system, or by using a registered New Mexico Registered Land Surveyor using the methods described in the paragraph above. If using GPS, horizontal locations shall be measured to the nearest 0.5 ft. Permittee shall provide NMED a statement of accuracy for survey data upon request.”</p>		
24	Section 4.3.2, Groundwater Sampling	Requirement to collect groundwater samples within five days of well development	<p>Section 4.3.2 of the draft Permit requires “Groundwater samples shall initially be obtained from newly constructed monitoring wells no later than five days after the completion of well development.” NASA believes that groundwater samples are likely to be more representative of aquifer conditions if a groundwater monitoring well is allowed to equilibrate for more than five days. NASA recommends that NMED revise this statement to be consistent with the requirement of the current WSTF Permit (Section 17.2.2.i) and the GMP (Section 11.3) that states “Groundwater samples shall initially be obtained from newly installed</p>	<p>If a well is properly developed, five days should be sufficient for the well to recover as long as the well is adequately purged prior to sampling. Variations to the requirements listed in the Permit may be proposed in site-specific work plans.</p>	No

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
			<p>monitoring wells between ten and 30 days after completion of well development.” The EPA Reg 4 Design and Installation of Monitoring Wells report (pg 25) indicates “The length of time between development and the first sampling event should be as long as possible with times from 1 to 14 days recommended...” ASTM D5521, Section 7.2.1 (pg 5) also indicates time is needed to flush remnants of development fluid.</p>		
25	Section, 4.3.4.1, PFAS, Paragraphs 5 and 6	Reference to “PFAA”	<p>Section 4.3.4.1, Paragraph 5 of the draft Permit states, “PFAA contamination during sampling...” Paragraph 6 of that section states “...analyzed to ensure that PFAAs were not...” NASA believes that these sentences should refer to PFAS rather than PFAA and recommends that NMED replace the two occurrences of “PFAA” with “PFAS.”</p>	The typographical error has been corrected.	Yes
26	5.1.1, Hollow-Stem Auger	Extra comma not needed before a subordinating conjunction mid-sentence. Remove “that” or the comma before “so”.	<p>“The hollow stem also acts to temporarily case the borehole, so that the well screen and casing (riser) may be inserted down through the center of the augers once the desired depth is reached, minimizing the risk of possible collapse of the borehole.”</p>	The Permit has been modified for clarity.	Yes

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
27	Section 5.2.2.1, Single-Cased Wells	Extra comma not needed before a subordinating conjunction mid-sentence. Remove comma before “if”.	“Teflon tape can be used to wrap the threads to ensure a tight fit and minimize leakage, if per-and poly-fluorinated alkyl substances are not a contaminant of concern.”	The comment expresses and editorial preference.	No
28	Section 5.2.3, Well Screen and Filter Pack Design	Comma omitted between independent clauses	“Filter pack materials shall not be poured into the annular space unless the well is shallow (e.g., less than 30 feet deep), and the filter pack material can be poured continuously into the well without stopping.”	The comment expresses and editorial preference.	No
29	Section 7.3.2, Post Closure Care Period	Comma after introductory prepositional phrase is omitted	Add comma after “CFR 264.117(a)(2)(ii)”: “For protection of human health and the environment and as required by 40 CFR 264.117(a)(2)(ii), the post-closure care period is extended under this Permit in accordance with Permit Section 1.9.1...”	A comma was added as requested.	Yes
30	Attachment 1, Site History Propulsion Testing, Paragraph 5, 1st sentence	Need dash between TS and 328	“Similarly, rigorous testing of the Forward ARCS was conducted at TS 328 (adjacent to TS-302) during the same time period (1978-1982) as ARCS testing.”	The dash has been added to state “TS-328”.	Yes

Table 3 2022 Draft Permit Comments and NMED Response – Issues of Minor Concern to NASA

Comment No.	Draft Permit Part(s)	Summary of NASA Issue	Issue Narrative	NMED Response	Permit Change
31	Attachment 1, Site History Materials Testing, Last sentence page 3	Grammatical error. Add “s” to allow.	“The most recent addition to the materials testing capability consists of a high temperature, high flow rate oxygen facility that allows testing of high flow rate components and performance of particle impact investigations at elevated temperature.”	The typographical error has been corrected.	Yes