



August 6, 2024

Roberto Antonio P. Trujillo, Capt., USAF
Commander, 36th Civil Engineer Squadron
Unit 14007
APO AP 96543-4007

Dear Captain Trujillo:

We appreciate the United States Air Force team hosting USEPA Region 9 RCRA Permits team and Guam EPA's visit to the Andersen Air Force Base (AAFB) on April 25, 2024. We thank your team for providing the field tour and the necessary information for USEPA Region 9 to have a better understanding of the history of the AAFB Hazardous Waste Facility Permit (GUS Permit 002) for the Explosive Ordnance Disposal Open Burn/Open Detonation (OB/OD) activities, the current and planned activities, and your team's ongoing efforts to comply with Guam's authorized hazardous waste management program.

The USEPA Region 9 RCRA Permits team has reviewed the information that they gathered during the site visit in April 2024. Our team has also reviewed the AAFB's application submittal for the renewal of the Permit, which was forwarded to USEPA Region 9 by Mr. Don Quinata with Guam EPA (refer to Enclosures). USEPA Region 9 and Guam EPA have determined that the permit renewal application as submitted fails to meet important aspects of applicable requirements of the Guam federally authorized hazardous waste program.

In addition, it was brought to USEPA Region 9 and Guam EPA's attention during the meetings in April 2024 that the AAFB plans to reduce the quantity of the wastes to be treated and that the Air Force had performed additional work on the waste analysis plan and the alternative technologies evaluation since the time the permit renewal application was submitted to Guam EPA in May 2021.

USEPA Region 9 and Guam EPA are hereby requiring AAFB to submit a revised permit renewal application that addresses the deficiencies outlined in this letter within 45 days of the date of this letter. See Permit Condition I.E.7. Duty to Provide Information. See also, 40 CFR § 270.30(h) Duty to provide information.

Guam Hazardous Waste Management Regulations (GHWMR) adopt the substantive requirements of 40 CFR Part 270 by reference. (See Title 22 of the Guam Administrative Rules and Regulations [22 GAR] § 30109). Thus, pursuant to Guam’s authorized program, permit renewal applications must include the information required under 40 CFR Part 270.¹ 40 CFR Part 270, Subpart B contains requirements for permit applications and 40 CFR § 270.23 addresses “specific part B information requirements for miscellaneous units.”

The OB/OD activities at the AAFB are regulated under the 40 CFR Part 264 Subpart X (40 CFR §§ 264.600-603) requirements for miscellaneous units, as adopted by Guam at 22 GAR § 30106.

The current AAFB permit renewal application submittal consists of two parts: (a) the RCRA Subtitle C Site Identification Form (Part A) and (b) a draft permit including 13 appendices (Part B). According to Guam EPA, this constitutes a permit renewal application submittal.

Deficiencies in the Permit Renewal Application Submittal:

40 CFR Part 270 Requirements

1. **Prevention Procedures** 40 CFR § 270.14 (b)(8) requires, among other things, that the facility owner/operator include in its application a description of procedures to: prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding; prevent contamination of water supplies; mitigate effects of equipment failure; and prevent releases to atmosphere.

The AAFB permit renewal application submittal stated that “The OD unit is located in the upper beach area on highly permeable materials. As such, even in major precipitation events, run-on and run-off are negligible at this site. Management of run-on and run-off at the OD unit is therefore not necessary.”

A sediment control system with run-on and run-off controls at the facility must be addressed in a revised permit renewal application submittal. In addition, the revised permit renewal application needs to provide the appropriate details regarding how AAFB will prevent run-off from the hazardous waste treatment operations at the OD unit. The OD unit is located approximately 50 yards away from the ocean, based on USEPA Region 9 and Guam EPA’s field observations and the statement in the AAFB permit renewal application submittal. Moreover, the groundwater lies approximately 6 feet below the OD unit where the sole source aquifer is. Therefore, measures to prevent contamination of the ocean, the aquifer, and the atmosphere must be included in the revised permit renewal application.

2. **Facility Location Information** 40 CFR § 270.14(b)(11)(iv) requires, among other things, that the owner/operator of a facility located in the 100-year floodplain provide in its application:

¹ 40 CFR § 270.2 defines “application” as the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in approved States, including any approved modifications or revisions. “Application” also includes the information required by the Director under 40 CFR §§ 270.14 through 270.29 (contents of part B of the RCRA application).

engineering analyses; and structural or other engineering studies showing the design of operational units and flood protection devices and how these will prevent washout.

The AAFB permit renewal application submittal stated that *“During heavy rainfall, the surface water runoff may flow in short channels in the limestone but eventually disappears into the numerous sinkholes and fissures. Portions of the range are within the 100 year flood plain zone because of susceptibility to flooding during typhoons or from tidal wave.”*

USEPA Region 9 and Guam EPA are hereby requiring AAFB to address and include as appropriate the required analysis, studies and controls in the revised permit renewal application submittal.

- 3. Protection of Groundwater** 40 CFR § 270.14(c) requires, among other things, the owner/operator of a regulated unit to provide information about protection of groundwater in its application, including groundwater flow direction and rate, and the basis for such identification. The regulation further requires a delineation of the waste management area, the property boundary, the proposed “point of compliance” as defined under § 264.95, the proposed location of ground-water monitoring wells as required under § 264.97, and, to the extent possible, the information regarding ground-water flow direction and rate and the other information required by 40 CFR § 270.14(c)(2).

The AAFB Permit Submittal Appendix M OB/OD Groundwater Monitoring Plan stated that *“there are no existing wells downgradient of the OB/OD Range because it was impractical to install a downgradient well when the regulated unit is less than 150 feet from the ocean and the likelihood of damages from the OD activities to the monitoring well. Instead, AAFB monitors four groundwater seeps locations during low tide to meet the groundwater monitoring requirements.”*

In fact, after conducting the Dye Trace Study in 2006 in hopes of identifying suitable seeps for monitoring, AAFB’s consultant stated in a 2008 Technical Memo that *“[the study results] were inconclusive with respect to locating definitive seep sample locations.”*

USEPA Region 9 and Guam EPA continue to believe the current groundwater evaluation program is insufficient to identify any groundwater impacts (as in migrating inland) or any marine impacts (as in migrating to the ocean) from the Open Detonation activities at the unit. These deficiencies need to be addressed in the revised permit renewal application.

Specifically for the regulated units at AAFB, the revised permit renewal application must contain a Groundwater Evaluation and Monitoring Plan sufficient to identify and evaluate any actual or suspected groundwater impacts from historical OB/OD activities at the facility and any potential future OD activities at the facility. The revised permit renewal application must include an evaluation of the possible installation of additional monitoring wells to allow for triangulation that could be used to allow for a more comprehensive understanding of groundwater flow direction and potential changes in the ground-water flow directions during dry and wet seasons.

The revised permit renewal application also must include an evaluation of the installation of pressure transducers to obtain a better understanding of the recharge on the groundwater flow directions in relation to possible groundwater migration inland and possible groundwater migration to the ocean.

The Groundwater Evaluation and Sampling Plan must include a Sampling and Analysis Plan and Quality Assurance Plan, with Data Quality Objectives. The plan must include sampling for all potential contaminants of concern based on historical and future waste stream analysis.

- 4. Protectiveness of a Subpart X Miscellaneous Unit:** 40 CFR § 270.23 requires, among other things, a facility owner/operator to include in the application a detailed description of the miscellaneous unit being used, including: the physical characteristics, materials of construction, and dimensions of the unit; and detailed plans and engineering reports describing how the unit would be located, designed, constructed, operated, maintained, monitored, inspected, and closed in accordance with the environmental standards in the Subpart X regulations at 40 CFR § 264.601.

Among other things, the standards set forth at 40 CFR § 264.601 require all permits for miscellaneous units to include appropriate conditions for the unit, including prevention of any releases due to migration of waste constituents in: (a) the groundwater or subsurface environment; (b) surface water, or wetlands, or on the soil surface; (c) the air. There are specific considerations to be addressed including: migration of waste constituents through soil; the quantity and direction of groundwater flow; the potential for deposition or migration of waste constituents into surface physical structures; the effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration of waste constituents; and the effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air.

The AAFB permit submittal stated that *“All OD operations occur directly on the ground (beach) surface; therefore, there are no physical characteristics or materials of construction to discuss. Detonation activities occur adjacent to the base of the lower cliff, and are limited to a small portion of the cliff base less than 50 feet in length. Engineering plans or drawings of the OD unit are not applicable, since there is no man-made device or structure at the unit.”*

USEPA Region 9 and Guam EPA are hereby requiring that information be included in the revised permit application submittal demonstrating the applicable requirements have been met regarding the construction of the units and that the required conditions are in place to prevent any releases.

- 5. Establish and Maintain an Information Repository:** US EPA Region 9 and Guam EPA are hereby requiring AAFB to include, in the revised permit renewal application submittal, a provision for an online information repository in accordance with 40 CFR §270.30(m). The information repository must include, at a minimum, a 14-day notice in advance of an OD activity, quantity treated from each OD event no later than 5-days after the treatment, and the pertinent permit documents. (e.g., final permit and attachments, requests for modifications and renewals, final permit modifications, and final inspections reports).

40 CFR Part 264 Requirements

6. Protectiveness of a Subpart X Miscellaneous Unit located in a 100-year floodplain:

40 CFR § 264.18(b)(1)(ii) requires the owner or operator of a miscellaneous unit located in a 100-year floodplain to demonstrate that no adverse effects on human health or the environment will result if washout occurs considering: (A) the volume and physical and chemical characteristics of the waste in the facility; (B) the concentration of hazardous constituents that would potentially affect surface waters as a result of washout; (C) the impact of such concentrations on the current or potential uses of and water quality standards established for the affected surface waters; and (D) the impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100- year floodplain that could result from washout.

USEPA Region 9 and Guam EPA are hereby requiring AAFB to include information addressing the above regulatory requirement in the revised permit application submittal.

- 7. Closure of OB Unit:** 40 CFR § 264.113, among other things, requires the facility to commence closure operations within 30 days after a unit receives its last shipment of hazardous waste. The OB unit at AAFB is non-operational and has been inactive for several years. With the newly enacted Guam legislation prohibiting OB operation, the OB unit at AAFB cannot and will not be able to receive hazardous waste for treatment. To address the Air Force's expressed desire to delay closure of this unit, while the regulations do allow for delayed closure when there is capacity and resumption of waste management, the intent of the regulations is to require closure if the unit is not actively managed. If AAFB wishes to request a longer time to close this unit, the demonstration requirement in 40 CFR §§ 264.113(a)(1) and (2) need to be met. Based on the currently available information, AAFB would not meet this requirement.

USEPA Region 9 and Guam EPA are hereby requiring AAFB to submit a closure plan for the OB and OD units and a timeline to commence the closure of the OB unit based on an approved closure plan by Guam EPA and remove all references to the ongoing operation of the inoperable unit from the revised permit renewal application submittal.

- 8. Alternative Technologies Evaluation:** 40 CFR § 265.382 prohibits open burning of hazardous waste except for the open burning and detonation of waste explosives which cannot safely be disposed of through other modes of treatment. OB/OD units must meet this requirement to be permitted under 40 CFR Subpart X. Interim status and permitted facilities must evaluate—and re-evaluate—whether safe alternative technologies are available to treat their waste explosives. Where safe alternatives are available, facilities must use those alternatives in lieu of OB/OD.²

² Memorandum: Open Burning and Open Detonation (OB/OD) of Waste Explosives Under the Resource Conservation and Recovery Act (RCRA).” Carolyn Hoskinson, Director of Office of Resource Conservation and Recovery, to the Land, Chemicals, and Redevelopment Division Directors, Regions 1-10, June 7, 2022.

USEPA Region 9 and Guam EPA are hereby requiring AAFB to include the alternative technologies evaluation, including revised waste analysis plan, in the AAFB's permit renewal application submittal.

- 9. Environmental Performance Standards:** 40 CFR § 264.601 requires the OB and OD units at AAFB to be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. USEPA Region 9 and Guam EPA are gravely concerned about the protectiveness of the activities at the current OD unit given AAFB's statements in the permit renewal application submittal that some of the applicable RCRA regulatory requirements regarding the design, and demonstration of environmental protectiveness could not be met.

USEPA Region 9 and Guam EPA are hereby requiring AAFB to provide detailed information in the revised permit renewal application that addresses the applicable regulatory requirements for design, construction, and operations for the OD unit and demonstrates that AAFB can continue to operate the OD unit within the applicable regulatory framework.

In summary, required by the RCRA Part 264 Subpart X regulations, the OB and OD units at AAFB must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. USEPA Region 9 and Guam EPA do not believe that the AAFB permit application submittal provided the required information to demonstrate compliance with these key requirements, as noted above. USEPA Region 9 and Guam EPA are requiring AAFB to submit a revised permit renewal application that addresses the above noted deficiencies within 45 days of receipt of this letter. USEPA Region 9 and Guam EPA are available to discuss this letter with you and/or your team at a time of your convenience.

USEPA Region 9, Guam EPA and AAFB team have engaged in written and verbal communications on what needed to be accomplished to improve the draft permit since 2022. We were encouraged to learn that your team had made progress on the waste analysis plan updates and the alternative technology evaluation during our visit in April 2024. We were also encouraged by your team's willingness to work with the agencies, as expressed during our visit. USEPA Region 9 would like to reaffirm our commitment to assisting Guam EPA and AAFB and to work towards a possible renewal of the facility permit to improve environmental protection and regulatory compliance. USEPA Region 9 and Guam EPA are open to your proposal on how we can work through these issues and request that we move forward as expeditiously as possible.

Please contact Sharon Lin, EPA Region 9 RCRA Permits Manager, at lin.sharon@epa.gov, and Mr. Don Quinata at don.quinata@epa.guam.gov if you have any questions regarding this letter.

Sincerely,

Martha Guzman
Administrator, USEPA Region 9

Michelle Lastimoza
Administrator, Guam EPA

Enclosures:
Part A Form Application
Draft AAFB OB/OD Permit

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