

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Federal Resource Conservation and Recovery Act

Notice of Intent to Approve
RCRA Permit Application for
Johnston Atoll

EPA ID. NO. TT9-570-090-002
Proposed Draft Permit Decision

INTRODUCTION

The United States Environmental Protection Agency, Region IX (EPA) is requesting public comment on its proposal to issue a Resource Conservation and Recovery Act (RCRA) permit to the United States Air Force, as facility owner and operator, for corrective action at Johnston Atoll. Johnston Atoll is an island complex located in the Pacific Ocean about 717 nautical miles west-southwest of Hawaii (“Johnston Atoll” or “JA” or “Facility”).

EPA has prepared this Statement of Basis in accordance with Title 40 of the Code of Federal Regulations (CFR) § 124.17. EPA is in the process of making a permit decision, and is requesting public comment on its proposal to issue a RCRA permit for corrective action. The information summarized here is available in more detail in the Administrative Record for this proposed draft permit decision, which contains the documents and information upon which the EPA is basing this proposed action. The Administrative Record is physically located at the EPA Region IX office, 75 Hawthorne Street, San Francisco, CA 94105.

Johnston Atoll has been used by the United States military since before World War II (1934). As summarized below and detailed in the Administrative Record, the US military managed hazardous waste at JA under a RCRA permit since 1980. Generally, RCRA permits are issued to owners or operators of hazardous waste management facilities and govern storage, treatment, or disposal of hazardous waste. Section 3004(u) of RCRA and 40 CFR § 264.101 require that all hazardous waste management Permits issued after November 8, 1984, address corrective action for releases of hazardous waste or hazardous constituents from any Solid Waste Management Unit (“SWMU”), regardless of when waste was placed in the unit or whether the unit is closed. A SWMU is any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. The requirement to address SWMUs continues after closure of a facility’s regulated hazardous waste management units. The proposed draft Permit relates only to SWMUs, rather than hazardous waste management units, because the Air Force has closed all of the hazardous waste management units that were operated at this Facility.

This proposed draft Permit continues implementation of remedies selected in previous RCRA permits for SWMUs at this Facility, and does not allow storage, treatment or disposal of hazardous waste. The Air Force does not have a presence at the Facility and there are no ongoing operations. The Permittee is scheduled to implement on-site activities every 5 years with the first visit in 2020.

STATUS OF REMEDY IMPLEMENTATION

The previous RCRA Permit for this site, dated 2004, selected remedies for the remaining SWMUs at the Facility. This proposed draft Permit continues implementation of remedies for certain SWMUs, including remote monitoring, installing and maintaining warning signs, and conducting sediment and groundwater sampling. The proposed draft Permit also proposes No Further Action for several SWMUs where the Air Force completed treatment since the last Permit. The Permit Application, available in the Administrative Record, has a comprehensive summary of the status of active and closed SWMUs.

FACILITY BACKGROUND

Johnston Island is the largest of four islands in the atoll complex. The other three islands are Sand Island, a natural islet, and North (Akau) and East (Hikina) Islands, which are manmade. Johnston Atoll is an unincorporated territory of the United States and is one of the oldest and most remote atolls in the world. The atoll consists of approximately 50 square miles of shallow coral reef surrounding four islands. Johnston Island itself is relatively flat, and has a maximum elevation of 8 feet above mean sea level. To date, Johnston Island has been expanded by incremental dredging operations from its original 60 acres to approximately 600 acres. Johnston Island now measures approximately 2 miles long and ½-mile wide. The only access to the atoll is via ocean vessel.

As the only shallow water and dry land area in 450,000 square miles of ocean, Johnston Atoll is an oasis for reef and bird life. This includes coral and coralline algae, about 300 species of reef fish, threatened green sea turtles, and seabirds such as the great frigatebird, red-footed booby, redtailed tropicbird, sooty tern, and others. Johnston Atoll is also considered habitat for the endangered Hawaiian Monk Seal.

Johnston Atoll was discovered in the late 1700s and, beginning in 1856, was used for guano mining. In 1926, Executive Order 4467 reserved and set aside Johnston Island and Sand Island as a federal refuge and breeding grounds for native birds managed by the United States Department of Agriculture. The Atoll is part of the Pacific Remote Islands Marine National Monument created in 2009.

Johnston Atoll's military history began before World War II, in 1934. The atoll was shelled in late 1941. From the late 1950s into the early 1960s, Johnston Atoll was used as a base for atmospheric nuclear testing. In the mid-1970s, surplus HO (also known as "Agent Orange") from Vietnam was stored on Johnston Island prior to being incinerated. Chemical weapons were stored on Johnston Island beginning in 1970. In 1990 Johnston Island became home to the world's first chemical weapons incinerator, the Johnston Atoll Chemical Agent Disposal System (JACADS). The destruction of chemical weapons stored on Johnston Island was completed in November 2000. With the termination of the Air Force mission at Johnston Atoll, the facility and runway were closed in June 2004.

RCRA PERMIT HISTORY

Historically, there were two RCRA permits issued for operations on the island. The first, EPA Identification No. TT0-570-090-001, was issued in November 1980 to the Defense Nuclear Agency (DNA) for activities and management of the waste materials related to cleanup of the HO area. The second, which was initially also EPA Identification No. TT0-570-090-001, was issued August 1985 to the U.S. Army for the operation of the JACADS and the associated Red Hat Storage Areas.

Around 1985 EPA separated the two permits, with the Permit ending in -001 remaining with JACADS, and Permit TT0-570-090-002 issued to DNA for all other hazardous waste storage activities on Johnston Atoll. In 2009 EPA certified that the JACADS Facility, which included all JACADS and Red Hat Storage Areas, was clean-closed. This proposed draft permit does not address the JACADS area, except to the extent the areas might have been disturbed since 2009.

The history of Permit TT0-570-090-002, proposed here for renewal, is as follows:

- 1980: Original permit TT0-570-090-001 issued for activities and management of waste materials related to cleanup of the HO area.
- 1985: The original permit number stays with JACADS, Permit TT0-570-090-002 created for all other hazardous waste management activities.
- 1992: Permit renewed for storage of hazardous wastes at one hazardous waste storage area, as well as investigation of SWMUs potentially requiring corrective action.
- 2002: Permit renewed for corrective action of the SWMUs. This Permit was amended in 2004, and will be referred to here as the “2004 Permit.”
- 2011: The Air Force timely applied to renew the 2004 Permit, but EPA did not act at that time. Pursuant to 40 CFR § 270.51, the existing permit terms are administratively continued and remained in force.
- 2011 – 2018: The Air Force conducted two monitoring events in 2013 and 2015, which resulted in Permit-related topics that needed to be discussed, addressed, and resolved with the EPA prior to resubmittal of a Permit application.
- 2018: Based on discussions with EPA, the Air Force submitted a new application to renew the Permit, which is the basis for the proposed draft permit.

SCOPE OF CORRECTIVE ACTION

The proposed draft Permit continues the corrective action remedies previously selected in the 2004 Permit for 7 SWMUs or Areas of Concern(AOCs): SWMU Nos. 1, 2, 6, and 16, and AOC Nos 1, 2 and 3. In addition, this Permit requires the Permittee to investigate several new areas where solid waste, including lead-based paint, was placed during decommissioning of the island, and proposes No Further Action for SWMU Nos. 5, 9 and 15, based on completion of criteria set out in the 2004 Permit.

This proposed draft Permit does not address units that EPA determined require No Further Action at the time of or prior to the 2004 Permit, including SWMU Nos. 3 & 4, 7, 10, 12, 18, 19,

20, 21, 22, and the Navy Pier Batter Lagoon. Table 1 of the Air Force's 2018 Permit Application cites the source documents for these decisions.

For each of the SWMUs/AOCs requiring corrective action, the 2004 Permit set out three types of performance criteria: treatment-based, monitoring-based, and management-based. All treatment-based criteria established in the 2004 permit have been met for all units and were removed from this proposed draft Permit. The monitoring-based and management-based requirements for each SWMU are discussed below. In addition, SWMU 6 has management-based criteria that are discussed below. The sections below summarize the requirements for each of the active SWMUs.

GENERAL CHANGES FROM THE 2004 PERMIT

Endangered Species Informal Consultation. During development of the 2004 Permit, EPA coordinated with US Fish and Wildlife Service (FWS) during permit development regarding the project and its potential effect on listed species. EPA and FWS identified two species that could be encountered at Johnston Atoll: *Chelonia mydas* (green sea turtle) and *Monachus schauinslandi* (Hawaiian Monk Seal). EPA determined the project decision would have no effect on these species.

Since that time, FWS has identified additional species that may be present near the Facility, or could be impacted by the ocean voyage required every 5 years by the proposed draft Permit. Based on informal consultation with FWS, EPA has determined that the proposed action will have no effect on the two species previously identified, and is not likely to adversely affect three other species: *Acropora retusa* (coral), *Carcharhinus longimanus* (Oceanic whitetip shark), and *Manta birostris* (Giant manta ray). EPA added conditions to the proposed draft Permit requiring the Air Force to include conservation measures in work plans to ensure protectiveness of listed species at the Facility. Documents detailing the relevant discussions can be found in the Administrative Record.

Site-Specific Ecological Risk Assessment. The potential presence of listed coral in the lagoon triggered a re-evaluation of the previous cleanup goals from the 2004 Permit to determine if the levels are protective on an individual level for a listed species. In addition, the Permittee has requested reducing the number of Contaminants of Concern (COCs) to monitor. To respond to these concerns, EPA proposes to require that the Permittee conduct a Site Specific Ecological Risk Assessment (SSERA). When that assessment is complete, EPA will evaluate the data and determine appropriate Contaminants of Concern and site-specific cleanup goals, taking into account the presence of any listed species. References to "COCs" in the rest of this document refer to the COCs that will be determined based on the SSERA. After completion of the SSERA the Permittee will be required to submit a permit modification request to incorporate the COCs and the appropriate sampling media in the permit.

Changes to Requirements for Operating Facilities. In the draft permit EPA is proposing updated permit terms to reflect that there are no ongoing operations at the site. 40 CFR § 270.32 states that each RCRA permit shall include permit conditions necessary to achieve compliance with the

Act and regulations. Most RCRA permits establish conditions for operation of hazardous waste management units, including hazardous waste management training, hazardous waste storage area inspections, arrangements with local authorities for emergency response, and waste characterization. Many of these conditions are not feasible at Johnston Atoll because there is no ongoing hazardous waste management operation. Because there is no infrastructure or staffing at the Facility, the requirements under 40 CFR Part 264 Subparts B (“General Facility Standards”), C (“Preparedness and Prevention”), and D (“Contingency Plan and Emergency Procedures”) are not incorporated directly into the draft permit. EPA crafted site-specific draft permit conditions to achieve compliance with RCRA and protect human health and the environment. For example, the draft Permit requires the Permittee to operate remote monitoring and a response plan in lieu of a Contingency Plan. The proposed draft Permit requires the Permittee to retain the records required under an Operating Plan offsite with the Facility Permit Contact, rather than “at his Facility” as required by 40 CFR § 264.73.

Ongoing Corrective Action, SWMU Nos. 1, 2, and 16/AOC No. 1

Monitoring-based criteria in the 2004 Permit required the Facility to conduct biomonitoring for SWMU Nos. 1, 2, and 16/AOC No. 1, including fish tissue monitoring, to determine if the concentrations of contaminants in fish were acceptable for human consumption. After four sampling rounds, there is sufficient data to determine that fish are not acceptable for human consumption. Therefore, the proposed draft Permit proposes that the Air Force implement an institutional control prohibiting fishing at the Facility. The fishing prohibition for the Facility will be accomplished by maintaining signage, coordinating with additional agencies that could permit the use of the area for fishing, and documenting the prohibition in its Base Management Plan.

This prohibition shall be continued until sampling indicates the fish tissue is suitable for human consumption. Sediment sampling will continue to be used as an indicator for a change in conditions, and an indication of a release into the marine system. The Permittee will continue sediment sampling to monitor levels of contaminants based on a list of contaminants that is required to be approved by the EPA prior to initiation of sampling.

The Permittee will need to request a Permit modification to resume fish tissue monitoring if:

- The Air Force proposes to remove the fishing prohibition, or
- Two consecutive sediment monitoring events show statistically significant increases in COC concentration(s) indicating a potential release of a contaminant source. For statistical significance, the upper control limit is defined as one (1) order of magnitude above the baseline mean.

The Permit also proposes modifying the monitoring-based criteria for SWMU 16/AOC 1 to reduce the number of point-of-compliance monitoring wells. The proposed permit removes the requirement to monitor wells which were originally intended to ensure that hydrocarbon contaminants were not migrating toward the reverse osmosis water treatment plant intake wells.

The water treatment plant has been decommissioned, so these six wells are no longer necessary as point-of-compliance wells.

For SWMUs 1, 2 and 16/AOC 1, the Permittee shall continue conducting sediment sampling in the adjacent lagoon every 5 years to monitor for any statistically significant increase in sediment COC concentrations. In addition, the Permittee shall continue groundwater monitoring at SWMU 16/AOC 1 every 5 years.

Ongoing Corrective Action, SWMU 6

The Air Force's Application incorrectly indicated that the waste deposited in SWMU 6 had been "decharacterized," utilizing the definition that it has been treated to below Universal Treatment Standards. The Air Force sent a letter on October 9, 2018 clarifying that they intended to indicate that any hazardous ash had been treated to below the hazardous waste toxicity threshold for lead before being placed in the unit that is now SWMU 6, thereby losing its RCRA characteristic of toxicity. However, the term "decharacterized" is the RCRA term for characteristic hazardous waste that has been treated to the specified RCRA universal treatment standard for land disposal, which is lower than the toxicity threshold. At the time the ash was placed in SWMU 6, EPA had not yet established the universal treatment standards. Data from SWMU 6 indicates the waste was treated to below toxicity threshold (5 milligrams/liter) but is still above the current universal treatment standard (0.75 mg/L). The use of the term decharacterized does not have any impact on the criteria utilized in the permit decision process.

For monitoring-based criteria, the Permittee shall continue groundwater monitoring at 4 points of compliance. The full list of COCs will be identified based on the SSERA. Groundwater cleanup goals for dissolved and total lead are specified in the proposed draft permit. The media cleanup goal for total and dissolved lead is set at the Air Force's proposed value of 0.015 milligrams per liter (mg/L) level as the groundwater cleanup goal for both dissolved and total lead was acceptable. This level is equal to the federal Maximum Contaminant Level (MCL), which is a drinking water and human-health risk-based level and meets the ecological risk levels to be protective of threatened and endangered species.

For management-based criteria, the 2004 Permit stated that upon island closure the Permittee shall initiate remote visual monitoring of SWMU 6. The proposed permit establishes the requirements for remote monitoring, and describes the response requirements under different scenarios, for example no release, potential release, or catastrophic release of solid waste into the environment (*see* Permit Table II.1, Remote Monitoring and Response for SWMU No. 6).

Ongoing Corrective Action, AOC 2 and 3

For monitoring-based criteria, the proposed draft Permit requires the Permittee to perform groundwater monitoring at 12 points of compliance and conduct monitoring once every 5 years.

SWMUs Proposed for No Further Action – Nos. 5, 9, and 15

The 2004 Permit required the Permittee to take certain actions to achieve clean-closure of these units. The Permittee's 2018 Application describes the requirements and actions taken. For each unit, the Permittee remediated the site in accordance with the corrective action requirements, and conducted verification sampling to confirm that COCs are not present at concentrations exceeding their respective cleanup goals. This proposed permit proposes that No Further Action is necessary at units 5, 9 and 15.

NEWLY-IDENTIFIED SWMUs

During the decommissioning of the island, the Air Force demolished buildings and placed the waste materials into Construction Rubble Debris Area ("CRDA") landfills. The landfills were constructed without a liner or meeting minimum technology requirements. While the Air Force kept PCBs and hazardous waste out of these landfills, it disposed of materials with lead-based paint. Thus, the Air Force systematically placed solid waste in the CRDAs, creating a SWMU that must be assessed to determine if there has been a release. Pursuant to 40 CFR § 264.101, the owner/operator must assess SWMUs that are present throughout the facility to determine if they would be subject to Corrective Action. The CRDAs, constructed between 2002 and 2004, have not been the subject of any RCRA Facility Assessment ("RFA"), and therefore are subject to a SWMU assessment process.

If, after the SWMU assessment process, the Air Force determines that a hazardous constituent has been or may be released from a CRDA, the unit becomes subject to Corrective Action. The proposed draft Permit requires the Air Force to begin reviewing records related to the materials placed in the CRDAs within 90 days of the effective date of the permit to determine which units received lead based paint. There is currently no evidence that there are releases of hazardous constituents from these SWMUs, however, groundwater flow in the area of the CRDAs is not known. The Air Force will perform onsite investigation of the SWMUs at the 2020 onsite effort utilizing the SWMU assessment process in the proposed permit. The proposed permit sets out next steps if the Permittee determines there may be releases of hazardous constituents.

PERMIT MODIFICATION

A permit modification will be required following the results of the SSERA to incorporate the COCs and clean-up goals. Additionally, a permit modification may be required in other instances which can, but are not limited to, include: the CRDAs are found to require Corrective Action; the Air Force requests NFA determinations for any sites; new releases from SWMUs/AOCs are discovered; or a new SWMU/AOC is discovered that is eligible for Corrective Action.

PUBLIC PARTICIPATION

Pursuant to 40 CFR § 124.10(b), EPA must provide at least 45 days for public comment on proposed permit decisions under RCRA. A 45-day public comment period on the permit begins

October 31, 2018. Comments must be postmarked by December 19, 2018. Comments may be emailed to: Amanda Cruz (cruz.amanda@epa.gov) or mailed to Amanda Cruz at USEPA Region IX, 75 Hawthorne St. (LND-4-2), San Francisco, CA 94105. The public may review the Administrative Record, which contains the documents and information upon which the EPA is basing this proposed action, at the EPA Region IX office. The record is available for public inspection from 9:00 am to 12:00 pm and 1:00 pm to 4:00 pm weekdays.

EPA will hold a public hearing if we receive written notice of opposition to the proposed draft permit and a request for hearing during the 45day public comment period.

FINAL DECISION

After the public comment period closes, EPA will review and evaluate all the comments received. EPA will then make a final decision to issue a final permit or to deny the permit for the Facility. At the time a final permit decision is issued, EPA will also issue a response to comments. EPA will notify the applicant and each person who submitted written comments or requested notice of the final permit decision.

The final permit decision to issue or deny the permit will become effective 30 days after the notice of the decision unless a later effective date is specified in the decision or review is requested on the permit under 40 CFR § 124.19. If there are no comments opposing the issuance of the permit or requesting a change in the proposed draft permit, the permit will become effective immediately upon issuance.