

US ARMY KWAJALEIN ATOLL

Army Cleanup Program

Installation Action Plan Final

June 2024

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STATEMENT OF PURPOSE

The Installation Action Plan (IAP) provides evidence that the Army is firmly committed to expeditious identification and cleanup of environmental contamination, and that the installation has a credible, organized program to carry out that commitment. The IAP provides an outline of the total multi-year environmental cleanup program for each site with ongoing or future planned restoration activity and includes the (1) environmental restoration requirements, (2) the rationale for the selected technical approach, and (3) foundation to develop corresponding financial needs for each cleanup site.

INSTALLATION OVERVIEW

Installation Name: US ARMY KWAJALEIN ATOLL

Installation City: KWAJALEIN

Installation County: N/A

Installation State: REPUBLIC OF MARSHALL ISLANDS

ACRONYMS

Acronym	Definition
AST	Aboveground Storage Tanks
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
COC	Contaminant of Concern
COPC	Chemical of Potential Concern
CRL	Cleanup Restoration & Liabilities
cy	cubic yards
DCE	Dichloroethene
DD	Decision Document
DDT	Dichlorodiphenyltrichloroethane
DEP	Document of Environmental Protection
DRO	Diesel Range Organics
EE/CA	Engineering Evaluation/Cost Analysis
ENV	Environmental
EPA	Environmental Protection Agency
FFS	Focused Feasibility Study
FN	Facility Number
FS	Feasibility Study
FY	Fiscal Year
GAC	Granular Activated Carbon
GRO	Gasoline Range Organics
IAP	Installation Action Plan
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MGAL	million gallons
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
NFA	No Further Action
NPL	National Priorities List
PA	Preliminary Assessment
PAH	Polyaromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethylene

Acronym	Definition
POL	Petroleum, Oil and Lubricants
ppb	parts per billion
ppm	parts per million
RAM	Removal Action Memorandum
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-in-Place
RMI	Republic of the Marshall Islands
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SI	Site Inspection
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
UES	US Army Kwajalein Atoll Environmental Standards
USAEHA	US Army Environmental Hygiene Agency
USAKA	US Army Kwajalein Atoll
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VAR	Verification Action Report
VOC	Volatile Organic Compound

PHASE TRANSLATION TABLE

CERCLA Phase	RCRA Phase	RCRA UST Phase
Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
Remedial Design (RD)	Design (DES)	Design (DES)
Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
Remedial Action (Operations) (RA(O))	Corrective Measures Implementation (Operations) (CMI(O))	Implementation (Operations) (IMP(O))
Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

PROGRAM SUMMARY

Number of Open Sites with Response Complete/Total Open IR Sites: 0/0

Number of Open Sites with Response Complete/Total Open MR Sites: 0/0

Number of Open Sites with Response Complete/Total Open CC Sites: 0/10

SITE-LEVEL INFORMATION

NQ100.1002_CCKWAJ-001_Kwajalein Harbor

Env Site ID: CCKWAJ-001

Cleanup Site: Kwajalein Harbor

Alias: KJKJ0301KE

Regulatory Driver: DODI

RIP Date: 12/30/2031

RC Date: 12/30/2031

RC Reason: Not assigned

SC Date: 1/1/2061

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	3/31/1990	8/31/1990
SI:	8/31/1990	9/30/2003
RI/FS:	10/31/2006	12/31/2028
RD:	--	--
IRA:	3/31/2013	9/30/2019
RA(C):	1/1/2029	12/30/2031
RA(O):	--	--
LTM:	12/31/2031	12/31/2060

Site Narrative: The Kwajalein Harbor is contaminated with heavy metals and pesticides/polychlorinated biphenyls (PCB) such as Aroclor 1260, dichlorodiphenyltrichloroethane (DDT), chlordane, polyaromatic hydrocarbons, etc. Contaminants have migrated to the harbor via wind and non-point source runoff from the Kwajalein Atoll. A major source of heavy metals contamination is historical sand blasting activities at the synchrolift dry dock and the vehicle paint and prep shop. SI/RI studies conducted in the past two decade revealed the presence of contaminants exceeding regulatory levels in sediments, storm water discharges, metals in algae which are a significant food source for fish and other marine life, and in fish and mollusks above health concerns. The main onshore potential contamination sources have been identified and, in some cases abated or eliminated; however, recent fish studies published in 2019 revealed the continued presence of contaminants in fish and concluded that the consumption of reef fish from Kwajalein Harbor poses a potentially unacceptable health risks to Marshallese adults and children. Past investigative and remedial actions have resulted in partially correcting the harbor contamination. Due to elevated levels of PCB, pesticides and metals pollutants revealed in recent fish studies further monitoring may be required in conjunction with any proposed removal actions. Investigation and restoration due to an identified release under Section 3-6.5.8 of the US Army Kwajalein Atoll Environmental Standards (UES). Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48USC1901) which is US Public Law and an International Agreement with the Republic of the Marshall Islands. CLEANUP STRATEGY- The harbor contamination results from on-shore contamination that is/was the result of past/present on-island activities that have migrated and/or are migrating to the harbors waters via on-island pathways. Some of these sources of contamination will be remediated under separate CC sites such as NQ100.1006 (PCB Vaults) or NQ100.1008 (Cold-storage warehouses). Progress monitoring will be conducted under the RI/FS phase of this project. Once the on-island contamination that is causing the harbor contamination has been adequately identified, controlled and/or abated, further studies of the harbor contamination will be conducted under a new RI/FS with goal of delineating and characterizing the surficial sediment contamination. The development of RAM/DEP documentation for review/approval and the incremental

implementation of the selected remediation methods. Once the RAM/DEP is signed the presumptive remedy will be land use controls (LUCs) for signage and monitoring.

NQ100.1003_CCKWAJ-002_Kwajalein Landfill

Env Site ID: CCKWAJ-002

Cleanup Site: Kwajalein Landfill

Alias: KAKJ05002

Regulatory Driver: DODI

RIP Date: 9/30/2032

RC Date: 9/30/2032

RC Reason: Not assigned

SC Date: 10/2/2061

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	8/31/1998	6/30/2000
SI:	6/30/2000	9/30/2004
RI/FS:	12/31/2009	9/30/2031
RD:	--	--
IRA:	9/30/2012	9/30/2028
RA(C):	10/1/2031	9/30/2032
RA(O):	--	--
LTM:	10/1/2032	10/1/2061

Site Narrative: This site is a former US Navy dump that was located on the southwestern shoreline of the Kwajalein Island and partially removed under a 2018 and 2019 IRA. The Installation incinerator-ash disposal landfill located northwest, and which was part of the 2017 Removal Action Memorandum (RAM) has been funded by the Installation for a separate removal/clean-up project under the Installation solid-waste program. The majority of the removed waste (primarily scrap metals) was shipped and disposed of off the island. The shoreline was restored and stabilized as part of the project. During the waste removal project, 25,000 cubic yards (CY) of PCB, metals, and Unexploded Ordnance (UXO) contaminated soil were excavated and stockpiled in an area 150 by 300 feet and 30 feet high, located south of the Installation solid-waste management area for delayed disposal or treatment. Groundwater flow radiates from the center of the island out towards the ocean. Existing incinerator-ash landfill groundwater monitoring wells are currently located up-gradient, within the landfill, and down-gradient (on the shoreline) and overlap the soil stockpile project area. Past sediment studies of the southwestern reef flat and shoreline have revealed elevated levels of copper, lead, arsenic, nickel, zinc, PCBs, chlordane, and DDT. Tissue samples of fish and mollusks on the reef flat have shown significantly elevated levels of various heavy metals (with lead exceeding UES criteria), PCBs, and chlordane. Due to the levels of PCB, pesticides and metals pollutants revealed in past fish/mollusk studies, further monitoring may be required in conjunction with removal actions. Investigation and restoration work due to an identified release under Section 3-6.5.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48USC1901) which is US Public Law and an International Agreement with the Republic of the Marshall Islands. CLEANUP STRATEGY- A 2020 Verification Action Report (VAR) was prepared upon the removal of scrap-metal and excavation of the contaminated soil. The VAR identified the need for removal of the 25,000 CY excavated soil pile and a minimum of three-year monitoring of the shoreline. An Interim Removal Action (IRA) to remove the soil pile to include an updated RAM/DEP is underway. Sampling of the southwestern shoreline will be

conducted by the Installation in accordance with the approved VAR for the Installation Landfill Removal/Closure.

NQ100.1004_CCKWAJ-003_Roi Power Plant Fuel Spill

Env Site ID: CCKWAJ-003

Cleanup Site: Roi Power Plant Fuel Spill

Alias: KJRN04001

Regulatory Driver: DODI

RIP Date: 1/1/2030

RC Date: 1/1/2059

RC Reason: Not assigned

SC Date: 1/2/2059

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	2/28/1995	8/31/1996
SI:	10/31/1996	9/30/1998
RI/FS:	1/31/2010	12/31/2026
RD:	--	--
IRA:	--	--
RA(C):	1/1/2027	12/31/2029
RA(O):	1/1/2030	1/1/2059
LTM:	--	--

Site Narrative: An estimated 22,500-gallon diesel fuel spill occurred in 1996 at one of the Roi Power Plant aboveground storage tanks. There was no secondary containment at the time. A limited excavation was completed as part of spill response activities. The amount of fuel recovered was estimated to be approximately 70% of the estimated spilled amount. Additionally, a fuel recovery system was put in place and operated for several years but was turned off due to diminishing returns. Soil and groundwater are known to be contaminated as a result of the 1996 spill. The contaminated area extends laterally in all directions but also down-gradient towards the lagoon. Evaluation of lagoon impacts initiated in 2014 revealed no evidence of contamination in the lagoon/ocean waters. Since free product is present on the water table, a RAM (EE/CA equivalent) was prepared in 2012 for a non-time critical removal action to install interceptor trenches and a free product recovery system. The recovery process that was installed/initiated during the spring of 2013 resulted in limited success. The use of - injection/extraction wells was expected to enhance groundwater gradient and aid free product recovery in interceptor trenches; but the system which has only been intermittently functioning in parts of 2016 and 2017 due to technical difficulties ceased functioning. The goals identified in the Document of Environmental Protection (DEP) (Decision Document (DD) equivalent) were not met at the time of the remediation-system failure and the DEP itself expired in May of 2019. The system was abandoned in place and decommissioned/removed in FY21. Investigation and restoration are required at Roi-Namur due to an identified release under Section 3-65.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48U5C1901) which is US Public Law and an International Agreement with the Republic of the Marshall Islands (RMI). CLEANUP STRATEGY- No data have been collected at this site in past FYs which would have allowed to develop a cleanup strategy. A data gap analysis consists of identifying, quantifying, and analyzing previously completed work, verifying the current sites' boundaries, and identifying work yet-to-be-completed, regulatory and other requirements to be met in order to clean up and close out this site. A Focused Feasibility Study (FFS) is underway to review existing groundwater data, evaluate potential remediation options, evaluate the

technologies against cost and technical efficiency criteria, and identify the most efficient treatment method. The cleanup strategy will be adjusted upon acceptance of the data-gap analysis FFS reports and will take the report's recommendations under consideration as applicable and new RAM/DEP documentation will be developed for review/approval prior to implement the remedial action.

NQ100.1005_CCKWAJ-004_Carlos Power Plant

Env Site ID: CCKWAJ-004

Cleanup Site: Carlos Power Plant

Alias: #

Regulatory Driver: DODI

RIP Date: 10/1/2027

RC Date: 10/1/2056

RC Reason: Not assigned

SC Date: 10/2/2056

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	1/31/2002	9/30/2002
SI:	1/31/2010	9/30/2019
RI/FS:	1/31/2010	12/31/2025
RD:	1/31/2010	12/31/2025
IRA:	3/31/2012	9/30/2024
RA(C):	3/31/2012	9/30/2027
RA(O):	10/1/2027	10/1/2056
LTM:	--	--

Site Narrative: A 2011 Site Investigation revealed a past leak at the Carlos Power Plant Fuel above-ground storage tanks (AST) or the underground fuel line associated with the ASTs, the (now closed) power plant or running from the dock used to fill the ASTs. The power plant was already out of operation at the time of the spill discovery, and it is not known whether the spill was associated with its operation. The two ASTs had been replaced in kind and on location in 2006 and it is not known whether the spill was associated with the old or replacement ASTs. The Petroleum contamination was found in soil and in groundwater immediately under and adjacent to where the fuel line enters the tanks. Levels of Diesel Range Organics (DRO) reaching up to 38,100 ppm were found in in soil samples and up to 1,310 ppb in groundwater samples. A Removal Action Memorandum (RAM) - EE/CA equivalent - was prepared in July 2012 and released for public comment in 2016. The Removal Action was initiated in 2017 and continued into 2018. The site remediation process was interrupted in June of 2018 (FY18) before completion of the Remedial Action phase which was originally planned until 2019. Investigation and restoration are required at Kwajalein due to an identified release under Section 3-6.5.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48USC1901) which is US Public Law and an International Agreement with the RMI. CLEANUP STRATEGY- The preliminary results and recommendations of a FY-20 data-gap analysis indicate that additional investigation, data evaluation and remedial actions are required in order to achieve site closure. Required additional investigation consist of- surface/subsurface soil sampling (TPH-DRO, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(ah)anthracene, Indeno(123-cd)pyrene and Naphthalene) utilizing incremental sampling methodology, installation of additional monitoring wells, groundwater sampling (TPH-DRO and Naphthalene) utilizing low-water methodology and soil gas sampling in areas of potential vapor intrusion. If data evaluation confirms the presence of high concentrations of COCs near FN 6006, a remedial action would be required to mitigate unacceptable risk to human health and the environment and the 2016 RAM would require re-evaluation and new remedial

design developed as applicable. New RAM/DEP documentation will be developed for review/approval prior to implement any required, additional removal action.

NQ100.1006_CCKWAJ-005_PCB Vaults

Env Site ID: CCKWAJ-005

Cleanup Site: PCB Vaults

Alias: #

Regulatory Driver: DODI

RIP Date: 9/15/2033

RC Date: 9/15/2033

RC Reason: Not assigned

SC Date: 9/16/2033

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	1/31/2002	2/28/2002
SI:	1/31/2010	12/15/2012
RI/FS:	1/31/2010	9/15/2029
RD:	--	--
IRA:	1/31/2012	12/30/2022
RA(C):	1/31/2012	9/15/2033
RA(O):	--	--
LTM:	--	--

Site Narrative: This site consists of multiple current and former transformer electrical rooms/vaults where PCB-containing equipment have been previously operated on the Kwajalein Island. Past PCB fluid releases were investigated at Facility Number (FN) 708, FN713, FN 803, FN 900, FN1011, FN1017, and FN1045. Findings in FN713, FN803, FN900, FN1011, and FN1017 exceeded UES action levels. FN713 was a former transformer building constructed in 1953 and demolished in 2002. A transformer fluid release occurred in 1991. PCB contamination was only partially removed; follow-on investigations and removal of approximately 150 CY of contaminated soil and conduits was completed in 2016. FN803 is a former Kwajalein power plant. Past investigations revealed PCB contamination in storm sewers adjacent to FN803 as well as in soil south of the building and in the building itself. A removal action was initiated in 2014 and was originally planned until 2019, this action was never completed leaving soil contamination in place still requiring removal. FN803 is now an automotive maintenance facility and is undergoing major structural renovation; the removal and disposal of approximately 350 US tons of PCB-contaminated concrete and sludge took place in FY20 and 21 as part of the project. FN 900 has been used as a maintenance shop, administrative offices, and storage facility since its construction in 1956. The facility currently houses one dry electrical transformer and associated switching equipment; however, several PCB transformers were formerly housed in the transformer room. In March 1992, one of the transformers released approximately 1 gallon of PCB dielectric fluid onto the concrete floor of the transformer room. Removal of the leaking transformer and initial (partial) clean-up ensued. A 2012 SI indicated PCB concentrations greater than the UES action level in the concrete floor and soil beneath the transformer room. A RAM and DD were prepared for excavation and off-site disposal of PCB contaminated soil and concrete in 2016; however, this action was subsequently postponed as high voltage lines that operate critical airfield facilities pass through the transformer/switch-board room. FN 1011 was constructed in 1960 and used as a Command Control Transmitter System Building and Range Safety Center. PCB-containing transformers and equipment were stored and maintained at the facility during its operation and gradually removed between 1991 and 1994. A spill was documented in 1991 at

only one location; however, a 2012 SI indicated PCB concentration exceeding UES standards in two separate areas (rooms 119 & 122). FN 1017 was constructed in 1961 and is listed as a high-frequency transmitter facility. It historically housed transformers associated with facility operations. One PCB containing transformer was removed from the building in September 1995. No known formal investigations or remedial actions were performed in FN 1017; however, a November 2012 concrete sampling action revealed PCB levels exceeding UES standards. Investigation and restoration are required at Kwajalein due to an identified release under Section 3-65.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48U5C1901) which is US Public Law and an International Agreement with the RMI. CLEANUP STRATEGY- The preliminary results and recommendations of a FY-20 data-gap analysis indicate that additional investigation, data evaluation and remedial actions are required. Required additional investigation will consist of- concrete core samples (surface to sub-slab) to delineate the lateral and vertical extent of contamination, soil samples within and around the building footprints to include all COPC's known or likely to be present; groundwater samples at facilities where COPC's may have likely migrated. Likely COPC's to be included in the sampling include- PCBs, TPH-DRO, TPH-RRO, PAHs, Pesticides (for suspect adjacent soil only), Lead and Mercury (for suspect building materials and adjacent soil only) and Asbestos (for suspect building materials and adjacent soil only). The sampling results and data evaluation will determine what remedial action would be required to mitigate unacceptable risk to human health and/or the environment and new remedial design developed as applicable. New RAM/DEP documentation will be developed for review/approval prior to implement any additional remedial action.

NQ100.1007_CCKWAJ-006_POL Yard/Old Power Plant Fuel

Env Site ID: CCKWAJ-006

Cleanup Site: POL Yard/Old Power Plant Fuel

Alias: #

Regulatory Driver: DODI

RIP Date: 10/16/2033

RC Date: 10/16/2062

RC Reason: Not assigned

SC Date: 10/17/2062

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	1/31/2002	2/28/2002
SI:	1/31/2010	3/31/2012
RI/FS:	4/30/2012	10/15/2028
RD:	--	--
IRA:	1/31/2012	7/15/2023
RA(C):	10/15/2028	10/15/2033
RA(O):	10/16/2033	10/16/2062
LTM:	--	--

Site Narrative: This site incorporates the active POL Yard (approx. 8.1 MGAL total capacity in 13 ASTs), the former fuel transfer line between the current fuel farm and the former Kwajalein west end power plant (FN 1011), the former fuel transfer line from Echo-Pier to the POL Yard, and the former hydrant refueling system from the POL Yard to Bucholz Army Airfield. During 2009, a 3,000-gallon diesel release was reported at the POL Yard (Tank #11) due to an apparent small tank-wall rupture. In early 2010, a 4500 gallons JP-5 release was reported at tank #7 and a similar JP-5 release in January of 2011 at tank #6. The absence of secondary containment led to the conclusion that the releases went into to the environment. Numerous construction activities have encountered petroleum contamination in and around the POL Yard and the former fuel transfer line location. Investigations in 2010-12 confirmed significant soil and groundwater contamination at the POL Yard and a Removal Action Memorandum (equivalent to EE/CA under CERCLA) was completed. Field activities were initiated for a non-time critical removal action, which consisted of installing bioslurp wells in 2012 to conduct free product recovery and minimize the amount of plume reaching harbor. The encountered contamination consisted primarily of weathered product. No contamination was found near the abandoned line leading to the old power plant when examined by soil gas screening; however, DRO contamination was discovered in the area during the construction of the power-plant annex that is possibly associated with the old power-plant supply pipeline. The Echo Pier and hot line hydrant fuel lines were investigated, and IRA proposed to address fuel contaminated soil by both in-situ and ex-situ bioremediation. A Remediation Document of Environmental Protection (DEP - DD equivalent) was signed by regulators and the US Army in March 2014. Ecological and human health risk assessment and characterization of the lagoon conducted concurrently in 2014, determined no ecological risks. The RA(C) phase began in late 2014. Technical issues led to the installation of enhanced in-situ bioremediation system in 2015 which was started in 2016; however, its operation was delayed year-after-year and RA(O) work ceased at this site in 2018. No work has taken place since 2018. The goals identified in the 2014 DEP were not being met at the time of the remediation-process failure; the DEP itself expired in May of 2019 and was not renewed/extended.

Additional site studies/design are needed in order to resume remediation activities. Abandoned, unusable remediation equipment was removed from the site and disposed of in April of 2021. Removal/remediation of portions of the abandoned Echo-pier fuel line is included in ongoing separate projects. Investigation and restoration are required at Kwajalein due to an identified release under Section 3-6.5.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48USC1901) which is US Public Law and an International Agreement with the RMI. CLEANUP STRATEGY- The RI/FS phases is underway. A data gap analysis and focused feasibility study for this compounded site are underway. The clean-up strategy will be adjusted upon acceptance of the data-gap analysis report and will take the report's recommendations under consideration as applicable. New RAM/DEP documentation will be developed for review/approval prior to implement any proposed remedial action.

NQ100.1008_CCKWAJ-007_Cold Storage Warehouse

Env Site ID: CCKWAJ-007

Cleanup Site: Cold Storage Warehouse

Alias: #

Regulatory Driver: DODI

RIP Date: 10/15/2033

RC Date: 10/15/2033

RC Reason: Not assigned

SC Date: 10/17/2062

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	1/31/2002	2/28/2002
SI:	1/31/2010	1/30/2022
RI/FS:	4/30/2012	10/15/2028
RD:	--	--
IRA:	1/31/2012	12/30/2022
RA(C):	10/16/2028	10/15/2033
RA(O):	--	--
LTM:	10/16/2033	10/16/2062

Site Narrative: Chlordane contamination was encountered during removal of the cold storage warehouse (three separate buildings connected to each other) in 2004. The site may have contributed to the detectable chlordane in storm water discharges to the harbor (CC Site NQ100.1002 addresses the harbor contamination). Investigations from a 2010-2012 SI confirmed chlordane contamination in excess of UES standards and revealed the presence of DRO/GRO contamination in groundwater in excess of UES standards. The DRO/GRO contamination is likely associated with the abandoned Echo-pier fuel line which runs south of 6th street (directly north and adjacent to this site) and east of lagoon road which runs directly east of this site; however, any future remedy being considered for this site will only consist of soil removal and treatment/disposal as applicable. No data has been collected on this site in past FYs and no cleanup strategy or cost estimate were specifically developed for this site. This site will be re-investigated as part of NQ100.1007 which includes the Echo-pier line contamination. Investigation and restoration are required at Kwajalein due an identified release under Section 3-6.5.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48USC1901) which is US Public Law and an International Agreement with the RMI. CLEANUP/EXIT STRATEGY- A data gap analysis and focused feasibility study for CC NQ100.1007 are underway. The cleanup strategy will be adjusted upon acceptance of the data-gap analysis report and will take the report's recommendations under consideration as applicable in the development of any required remedial design. New RAM/DEP documentation will be developed for review/approval prior to implement any proposed remedial action.

NQ100.1009_CCKWAJ-008_Drinking Water Well 8151 PCE/

Env Site ID: CCKWAJ-008

Cleanup Site: Drinking Water Well 8151 PCE/

Alias: 8151 PCE

Regulatory Driver: DODI

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 10/16/2025

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	1/31/2009	1/31/2009
SI:	1/31/2010	10/15/2025
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: A drinking water lens well on the western central portion of the island of Roi-Namur is contaminated with tetrachloroethylene (PCE) and its breakdown products [trichloroethylene (TCE), dichloroethene (DCE), etc.]. Historically the groundwater had PCE and TCE approximately three times the MCLs. Since 2012, only two TCE levels above MCL were found (2016 and 2018) and no DCE/PCE above MCL. As of the most recent round of sampling (2018) the well only had level of TCE around the MCL and DCE or PCE well below MCL. The well had been abandoned and unused, due to solvent contamination, until December 2008 when waves contaminated all six of the remaining lens wells with salt water. Well 8151 was used (combined with rainwater and treated with GAC) as a raw water source (when rainfall collection was inadequate) for a drinking water system until Reverse Osmosis treatment was added to the Roi-Namur Drinking Water Plant in early 2010. The location of the soil source of solvent contamination was not identified in 2011 investigations and is assumed to have volatilized/degraded. The Roi-Namur water system does not currently use this well as drinking water source. The well is occasionally used for landscape watering and held in reserve as an alternative to high-cost desalination of seawater in the event of a severe, prolonged drought; however, this is not expected to occur as the average, permanent population is low on this island and drinking-water consumption is well below the rain-water catchment reserve capacity. Investigation and restoration are required at Kwajalein due an identified release under Section 3-6.5.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48USC1901) which is US Public Law and an International Agreement with the RMI. CLEANUP/EXIT STRATEGY - The preliminary results and recommendations of a FY-20 data-gap analysis indicate that additional investigation, and data evaluation are required in order to achieve site closure. Until finalization of the data-gap analysis report, required additional investigation include continuing routine, quarterly groundwater monitoring using the existing monitoring well network. A 2018 Technical Memo also recommends to continue sampling until VOC's have gradually reduced for several quarters or are no longer detected, at which time a NFA would be requested from the UES agencies/RMI EPA and site closure process would be initiated.

NQ100.1010_CCKWAJ-009_Gagan Power Plant Fuel Spill

Env Site ID: CCKWAJ-009

Cleanup Site: Gagan Power Plant Fuel Spill

Alias: GAGAN FUEL

Regulatory Driver: DODI

RIP Date: 10/15/2024

RC Date: 10/15/2024

RC Reason: Not assigned

SC Date: 10/16/2024

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	3/31/2006	3/31/2006
SI:	1/31/2010	10/15/2024
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: The site is the location of an approximately 5000-gallon diesel spill which occurred in February 2006. The site is not permanently manned; it is primarily occupied by telemetry equipment and optics that are remotely operated. When a periodic maintenance crew arrived on March 1, 2006, they discovered a spill from a ruptured pressure gauge. Spill response activities were initiated, but were hampered by building foundations, utility lines, and hardpan. Excavated soil was land-farmed for over a year at an area immediately north of the spill site. Follow-up site investigations were conducted in 2010-2011 to evaluate the remaining contamination and determine a path forward. The SI recommends NFA required. Investigation and restoration are required at Kwajalein due an identified release under Section 3-6.5.8 of the UES. Compliance with the UES is required by Title 1, Article VI of the Compact of Free Association (P.L. 108-188, 48USC1901) which is US Public Law and an International Agreement with the RMI. CLEANUP/EXIT STRATEGY- Awaiting approval of the SI and Data Evaluation reports by the UES Agencies and the RMI EPA. Site closure process to be initiated as applicable.

NQ100.1011_NQ100.1011_Kwajalein Power Plant Annex

Env Site ID: NQ100.1011

Cleanup Site: Kwajalein Power Plant Annex

Alias: #

Regulatory Driver: DODI

RIP Date: 10/16/2034

RC Date: 10/15/2063

RC Reason: Not assigned

SC Date: 10/16/2063

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	6/15/2016	12/15/2016
SI:	1/1/2017	6/28/2018
RI/FS:	10/15/2018	10/15/2029
RD:	--	--
IRA:	--	--
RA(C):	10/16/2029	10/15/2034
RA(O):	10/16/2034	10/15/2063
LTM:	--	--

Site Narrative: Soil and groundwater fuel contamination were discovered during a USAEHA soil and groundwater contamination study in 1991. Approximately 9,400 gallons of diesel contaminated groundwater were removed from the site during dewatering activities in preparation for the construction of the Power Plant Annex. Fuel contamination was initially believed to be either from the former Zeus Acquisition Radar power plant AST that formerly existed at this location or a now abandoned underground fuel transfer line which connected the fuel farm to the former power plant following an approximately 6,000-foot path north of Lagoon Road and which is part of CC site NQ100.1007. Investigation activities initiated in 2017 identified six (6) significant POL facilities located up-gradient as possible contamination sources. Groundwater sampling results ranged up to 1,100 ppm in diesel range organics (DRO). A draft removal action memorandum (RAM) was developed in 2018; however, this action was never brought to completion. Investigation and Remediation of contaminated sites required at Kwajalein due to an identified release under Section 3-6.5.8 of the UES. Compliance with the UES is required by Title 1 Article VI of the Compact of Free Association (P.L. 108-188, 48 USC1901) which is US Public Law and an International Agreement with the RMI. CLEANUP/EXIT STRATEGY- The preliminary results and recommendations of a FY-20 data-gap analysis indicate that additional investigation, data evaluation and remedial actions are required. Required additional investigation consists of- TPH-GRO, TPH-DRO, TPH-RRO, VOCs, PAHs, Lead & PCBs. The sampling results will determine what remedial action would be required to mitigate unacceptable risk to human health and the environment. The TPH (GRO/DRO/RRO) soil/groundwater contamination will be further investigated and remediated as part of the abandoned fuel line linking the former power plant to the fuel-farm (included in NQ100.1007) which geographically overlaps most of this site and may be linked to its contamination; however, soil data gaps/usability issues and delineation of the nature and extent of 1,2,3-trichloropropane in groundwater identified in the 2018 Internal Draft SI Report remain to be investigated/remediated as part of this site. The sampling results will determine whether new or updated RAM and DEP documents will be required for review/approval prior to implementation of any proposed remedial action.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
NQ100.1001	USAKA-001-R-01_KWAJALEIN SMALL ARMS/SKEE	12/19/2003