

**Final**

# **Supplemental Environmental Impact Statement**

## **Guam and Commonwealth of the Northern Mariana Islands Military Relocation (2012 Roadmap Adjustments)**

*Prepared for:*

Joint Guam Program Office  
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*Prepared by:*

Naval Facilities Engineering Command Pacific  
Pearl Harbor, HI

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## FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (SEIS)

<b>Lead Agency:</b>	Department of the Navy
<b>Cooperating Agencies:</b>	Federal Aviation Administration; Federal Highway Administration; U.S. Department of the Air Force; U.S. Department of Agriculture; U.S. Department of the Interior, Office of Insular Affairs; U.S. Environmental Protection Agency, Region 9
<b>Title of Proposed Action:</b>	Guam and Commonwealth of the Northern Mariana Islands Military Relocation (2012 Roadmap Adjustments)
<b>Affected Jurisdictions:</b>	Guam
<b>Designation:</b>	Final SEIS

### Abstract

In September 2010, the United States (U.S.) Department of the Navy (DON) signed a Record of Decision (ROD) regarding the 2010 Final Environmental Impact Statement (EIS) for the *Guam and CNMI Military Relocation*. In April 2012, the U.S.-Japan Security Consultative Committee jointly announced an adjustment to the previous plans for the Guam military relocation. In accordance with these “2012 Roadmap Adjustments,” the Department of Defense (DoD) adopted a new force posture in the Pacific providing for a materially smaller and reconfigured Marine Corps force on Guam.

Pursuant to the National Environmental Policy Act (NEPA) and the Council on Environmental Quality’s implementing regulations for NEPA, the DON prepared this Final SEIS for the purpose of supplementing the portions of the 2010 Final EIS regarding the establishment on Guam of a live-fire training range complex (LFTRC), a cantonment area, a family housing area, and associated infrastructure to support the relocation of a substantially reduced number of Marines and dependents than was previously analyzed. By supplementing the 2010 Final EIS, this Final Supplemental EIS (SEIS) advances NEPA’s purpose of informing decision-makers and the public about the environmental effects of the DON’s proposed action.

The following federal agencies, having either jurisdiction or technical expertise for certain components of the proposed action or a potentially affected resource, have accepted the DON’s invitation to participate as cooperating agencies: U.S. Air Force, Federal Aviation Administration, Federal Highway Administration, U.S. Environmental Protection Agency Region 9, U.S. Department of Interior - Office of Insular Affairs, and U.S. Department of Agriculture.

This Final SEIS analyzes the potential environmental impacts of five action alternatives for the cantonment/family housing component of the proposed action and five action alternatives for the LFTRC component, plus a no-action alternative. Potential impacts have been analyzed for geological and soil resources, water resources, air quality, noise, airspace, land and submerged land use, recreational resources, terrestrial biological resources, marine biological resources, cultural resources, visual resources, ground transportation, marine transportation, utilities, socioeconomics and general services, hazardous materials and waste, public health and safety, and environmental justice.

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(2012 Roadmap Adjustments)  
Supplemental Environmental Impact Statement**

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**Guam and CNMI Military Relocation  
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Supplemental Environmental Impact Statement**

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**Acronyms and Abbreviations**

AAFB	Andersen Air Force Base	CMCC	Civilian Military Coordination Council
AAMDTF	Army Air and Missile Defense Task Force	CNIC	Commander, Navy Installations Command
ACE	Aviation Combat Element	CNMI	Commonwealth of the Northern Mariana Islands
ACHP	Advisory Council on Historic Preservation	CNO	Chief of Naval Operations
ACM	asbestos-containing material	CO	carbon monoxide
ADA	Americans with Disabilities Act	CO <sub>2</sub>	carbon dioxide
ADNL	A-weighted DNL	COMNAV	Commander Navy Region
AGL	above ground level	CWA	Clean Water Act
AICUZ	Air Installation Compatible Use Zone	CWCS	Comprehensive Wildlife Conservation Strategy
AIDS	Acquired Immune Deficiency Syndrome	dB	decibels
ALPCD	Alien Labor Processing and Certification Division	dba	A-weighted dB
AOC	Area of Concern	dbc	C-weighted dB
APHIS	Animal and Plant Health Inspection Service	DMM	discarded military munitions
APZ	Accident Potential Zone	DNL	day-night average sound level
ARPA	Archeological Resources Protection Act	DoD	Department of Defense
ARTCC	Air Route Traffic Control Center	DoDEA	Department of Defense Education Activity
AT/FP	Anti-Terrorism/Force Protection	DOI	Department of the Interior
ATC	Air Traffic Control	DON	Department of the Navy
ATCAA	Air Traffic Control Assigned Airspace	DRMO	Defense Reutilization Marketing Office
AVLA	Amphibious Vehicle Laydown Area	DRS	Demand-Response Service
BA	Biological Assessment	EA	Environmental Assessment
BEQ	Bachelor Enlisted Quarters	EAC	Economic Adjustment Committee
BI	beneficial impact	ECF	entry control facility
BMP	Best Management Practice	EDT	Eastern Daylight Time
BNOISE2	Blast Noise Impact Assessment	EFH	Essential Fish Habitat
BO	Biological Opinion	EIS	Environmental Impact Statement
BOQ	Bachelor Officer Quarters	EISA	Energy Independence and Security Act
C&D	construction and demolition	EMR	electromagnetic radiation
CAA	Clean Air Act	EO	Executive Order
cal	caliber	EOD	Explosive Ordnance Disposal
CATM	Combat Arms Training and Maintenance	EPP	Environmental Protection Plan
CDNL	C-weighted DNL	ERA	Ecological Reserve Area
CEQ	Council on Environmental Quality	ESA	Endangered Species Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	ESQD	Explosive Safety Quantity-Distance
CES/CEV	Civil Engineering Squadron Environmental Flight	ESS	Explosives Safety Submission
CFA	Controlled Firing Area	FAA	Federal Aviation Administration
CFR	Code of Federal Regulations	FHWA	Federal Highway Administration
ChST	Chamorro Standard Time	FICUN	Federal Interagency Committee on Urban Noise
CJMT	CNMI Joint Military Training	FL	flight level
CLTC	Chamorro Land Trust Commission	FPCON	Force Protection Condition
cm	centimeter	FR	Federal Register
		FTE	full time equivalent

FY	Fiscal Year	IMPLAN	Impact Analysis for Planning
GALC	Guam Ancestral Lands Commission	iNFADS	internet Navy Facilities Asset Data Store
GAR	Guam Administrative Rules and Regulations	INRMP	Integrated Natural Resources Management Plan
GBHWC	Guam Behavioral Health and Wellness Center	IRP	Installation Restoration Program
GBSP	Guam Bureau of Statistics and Plans	IT/COMM	information technology/communications
GCA	Guam Code Annotated	JGPO	Joint Guam Program Office
GCC	Guam Community College	JoG	Judiciary of Guam
GDAWR	Guam Division of Aquatic and Wildlife Resources	JRM	Joint Region Marianas
GDISID	Guam Department of Integrated Services for Individuals with Disabilities	KD	Known Distance
GDoC	Guam Department of Corrections	kg	kilogram
GDoE	Guam Department of Education	km	kilometer
GDPHSS	Guam Department of Public Health and Social Services	kV	kilovolt
GDPR	Guam Department of Parks and Recreations	KW	kilowatt
GDPW	Guam Department of Public Works	LBP	lead-based paint
GDYA	Guam Department of Youth Affairs	LEDPA	Least Environmentally Damaging Practicable Alternative
GEPA	Guam Environmental Protection Agency	LEED	Leadership in Energy and Environmental Design
GFCA	Guam Fishermen's Cooperative Association	L <sub>eq</sub>	equivalent sound level
GFD	Guam Fire Department	LFTRC	live-fire training range complex
GHPI	Guam Historic Properties Inventory	LID	Low Impact Development
GIP	Gross Island Product	LOS	level of service
GIS	geographic information system	LSI	less than significant impact
GMHA	Guam Memorial Hospital Authority	m	meter
GOV	government-owned vehicle	m <sup>3</sup>	cubic meter
GovGuam	Government of Guam	MBTA	Migratory Bird Treaty Act
GPA	Guam Power Authority	MC	munitions constituents
GPD	Guam Police Department	MCO	Marine Corps Order
GPLS	Guam Public Library System	MEC	munitions and explosives of concern
GRN	Guam Road Network	MGd	million gallons per day
GRTA	Guam Regional Transit Authority	MIRC	Mariana Islands Range Complex
GWA	Guam Waterworks Authority	MITT	Mariana Islands Training and Testing
GWQS	Guam Water Quality Standards	MLd	million liters per day
GWRDG	Guam Water Resources Development Group	mm	millimeter
GWUDI	groundwater under the direct influence	MMRP	Military Munitions Response Program
ha	hectare	MOA	Memorandum of Agreement
HACCP	Hazard Analysis and Critical Control Point	MOU	Memorandum of Understanding
HAPC	Habitat Area of Particular Concern	MOVES	Motor Vehicle Emissions Simulator
HG	hand grenade	MPA	Marine Protected Area
HMU	Habitat Management Unit	MPMG	Multi-Purpose Machine Gun
D	identification	MPPEH	material potentially presenting an explosive hazard
IFR	Instrument Flight Rules	MRF	Modified Record of Fire
ILS	Instrument Landing Systems	MSA	Munitions Storage Area

MSAT	mobile source air toxics	PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 microns in diameter
MSL	mean sea level		
MSW	municipal solid waste	PM <sub>10</sub>	particulate matter less than or equal to 10 microns in diameter
MTVR	Medium Tactical Vehicle Replacement	POL	petroleum, oil, and lubricants
MUS	Management Unit Species	POV	privately owned vehicle
MW	megawatt	ppb	parts per billion
NA	not applicable	ppm	parts per million
NAAQS	National Ambient Air Quality Standards	PRTC	Pacific Regional Training Center
NAVFAC	Naval Facilities Engineering Command	PTSD	Post-Traumatic Stress Disorder
NAVFIG	Naval Flight Information Group	QOL	quality of life
NAVMAG	Naval Magazine	RAM	Random Antiterrorism Measures
NDAA	National Defense Authorization Act	RBP	Regional Biosecurity Plan
NEIC	National Enforcement Investigations Center	RC	Recently Completed
NEPA	National Environmental Policy Act	RED HORSE	Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers
NEXRAD	Next-Generation Radar	REVA	Range Environmental Vulnerability Assessment
NGLA	Northern Guam Lens Aquifer	RF	Reasonably Foreseeable
NHPA	National Historic Preservation Act	RMP	Range Mitigation Plan
NI	no impact	ROD	Record of Decision
NMFS	National Marine Fisheries Service	ROI	region of influence
NOAA	National Oceanic and Atmospheric Administration	RWY	Runway
NOI	Notice of Intent	SARNAM	Small Arms Range Noise Assessment Model
NOx	oxides of nitrogen	SAW	Squad Automatic Weapon
NPDES	National Pollutant Discharge Elimination System	SCADA	Supervisory Control and Data Acquisition
NPS	National Park Service	SDDCTEA	Surface Deployment and Distribution Command - Transportation Engineering Agency
NR	Not Reported	SDZ	surface danger zone
NRHP	National Register of Historic Places	SEIS	Supplemental Environmental Impact Statement
NWF	Northwest Field	SHPO	State Historic Preservation Officer
NWI	National Wetlands Inventory	SI	significant impact
NWR	National Wildlife Refuge	SIAS	Socioeconomic Impact Assessment Study
OEA	Office of Economic Adjustment	SI-M	significant impact but mitigable
OEIS	Overseas Environmental Impact Statement	SNCO	Staff Non-Commissioned Officer
OPNAVINST	Chief of Naval Operations Instruction	SO <sub>2</sub>	sulfur dioxide
ORC	Operational Range Clearance	SOGCN	Species of Greatest Conservation Need
OSHA	Occupational Safety and Health Administration	SOP	standard operating procedures
P	Present	SPAWAR	Space and Naval Warfare Systems Command
PA	Programmatic Agreement	SPCC	Spill Prevention, Control, and Countermeasure
PAG	Port Authority Guam	STD	sexually transmitted disease
PCB	polychlorinated biphenyl	STP	sewage treatment plant
PCE	primary constituent elements	SUA	Special Use Airspace
pCi/l	picocuries per liter		
PDIA	Potential Direct Impacted Area		
PIIA	Potential Indirect Impacted Area		
PM	particulate matter		

SWMP	Stormwater Management Plan	USFWS	U.S. Fish and Wildlife Service
SWPPP	Stormwater Pollution Prevention Plan	USGS	U.S. Geological Survey
TCP	Traditional Cultural Property	UXO	unexploded ordnance
THAAD	Terminal High Altitude Area Defense	v/c	volume to capacity
TMDL	Total Maximum Daily Load	VFR	Visual Flight Rules
tpy	tons per year	VOC	volatile organic compound
TRRA	Training Ranges Review and Analysis	WA	Warning Area
U&SI	utilities and site improvements	WERI	Water and Environmental Research Institute
UDP	Unit Deployment Program	WG	Wing
UFC	Unified Facilities Criteria	WWII	World War II
µg/m <sup>3</sup>	micrograms per cubic meter	WWPS	wastewater pump station
UIC	Underground Injection Control	WWTP	Wastewater Treatment Plant
UoG	University of Guam	yd <sup>3</sup>	cubic yard
U.S.	United States		
USACE	U.S. Army Corps of Engineers		
USC	U.S. Code		
USDA	U.S. Department of Agriculture		
USEPA	U.S. Environmental Protection Agency		
USFS	U.S. Forest Service		