

# How to Use This Document

The Marine Corps' goal is to provide a reader-friendly document that presents a thorough, accurate analysis of the current environment, the proposed action, and its potential environmental impacts. The organization of this Draft Environmental Impact Statement/Overseas Environmental Impact Statement, or Draft EIS/OEIS, is shown below. Because of their size, the appendices for this document have been included on a separate CD for ease of handling and reference. For reference purposes, a list of Pagan's local place names is provided below along with the names currently used in the EIS/OEIS maps. The document is also available online at: [www.CNMIJointMilitaryTrainingEIS.com](http://www.CNMIJointMilitaryTrainingEIS.com).

## READER'S GUIDE

- ❖ How to Use This Document
- ❖ Acronyms and Abbreviations
- ❖ Local Place Names for Pagan
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## EXECUTIVE SUMMARY

A shortened description of the findings of the entire EIS/OEIS for ease of use.

## CHAPTER 1

The introduction presents an overview of why and how the United States (U.S.) military trains (Section 1.2) and the purpose and need for the proposed action (Section 1.3), including supporting studies, reports, assessments, statements, and international agreements. It also contains a basic history of the Mariana Islands as well as the Military Lease Areas (Section 1.4) and an explanation of the Environmental Review Process and Public Involvement (Section 1.5).

## CHAPTER 2

Chapter 2 describes the proposed action (Section 2.1), training requirements (Section 2.2), and the development of alternatives (Section 2.3). Section 2.4 describes the Tinian Action Alternatives and No-Action Alternative, and Section 2.5 describes the Pagan Action Alternatives and No-Action Alternative. Also included within this section is a description of all alternatives that were considered and eliminated from a detailed analysis for various reasons (Section 2.6). Section 2.7 identifies the preferred alternative and the reasons for its choice are examined.

## CHAPTER 3

The affected environment, or area to be impacted by the alternatives under consideration, is examined in Chapter 3. This section, beginning with Section 3.2 and continuing through Section 3.17, examines 16 resources within the affected environment. These sections provide a baseline for evaluating the effects of the proposed action. These resources include: Geology and Soils, Water Resources, Air Quality, Noise, Airspace, Land and Submerged Land Use, Recreation, Terrestrial Biology, Marine Biology, Cultural Resources, Visual Resources, Transportation, Utilities, Socioeconomics and Environmental Justice, Hazardous Materials and Waste, and Public Health and Safety.

**CHAPTER 4**

Environmental consequences are environmental impacts associated with implementing the no-action and proposed action alternatives. This chapter describes the analytical methodology and impact assessment criteria used to develop the analysis of environmental consequences for each of the key study areas identified in Chapter 3. Resource management measures and potential mitigation measures are included within each study area’s proposed action evaluation.

Environmental Consequences (Sections 4.2 - 4.17)

- ❖ Tinian Alternatives (Unit Level)
- ❖ Pagan Alternatives (Combined Level)
- ❖ No-Action Alternative

Programmatic Analysis of Future Potential Project Components (Section 4.18)

- ❖ International Broadcasting Bureau Relocation
- ❖ Pagan Dock and Breakwater

Section 4(f) Evaluation (Section 4.19)

Summary of Impacts (Section 4.20)

**CHAPTER 5**

Cumulative impacts refer to the combined impacts of the proposed action as well as any present and reasonably foreseeable projects, programs, actions, and activities in the study areas identified in Chapters 3 and 4. This chapter examines the methodology used to provide the cumulative impact assessment, the historical context and current health of the resources, the assessment of potential long-term impacts of present and reasonably foreseeable actions, direct and indirect impacts of the proposed action, and the assessment for mitigation needs.

**CHAPTER 6**

Chapter 6 provides information regarding considerations required by NEPA and possible conflicts between the proposed action and the objectives of existing land use plans, policies, and controls. Additionally, it examines the irreversible and irretrievable commitment of resources as well as short-term use versus long-term productivity in regards to the proposed action.

**CHAPTER 7**

The references section provides detailed reference data for each chapter of the EIS/OEIS.

**CHAPTER 8**

The preparers section provides information on the individuals who prepared the EIS/OEIS.

**CHAPTER 9**

Chapter 9 contains the list of individuals, agencies, libraries, and interest groups who will be receiving a copy of the EIS/OEIS. This list includes cooperating agencies as well as agencies and groups with an interest in the CNMI.

**APPENDICES (located on separate CD as part of this document)**

**Appendix A – Agency and Elected Official Correspondence**

1. Cooperating Agency Correspondence
2. Public Notices

**Appendix B – Final Scoping Summary Report**

**Appendix C – Unconstrained Training Concept for Tinian and Pagan**

**Appendix D – Best Management Practices**

**Appendix E – Applicable Federal and Local Regulations**

**Appendix F – Geology and Soils Technical Memo**

**Appendix G – Air Quality Technical Memo**

**Appendix H – Noise Study**

**Appendix I – Airspace Technical Memo**

**Appendix J – Amphibious Beach Landing Site Engineering and Coastal Processes Analyses**

1. Tinian AAV Landing Site Engineering Investigations
2. Engineering Analysis Evaluation
3. Coastal Processes Report

**Appendix K – Summary of Historical Land Use Agreements between the U.S. and the CNMI**

**Appendix L – Biological Resources Supporting Documentation**

1. Terrestrial and Marine Species List
2. Terrestrial and Marine Species Profiles
3. Terrestrial Biological Surveys on Tinian
4. Wetland Survey Report
5. Biosecurity

**Appendix M – Marine Biology Technical Memo and Survey Reports**

1. Marine Biological Resources Technical Memo
2. Coral Marine Resources Survey Report
3. Marine Mammal Survey Report
4. Sea Turtle Marine Resources Survey Report

**Appendix N – Cultural Resources Technical Memo**

**Appendix O – Transportation Study**

**Appendix P – Utilities Study**

**Appendix Q – Socioeconomic Impact Assessment Study**

**Appendix R – Hazardous Materials and Waste Technical Memo**

**Appendix S – Draft Engineering Drawings of Airport Layout Plan**

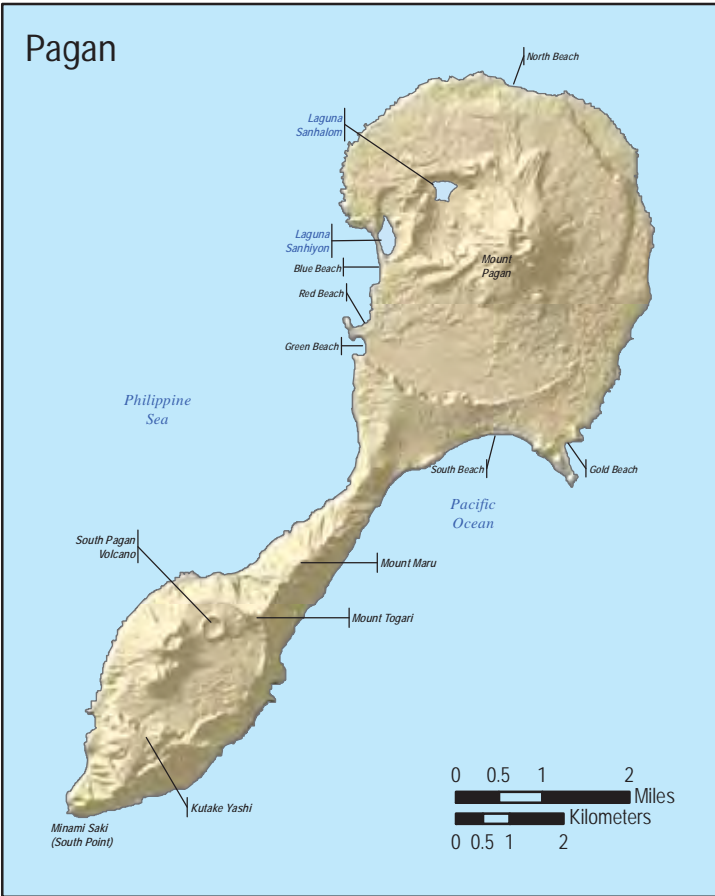
### Acronyms and Abbreviations

%	percent	NAVFAC	Naval Facilities Engineering Command
CFR	Code of Federal Regulations	n.d.	no date
CIP	Capital Improvements Projects Program Office	NEPA	National Environmental Policy Act
CJMT	Commonwealth of the Northern Mariana Islands Joint Military Training	NMC-CREES	Northern Marianas College Cooperative Research, Extension and Education Service
CNMI	Commonwealth of the Northern Mariana Islands	OEA	Overseas EA
DDT	dichlorodiphenyltrichloroethane	OEIS	Overseas EIS
Divert	Divert Activities and Exercises	QDR	Quadrennial Defense Review
DoN	Department of the Navy	R	Restricted Airspace
EA	Environmental Assessment	RTA	Range and Training Area
EIS	Environmental Impact Statement	U.S.	United States
MSL	mean sea level	W	Warning Area

A project location map is shown on the next page. For reference purposes, a list of local place names for Pagan is provided below along with the names currently used for maps in the EIS/OEIS.

### **Local Place Names for Pagan**

<b><i>Map Place Name</i></b>	<b><i>Local Place Name</i></b>
<b>Blue Beach</b>	Apan
<b>Gold Beach</b>	Dikiki (or Unai Dikidiki)
<b>Green Beach</b>	Palapala
<b>Lower Lake</b>	Laguna Sanhiyon
<b>North Beach</b>	Tarague
<b>Red Beach</b>	Shomshon
<b>South Beach</b>	Regussa
<b>South Point</b>	Minami Saki
<b>Upper Lake</b>	Laguna Sanhalom



**Project Location Map**



# GLOSSARY

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**31st Marine Expeditionary Unit Training:** A combat element with ground, aviation, and logistics units (approximately 2,200 personnel) which train simultaneously. For example, some unit personnel arrive at the training location and come ashore via Amphibious Assault Vehicles, Landing Craft Air Cushion, and other types of vessels. Other personnel parachute into the training area from rotary- and tilt-wing aircraft. The units' associated equipment arrives via ship-to-shore vessels and/or aircraft.

**A-weighted Scale:** The human ear cannot perceive all pitches or frequencies of sounds equally. To mimic the human ear's sensitivity and perception of different frequencies, sound is measured by applying an A-weighted scale. Sound measurement uses decibels and the A-weighted scale filters out very low and very high-pitched sounds. The A-weighted scale is used to evaluate noise generated by vehicles, aircraft, and small arms firing (up to .50-caliber).

**Above Ground Level:** Typically applied to aircraft operations, this is a measurement of the altitude (or height) above the ground surface expressed in feet (or meters).

**Airfield:** The area comprising the runways and taxiways.

**Airport:** Includes runways, taxiways, and support facilities including ground maintenance and control tower. Airports may be public, private or military operated.

**Airspace:** Airspace is a three-dimensional configured resource managed and controlled by the Federal Aviation Administration in the U.S. and its territories. There are four types—controlled, uncontrolled, special use, and other airspace.

**Airspace, Controlled:** This is a generic term that includes the different classifications of airspace and defined dimensions within which air traffic control service is provided according to the airspace classification. Controlled airspace is divided into five classes, dependent upon location, use, and degree of control: Classes A, B, C, D, and E.

**Airspace, Special Use:** This is an airspace of defined dimensions in which certain activities must be confined or where limitations may be imposed on aircraft operations not part of those identified activities. Special use airspace usually consists of prohibited, restricted, warning, military operation, alert, and controlled firing areas.

**Airspace, Uncontrolled:** This is airspace not otherwise designated as Class A, B, C, D, or E and without air traffic control authority or responsibility.

**Affected Environment:** A description of the existing environment to be affected by the proposed action (40 Code of Federal Regulations 1502.15).

**Alternative:** Options to meet the purpose and need of the proposed action, which is to establish a unit level Range and Training Area on Tinian and combined level Range and Training Area on Pagan.

**Alternative, No-Action:** The alternative describing the conditions that would be found if the proposed action were not implemented.

**Alternative, Preferred Alternative:** The alternative that the lead agency prefers, if such an alternative exists. The preferred alternative may be based on the lead agency's needs, mission requirements, legislative or executive direction, and other factors.

**Alternative, Reasonable:** Reasonable alternatives are those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the lead agency.

**Amphibious Landing Beaches:** Beaches used for vehicles that operate in water and on land. They also support combat swimmer training and inflatable boat landings.

**Area of Potential Effect:** The geographic area(s) within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

**Baseline:** The basis of environmental conditions against which impacts of the proposed action and its alternatives can be compared.

**Base Load Power:** The minimum power load or the power generation capacity needed to meet the continuous demand for the system, 24 hours a day, and 7 days a week.

**Battalion, Marine Corps:** A team of approximately 1,300 personnel, consisting of an infantry attachment (960 personnel) and landing team attachment (approximately 340 personnel). The infantry battalion includes three rifle companies and one weapons company. The landing team attachments include an artillery battery, a light anti-armor reconnaissance platoon, an amphibious assault vehicle platoon, a combat engineer platoon, a tank platoon, and a reconnaissance platoon.

**Bilateral Training:** Training that occurs when U.S. and allied forces train together.

**Biosecurity:** Measures taken to avoid, minimize, and mitigate the inadvertent introduction of invasive plant or animal species.

**Bivouac:** A temporary encampment under little or no shelter.

**Caldera:** A volcanic crater formed by the collapse of the central part of a volcano or by explosions of extraordinary strength.

**C-weighted Scale:** The human ear cannot perceive all pitches or frequencies of sounds equally. To mimic the human ear's sensitivity and perception of different frequencies, sound is adjusted or weighted. Noise measurements use decibels and the C-weighted scale to filter out low pitched, impulsive sounds. The C-weighted scale is used to measure percussive noise and vibrations generated by explosive charges and large-caliber weapons (over .50-caliber).

**Cetacean:** A mammal which lives in the ocean, such as whales, dolphins, and porpoises.

**Chaff:** A fiber used as a countermeasure for radar. An aircraft spreads a cloud of small, thin pieces of aluminum, metallized glass fiber, or plastic, which either appears as a cluster of primary targets on radar screens or swamps the screen with multiple returns.

**Coastal Zone:** For this analysis, the coastal zone extends from the high tide mark on the land to the edge of the continental shelf, to a water depth of less than 538 feet (164 meters). The coastal zone



supports 90% of all marine species and is the area where most of the larger commercial vessels fish. This differs from the “coastal zone” defined in the Federal Coastal Zone Management Act where the “coastal zone” typically extends from the low tide mark to several hundred feet into the ocean.

**Cooperating Agency:** A federal agency, other than the lead agency, that has legal jurisdiction or special expertise to comment on the proposed action of a lead agency.

**Council on Environmental Quality:** The Council on Environmental Quality was established within the Executive Office of the President by Congress as part of the National Environmental Policy Act. Consisting of three members appointed by the President, the Council coordinates federal environmental efforts in the U.S. and works closely with the White House and federal agencies developing environmental and energy policies and initiatives.

**Critical Habitat:** Specific areas within the geographical region occupied by the species at the time of listing (under the Endangered Species Act), if they contain physical or biological features essential to conservation. Those features may require special management considerations or protection; and specific areas outside the geographical region occupied by the species if the agency (U.S. Fish and Wildlife Service or National Marine Fisheries Service) determines the area itself is essential for conservation.

**Culvert:** A channel or tunnel that allows water to flow under a road, trail, or similar obstruction.

**Cumulative Impact:** The incremental environmental impact or effect of the proposed action, together with impacts of past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 Code of Federal Regulations 1508.7).

**Danger Zone:** A Danger Zone is a water area(s) used for especially hazardous operations. Consistent with military safety requirements, danger zones are open to the public only when hazards are minimized to assure the safety of the non-participating public.

**Day-Night Average Sound Level:** A measure of the average annual noise levels over a 24-hour period.

**Eco-tourism:** Travel to areas of natural or ecological interest where minimal impact to the environment is a primary concern.

**Endangered Species:** Defined under the Endangered Species Act as “any species which is in danger of extinction throughout all or a significant portion of its range.”

**Endangered Species Act:** Passed by Congress in 1973, the Endangered Species Act recognized the rich natural heritage of “esthetic, ecological, educational, recreational, and scientific value to our Nation and its people.” The Act protects and recovers imperiled species and the ecosystems upon which they depend and is administered by the U.S. Fish and Wildlife Service and the Commerce Department’s National Marine Fisheries Service.

**Endemic:** Belonging or native to a particular area, place, or people.

**Environmental Consequences:** The short-term/long-term, direct/indirect impacts of the proposed action and alternatives to the environment.

**Executive Agent:** The agency acting on behalf of the action proponent or lead agency.

**Expeditionary Airfield:** A runway, typically of bare ground, gravel, or grass, in a remote location used by aircraft to deliver and transport personnel, equipment, and supplies.

**Extirpate:** To eliminate a population completely from a specific location.

**Flares:** These are pyrotechnics that produce a brilliant light or intense heat without an explosion. Flares are used for signaling, illumination, or defensive countermeasures. Flares may be ground, projectile, or parachute-suspended pyrotechnics to provide maximum illumination time over a large area. Projectile pyrotechnics may be dropped from aircraft, fired from rocket or artillery, or deployed by flare guns or handheld percussive tubes.

**Geographic Information System:** A computer application used to store, view, and analyze geographical data. It is a tool that assists decision making by providing a visual depiction of complex data, customized for the situation and circumstances associated with the decision.

**Global Positioning System:** A small-computerized device that uses satellite triangulation to provide a precise location on the surface of the earth.

**Hazardous Materials:** Substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment.

**Hazardous Waste:** Substances defined as hazardous and regulated under the Resource Conservation and Recovery Act. They are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either have one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 Code of Federal Regulations Part 261.

**High Hazard Impact Area:** An area into which live and inert munitions and explosives are thrown, shot or dropped. The area is designed and placed to minimize interaction and provide for safe separation of hazardous activities. These activities include ground-based military personnel using small and large arms, aircraft employing weapons from the air to the ground, and ships delivering munitions from the sea to the ground surface.

**Impact:** To have an effect on someone or something. Impacts can be adverse/beneficial, direct/indirect, short/long-term, or significant/insignificant.

**Impact, Adverse:** Negative, abnormal, or harmful impacts.

**Impact, Beneficial:** Positive or added impacts.

**Impact, Direct:** An effect caused by the proposed action that occurs at the same time and place.

**Impact, Indirect:** Impacts that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

**Impact, Less than Significant:** Refers to the severity of the effect. Impacts are less than significant when they have not exceeded an identified threshold of significance. Criteria used to determine the threshold of significance varies by resource while considering the context and intensity.

**Impact, Long-Term:** Impacts that occur during, continue after the completion of an action, and may take the form of delayed changes or changes resulting from the cumulative effects of many individual actions.

**Impact, Short-Term:** Effects that occur temporarily, typically during the time of the action causing the impact.

**Impact, Significant:** Refers to the severity of the effect. Typically, a threshold is identified so that if it is exceeded then a significant impact is likely to occur. Criteria used to determine the threshold of significance varies by resource.

**Inert Munitions:** Ammunition that does not contain explosive material, sometimes referred to as dummy munitions.

**International Broadcasting Bureau:** An independent U.S. federal agency that supports day-to-day operations of the Voice of America and provides transmission and technical support to non-military U.S. broadcasting services. The International Broadcasting Bureau is within the Military Lease Area of Tinian and is a Cooperating Agency for this EIS/OEIS.

**Instrument Flight Rules:** The pilot relies on instruments to navigate in accordance with a set of Federal Aviation Administration rules. The pilot has minimal or no reliance on visual information.

**Isthmus:** A narrow piece of land that connects two larger land areas.

**Jeopardy:** Under the Endangered Species Act, jeopardy occurs when an action is reasonably expected, directly or indirectly, to diminish a species' numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced.

**Joint Services Training:** Military training involving multiple units from various Service Components jointly conducting integrated training. For example, a forward-placed Marine Corps squadron calling in an Air Force fighter jet to an "enemy" target.

**Landing Zone:** An unimproved area (e.g., lava, bare ground, or grass) that can accommodate helicopter and MV-22 landings and take-offs. Used for incoming and outgoing personnel and equipment.

**Lead Agency:** The entity having primary responsibility for preparing the Environmental Impact Statement/Overseas Environmental Impact Statement.

**Liquefaction:** When loose sand and silt is saturated or partially saturated with water and shaken by an earthquake it behaves like a liquid. The soil can lose its ability to support structures, flow down gentle slopes, and come to the ground surface to form sand boils.

**Live-Fire Training:** Training with ammunition and devices that contain explosive material.

**Maneuver Area:** Land used for ground-based personnel and vehicles moving across the landscape to patrol, establish defensive positions, and fire weapons.

**Marine Mammal Protection Act:** Enacted on 21 October 1972, the Marine Mammal Protection Act prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens in the high seas, and the importance of marine mammals and marine mammal products to the U.S.

**Maximum Sound Level:** This is the highest A-weighted sound level for aircraft measured during a single event in which the sound level changes value as time passes (e.g., an aircraft overflight). The maximum sound level is important in judging the interference caused by a noise event with conversation, TV or radio listening, sleeping, or other common activities.

**Mean Sea Level:** Typically applicable to aircraft operations and special use airspace configurations. It is the altitude (or height) expressed in feet (or meters) above the average sea level.

**Military Lease Area:** This is the northern two-thirds of Tinian that the U.S. military leases. It includes the Lease Back Area where local residents are allowed to perform agricultural activities and where military training is conducted in the Exclusive Military Use Area.

**Military Operations Area:** This is a special use airspace unit established to safely separate military aircraft training activities from non-participating military and civil aircraft operations. This type of airspace is generally established over land and offshore, but not beyond the U.S. 12-nautical mile (about 22-kilometer) territorial limit.

**Mitigation:** A measure taken to minimize, avoid, rectify, reduce, or compensate for the severity of an impact.

**Multinational Training:** Training that occurs when U.S. forces train with two or more allied forces.

**Munitions:** Military weapons, ammunition, equipment, and stores.

**Munitions and Explosives of Concern:** These are specific categories of military munitions such as unexploded ordnance, discarded munitions, or munitions constituents that may pose unique explosive safety risks.

**National Ambient Air Quality Standards:** Established by the U.S. Environmental Protection Agency, specific standards were developed for criteria pollutants that represent the maximum levels of pollutant concentrations that are considered safe, with an adequate margin of safety, to protect public health and safety.

**Nautical Mile:** Unit of measure in surface water that follows the earth's circumference. It is slightly longer than a land measured mile.

**National Environmental Policy Act:** 42 United States Code 4321, as amended, passed by Congress in 1969. The Act established a national policy designed to encourage consideration of the influences of human activities, such as population growth, high-density urbanization, or industrial development, on the natural environment. The National Environmental Policy Act procedures require that environmental information be made available to the public and decision-makers before decisions are made. Information contained in National Environmental Policy Act documents must focus on the relevant issues in order to facilitate the decision-making process.

**National Historic Landmark:** These are places that "possess exceptional value or quality in illustrating and interpreting the heritage of the United States" and include battlefields, architectural or engineering masterpieces, ruins, and historic towns and communities.

**National Historic Preservation Act:** The National Historic Preservation Act of 1966, as amended, established a program for the preservation of historic properties throughout the United States.

**Notice of Intent.** An announcement made by an agency, and published in the Federal Register, notifying the public of its intent to prepare statement document such as an environmental impact statement. The notice includes a summary of the proposed action and the lead agency's point of contact.

**Overseas Environmental Impact Statement:** An Overseas Environmental Impact Statement is a National Environmental Policy Act document that is required (per Executive Order 12114) when a proposed action has the potential to significantly harm the environment outside the geographical borders of the U.S. and its territories and possessions.

**Ordnance:** Any item carried by an aircraft for dropping or firing, including but not limited to, live or inert bombs, ammunition, air-to-air missiles, chaff, and flares.

**Peak Sound Level:** This is the instantaneous, maximum value reached by the sound pressure produced by percussive sources such as small- and large-caliber weapons.

**Pelagic:** Relating to, or living in, the sea far from the shore.

**Proposed Action:** A plan that contains appropriate details of what is being proposed to meet the agency's purpose and need. Sufficient details must be presented so that reasonable alternatives are developed and the consequent environmental impacts analyzed (40 Code of Federal Regulations 1508.23).

**Quadrennial Defense Review:** A congressionally mandated description of the national defense strategy updated every four years by the Secretary of the Department of Defense. The review describes force structure goals and modernization plans based on potential military threats.

**Range:** Areas controlled and restricted for firing live ammunition from direct fire or line-of-sight weapons at targets. Typically, a range has a left and right boundary that extends from the firing line forward to just past the last target array. Training ranges are normally reserved and equipped for practice and qualification in targeted weapons delivery and shooting. Typically, a range comprises a control tower/observation post, lanes or pits to the targets, and cleared or graded areas to allow sighting of the target. An automated range is equipped to systematically control the targets, score the target hits, and provide the user a digital, print, or audio/visual after-action report for evaluation purposes.

**Range Complex:** A geographically integrated set of ranges, maneuver areas, and associated special use airspace, designated and equipped with a command and control system and supporting infrastructure for freedom of movement and practice in live-fire and inert ordnance use against scored and/or tactical targets.

**Range and Training Area:** A collective term referring to a group of (1) ranges, (2) training courses and maneuver areas, and (3) surface danger zones, warning areas, restricted airspace, and high hazard impact areas.

**Record of Decision:** After issuance of the Final Environmental Impact Statement/Overseas Environmental Impact Statement and the 30-day waiting period, a Record of Decision will be released. This is a concise public document that records a federal agency's decision(s) concerning a proposed action. The Record of

Decision identifies the alternatives considered in reaching the decision, the environmentally preferable alternative(s), factors balanced by the agency in making the decision, whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why they were not. A formal notice is published in the Federal Register by the U.S. Environmental Protection Agency and advertisements are placed in local newspapers to announce that the Record of Decision was made.

**Relationship of Short-Term Uses and Long-Term Productivity:** The balance or trade-off between short-term uses and long-term productivity of resources need to be defined in relation to the proposed action in question (40 Code of Federal Regulations 1502.16).

**Restricted Area:** A special use airspace unit established over ranges and training areas within which the flight of aircraft, while not wholly prohibited, is subject to constraints. Restricted areas denote the existence of unusual hazards to aircraft, often invisible, such as artillery firing, personnel rocket and missile employment, and air-to-ground munitions operations.

A Restricted Area can also refer to a defined water area for the purpose of prohibiting or limiting public access to the area. Restricted areas generally provide security for government property and/or protection for the public from the risks of damage or injury arising from the government's use of that area.

**Seabees:** Seabees are members of the United States Naval Mobile Construction Battalion. The name Seabee comes from the abbreviation for Construction Battalion, "CB."

**Significance:** Requires consideration of both context and intensity (40 Code of Federal Regulations 1508.27). Context means the significance of an action must be analyzed and its current and proposed short-and long-term effects on the whole of a given resource (e.g.-affected region). Intensity refers to the severity of the effect.

**Scoping:** An early and open process for determining the scope of issues to be addressed in an environmental impact statement and for identifying significant issues related to a proposed action. During scoping, input is solicited from affected agencies as well as the interested public.

**Sound Exposure Level:** This metric accounts for both the maximum sound level and the length of time a sound lasts. Sound Exposure Level does not directly represent the sound level heard at any given time but it provides a measure of the total sound exposure for an entire event averaged over 1 second.

**Submerged Lands:** The area extending from the shoreline, out into the ocean for 3 nautical miles (6 kilometers).

**Surface Danger Zone:** Designated areas associated with land-based, weapons ranges. These zones are three-dimensional and delineate portions of the earth's surface and the air above in which personnel and/or equipment may be endangered by ground weapons firing or detonation activities because of ricochet or fragmentation hazards. The size and configuration of surface danger zones are dependent on the performance characteristics of a given weapons system, training requirements, range configuration, geographical location, and environmental conditions.

**Take:** The Endangered Species Act makes it unlawful for a person to take a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "an act

which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.” Listed plants are not protected from take, although it is illegal to collect or maliciously harm them on federal land. Protection from commercial trade and the effects of federal actions do apply to plants.

**Threatened Species:** According to the Endangered Species Act, a threatened species is one that is likely to become endangered within the foreseeable future throughout all, or a significant portion of its range.

**Traditional/Cultural Resource:** Cultural and traditional resources are any prehistoric or historic district, site or building, structure, or object considered important to a culture, subculture, community, or population for scientific, traditional, religious or other purposes.

**Training:** The process by which someone is taught the particular skills needed for a job. The U.S. military trains their personnel using the “crawl-walk-run” concept. The first phase (crawl) is individual training where each person is trained in particular skills (e.g., weapons shooting, parachuting, driving tanks, and engaging artillery). The second phase (walk) is unit level training and the third phase (run) is combined level training.

**Training, Combined Level:** Training at this advanced level involves multiple units, of either the same or different types. An important aspect of combined level training is the command and control component. Combined level training can include multiple U.S. Services (i.e., Air Force, Army, Marine Corps, or Navy) and units from allied nations conducting integrated training that simulates combat conditions.

**Training, Unit Level:** Training at this level can include an aviation squadron, an infantry company, amphibious and armored vehicle platoons, an artillery battery, or various logistics support detachments (e.g., communications, transportation, landing, maintenance, health services, or military police). Larger than individual training, unit conduct training to achieve their mission essential tasks. For instance, armored vehicles maneuver across a range while engaging targets.

**Unavoidable Adverse Effects:** Effects that cannot be avoided due to constraints in alternatives. These effects do not have to be avoided by the planning agency, but they must be disclosed, discussed, and mitigated, if possible (40 Code of Federal Regulations 1500.2(e)).

**Unconstrained Training Concept:** A 2014 document that developed detailed training concepts for Tinian and Pagan using the 42 unfilled training requirements as a foundation. The unconstrained evaluation determined the optimal training tempo (i.e., the number and frequency of training); identified various scenarios for the layout (or laydown) of ranges, training courses, maneuver areas, impact areas, and safety zones (i.e., training assets) that comprise the two Range Training Areas; and defined the proposed action and alternatives that best met the 42 unfilled training requirements.

**Unexploded Ordnance:** Military munitions that (a) have been primed, fused, armed, or otherwise prepared for action; (b) have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, property, installations, personnel, or material; and (c) remained unexploded either by malfunction, design, or any other cause [10 U.S. Code 101 (e)(5)(A) through (C)].

**Ungulates:** Hoofed mammals.

**Visual Flight Rules:** These apply when the pilot relies entirely on visual clues (e.g., other aircraft, topography, tall objects) when flying. The visibility distance, cloud cover, and pilot experience are all important factors for the regulatory agency to consider when delineating specific three-dimensional airspace on the aeronautical charts.

**Warning Area:** A Warning Area is a special use airspace unit similar to a Restricted Area but is located offshore over domestic and international waters. Warning Areas generally begin 3 nautical miles (6 kilometers) off shore. Warning Areas separate hazardous military activities such as aerial gunnery, bombing, aircraft carrier operations, surface and subsurface operations, naval gunfire, missiles, etc. from non-participating military and civil aircraft. When the Warning Area is activated, the public is restricted from entering.

**Wetland:** Wetlands are defined by Section 404 of the Clean Water Act as: “areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” The Commonwealth of the Northern Mariana Islands Water Quality Standards define wetlands as “waters of the Commonwealth”, and state that all wetlands are subject to the provisions of the standards. Areas described and mapped as wetland communities may also contain small streams, shallow ponds, and lake edges. A *jurisdictional wetland* is a wetland that meets all three U.S. Army Corps of Engineers criterion for jurisdictional status: Appropriate hydrologic regime, hydric soils, and facultative to obligate wetland plant communities under normal growing conditions.