

3.6 AIRSPACE

Section 3.6 describes the current condition of the airspace surrounding the islands of Tinian and Pagan as well as the airspace approaches to Saipan International Airport on the island of Saipan. This information is derived from Appendix I, *Airspace Technical Memo*, which can be referred to for more details on this resource. In the U.S. and its territories, domestic airspace includes airspace overland to 12 nautical miles (22 kilometers) miles from the shoreline. The proposed Special Use Airspace associated with this action would lie entirely within the Oakland Flight Information Region. International airspace begins 12 nautical miles (22 kilometers) from the shoreline and is controlled based on International Civil Aviation Organization regulations. The International Civil Aviation Organization codifies the principles and techniques of international air navigation and fosters the planning and development of international air transportation to ensure safe and orderly growth. The U.S. is one of 191 member states belonging to the International Civil Aviation Organization. They have been delegated as the Air Navigation Service Provider for the airspace associated with the CNMI (Federal Aviation Administration 2014a, *Oakland Oceanic Controlled Airspace/Flight Information Region*). The Range and Training Areas under the proposed action includes both domestic and international airspace. Therefore, the Federal Aviation Administration has both special expertise and jurisdiction by law for both the domestic and international airspace associated with this proposed action.

In accordance with the *Memorandum of Understanding between the Federal Aviation Administration and the Department of Defense Concerning Environmental Review of Special Use Airspace Actions* (Federal Aviation Administration and the Department of Defense 2005), the Federal Aviation Administration is a cooperating agency for this EIS/OEIS to ensure that planning and decision making are conducted efficiently and effectively and without duplication of effort. The Federal Aviation Administration is responsible for evaluating, processing and charting airspace changes. They are represented by the Federal Aviation Administration Western Service Area (Renton, Washington) which provides guidance and control of U.S. territory airspace in the Pacific that includes the CNMI.

The region of influence for the proposed action is the airspace where the U.S. military proposes to operate aircraft and conduct live-fire training, and the airspace associated with the airports in the vicinity of the proposed airspace, to include Saipan. The region of influence includes the airspace associated with the proposed flight and live-fire training, including air-to-ground, sea-to-surface, and ground-based weapons training. The region of influence encompasses:

- The airspace supporting flights to and from Tinian International Airport, Saipan International Airport, and the Pagan airfield.
- Airspace within a 12-nautical mile (22-kilometer) boundary of Tinian's shore (see Chapter 2, *Proposed Action and Alternatives*).
- Airspace (domestic and international) within a 60-nautical mile (111-kilometer) by 80-nautical mile (148-kilometer) area surrounding Pagan (see Chapter 2, *Proposed Action and Alternatives*).
- The portions of the airspace associated with published aviation routes and other organized track system routes.

Other Special Use Airspace in the region would not be expected to have cumulative impacts with the proposed action. Therefore, the analysis does not include the following:

- Air Traffic Control Assigned Airspaces 1, 2 and 5 and Warning Area 517 would not be expected to have a cumulative effect with the proposed action as civilian aircraft needing access to this airspace are en route to and from Guam International Airport from locations south and east of the island. Therefore, Air Traffic Control Assigned Airspaces 1, 2 and 5 and Warning Area 517 are not included in the region of influence.
- Military Training Route Instrument Route 983 is aligned west of Tinian. It begins at a point northwest of Saipan and extends to an end point southwest of Guam. With two exceptions, the route is 8-nautical miles (15-kilometers) wide and extends from the surface to below 10,000 feet (3,048 meters) MSL. A portion of Instrument Route 983 is located approximately 8 nautical miles (15 kilometers) from Tinian. Instrument Route-983 is seldom used and was only scheduled for use four to six times in the past 3 to 4 years (Lt. Burkland W., Navy, June 2014). Due to the low usage, cumulative impacts resulting from use of Instrument Route 983 are dismissed from detailed analysis.

3.6.1 Definition

Airspace is a three-dimensional (i.e., latitude, longitude, and altitude) resource that is managed and controlled in the U.S. and its territories by the Federal Aviation Administration. The management of airspace and air traffic control consists of the direction, control, and coordination of flight operations in the “navigable airspace.” Navigable airspace consists of airspace above the minimum altitudes of flight prescribed by regulations under U.S. Code Title 49, Subtitle VII, Part A. It includes the airspace needed to ensure safety of flight, including airspace needed for aircraft departures and arrivals (49 U.S. Code § 40102), the airspace needed for military training, and other special uses. The Federal Aviation Administration considers how navigable airspace is designated, used, and administered to best accommodate the individual and common needs of military, commercial, and general aviation. The management and use of airspace is important for many reasons including economic, transportation, recreation, and national defense.

The terminology and classification system used to characterize airspace is complex, but the following are key concepts required to understand the resource because they contain the basic set of rules used by aircraft operators flying in the region of influence (Federal Aviation Administration 2014b).

- **Above Ground Level:** Altitude expressed in feet measured above the ground surface.
- **Mean Sea Level:** Altitude expressed in feet measured above average (mean) sea level.
- **Visual Flight Rules:** A standard set of rules that all pilots, both civilian and military, must follow when not operating under instrument flight rules and in visual meteorological (weather) conditions. These rules require that pilots remain clear of clouds and avoid other aircraft.
- **Instrument Flight Rules:** A standard set of rules that all pilots, civilian and military, must follow when operating under flight conditions that are more stringent than visual flight rules. These conditions include operating an aircraft in clouds, operating above certain altitudes prescribed by Federal Aviation Administration regulations, and operating in some locations such as major civilian airports. Air traffic control agencies ensure separation of all aircraft operating under instrument flight rules.

There are two categories of airspace: regulatory (rulemaking) and other than regulatory (non-rulemaking). Regulatory airspace includes six airspace classifications, namely A, B, C, D, E, [no F], and G, and two types of Special Use Airspace: prohibited areas and restricted areas. Instances where the Federal Aviation Administration would establish new restricted areas are rulemaking actions because they require change to an existing Federal Aviation Administration regulation. Title 14 of the Code of Federal Regulations (14 CFR), Aeronautics and Space, contains rules issued by the FAA governing all civil aviation in the United States.

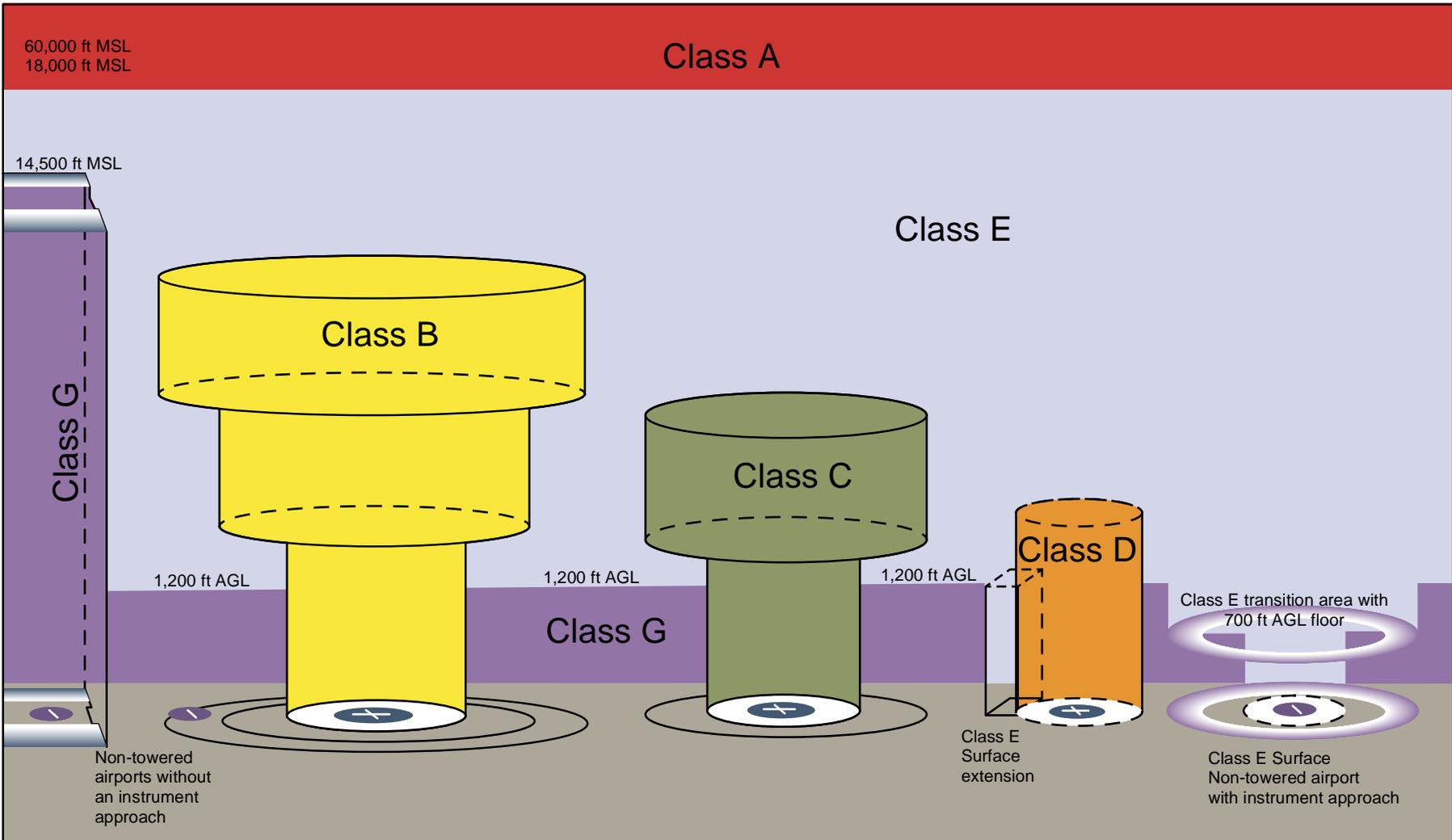
Classes A, B, C, D and E are controlled airspace, within which all aircraft operators are subject to certain pilot qualifications, operating rules and equipment requirements identified in 14 CFR Part 91, *General Operating and Flight Rules*. [Figure 3.6-1](#) is a conceptual representation of the controlled classes relative to each other. It shows the maximum altitude of the various classes. Each class has specific navigational requirements that must be met for a pilot to enter safely. See Appendix I, *Airspace Technical Memo*, for a summary of these requirements by class. Class G is airspace that is not A, B, C, D, or E and is described as uncontrolled airspace.

Non-regulatory airspace includes five types of Special Use Airspace: (1) military operations areas, (2) warning areas, (3) alert areas, (4) controlled firing areas, and (5) national security areas. Military operations areas and warning areas are established through the Federal Aviation Administration as non-rule making actions.

Special use airspace is airspace with defined dimensions where activities must be confined because of their nature, or where limitations may be imposed on aircraft operations that are not a part of those activities ([Figure 3.6-2](#)).

Types of Special Use Airspace needed for military training activities and relevant to this EIS/OEIS are described below. (See Appendix I, *Airspace Technical Memo*, for the legal definition for each airspace type as contained in Federal Aviation Order 7400.2J).

- **Restricted areas** are airspace established under 14 CFR part 73 provisions, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Airspace designated as a restricted area denotes the existence of unusual, often invisible, hazards to aircraft such as artillery firing, aerial gunnery, or guided missiles. Entering a restricted area without authorization from the using or controlling agency may be extremely hazardous to the aircraft and its occupants. Restricted areas are published in the Federal Register and constitute 14 CFR Part 73.
- **Military operations area** is airspace below 18,000 feet (5,486 meters) MSL that separates military activities from instrument flight rule traffic. It also informs pilots flying under visual flight rules of where these activities are conducted.
- **Warning areas** are areas of defined dimensions extending from 3 nautical miles (6 kilometers) outward from the coast of the U.S. and extend outward over international waters. Warning areas are designated to contain activity that may be hazardous to nonparticipating aircraft. These areas may be considered for joint use with commercial aircraft if: (1) control can be shifted to the Federal Aviation Administration during times when it is not required for military use, and (2) they are located in airspace under civilian air traffic control authority.



Notes: MSL - Mean Sea Level
AGL - Above Ground Level
ft - feet

Saipan International Airport is located within Class D airspace and extended by Class E airspace.

Tinian International Airport is located within Class G airspace with a restricted area floor that extends into their Class E airspace.

Pagan Airfield is located within Class G airspace.

Figure 3.6-1
Cross Section of Airspace Classes and Relationships

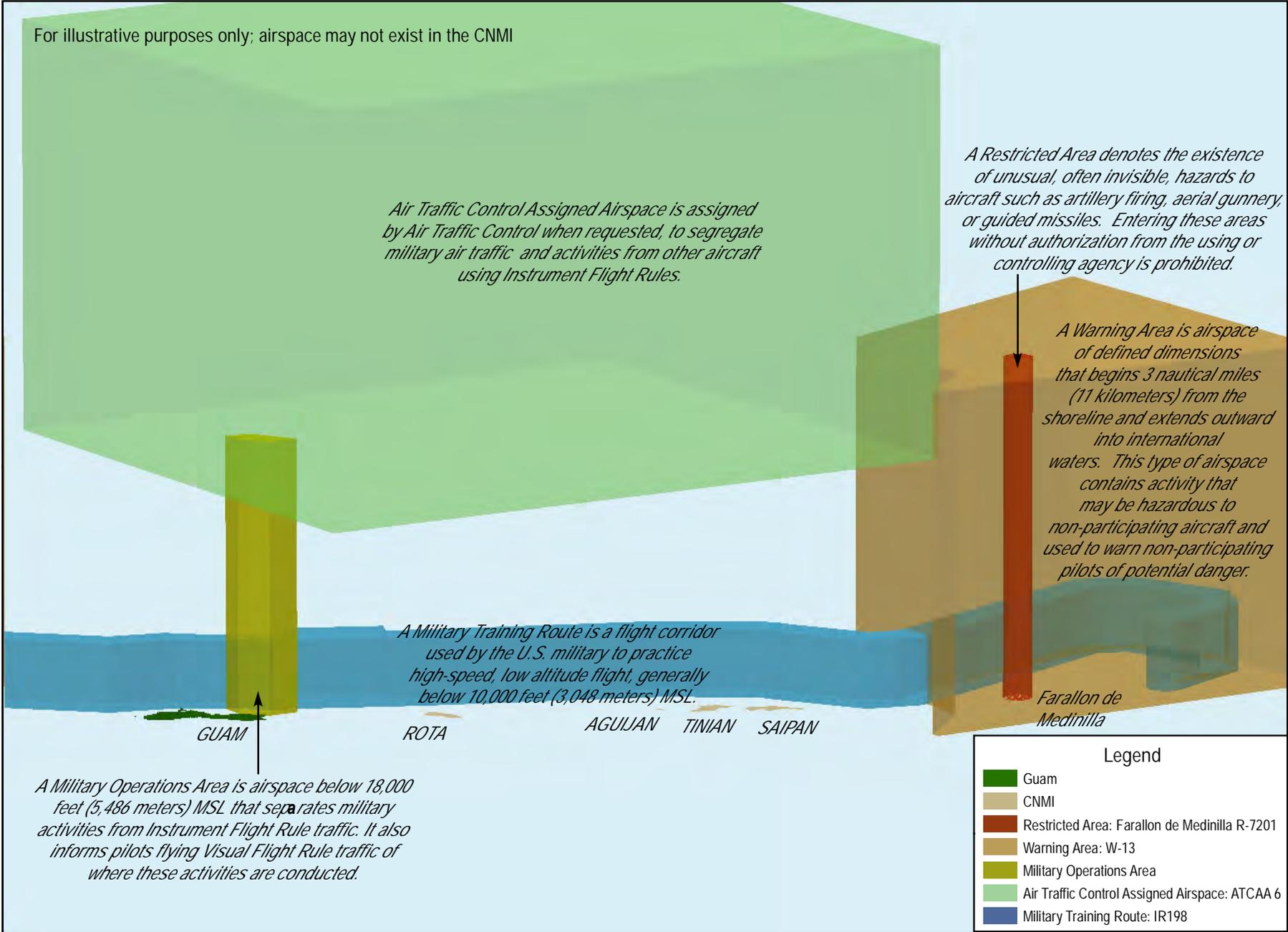


Figure 3.6-2
Special Use and Other Airspace Designated for Military Use



Air Traffic Control Assigned Airspace is not considered Special Use Airspace but is used to extend the vertical limits of Special Use Airspace. Air Traffic Control Assigned Airspace has defined vertical and lateral limits, and is assigned by the Air Traffic Control facility responsible for the airspace to provide air traffic separation between the specified activities being conducted within the assigned airspace and other air traffic flying under instrument flight rules. Air Traffic Control Assigned Airspace is established through Letters of Agreement between the Department of Defense and Federal Aviation Administration.

Other airspace such as Classes A, B, C, D, E and Air Traffic Control Assigned Airspace are also needed to support Department of Defense military operations. Definitions for each of these classes of airspace can be found in Appendix I, *Airspace Technical Memo*.

Aeronautical charts also show aviation routes used by aircraft transiting between destinations. Airways are scheduled for use during flight planning and managed by an Air Route Traffic Control Center to ensure aircraft are safely separated from each other while en route to and from their destinations. The federal airway system allows the Federal Aviation Administration to effectively manage the airspace and ensure the safety of all users of the airspace. Additionally, aeronautical charts show airspace obstructions (e.g., communication towers and antennae). The obstructions often require lighting to ensure flight safety of aircraft operating at lower altitudes. In addition to aeronautical charts, there are published standardized procedures used to control aircraft arrivals and departures for many public airports. Air traffic controllers use the standardized procedures to ensure the flight safety of arrivals and departures to the runways. For example, during inclement weather conditions, pilots rely on instruments within their aircraft and navigational aids to land their aircraft safely based on instructions provided by the local air traffic control facility. These approach and departure procedures prescribe the correct altitudes and headings to be flown and procedures for missed approach, as well as obstacles, terrain, and potentially conflicting airspace. Appendix I, *Airspace Technical Memo*, contains detailed information regarding the published approaches for Tinian and Saipan International Airports.

3.6.2 Regulatory Framework

The International Civil Aviation Organization is responsible for codifying the principles and techniques of international air navigation and fostering the planning and development of international air transportation to ensure safe and orderly growth. In accordance with Executive Order 10854, Extension of the Application of the Federal Aviation Act of 1958, both rulemaking and non-rulemaking actions that encompass airspace outside of the U.S. sovereign airspace (e.g., beyond 12 nautical miles [22 kilometers] from the U.S. coast line) require coordination with the Department of Defense and Department of State. All Executive Order 10854 coordination must be conducted at the Federal Aviation Administration headquarters level by the Airspace Regulations and Air Traffic Control Procedures Group (Federal Aviation Administration 2014c, Section 2). The Federal Aviation Administration's Western Service Area has jurisdiction for international airspace associated with this proposed action and is responsible for obtaining airspace coordination with the International Civil Aviation Organization for this proposed action.

The Federal Aviation Administration has the overall responsibility for matters involving the use of navigable airspace and handles airspace matters in accordance with Federal Aviation Administration Order JO 7400.2K, *Procedures for Handling Airspace Matters* (Federal Aviation Administration 2014c). The Federal Aviation Administration has the same requirements under NEPA as the U.S. military (Federal

Aviation Administration Order 1050.1E, *Environmental Impacts: Policies and Procedures*) (Federal Aviation Administration 2006a) and Federal Aviation Administration Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (Federal Aviation Administration 2006b). To meet their NEPA requirements, the Federal Aviation Administration may adopt the EIS/OEIS prepared by the Department of Defense provided they independently evaluate the information in the document and take full responsibility for the scope and content that addresses Federal Aviation Administration actions. Federal Aviation Administration headquarters has the final approval authority for all permanent and temporary Special Use Airspace except controlled firing areas and must issue its own Record of Decision (Federal Aviation Administration Order 1050.1E, paragraphs 404d and 518h).

The Federal Aviation Administration controls airspace through policies and procedures designed to ensure safe and efficient use of the airspace by all users. Like the highway system and traffic laws, Federal Aviation Administration and International Civil Aviation Organization rules govern the Airspace System and regulations to establish how and where aircraft may fly. Collectively, the Federal Aviation Administration uses these rules and regulations to make airspace use as safe, effective, and compatible as possible for all types of aircraft, from private propeller-driven planes to large, high-speed commercial and military jets.

The U.S. military requests airspace from the Federal Aviation Administration and schedules and uses airspace in accordance with the processes and procedures detailed in Department of Defense Directive 5030.19, *DoD Responsibilities on Federal Aviation*, and Federal Aviation Administration regulations (DoN 2013a). When new airspace is needed to support military training, the U.S. military works closely with the Federal Aviation Administration to ensure the needs of all users of the airspace are met.

3.6.3 Methodology

Information used to characterize the existing environment was obtained from current and in-progress environmental analyses, data from the Federal Aviation Administration, commercial and other civilian aircraft traffic data, local airport reported data, existing military usage, and responsibilities and procedures for utilization of existing Special Use Airspace and Air Traffic Control Assigned Airspace. Additional detailed information is included in Appendix I, *Airspace Technical Memo*. Information regarding obstructions with the potential of interfering with flight safety during military training activity was also identified.

3.6.4 Tinian

The airspace surrounding Tinian is within the Federal Aviation Administration's Guam Combined Center/Radar Approach Control Flight Information Region. Radar services are provided to high altitude aircraft operating on instrument flight rule plans en route to, transiting through, and arriving at or departing from the airports within its service area. For Tinian, air traffic control services are provided at altitudes above 3,500 feet (1,100 meters) MSL by Guam Combined Radar/Approach Control. Air traffic services for aircraft en route to and from Saipan International Airport and below 3,500 feet (1,100 meters) are provided by Saipan Air Traffic Control. Air traffic control services are not available below 2,000 feet MSL (610 meters) for aircraft arriving and departing Tinian International Airport. All three airfields (Tinian International Airport, North Field, and Saipan International Airport) require access to the

airspace within 12 nautical miles (22 kilometers) of Tinian for approaches and departures. Tinian International Airport and Saipan International Airport are used by commercial, private and military aircraft. North Field is used exclusively by the military (see [Figure 3.6-2](#)). There are no published approaches to North Field.

3.6.4.1 Tinian International Airport

Tinian International Airport has one runway that supports departures and arrivals in two directions; east (Runway 08) and west (Runway 26). Approximately 85% of arrivals and departures to Tinian International Airport come from the west and head to the east while only 15% comes from the east and heads to the west (Natasha Morgan, Tinian International Airport, personal communication, January 2014).

Tinian International Airport is equipped with a navigational light system that includes runway edge lights and runway end identifier lights. Additionally the airport has a Precision Approach Path Indicator with lights visible from about 5 nautical miles (9.26 kilometers) during the day and up to 20 nautical miles (37.04 kilometers) at night. There are no additional navigational aids, air traffic control towers, or air traffic control services. Aircraft arrivals and departures use visual flight rules and occur on a first come, first serve basis with pilots notifying each other of their intentions via the common traffic advisory frequency. The Guam Combined Center/Radar Approach Control provides air traffic control services for military flights en route to and from the Tinian International Airport beginning and ending at 3,500 feet (1,066 meters) MSL above Tinian. There are three published approaches to Tinian International Airport (Skyvector 2013): Tinian Area Navigation Global Position System, Tinian Area Navigation, and Tinian Non-Directional Beacon. For a detailed description of these approaches refer to Appendix I, *Airspace Technical Memo*.

Flights between Saipan and Tinian take place within the Saipan/Tinian Class E airspace and generally remain under 3,000 feet (914 meters) MSL. Charter flights which comprise 99% of Tinian International Airport operations fly using visual flight rules on a route similar to the commuter route depicted in [Figure 3.6-3](#). It is the primary flight path for aircraft transiting between Saipan and Tinian (also see [Section 3.6.4.5, Commercial Aviation Routes](#)).

There are currently no scheduled flights into or out of the Tinian International Airport, and no commercial airlines offer international flights directly to Tinian. Flight operations generally consist of private aircraft, unscheduled charter flights available through Star Marianas, and military aircraft. The use of the Tinian International Airport by military aircraft requires prior coordination and approval with the CNMI Commonwealth Ports Authority and the Federal Aviation Administration (DoN 2013b).

As shown in [Figure 3.6-4](#), there were 49,116 operations reported by Tinian International Airport in 2013. An operation is counted each time an aircraft lands or departs a runway. Operations are reported based on 365 flying days each year. This results in an approximately 134 operations on an average annual day (67 departures and 67 arrivals).

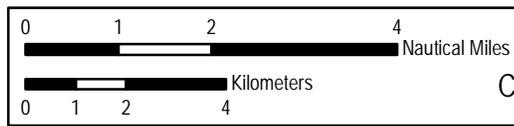
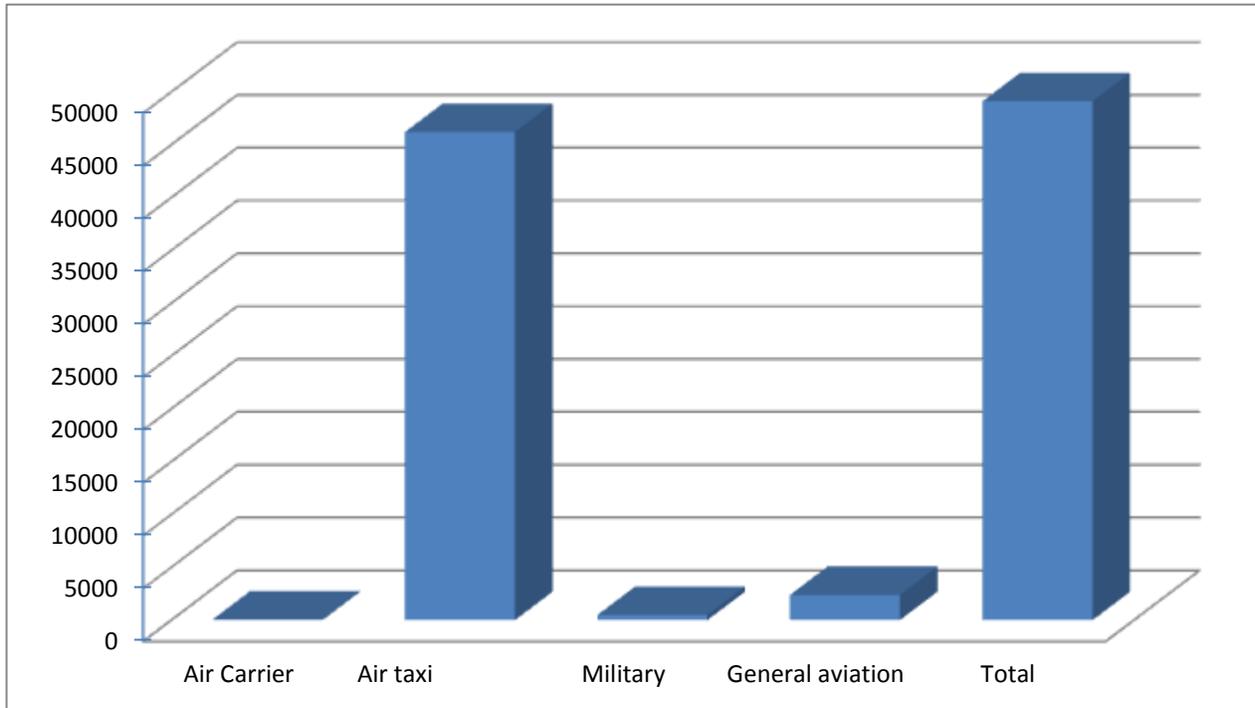


Figure 3.6-3
 Commuter Flight Routes





Source: Federal Aviation Administration 2013.

Figure 3.6-4 Annual Airport Operations at Tinian International Airport

3.6.4.2 Tinian North Field

Tinian North Field lies within the northern portion of the Military Lease Area and beneath Saipan International Airport's Class E airspace and approach corridors to Runway 07.

Approaches, departures, and training operations at North Field are within Saipan International Airport's Class E airspace and managed by Saipan Air Traffic Control. Military aircraft operating at North Field are required to maintain radio communication with Saipan Air Traffic Control.

Military fixed wing and helicopter training activities include airlift of personnel and cargo drops into the Military Lease Area and North Field approximately 100 times per year (DoN 2013c). Helicopters operating over Lake Hagoi typically are required to maintain a minimum altitude of 1,000 feet (305 meters) above ground level during training exercises. Helicopter overflights are also restricted over the Mahalang ephemeral ponds and the Bateha sites (DoN 2013b).

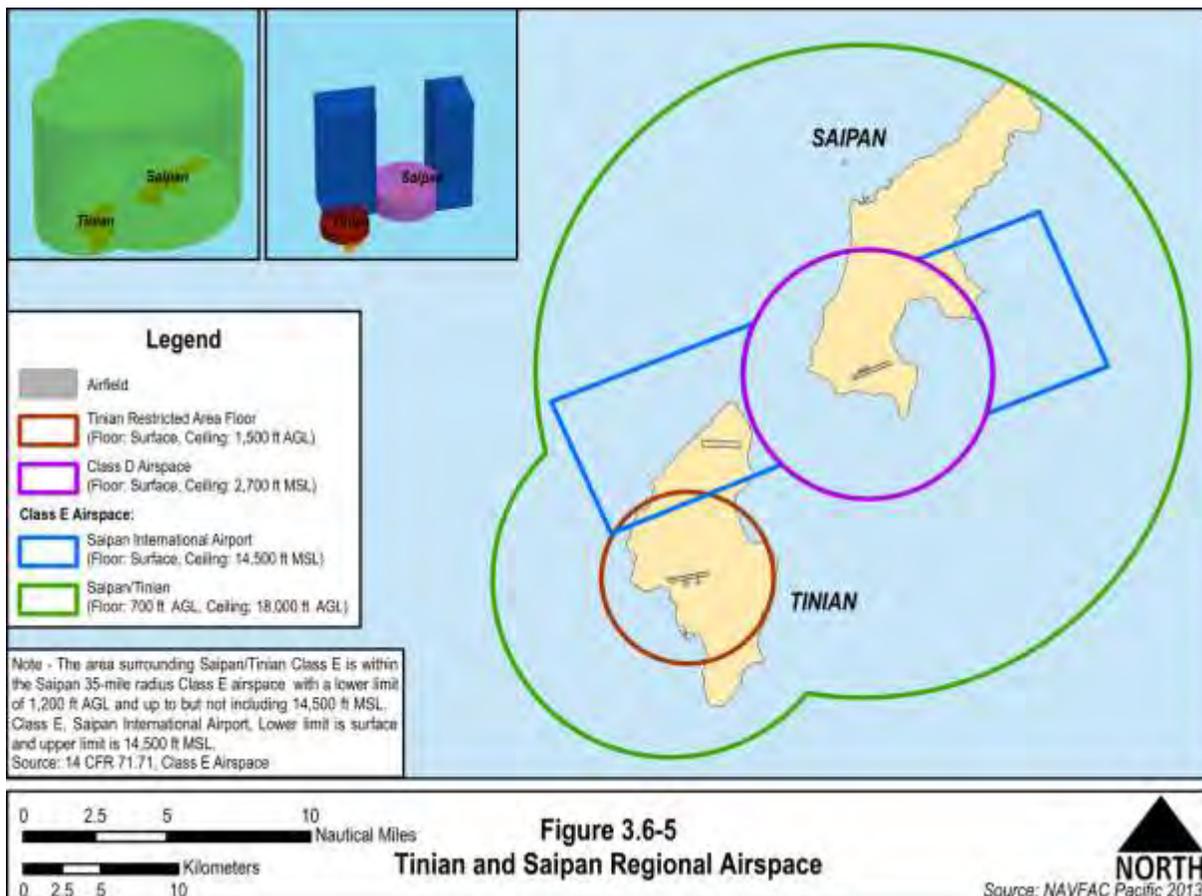
3.6.4.3 Saipan International Airport

The Saipan International Airport has one runway that supports departures and arrivals in two directions, northeast (Runway 07) and southwest (Runway 25). A departure on Runway 07 would be heading northeast with a compass heading of 070 and a departure on Runway 25 would be heading southwest with a compass heading of 250. Arrivals to Runway 07 would be approaching from the southwest and arrivals to Runway 25 would be approaching from the northeast. Approximately 85% of arrivals and departures to Saipan International Airport come from the west and head east while only 15% comes from the east and heads to the west (Air Force 2012).

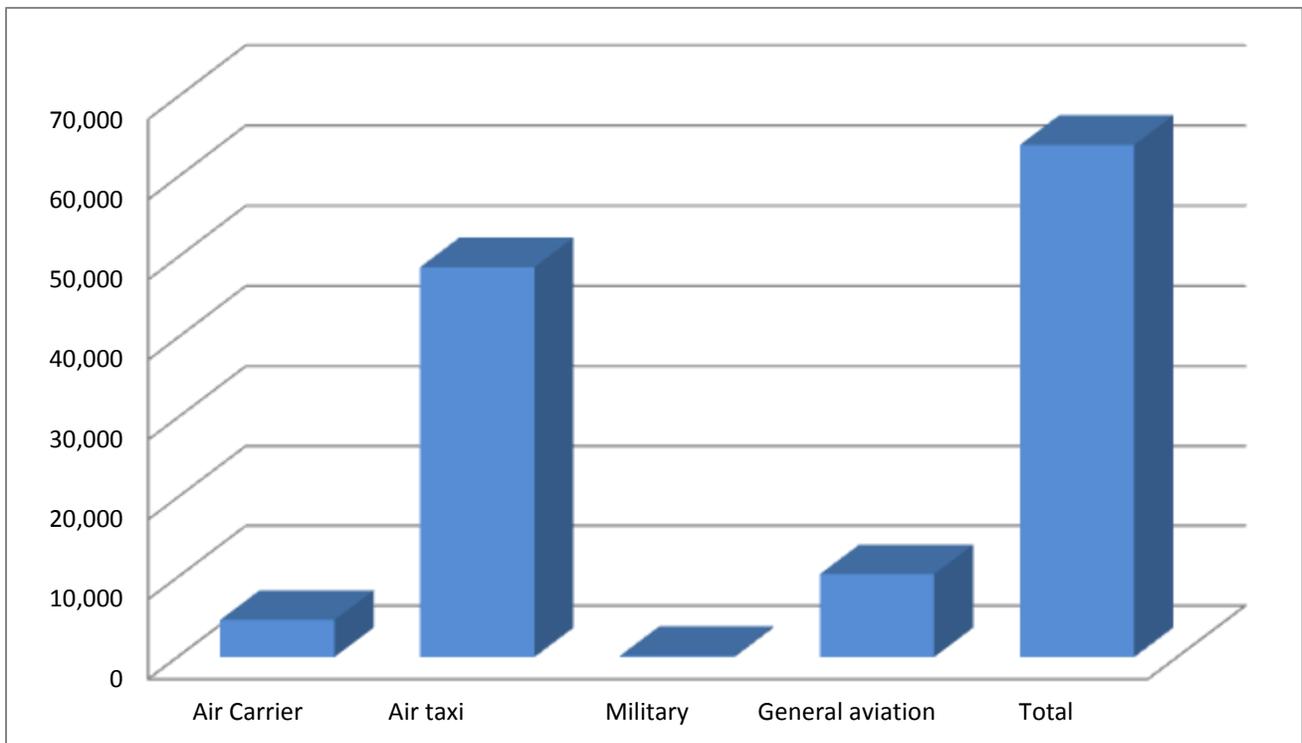
Saipan International Airport lies within the Guam Combined Center/Radar Approach Control. The Combined Center/Radar Approach Control is responsible for air traffic control of aircraft operations outside of the airport's Class D and E airspace. Saipan Air Traffic Control is responsible for the separation and movement of aircraft within their Class D and E airspace (Figure 3.6-5). The Class D airspace encompasses a 4.3-mile (6.9-kilometer) radius and stretches from the surface to 2,700 feet (823 meters) above ground level. Class E airspace extends the Class D to 7.4 miles (11.9 kilometers) west of Saipan and 6.5 miles (10.5 kilometers) east of Saipan. Prior to entering this Class D and E airspace, all pilots are required to establish and maintain radio communications with Saipan Air Traffic Control.

Saipan International Airport has two navigational aids, a non-directional beacon, and an instrument landing system. There are no obstructions identified for air traffic using Saipan International Airport. However, as a noise abatement procedure pilots are required to climb straight out until they reach an altitude of 1,600 feet (488 meters) before they are permitted to turn. Refer to Appendix I, *Airspace Technical Memo*, for a detailed description of the following procedures for Saipan International Airport:

- Saipan Instrument Landing System or Localizer /Distance Measuring Equipment Runway 07
- Saipan Non-directional Beacon /Distance Measuring Equipment Runway 07
- Saipan Non-directional Beacon/Distance Measuring Equipment Runway 25



Saipan International Airport provides services for seven major airlines (Asiana, China Eastern, Delta, Fly Guam, Shanghai, Sichuan, KLM, and United/Cape Air) and the Star Marianas charter/air taxi service. Major airlines have scheduled direct flights to Saipan from Guam, Korea, Japan, China, and Hong Kong. Star Marianas offers on-demand chartered air taxi service from Saipan to Tinian and Rota using single- and twin-engine aircraft. Between March 31, 2012 and March 31, 2013, there were 64,028 operations reported for Saipan International Airport (Figure 3.6-6). The airport is open 365 days per year generating approximately 176 operations (88 arrivals and 88 departures) on an average annual day. There are approximately nine scheduled daily international flights. Major airlines scheduled arrivals occur between the hours of 1:00 a.m. and 9:00 a.m. local time with the majority arriving before 5:00 a.m. Departures occur between the hours of 2:00 a.m. and 6:00 p.m. with approximately half occurring before 6:00 a.m. (FlightStats 2014). Saipan International Airport is designated as the commercial aviation divert airfield location for eastbound flights originating in western Asia and for all flights in-bound to Guam in the event that they cannot land at their original scheduled destination.



Source: Federal Aviation Administration 2013.

Figure 3.6-6 Annual Operations at Saipan International Airport

3.6.4.4 Airspace Designated for Military Use

[Figure 3.6-7](#) illustrates the regional airspace currently available for military training.

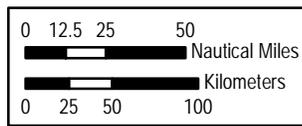
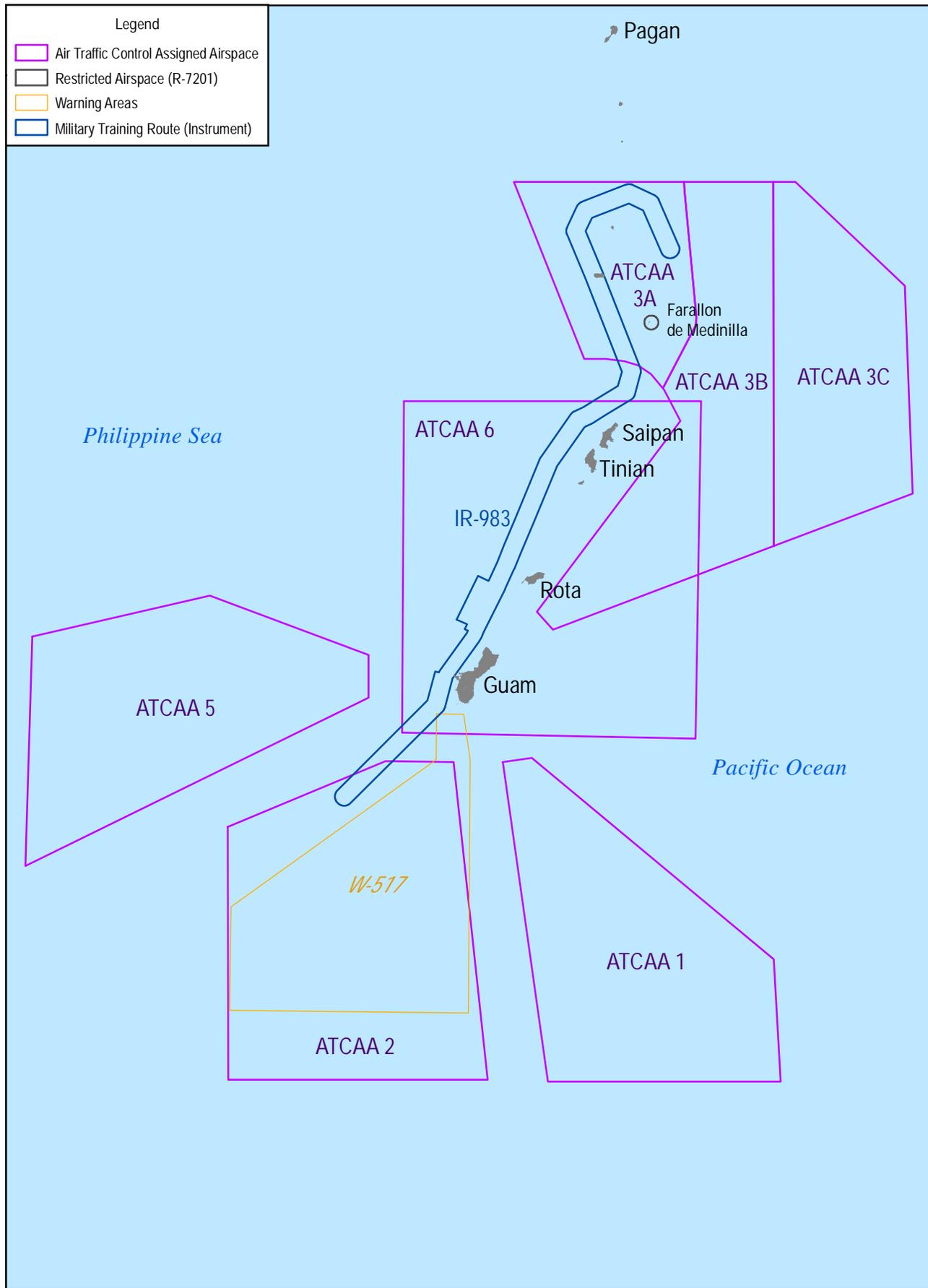


Figure 3.6-7
 Existing Mariana Islands Airspace
 Designated for Military Use



Joint Region Marianas is designated as the scheduling and using agency for Restricted Area 7201 (Farallon de Medinilla). They are also responsible for coordinating use of Air Traffic Control Assigned Airspaces 3A, 3B, 3C, and 6 with the Federal Aviation Administration. The Guam Combined Center/Radar Approach Control is designated the controlling agency (DoN 2013b).

Air Traffic Control Assigned Airspace 6 lies directly over Tinian and Saipan and has a floor of 39,000 feet (11,877 meters) MSL and a ceiling of 41,000 feet (12,497 meters) MSL. Air Traffic Control Assigned Airspace 3A/B/C lies within 30 nautical miles (56 kilometers) of Tinian with a floor at the surface and a ceiling of 30,000 feet (9,144 meters) MSL. Use of Air Traffic Control Assigned Airspace requires at least one aircraft to continuously monitor the appropriate Guam Combined Center/Radar Approach Control frequency for immediate recall of the altitude/airspace as needed (DoN 2013c). Joint Region Marianas is the DoN-led command that provides scheduling and control of activities within the Air Traffic Control Assigned Airspace. The Federal Aviation Administration issues a Notice to Airmen at least 72 hours prior to military activity in the Air Traffic Control Assigned Airspace 3 A/B/C. [Table 3.6-1](#) presents current use of Air Traffic Control Assigned Airspace in the region of influence.

Table 3.6-1. Current Use of Air Traffic Control Assigned Airspace

<i>Airspace</i>	<i>Annual # of Days</i>	<i>Annual Hours Used</i>
ATCAA 3A	160	1,440
ATCAA 3B	157	1,417
ATCAA 3C	111	1,109
ATCAA 6	61	381

Source: DoN 2011, Table 3-2. ATCAA = Air Traffic Control Assigned Airspace.

Restricted Area 7201 is located within 50 nautical miles (93 kilometers) of Tinian and is activated by a Notice to Airmen. Altitude limits span from the surface to infinity. This restricted area (7201) is located within Air Traffic Control Assigned Airspace 3A and would not directly interact with the proposed airspace. Additionally, the Federal Aviation Administration completed a feasibility assessment in 2011 and found that activation of Restricted Area 7201 would not conflict with any air traffic service routes (DoN 2013c). Therefore, Restricted Area 7201 is dismissed from further analysis in Chapter 4. Detailed information on Restricted Area 7201 is located in the *Mariana Islands Range Complex Airspace EA/OEA* (DoN 2013c), which is hereby incorporated by reference.

3.6.4.5 Commercial Aviation Routes

There is no published commercial route for aircraft transitioning between Tinian and Saipan International Airports. As shown in [Figure 3.6-3](#), commuter and private flights to and from Saipan and Tinian International Airports fly the shortest route possible and limit time over water to the extent practicable. The current route takes those flights directly over the Military Lease Area. Although not published, it is the primary flight route for aircraft transiting between Saipan and Tinian. [Figure 3.6-4](#) presents the annual air taxi and general aviation operations that would be expected to use this flight route.

As shown in [Figure 3.6-8](#) several commercial routes lie within close proximity of Tinian. Additional routes that traverse the Pacific are not charted but are based on the Federal Aviation Administration's Pacific Organized Track System to provide fuel-efficient routes for long-distance, transpacific flights. These routes are currently adjusted every 12 hours in response to upper-level wind conditions and adjustments necessary to route around active airspace would not be expected to impact these commercial routes.

The Federal Aviation Administration completed an air traffic analysis over a 7-day period from September 16 to 22, 2012, for instrument flight rules traffic within the Guam Combined Center/Radar Approach Control airspace that included operations within the vicinity of Air Traffic Control Assigned Airspace 3A, 3B, and 3C. The study identified a total of 62 commercial tracks that occurred on or parallel to aviation route G205 along the far western edge or northwest corner of Air Traffic Control Assigned Airspace 3A, and a total of 28 tracks that occurred within Air Traffic Control Assigned Areas 3B and 3C, eight of which occurred between 10:00 p.m. and 2:00 a.m. local time (DoN 2013c).

3.6.4.6 Airspace Obstructions

The International Broadcasting Bureau facility (Photo 3.6-1) is located on Tinian, on the western side of the Military Lease Area. The facility has an antenna array that includes five high/low band pairs of antennas, one mid band antenna, and two low band antennas for a total of 13 curtain antennae. Each antenna comprises two vertical steel towers between 150 and 400 feet (46 to 122 meters) tall with a curtain of horizontal and vertical cables hung between the towers of the same height (DoN 2010). All aircraft need to avoid these obstacles to prevent collision. Additionally, aircraft equipped with flight control or mission-critical electronic systems are vulnerable to the electromagnetic emissions from the relay station and are advised to avoid potential interference with aircraft control.



**Photo 3.6-1. International Broadcasting Bureau
Antenna Array**

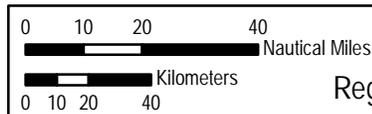
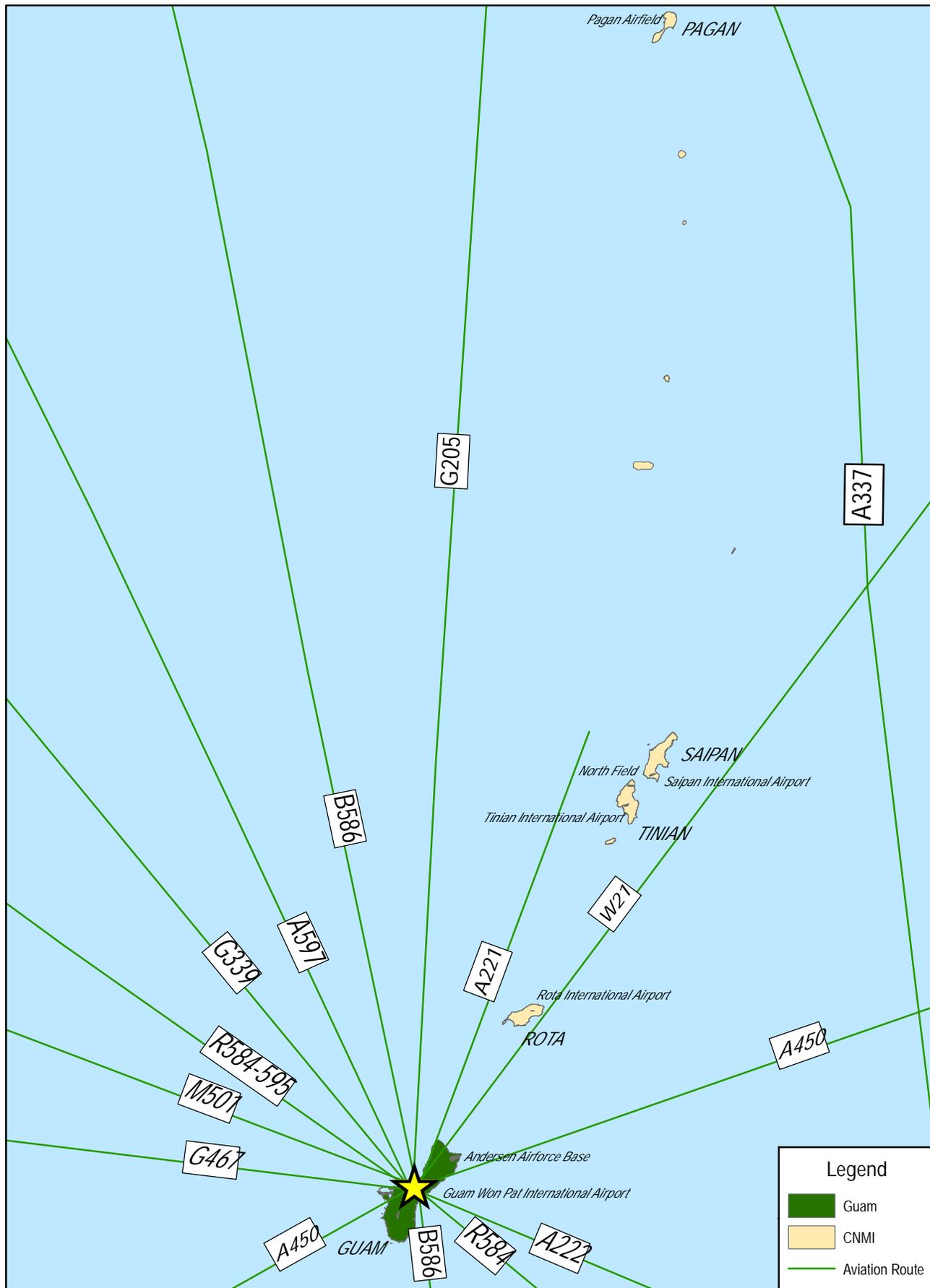


Figure 3.6-8
 Regional Airports and Commercial Aviation Routes

Legend

- Guam
- CNMI
- Aviation Route



3.6.5 Pagan

Several elements within the Pagan region of influence are discussed to describe the current use of the airspace being proposed for military use.

The Pagan airfield is a 1,500 foot (300 meter) grass runway (Runway 11/29) considered closed indefinitely by Federal Aviation Administration as a result of volcanic activity in 1981. See Section 3.13.5.1, *Air Transportation*, for additional discussion of the Pagan airfield. The Pagan airfield is located within Class G airspace with no air traffic control services available for aircraft using the Pagan airfield. All aircraft must fly using visual flight rules. The closest airport with instrument approaches is the Saipan International Airport, about 180 nautical miles (333 kilometers) to the south. Pagan airfield is considered the lifeline for homesteaders on other northern islands of the CNMI and limited charter and general aviation operations occur for visitors to the island. Recently, passengers traveling to Pagan have been primarily federal and local government officials, including personnel from the U.S. Fish and Wildlife Service, the U.S. Geological Survey, the U.S. military, the Northern Islands Mayor's Office, and other local government agencies. The most current record of operations was found in the 2008 Pagan Airstrip Master Plan (Commonwealth Ports Authority 2008). It reported 10 to 24 annual operations from 2004 to 2007 by chartered helicopter (Bell 206) and fixed-wing aircraft (Cessna) (see also Appendix O, *Transportation Study*). Most of the flights, whether by helicopter or fixed-wing aircraft, have carried the maximum load of four passengers and the pilot (Commonwealth Ports Authority 2008).

The airspace surrounding Pagan is within the Federal Aviation Administration's Seattle Flight Information Region. The Oakland Air Route Traffic Control Center provides radar services to high-altitude aircraft operating on instrument flight rules flight plans and is responsible for controlling aircraft en route to, transiting within, and arriving at or departing from the airports within its service area.

3.6.5.1 Airspace Designated for Military Use

The closest military use airspace to Pagan is Air Traffic Control Assigned Airspace 3A. Its northern border lies approximately 60 nautical miles (111 kilometers) south of Pagan (see Appendix I, *Airspace Technical Memo*).

3.6.5.2 Aviation Routes

There are two published transpacific aviation routes located within 60 nautical miles (111 kilometers) of Pagan (see [Figure 3.6-8](#)) that are scheduled for use during flight planning. Their use is controlled by the Federal Aviation Administration to ensure aircraft are safely separated from each other while en route to and from their destinations. Aircraft typically fly at altitudes at or above 30,000 feet (9,144 meters). A337 lies about 23 nautical miles (43 kilometers) to the east and G205 is located approximately 40 nautical miles (74 kilometers) to the west. Operations on these aviation routes and in the vicinity of Pagan are within the Federal Aviation Administration's Western Service Area's Oakland Flight Information Region and controlled by the Seattle Air Route Traffic Control Center. Aircraft originating from the south and using these routes would transition from the Guam Combined Center/Radar Approach Control area to the Oakland Oceanic Control Area and then to the Fukuoka Oceanic Control area at a point north of the proposed Warning Area 14. Aircraft originating from the north transition in the opposite direction. The Federal Aviation Administration-completed air traffic analysis included

operations along aviation routes G205 and A337 for a 7-day period in September 2012. The analysis found a total of 62 commercial tracks occurred on or parallel to aviation route G205 and 10 civilian/commercial tracks on or parallel to route A337 (DoN 2013c).

3.6.5.3 Airspace Obstructions

There are no published obstructions to airspace on Pagan; however, the Federal Aviation Administration could publish temporary flight restrictions as a result of volcanic activity on the island. Temporary flight restrictions are published through the Notices to Airmen process.