CHAPTER 7. AIRSPACE

7.1 AFFECTED ENVIRONMENT

7.1.1 Definition of Resource

Airspace management is defined as directing, controlling, and handling flight operations in the volume of air that overlies the geopolitical borders of the United States (U.S.) and its territories. In the U.S. and its territories, airspace is a resource that is managed by the Federal Aviation Administration (FAA). The FAA has established policies, designations, and flight rules to protect aircraft. The FAA has overall responsibility to manage and control this airspace, including that used by commercial, civil, and military aircraft. To ensure safe and efficient airspace use, the FAA defines the types of airspace and the nature of activities that each type can accommodate. The FAA Western Service Area (Renton, Washington) provides guidance and control of U.S. territory airspace in the Pacific that includes Tinian and Saipan airspace. Saipan Air Traffic Control (ATC) manages airspace for both Saipan and Tinian airports. The practices used to manage airspace consider how the airspace is designated, used, and administered to best accommodate the individual and common needs of the military, commercial organizations, and private aviation enthusiasts. Because of these multiple and sometimes competing demands, the FAA considers all aviation airspace requirements in relation to airport operations, federal airways (FAA air routes approved for use at different altitudes and provided on aeronautical charts available for pilots), jet routes, military flight training activities, and other special needs to determine how the National Airspace System can best be structured to satisfy all user requirements.

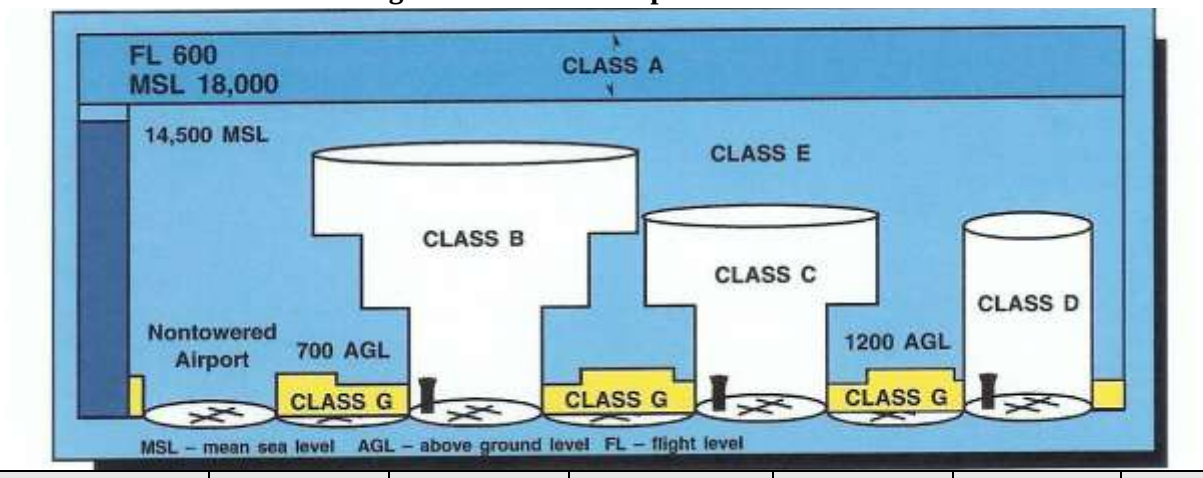
The types of airspace designated by the FAA are identified below (Figure 7.1-1). Saipan International Airport is currently surrounded by Class D and Class E airspace. The FAA is making changes effective May 7, 2009 to the airspace surrounding Saipan International Airport and Tinian Airport (West Field). In accordance with FAA Order 7400.9S, Class D airspace would surround Saipan International Airport and Class E airspace would become Northern Mariana Islands Class E airspace.

7.1.2 Tinian

7.1.2.1 North

The military currently conducts training in the Military Lease Area (MLA) in the form of airlift of personnel and cargo to maneuver areas. Training also includes providing various support functions to forces already on the ground, such as cargo delivery, firefighting, and search-and-rescue. An important feature of the Exclusive Military Use Area (EMUA) is North Field, a large abandoned World War II-era airfield that is still usable as a contingency landing field and supports fixed-wing and helicopter training activities. North Field's four runways, taxiways, and parking aprons provide various tactical scenarios without interfering with commercial and community activities south of the MLA. The remote area is suitable for a variety of aviation support training. Use of North Field by military aircraft also reduces or eliminates the need to share use of Tinian Airport (West Field) with commercial flight activity. There would be no impacts to existing International Broadcasting Bureau (IBB) towers or interference with FAA activities in this area.

Figure 7.1-1. FAA Airspace Classifications



Airspace Features	*Class A*	*Class B*	*Class C*	*Class D*	*Class E*	*Class G*
Former Airspace Equivalent	Positive Control Area	Terminal Control Area	Airport Radar Service Area	Airport Traffic Area and Control Zone	General Controlled Airspace	Uncontrolled Airspace
Operations Permitted	IFR	IFR and VFR	IFR and VFR	IFR and VFR	IFR and VFR	IFR and VFR
Entry Requirements	ATC Clearance	ATC Clearance	ATC Clearance for IFR. All require Radio Contact	ATC Clearance for IFR. All require Radio Contact	ATC Clearance for IFR. All require Radio Contact	None
Minimum Pilot Qualifications	Instrument Rating	Private or student certificate	Student Certificate	Student Certificate	Student Certificate	None
Two-way Radio Communications	Yes	Yes	Yes	Yes	Yes for IFR	No
VFR Minimum Visibility	N/A	3 statute mi	3 statute mi	3 statute mi	3 statute mi	1 statute mi
VFR Minimum distance from Clouds	N/A	Clear of Clouds	500’ below, 1,000’ above and 2,000’ horizontal	500’ below, 1,000’ above and 2,000’ horizontal	500’ below, 1,000’ above and 2,000’ horizontal	Clear of Clouds
Aircraft Separation	All	All	IFR, SVFR, and runway operations	IFR, SVFR, and runway operations	IFR and SVFR	None
Traffic Advisories	N/A	N/A	Yes	Workload permitting	Workload permitting	Workload permitting
Safety Alerts	Yes	Yes	Yes	Yes	Yes	Yes
Differs from International Civil Aviation Organization	No	Yes	Yes	Yes for VFR	No	Yes for VFR
Changes the Existing Rule	No	Yes for VFR	No	Yes	No	No

Legend: IFR= Instrument Flight Rule; VFR= Visual Flight Rule; N/A= Not Applicable

7.1.2.2 South

All commercial flights fly into Tinian Airport (West Field). The airport has one asphalt runway that is 8,600 feet (ft) (2,621 meters [m]) by 150 ft (45.7 m). The airport is equipped with a navigational light system, but has no control tower or additional navigational aids. The FAA at Saipan International Airport conducts air traffic control for flights in and out of Tinian Airport. Daily activity consists of commuter flights connecting Tinian with Saipan, Rota, and Guam. Currently Tinian Airport (West Field) averages 67 flight operations a day, (62 air taxi, and five general aviation flights). There are four single-engine aircraft and two multi-engine aircraft based at the airport. The closest airport with instrument approaches is Saipan International Airport located 11 nautical miles (nm) (20.5 kilometers [km]) northeast of Tinian Airport (West Field) (Flightaware 2009). There are three published approaches to Tinian Airport (West Field) (Skyvector 2009). There is an average of 108 aircraft operations a day at Saipan International Airport (AirNav 2009).

7.1.3 Other

7.1.3.1 Military Air Traffic on Farallon de Medinilla (FDM)

R-7201 is a restricted airspace with a 3 nm (5.6 km) radius surrounding FDM, although the published Notice to Airmen (NOTAM) usually advises that a 10 nm (18.6 km) radius is to be observed. The altitude limits of R-7201 span from surface to infinity and the airspace supports live-fire and inert training activities such as surface to ground and air to ground gunnery, bombing, and missile exercises, along with Fire Support and Precision Weapons delivery on the range.

7.1.3.2 Civilian Air Traffic on Farallon de Medinilla (FDM)

There is no civilian use of airspace around FDM because it is a restricted area and available only to military traffic. NOTAMs usually advise of a 10 nm (18.6 km) radius around FDM to be used exclusively by the military.

7.2 ENVIRONMENTAL CONSEQUENCES

7.2.1 Approach to Analysis

7.2.1.1 Methodology

Impacts on airspace use were assessed by evaluating the potential effects of the proposed training activities on the principal attributes of airspace use, as described in Section 7.1. Impact categories and how they were assessed for this project are as follows:

- Impacts on controlled and uncontrolled airspace were assessed by determining if the project would reduce the amount of navigable airspace by creating new or expanding existing Special Use Airspace (SUA) or by introducing temporary flight restrictions or presenting an obstruction to air navigation.
- Impacts on SUA were assessed by determining the project's requirement either for new SUA or for modifying existing SUA.
- Impacts on en route airways were assessed by determining if the project would lead to a change in a regular flight course or altitude or instrument procedures.
- Impacts on airports and airfields were assessed by determining if the project would restrict access to or affect the use of airports/airfields available for public use or if it would affect airfield/airport arrival and departure traffic flows.

Factors used to assess impacts on air traffic include consideration of an alternative's potential to result in an increase in the number of flights such that they could not be accommodated within established operational procedures and flight patterns; a requirement for airspace modification; or an increase in air traffic that might increase collision potential between military and nonparticipating civilian operations. A distinction between the impacts associated with construction and operation was not applicable to this impact evaluation and therefore not made.

7.2.1.2 Determination of Significance

Based in part on FAA Order 7400.2E, *Procedures for Handling Airspace Matters*, an action is considered to have a significant airspace impact if it would result in any of the following:

- Reduce the amount of navigable airspace
- Create an obstruction to air navigation
- Assign new SUA (including Controlled Firing Areas, Restricted Areas, Warning Areas, and Military Operations Areas) or require the modification of existing SUA
- Change an existing or planned IFR minimum flight altitude, a published or special instrument procedure, or an IFR departure procedure or require VFR operation to change from a regular flight course or altitude
- Restrict access to or effects on the use of airports and airfields available for public use
- Change commercial or private airfield or airport arrival and departure traffic flows
- Reduce public health and safety due to a change in aviation safety risk

7.2.1.3 Issues Identified during Public Scoping Process

There were no airspace issues for Tinian mentioned by the general public, including regulatory stakeholders, during the public scoping process. No new SUA would be developed involving Tinian or Saipan.

7.2.2 Alternative 1 (Preferred Alternative)

7.2.2.1 Tinian

Under Alternative 1, existing SUA and other existing designated airspace would be used to conduct aircrew flight training and in periodic airlifts of Marines from Guam to Tinian for training evolutions. Airlifts would be conducted under VFR and also would not require SUA. Under this alternative, there would be no new SUA. Additional military aircraft operations would be within the capacity of existing air traffic control capabilities.

There would be no impacts to general aviation or commercial aviation from limitations of airspace use. Flights between Tinian Airport (West Field), Saipan International Airport, and other airfields would not change. Since none of the proposed firing training ranges would require SUA, there would be no need for any changes to existing approach or departure routes for Tinian Airport (West Field).

There would be no reduction in the amount of navigable airspace, or no assignment of new or modified SUA. Similarly, there would be no change to enroute airways or IFR procedures. There would also be no restrictions on access to and no effect on the use of airports or airfields available for public use, and there would be no effect on airport or airfield arrival and departure traffic flows. There would be no construction that could obstruct air navigation and no new air traffic that could affect aviation safety.

Since there would be no restricted airspace or other SUA for activities on Tinian, there would be no impacts to Saipan International Airport approaches, departures, or traffic patterns for either Saipan International Airport or Tinian Airport (West Field). Airspace management procedures outlined in Section 2.4 would be implemented Any hazardous air training activities would continue to be communicated to commercial airlines and general aviation by NOTAMs for SUA, published by the FAA. There would be no additional impacts on the FAA's capabilities, no expected decrease in aviation safety, and no adverse effect on commercial or general aviation activities. There would be no impacts to airspace resources.

7.2.2.2 Summary of Alternative 1 Impacts

Table 7.2-1 summarizes Alternative 1 impacts.

Table 7.2-1. Summary of Alternative 1 Impacts

Area	*Project Activities*	*Project Specific Impacts*
Tinian	Construction	N/A
	Operation	No significant impacts to airspace would occur

7.2.2.3 Alternative 1 Potential Mitigation Measures

No mitigation would be required.

7.2.3 Alternative 2

7.2.3.1 Tinian

Airspace for training under this alternative would be the same as under Alternative 1.

7.2.3.2 Summary of Alternative 2 Impacts

Table 7.2-2 summarizes Alternative 2 impacts.

Table 7.2-2. Summary of Alternative 2 Impacts

Area	*Project Activities*	*Project Specific Impacts*
Tinian	Construction	N/A
	Operation	No significant impacts to airspace would occur

7.2.3.3 Alternative 2 Potential Mitigation Measures

No mitigation would be required.

7.2.4 Alternative 3

7.2.4.1 Tinian

The impacts to airspace for the Alternative 3 would be the same as identified for Alternative 1.

7.2.4.2 Summary of Alternative 3 Impacts

Table 7.2-3 Summarizes Alternative 3 impacts.

Table 7.2-3. Summary of Alternative 3 Impacts

Area	*Project Activities*	*Project Specific Impacts*
Tinian	Construction	N/A
	Operation	No significant impacts to airspace would occur

7.2.4.3 Alternative 3 Potential Mitigation Measures

No mitigation would be required.

7.2.5 No-Action Alternative

Under the no-action alternative, the proposed relocation of Marines from Okinawa to Guam and increased training activities on Tinian would not occur. There would be no impacts on airspace use. There would be no reduction in the amount of navigable airspace, or no assignment of new or modified SUA. Similarly, there would be no change to enroute airways or IFR procedures. There would also be no restrictions on access to and no effect on the use of airports or airfields available for public use, and there would be no effect on airport or airfield arrival and departure traffic flows. There would be no construction that could obstruct air navigation and no new air traffic that could affect aviation safety.

7.2.6 Summary of Impacts

Table 7.2-4 summarizes the impacts of all the proposed alternatives. A text summary is provided below.

Table 7.2-4. Summary of Impacts

Alternative 1	*Alternative 2*	*Alternative 3*	*No-Action Alternative*
Construction			
• N/A	• N/A	• N/A	• N/A
Operation			
• LSI	• LSI	• LSI	• NI

Legend: LSI = Less Than Significant Impact; NI = No impact, N/A = Not applicable.

None of the alternatives would have significant impacts on airspace. Alternatives 1, 2, and 3 would increase aircraft operations in the north and south portions of Tinian, but would be well within the capacity of existing airspace use. There would be no new SUA and there would not require any changes to existing arrival and departures from either the Tinian or Saipan airports. There are no enroute low-altitude airways, and no IFR procedures would need to change. Access to and the approach and departure patterns associated with the airports and airfields would not be restricted, nor would they be required to change. Airspace management procedures outlined in Section 2.4 would be implemented. Well-established and understood aviation procedures and rules governing flight operations in both controlled and uncontrolled navigable airspace and existing SUA make future adverse impacts on public health and safety extremely unlikely. Aircrews for military participants and non-participating aircraft would be responsible for using see-and-avoid techniques to avoid hazards.

7.2.7 Summary of Potential Mitigation Measures

Table 7.2-5 summarizes potential mitigation measures.

Table 7.2-5. Summary of Potential Mitigation Measures

Alternative 1	*Alternative 2*	*Alternative 3*
Construction		
• N/A	• N/A	• N/A
Operation		
• No mitigation recommended	• No mitigation recommended	• No mitigation recommended

Legend: N/A = Not applicable.