

## RANGE COMPATIBILITY ZONES

There are three RCZs that are relevant to live-fire activities: RCZ-I, RCZ-II, and RCZ-III. Each RCZ has specific recommendations related to land use within that specific zone. The overwhelming majority of the training associated with the PRC is air-to-ground training, which involves all three RCZs. The ground-to-ground training that occurs at the PRC is applicable to RCZ-I only.

- **RCZ-I** defines the area of the greatest potential safety hazard and designates the minimum range surface area needed to contain all ordnance delivered/deployed at the respective range. RCZ-I is the sum, or composite, of all individual WDZs and SDZs generated for a particular range. Since this area depicts the space required for containment of projectiles, fragments, and debris from weapon systems, it is the most restrictive area in terms of land use compatibility and poses the greatest potential for safety concerns.
- **RCZ-II** defines the area of aircraft armed over-flight whereby an aircraft commits to the target attack. The period of armed over-flight applies only to air-to-ground operations and is defined as beginning when an aircraft with ordnance places the cockpit arming switch in the “armed” position. RCZ-II is less restrictive than RCZ-I and is identified as the area that could be impacted by ordnance, if ordnance were inadvertently released following activation of the arming switch.
- **RCZ-III** defines the minimum airspace within the designated SUA required for maneuvering into and out of the air-to-ground target area, outside of the areas designated as RCZ-I and RCZ-II. RCZ-III is the area required to provide access to and from the target, safely separate participating and non-participating aircraft, and provide the range user with tactical maneuvering room allowing for initial alignment for target acquisition. While RCZ-III correlates to required airspace, it is the land underlying the airspace that is considered for safety reasons. RCZ-III represents the least restrictive area associated with a range that requires land use compatibility measures.

# Noise Zones

The noise contours discussed and shown in Section 4.3 are visually depicted as lines that connect points of equal value. The area between any two noise contours is known as a noise zone. The community response to military noise, such as small arms, artillery, and aircraft noise, is a topic that is often addressed in the local land use plans in the vicinity of ranges. For land use planning purposes, the DOD generally divides noise exposure from aircraft and weapons into three “noise zones.” Noise zones that are used for land use planning purposes in this document include:

- **Noise Zone 1:** Represents the lowest area of noise exposure. DNL is less than 65 dBA DNL/62 dBC DNL and a peak level less than 87 dBPK15. This is an area with minimal noise exposure. Individuals can hear noise, but can also adapt to noise levels. Most land uses are compatible within Noise Zone 1;
- **Noise Zone 2:** This is an area of moderate noise exposure where some land use controls are required. DNL is between 65-75 dBA DNL or 62-70 dBC DNL, and the peak level is between 87-104 dBPK15; and
- **Noise Zone 3:** Represents the most severely impacted areas where the greatest degree of land use control is recommended; greater than 75 dBA DNL, 70 dBC DNL, or 104 dBPK15.

## Land Use Classifications and Compatibility Guidelines in RCZs

Land Use	Land Use Compatibility with RCZs		
	RCZ-I	RCZ-II	RCZ-III
Single-Family Residential, Duplex, Mobile Homes			(3)
Multi-Family Residential, Transient Lodging			
Schools, Churches, and Libraries			
Hospitals and Nursing Homes			
Public Assembly, Auditoriums, Concert Halls			
Offices and Business Services			(2)
Commercial and Retail			(2)
Manufacturing			(2)
Utilities			
Playgrounds, Neighborhood Parks, and Outdoor Sports Arenas			(2)
Golf Courses, Riding Stables, and Water Recreation		(4)	(2)
Industrial, Warehouse, and Supplies			
Livestock, Farming, and Animal Breeding		(1)	(2)
Agriculture (Except Livestock), Mining, Forestry and Fishing		(1)	
Recreational Wilderness Areas		(2)	(2)

**Notes:**

This generalized land-use table provides an overview of recommended land uses.

**Compatibility Conditions:**

- (1) = RCZ-II is an area of armed overflight. Land uses that have the potential to attract people are not compatible.
- (2) = Incompatible when the training mission requires low altitude overflight (less than 500 feet).
- (3) = Suggested maximum density of RCZ-III is no more than 1-2 dwelling units per acre.
- (4) = Clubhouses, chapels, and other public assembly facilities are not compatible in RCZ-II.

## Land Use Classifications and Compatibility Guidelines in Noise Zones

Land Use		Land Use Compatibility with Noise Zone (DNL) and PK <sub>15</sub> (dBPK <sub>15</sub> )						
		Noise Zone 1		Noise Zone 2		Noise Zone 3		
		ADNL	55-64	65-69	70-74	75-79	80-84	>85+
		CDNL	<62	62-70		>70		
PK <sub>15</sub> *	<87*	87-104*		>104*				
Single-Family Residential, Duplex, Mobile Homes				(3)	(3)			
Multi-Family Residential, Transient Lodging				(3)	(3)			
Public Assembly, Auditoriums, Concert Halls				(1)	(1)			
Schools, Churches, Child Care, and Hospitals				(1)	(1)			
Playgrounds, Neighborhood Parks					(1)			
Shopping Centers and Superstores					(1)	(1)		
Business Services					(1)	(1)		
Manufacturing (ex. Petrol/chem.; textile)					(1)	(2)	(2)	
Agriculture, Forestry Fishing, and Mining								

**Notes:**

This generalized land use table provides an overview of recommended land uses.

**Compatibility Conditions:**

- (1) = Land use and related structures generally compatible; however, measures to achieve recommended noise level reduction (25 to 30 noise level reduction) should be incorporated into design and construction of the structures.
- (2) = Land use and related structures generally compatible; however, measures to achieve recommended noise level reduction (30 to 35 noise level reduction) should be incorporated into design and construction of the structures.
- (3) = Residential use is discouraged in DNL 65-69 and strongly discouraged in DNL 70-74. Where the community determines that these uses must be allowed, a noise level reduction of at least 25 dB should be incorporated into building codes.

Peak levels are also used to determine the risk of noise complaints.

**Key:**

ADNL = A-weighted day-night average sound level

CDNL = C-weighted day-night average sound level

