Draft Final

Description of Proposed Action and Alternatives

Environmental Assessment for Air Force Helicopter Aerial Gunnery Training at Camp Grafton Training Range, North Dakota Army National Guard

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## ABBREVIATIONS AND ACRONYMS

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<tr>
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<th>Description</th>
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<tr>
<td>AFB</td>
<td>Air Force Base</td>
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<tr>
<td>AFGSC</td>
<td>Air Force Global Strike Command</td>
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<tr>
<td>AFI</td>
<td>Air Force Instruction</td>
</tr>
<tr>
<td>ARNG</td>
<td>Army National Guard</td>
</tr>
<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>EA</td>
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<td>EIAP</td>
<td>Environmental Impact Analysis Process</td>
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<td>EIS</td>
<td>Environmental Impact Statement</td>
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<tr>
<td>EO</td>
<td>Executive Order</td>
</tr>
<tr>
<td>FDP</td>
<td>Flight Duty Period</td>
</tr>
<tr>
<td>FONSI</td>
<td>Finding of No Significant Impact</td>
</tr>
<tr>
<td>FONPA</td>
<td>Finding of No Practicable Alternative</td>
</tr>
<tr>
<td>ft AGL</td>
<td>feet above ground level</td>
</tr>
<tr>
<td>HS</td>
<td>Helicopter Squadron</td>
</tr>
<tr>
<td>mm</td>
<td>millimeter</td>
</tr>
<tr>
<td>Murry Training Center</td>
<td>Major General C. Emerson Murry Live Fire and Maneuver Training Center</td>
</tr>
<tr>
<td>MW</td>
<td>Missile Wing</td>
</tr>
<tr>
<td>NDARNG</td>
<td>North Dakota Army National Guard</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act of 1969</td>
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<td>NGB</td>
<td>National Guard Bureau</td>
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<td>NOAA</td>
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<td>PREIAP</td>
<td>Planning Requirements in Environmental Impact Analysis Process</td>
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<tr>
<td>SDZ</td>
<td>Surface Danger Zone</td>
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<td>SF</td>
<td>Security Forces</td>
</tr>
<tr>
<td>USC</td>
<td>United States Code</td>
</tr>
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<td>WDZ</td>
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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

Minot Air Force Base (AFB), North Dakota, is proposing to use the North Dakota Army National Guard’s (NDARNG) Camp Grafton Training Range, located near Devils Lake, North Dakota, for aerial gunnery training. Minot AFB’s major command, Air Force Global Strike Command (AFGSC), has identified the need to secure aerial gunnery training space for the 54th Helicopter Squadron (HS) at Minot AFB that meets a mission directive issued by the Commander of AFGSC. As of 1 October 2016, all AFGSC helicopter units are required to provide an operational aerial gunnery capacity. Currently, the 54th HS conducts aerial gunnery training at facilities in other states (Wyoming, Kansas, and Minnesota), since there is no aerial gunnery range in North Dakota, but the new mission directive necessitates gunnery training be conducted at a facility located within 1 flight duty period (FDP) (defined as 12 hours) from Minot AFB for the helicopter gunnery squadron to remain trained and proficient. All current training facilities are located at least 2 FDPs distance from Minot AFB and require temporary relocation of a large contingent of the squadron from Minot AFB to the nearest training facility. This temporary relocation requires the squadron to curtail its operational support to Minot AFB.

The NDARNG operates the Major General C. Emerson Murry Live Fire and Maneuver Training Center (Murry Training Center). Operations currently supported by NDARNG at Camp Grafton South include live fire ranges, maneuver training areas, and bivouac sites for ground and air operations. Live fire ranges are limited to individual small arms with further limitations on usable ammunition. The live fire ranges have restricted airspace to accommodate live fire weapons systems and unmanned aerial systems operations to include laser operations. Maneuver training includes ground vehicles and manned and unmanned aviation equipment. Bivouac sites provide areas to set up ‘in the field’ housing at unimproved sites. Priority for use of training areas and ranges is as follows: Mobilizing Army Units, NDARNG Units, Army National Guard/Reserve Units, Active Duty Army, US Air Force, contractors in active contract with the DOD for the range activity, and all other approved entities, in that order, on a first request basis.

The Environmental Assessment (EA) will be prepared to evaluate the potential environmental impacts of the proposed action in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] 4331 et seq.); the regulations of the President’s Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508); the Army National Guard NEPA Handbook, Vol 1 and Vol II (1 October 2011); the Air Force Environmental Impact Analysis Process (EIAP) Regulations at 32 CFR Part 989; and Air Force Instruction 32-7061 (Secretary of the Air Force, 2003).
The EA will address the Air Force proposal to allow AFGSC helicopters to conduct aerial
gunnery training at the Camp Grafton Range on an existing training facility owned and operated
by the NDARNG. This section presents the purpose and need for preparation of an EA, the scope
of the EA, the required decision-making process, proposed public and agency involvement,
review of environmental documents and processes, and the regulatory framework.

The information presented in the EA will serve as the basis for deciding whether the proposed
action would result in a significant impact to the human environment requiring the preparation of
an environmental impact statement (EIS), or whether no significant impacts would occur, in
which case, a Finding of No Significant Impact (FONSI) would be appropriate. If the execution
of the proposed action would involve “construction” in a wetland, as defined in Executive Order
(EO) 11990, Protection of Wetlands, or “action” in a floodplain under EO 11988, Floodplain
Management, a Finding of No Practicable Alternative (FONPA) would be prepared in
conjunction with the FONSI.

Since the proposed action is on NDARNG property, the NDARNG is also participating as a
cooperating agency under NEPA and will be a co-signer of the final decision document resulting
from the final EA.

1.2 PURPOSE AND NEED

1.2.1 Purpose of the Action

The purpose of the proposed use of Camp Grafton is to provide sufficient aerial gunnery training
in accordance with the AFGSC 2016 mission directive for the helicopter gunnery squadron to
remain trained, proficient, and available to respond. The training is for the 54th HS and 91st
Missile Wing (MW) Security Forces (SF), which are a part of AFGSC stationed at Minot AFB.

1.2.2 Need for the Action

The need for the proposed action is to conduct gunnery training for the 54th HS and 91st MW SF
at a live fire range facility located within 1 FDP of the units’ home station of Minot AFB.
Because there are no aerial gunnery ranges available in North Dakota or within 1 FDP of Minot
AFB, the live fire ranges at Camp Grafton will be assessed to determine their capability to meet
the USAF training need defined in Section 1.2.1.

1.3 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The EA will include a no action alternative and a reasonable range of alternatives. The EA will
discuss the affected environment and environmental consequences of the proposed action.
This includes an analysis of the potential impacts the proposed action may have on land use, air
quality, noise, geology, topography, soils, water resources, biological resources, cultural
resources, socioeconomics, environmental justice, infrastructure, and hazardous and toxic
materials/wastes.
Alternatives were considered, as discussed in Section 2, and the proposed action was selected because it fully meets the purpose and need. The proposed action would also allow for integrated training between gunnery helicopters and security forces (ground partners) and integrated training would allow the squadron to meet the proficiency training requirements.

An EA would provide Minot AFB and the NDARNG with environmental documentation to support the decision-making process for the proposed aerial gunnery training. The EA will analyze the potential environmental consequences associated with the proposed aerial gunnery training with all US Army and US Air Force variants of the UH-60 (Black Hawk) and Bell UH-1 Iroquois (Huey) helicopter airframes. (See Appendix A for definitions including photographs of these helicopters and variants.)

The EA will be prepared in accordance with the NEPA of 1969 (Public Law 91-190), the President’s CEQ regulations (40 CFR 1500-1508), Air Force Instruction 32-7061/32 CFR 989, the EIAP (32 CFR 989), Planning Requirements in EIAP (PREIAP) Guidance, the Air Force Impact Analysis Process Desk Reference, Environmental Analysis of Army Actions (32 CRF 651 and also AR 200-2), and the Army National Guard NEPA Handbook.

1.4 DECISION-MAKING

The EA will evaluate whether the proposed action would result in significant impacts to the environment. If significant impacts are identified, the Air Force would undertake mitigation to reduce impacts to below the level of significance, undertake the preparation of an EIS, or abandon the proposed action.

The EA is a planning and decision-making tool that will guide the Air Force in implementing the proposed action in a manner consistent with Air Force and Army National Guard (ARNG) standards for environmental stewardship.

1.5 PUBLIC AND AGENCY INVOLVEMENT

The EA will be prepared in accordance with NEPA, the regulations of the CEQ that implement NEPA procedures, the Army National Guard NEPA Handbook, Vol 1 and Vol II (1 October 2011), the Air Force EIAP Regulations 32 CFR Part 989, and Air Force Instruction 32-7061 (Secretary of the Air Force, 2003).

NEPA requires that environmental information be made available to the public throughout the decision-making process and prior to actions being taken. Agency and public comments and concerns are taken into consideration in the decision-making process and development of the EA. Interagency coordination, Tribal consultation, and public outreach and input will be completed in accordance with all regulations, guidance, and policies. A Notice of Availability (NOA) of the Draft EA will be published in local newspapers and made available (e.g., direct
mailings, provided to local libraries, available online, etc.) for public review and comment in accordance with the NEPA guidelines.

Interagency/intergovernmental coordination will be performed in accordance with the Interagency/Intergovernmental Cooperation Act of 1968 (42 USC 4231(a)) and EO 12372, Federal, state, and local agencies with jurisdiction that could be affected by the proposed action.

In addition, consultation with the U.S. Fish and Wildlife Service will be sought in accordance with Section 7 and/or Section 10 of the Endangered Species Act, as applicable. Section 106 of the National Historic Preservation Act requires consultation with the Advisory Council on Historic Properties and tribal consultation to determine if an undertaking could affect historic properties.

EO 13175, Consultation and Coordination with Indian Tribal Governments, directs Federal agencies to coordinate and consult with Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands. Consistent with that EO, DoD Instruction 4710.02, Interactions with Federally-recognized Tribes; and Air Force Instruction 90-2002, Air Force Interaction with Federally-recognized Tribes, federally-recognized tribes that are historically affiliated with the Camp Grafton geographic region will be invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination process, and it requires separate notification of all relevant tribes. Tribal consultation has been initiated for the proposed action.

1.6 RELATED NEPA, ENVIRONMENTAL, AND OTHER DOCUMENTS AND PROCESSES

NEPA requires analysis of potential environmental impacts with proposed federal actions prior to making decisions regarding the proposed action. The purpose of NEPA is to ensure evaluation of the environmental, social, and economic effects of the proposed action. NEPA established the CEQ which oversees NEPA implementation. The process for implementing NEPA is outlined in 40 CFR §§ 1500–1508, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. The purpose of preparation of an EA, in accordance with the CEQ regulations, is to provide evidence and analysis for determining whether to prepare a FONSI/FONPA, or whether the preparation of an EIS is necessary.

The EA will examine the potential impacts of the proposed action and alternatives on 11 resources areas: land use, air quality, noise, geological resources, water resources, biological resources, cultural resources, socioeconomics, environmental justice, infrastructure, and hazardous and toxic materials/waste.
1.7 REGULATORY FRAMEWORK

NEPA was signed into law on January 1, 1970. The President's CEQ was established at the same time to coordinate the environmental efforts with Federal agencies in the development of environmental policies and initiatives. In 1978, the CEQ issued binding regulations which implement the procedural provisions of NEPA (40 CFR Parts 1500-1508). To meet Federal requirements outlined in both NEPA and CEQ regulations, the Air Force codified their formal NEPA analysis process in 32 CFR Part 989 - Environmental Impact Analysis Process. EIAP is the Air Force's NEPA compliance program. All actions undertaken by the Air Force must comply with NEPA and the Air Force EIAP process.

The environmental review would also be conducted in accordance with the National Guard Bureau’s (NGB’s) NEPA guidelines, Directive 5105.77. The NGB is a joint agency of the Department of Defense (DoD). The ARNG is a directorate within the NGB, which serves as a communication and funding source between the US Army and the state, US territories, and Guard organizations. The ARNG is a cooperating agency under this NEPA action.
2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section presents information on the proposed action of establishing aerial gunnery training. Section 2.2 describes how the proposed action would be implemented and Section 2.3 identifies alternatives to the proposed action, including the No Action Alternative. Implementation of the proposed action at Camp Grafton, as described in Section 2.2, is Minot AFB’s Proposed Action Alternative.

2.2 PROPOSED ACTION

As previously stated, the purpose of, and need for, the proposed action is to provide aerial gunnery training for the helicopter gunnery squadron stationed at Minot AFB that is within 1 FDP (defined as a 1 day deployment, or a 12 hour period) in order for the squadron to remain trained and proficient. Conducting training within 1 FDP of Minot AFB would reduce the training burden on the units; allow for more frequent, more efficient training; and would minimize the cost of training.

AFGSC has determined there are no aerial gunnery training ranges within 1 FDP of their permanent base at Minot AFB. Currently, the 54th HS conducts aerial gunnery training at facilities in other states (Wyoming, Kansas, and Minnesota), since there is not an aerial gunnery range in North Dakota. The only training range located within 1 FDP is located at the Army National Guard’s Camp Grafton, located near Devils Lake, North Dakota. Camp Grafton is made up of two distinct geographic areas, Camp Gilbert C. Grafton (located south of Devils Lake, North Dakota) and the Murry Live Fire and Maneuver Training Center (also referred to as Camp Grafton South), located further south (See Figure 2-1 which shows the location of Minot AFB in relation to the Murry Training Center). This portion of Camp Grafton is used as an 11,133-acre training range.

The Murry Training Center is bisected by State Highway 15 (See Figure 2-2). Land north of Highway 15 is used for maneuver training. South of the highway, there is a live fire training complex known as the Major General C. Emerson Murry Regional Live Fire and Maneuver Training Center (Murry Training Complex). The Murry Training Center is approximately 132 files from Minot AFB and meets the criteria required by the mission directive of being within 1 FDP.

The Murry Training Complex is currently used for live fire training, specifically surface live fire training only. Under the proposed action, a new aerial gunnery training target area would be established within the existing live fire surface danger zone on the live fire complex. A new aerial gunnery training target area, within the current surface gunnery ranges, would provide an air-to-surface weapons training range, support integrated joint surface/aerial exercises, and meet the USAF training criteria.
Figure 2-2: Location of Camp Grafton South
The proposed action is intended for the AFGSC and will include flights occurring two to three times per week from Minot AFB to the Murry Training Center. The proposed action includes flight and aerial gunnery training exercises, with door gunners firing flex-mounted machine guns from helicopters in flight, while constraining the weapons danger zone (WDZ) to within the existing Camp Grafton range boundary and R-5401 restricted airspace.

Helicopters will be flown 50 to 300 feet above ground level (ft AGL) at 60 to 120 knots air speed, each door gunner will expend an average of 2,000 rounds of 7.62-millimeter (mm) ball/tracer ammunition per sortie, and each sortie will require approximately 1 hour on the range. The WDZ for this training is for non-enhanced performance round ammunition.

2.3 ALTERNATIVES CONSIDERED

2.3.1 Alternatives Development (Screening Criteria)

NEPA and CEQ regulations mandate the consideration of reasonable alternatives for the proposed action. “Reasonable alternatives” are those that could be utilized to meet the purpose of, and need for, the proposed action. Per the requirements of 32 CFR 989, the USAF EIAP regulations, selection standards are used to identify alternatives for meeting the purpose and need for the Air Force action.

The proposed action and alternatives must meet the following standards:

1. The HS requires an aerial gunnery training range within 1 FDP of their permanent base to meet the mission directive issued by AFGSC. One FDP is defined as 12 hours. This established FDP would allow for recurring training without the need to relocate a large contingent of the squadron and temporarily curtail existing nuclear security support at Minot AFB. The ability to conduct recurring training would meet the mission directive that requires certification and proficiency training.

2. The training range must be large enough to allow for integrated surface/aerial training integration.

3. The action does not adversely impact cultural resource areas.

4. The training range must not significantly impacts roads, buildings, and existing grazing lands, or have any impacts on existing public roadways.

5. The action must be compatible with the existing, ongoing military mission activities at Minot AFB and Camp Grafton Training Center.

2.3.2 Evaluated Alternatives

The selection standards described above were applied to available alternatives to determine which alternative(s) would fulfill the purpose and need for action. Additionally, the analysis of a no action alternative was included, as required in the EIAP (32 CFR §989.8[d]) and recommended by CEQ guidance to assess any environmental consequences that may occur if the proposed action is not implemented. The no action alternative also provides a baseline against...
which the proposed action can be compared. The following discussion is a detailed description of both alternatives:

1. **Alternative 1 (Proposed Action Alternative)**
   
   This alternative, the Proposed Action Alternative, is to use the Murry Training Complex within the Murry Training Center. The Murry Training Complex is located south of Highway 15 (Figure 2-3), because live ammunition is prohibited north of the highway. This alternative would use a portion of the Murry Training Complex for integrated aerial gunnery/surface firing training. The proposed aerial training range target area would be limited to approximately 100 acres (See Figure 2-3).

   Under the proposed action, aerial gunnery training would include training at the Murry Training Center, 2 to 3 times per week, with approximately 125 training events per year. Helicopters will be flown 50 to 500 ft AGL, each door gunner will expend 2,000 rounds of 7.62 mm ball/tracer ammunition per sortie, and will require approximately 1 hour on the range. The 54th HS will need to perform separate sorties for day and night live-firing operations. The training range would permit the use of flex-mounted side-firing helicopters, while constraining the WDZ within the existing Murry Training Complex boundaries and R-5401 restricted airspace.

   The Murry Training Center is the only existing firing range that meets the mission requirement of a training range within 1 FDP of their permanent base (i.e. Minot AFB). As previously defined, 1 FDP is defined as a 1-day deployment, or a 12-hour period (roundtrip). Consideration of training ranges that are more than 1 FDP away does not meet the purpose and need, in that they would require mass mobilization and not allow the HS to meet the proficiency criteria required by the mission directive.

   For the 54th HS current aircraft, one FDP represents a radius of approximately 300 miles. There are no other potential gunnery training ranges within 1 FDP of Minot AFB, where the squadron is located. The Murry Training Center is also a favorable location for aerial gunnery training because it is distant from highly populated areas.

2. **Alternative 2 (No-Action Alternative)**

   The No Action Alternative would be status quo. Under this alternative, Minot AFB would not implement the proposed action of aerial gunnery training at the Murry Training Center and the 54th HS would continue to conduct aerial gunnery training at existing ranges in Wyoming, Minnesota, and Kansas, all of which are more than 1 FDP from Minot AFB. This option is unfavorable for continued training because a large contingent of the 54th HS must travel to complete required training. Operations at Camp Grafton would continue in accordance with the currently approved standard operating procedures. Also, this option does not meet the mission directive for helicopter squadron training. The 54th HS would continue to be trained under the No Action Alternative, but efficiency and time away from Minot AFB detracts from their mission. In addition, the extra travel would cause additional environmental impacts and costs.
Figure 2-3: Camp Grafton South Existing Gunnery Range Aerial Map
2.3.3 Alternatives Eliminated from Further Consideration

The following alternatives were initially considered but eliminated from further consideration after evaluating them against the screening criteria.

- Propose a new gunnery range location on property not currently used as a gunnery range within 1 FDP of Minot AFB. This would include land not owned by the Air Force or Camp Grafton. However, all WDZs, firing boxes and target areas must remain within the boundaries of government-owned land for the safety of civilians and the community. Therefore, this alternative does not meet the required screening criteria.

- Propose a new gunnery range located on existing land within Minot AFB to be used as an aerial gunnery range. This location does not meet the screening criteria due to the lack of adequate space to construct an aerial gunnery range.

- Use another area of the Murry Training Center as an aerial gunnery range. Camp Grafton does not allow the use of live ammunition on their land holdings north of Highway 15. The air WDZ established on Camp Grafton lands south of the highway cannot accommodate the proposed aerial gunnery training on any parcels except at the existing Murry Training Complex live fire training facility.

These alternatives are not carried forward for analysis in this EA.

2.3.4 Alternatives’ Impacts Comparison Matrix

This section presents an Alternatives’ Impacts Comparison Matrix that compares the five selection standards against the Proposed Action Alternative and the No Action Alternative.

<table>
<thead>
<tr>
<th>Alternative Descriptions</th>
<th>Selection Standards</th>
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<tr>
<td></td>
<td>Range within one FDP</td>
</tr>
<tr>
<td>(1)</td>
<td>(2)</td>
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<tr>
<td>Alternative 1 (Proposed Action Alternative)</td>
<td>Yes</td>
</tr>
<tr>
<td>Alternative 2 (No Action Alternative)</td>
<td>No</td>
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</tbody>
</table>
APPENDIX A

Definitions

**Bell UH-1 Iroquois (Huey):** The most widely used military helicopter, the Bell UH-1 series Iroquois is better known as the "Huey." The UH-1H has a two-bladed semi-rigid seesaw bonded all metal main rotor and a two-bladed rigid delta hinge bonded all metal tail rotor. The UH-1H is powered by a single Lycoming T53-L-13B 1400 shp turboshaft engine. The UH-1D has a range of 293 miles (467km) and a speed of 127 mph (110 knots). Hueys were used for medical evacuation, command and control, and air assault; to transport personnel and materiel; and as gun ships.

**Flight Duty Period:** 1 day’s deployment for a flight crew, or a 12-hour period round trip that starts at takeoff and ends when the aircraft is parked after the last flight and there is no intention for further aircraft movement by the same flight crew.

**Joint:** Connotes activities, operations, organizations, etc., in which elements of two or more military departments participate. (JP 1)

**Live Fire Exercise:** A military exercise in which a realistic scenario for the use of specific equipment is demonstrated. Live fire exercises are to be conducted in accordance with the requirements contained in DA Pam 385-63, Chapter 19, Live-Fire Exercises.

**M240D Machine Gun:**
The M240D is a left-hand feed, gas operated, air cooled, fixed head space 7.62mm weapon designed with front and rear sights and spade grip trigger for helicopter applications. Though intended primarily for mounting on aircraft, the M240D has two possible configurations: aircraft and egress (ground operations). The aircraft-configured M240D weighs 25.6 pounds and is 42.3 inches long.

**Range:** A designated land or water area that is set aside, managed, and used for range activities of the DoD. The term includes firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, electronic scoring sites, buffer zones with restricted access, and exclusionary areas. The term also includes airspace areas designated for military use in
accordance with regulations and procedures prescribed by the Administrator of the Federal Aviation Administration. (10 USC 101(e)(1)(A) and (B):

**Firing Range:** A range facility designated for firing ammunition and explosives, heavy rockets, and guided missiles for training and target practice. (DA Pam 385-63)

**Gunnery Range:** A range facility designated for firing ammunition and explosives, heavy rockets, and guided missiles from air to surface for training and target practice.

**Training Range:** A range facility designated for maneuver exercises and training operations where no live fire occurs. (DA Pam 385-63)

**Sortie:** In air operations, an operational flight by one aircraft. (JP 3-30) A flight/sortie begins when the aircraft begins to move forward on takeoff. It ends after airborne flight when the aircraft returns to the surface and any of the following conditions occur:

1. The engine is stopped, or any engine on a multiengine aircraft is stopped.
2. A change is made in the crew which enplanes or deplanes a crewmember. A single flight may include multiple take-offs and landings.
3. The last landing on a first solo flight.
4. The glider comes to rest after landing.

**Surface Danger Zone (SDZ):** The ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapon systems to include ammunition, explosives, and demolition explosives. (AR 385-63)

**Training Complex:** Firing ranges and weapons-training facilities designated for firing ammunition and explosives, rockets, lasers, and guided missiles for training and target practice, and non-live-fire sites for maneuver exercises and operations. (AR 385-63) Includes all firing ranges, weapons training facilities, associated impact areas, and maneuver training areas within the installation/community boundary. (AR 385-64)

**UH-60 (Black Hawk):**
The Black Hawk has a composite titanium and fiberglass four-bladed main rotor, is powered by two General Electric T700-GE-700 1622 shp turboshaft engines, and has a speed of 163 mph (142 knots). The Black Hawk has provisions for door mounting of two M60D 7.62mm machine guns on the M144 armament.
subsystem, and can disperse chaff and infrared jamming flares using the M130 general purpose
dispenser.

**Weapons Danger Zone (WDZ):** The ground and airspace required for the lateral and vertical
containment of projectiles, fragments, debris, and components resulting from the firing,
launching, and detonation of aviation-delivered ordnance. This three-dimensional zone accounts
for weapon accuracy, failures, ricochets, and broaches/pooping of a specific weapon/munition
type delivered by a specific aircraft type. Weapon danger zones represent the minimum safety
requirements designed for aviation weapons training on DoD ranges. (AR 385-63)