

## **Finding of No Significant Impact**

### **Noise Assessment for Test Launches of the Reduced Range Practice Rocket, Joint Base Lewis-McChord, Washington**

#### **Introduction**

The 17<sup>th</sup> Field Artillery Brigade is currently stationed at Joint Base Lewis-McChord (JBLM), Washington. The primary mission of the Brigade is to provide reinforcing field artillery rocket and missile fires in support of maneuver Brigade Combat Teams and primary support to Combat Support/Combat Service Support forces. Part of this mission includes the training and operation readiness of a technologically advanced force, including the specialized training of Field Artillery Battalions in the high mobility artillery rocket system (HIMARS). HIMARS is a light-weight multiple launch rocket system (MLRS) that is mounted on a five-ton medium tactical vehicle. Its use meets the Army's need for a lighter weight, easily deployable MLRS that can provide lethal, long-range fires at the beginning of a conflict. Currently, two 17<sup>th</sup> Field Artillery Brigade HIMARS Battalions conduct HIMARS training at Yakima Training Center (YTC). The Battalions must certify HIMARS launch procedures every six months. To maintain required training guidance, twice a year the two Battalions travel to YTC at a cost of approximately \$227,500 per battalion per trip to YTC. For training purposes, non-explosive reduced range practice rockets (RRPRs) are launched from the HIMARS.

In 2009, a draft Environmental Assessment (EA) was prepared by the Army to conduct long-term HIMARS live-fire training at JBLM and YTC using RRPRs. The draft EA was released for public review in September 2009. During the public review process, the communities surrounding JBLM expressed concerns about potentially significant adverse effects of noise on sensitive receptors, historic buildings, fish, and animals. Due to these concerns, the Army decided to not finalize the EA. The long-term HIMARS RRPR live-fire training at YTC was incorporated into the 2010 Grow the Army Final Programmatic Environmental Impact Statement and Record of Decision. In 2014, the noise model for launching RRPRs at JBLM was updated, resulting in different noise contours. Based on the noise concerns from the surrounding community and the new noise modeling results, the Army is proposing to conduct a number of RRPR test launches at JBLM to collect noise data at various locations on and off the installation.

An EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321-4370e), Sec. 102(C) to inform decision-makers and the public of likely environmental consequences of the proposed Army action. It evaluates the environmental, cultural, and social effects of the proposed noise assessment of RRPR test launches at JBLM.

#### **Purpose and Need**

Noise from Army training is a significant concern for JBLM and the surrounding communities. The primary purpose of the proposed action is to obtain noise data

regarding launching of RRPRs at JBLM. The secondary purpose of this action is to inform the public of the rocket test launch noise assessment. The proposed noise assessment is needed for the Army to understand potential impacts of HIMARS firing of RRPRs to the surrounding community and to promote good decision making based on best available science. The noise assessment would also allow the Army to receive feed-back from the community regarding launching of RRPRs before a decision is made on the potential for HIMARS training including launching of RRPRs at JBLM. Without the noise assessment, decisions regarding the significance of potential HIMARS firing of RRPRs at JBLM will be based on noise models only. Although modeling is a valuable tool in determining the potential effects of an action, the Army believes that incorporating actual data and feedback from the community is important for assessing potential impacts, and for future planning.

### **Description of the Proposed Action**

The proposed RRPR test launches will allow the Army to conduct noise monitoring at JBLM and in surrounding communities. The noise assessment would measure noise levels and determine the noise hazard radius during the firing of RRPRs at the installation boundary, as well as outside the installation. Testing would occur over three days to get a diverse set of data under a variety of weather/atmospheric conditions. The noise assessment would utilize a minimum of ten noise monitors placed at various locations on and off the installation including the sensitive receptors on the Nisqually Reservation and neighboring communities. The exact monitoring locations would be determined by the Army and stakeholder input.

HIMARS Battalions would fire nine RRPRs a day, over a three-day period to conduct the proposed noise assessment (total of up to 27 rockets). RRPRs would be launched from the Hayes Hill launch site (Training Area 4) to the Artillery Impact Area. Hayes Hill is approximately 0.70 miles south of Interstate 5 (I-5) and RRPRs would not pass over I-5.

The reduced range of the RRPRs (approximately five to nine miles) makes them suitable for use on small firing ranges at firing points normally reserved for Artillery Battalions. The RRPRs are blunt-nose, high-drag rockets that are non-explosive on impact. The flight of each rocket would be approximately five to six seconds in duration. Rockets may go supersonic within one second of launch and remain supersonic for approximately 3.7 miles. A sonic boom would then be created, with noise levels potentially greater than 140 decibels directly under the flight path of the rocket. The rocket would fly approximately 1,300 feet above the ground, and the rocket propulsion would be expended two to three seconds after ignition, leaving an empty, inert tube for impact. Because the rocket is non-explosive, no impact crater would be produced where the rocket lands. The residue of spent rockets would include solid scrap materials, primarily steel casing and aluminum skins.

Firing of RRPRs produces a backblast at ground level, creating a fire danger zone approximately 30 meters directly behind the firing point of the rocket. This area would be cleared of trees to reduce the forest/brush/grass fire hazard and to keep the rocket trajectory path clear of obstacles. Up to 13 acres of trees would be harvested from

Hayes Hill to provide trajectory clearance for RRPR firing. No further training area adjustments would be required for the RRPR test launch noise assessment.

**No Action Alternative**

The No Action Alternative serves as the baseline from which to compare all other reasonable alternatives. Under the no action alternative, no noise assessment would be conducted at JBLM. The Battalions would continue to engage in the types of HIMARS training that they are currently conducting on JBLM training lands, including maneuver training in training areas and weapons training at designated firing ranges. No live-firing of HIMARS would occur at JBLM under the no action alternative. Battalions, however, would continue to conduct live-fire HIMARS activities at YTC.

**Summary of Anticipated Environmental Effects Associated with the Proposed Project**

The final EA, which is attached and incorporated by reference into this Finding of No Significant Impact (FNSI), examined the potential effects of the proposed action on areas of environmental concern, consisting of: land use; noise; air quality; fire; soils and geology; water resources; fish; wildlife and domestic animals; threatened, endangered, and sensitive species; vegetation; human health and safety; cultural resources; aesthetics and visual resources; and recreation.

**Environmental Effects to Resources in the Proposed Project Area**

Resource Area	Proposed Action – RRPR Noise Assessment Test Launch	No Action Alternative
Land Use	The proposed action includes the harvesting of up to 13 acres of trees from the Hayes Hill firing point to provide trajectory clearance for RRPR firing. This land is currently designated as training land and would still be designated as a training area. No other land use changes would be required for the implementation of the proposed action.	There would be no changes to current land use at JBLM under the no action alternative.
Noise	The general public would potentially be affected by noise from the RRPR test launch. The level of the sound exposure would be dependent on weather and climate conditions, as well as an individual's location within a structure or outside. Noise modeling predicts that surrounding communities could be subjected to single event peak noise levels between 115 and 130 peak sound level (dBP). Exposure to these noise levels is likely to be disruptive and cause annoyance, but will not cause physical harm. This impact would be temporary, over a three day period.	There would be no changes to noise under the no action alternative.

	Structural damage to buildings would not occur under predicted noise levels associated with RRPR firing, and the chance of any damage to buildings (cracks in windows and/or plaster) would be extremely low. Less than significant impacts to buildings are expected under the proposed action.	
Air Quality	JBLM is currently in compliance with their synthetic minor operating permit and is operating well below the thresholds for air emission contaminants. Given that the noise assessment will result in a temporary impact, rockets are a sporadic source of emissions (up to nine rockets a day), and that hydrogen chloride (HCl) quickly dissipates in the air, it is not expected that HCl emissions from RRPRs would exceed the Acceptable Source Impact Level at the installation boundary. Effects to air quality from the proposed action are expected to result in less than significant impacts.	No impacts to air quality are expected with the no action alternative.
Fire	<p>Timber harvest near the Hayes Hill firing point would have a negligible impact on fire risk. Appropriate safety precautions to prevent fire during harvesting would be required.</p> <p>During the RRPR test launch, soldiers would check the launch site for fires following the release of each rocket launch and would quickly extinguish any fires. Additionally, firebreaks in the area would provide added protection against the spread of fire over a large area. Since the test rockets are non-explosive and the propulsion propellant is expended two to three seconds after ignition, the empty tube reaching the impact area would be inert and would not present a fire risk. Thus, the proposed action is not expected to cause significant fire damage to resources on the installation.</p>	No change to fire impacts is expected with the no action alternative.
Soils and Geology	Tree clearing activities have the potential to affect soil through compaction and erosion, but the risk of adverse effects to soil are minimal given the physical characteristics of the soil and the level topography of the site. Minimal disturbance of soil would be associated with battalion activities, as vehicles would primarily travel on established roads and trails. Effects to soil and geology would be minimal.	No changes to soil or geology would occur under the no action alternative.
Water Resources	The area adjacent to the Hayes Hill firing point that would be cleared for trajectory clearance is not located in the vicinity of any surface water resources or wetlands. Since the nearest water source is	No changes to the quality and quantity of water

	<p>approximately 4,000 feet away from the firing point, impacts to nearby surface water and wetlands would be negligible. The potential for contamination of water in the impact area is low, since the practice rockets do not have explosive warheads and do not explode on impact. Effects to water resources from the proposed action are expected to be negligible.</p>	<p>resources on JBLM are expected under the no action alternative.</p>
Fish	<p>Noise associated with rocket firing and the accompanying sonic booms could temporarily affect fish behavior. However, peak noise levels experienced by fish would not increase from existing levels as a result of the proposed RRPR test launch. Fish are unlikely to detect sounds originating in the air as their hearing is masked by the turbulence in river habitat.</p> <p>Noise and vibrations from sonic booms could potentially reach the Clear Creek Fish Hatchery, located approximately 2.3 miles from the Hayes Hill firing point. However, disturbance to the hatchery is expected to be minor, as the hatchery is located in the modeled notable (115-130 dBP) noise contour.</p>	<p>No increased risk for direct or indirect impacts to fish and other aquatic organism would occur under the no action alternative.</p>
Wildlife and Domestic Animals	<p>Noise from the RRPR test launch would have the potential to affect wildlife and domestic animals; however, peak modeled noise levels for firing of rockets are similar to those for large caliber weapons (such as 155 millimeter howitzers), which are currently fired regularly at Hayes Hill and other firing points on JBLM. Thus, wildlife and domestic animals would not be subject to greater peak noise levels during the three day test launch. Additionally, the loss of up to 13 acres of forest would constitute a loss of less than 0.1 percent of the total annual timber harvest that takes place on the installation and would not be significant to wildlife.</p>	<p>No increased risk for direct or indirect impacts to wildlife and domestic animals would occur under the no action alternative.</p>
Threatened, Endangered, and Sensitive Species	<p>There is a potential for disturbance to Taylor's Checkerspot Butterflies, Mazama Pocket Gophers, and Streaked Horned Lark in the impact area. The target area where the RRPRs would land does not currently support any known populations of Taylor Checkerspots Butterflies, thus adverse impacts are not expected. Given that the test launch would only be three days and the RRPRs are non-explosive, impacts to Mazama Pocket gopher are unlikely. It is possible that Streaked Horned Larks would be present during the RRPR test launch; however, potential impacts to</p>	<p>No increased risk for direct or indirect impacts to threatened, endangered, and sensitive species would occur under the no action alternative.</p>

	<p>the Streaked Horned Lark would not differ from existing conditions. In addition, the existing Hayes Hill forested area does not provide suitable habitat for Streaked Horned Lark, so no effects to habitat would result from the launch site tree clearing activities. No other adverse effects to threatened, endangered, and sensitive species are expected from the test launch noise assessment. No increased risk for direct or indirect impacts to threatened, endangered, and sensitive species would occur under the proposed action.</p>	
Vegetation	<p>To accommodate RRPR trajectory clearance, up to 13 acres of forested area would need to be harvested from Training Area 4 (Hayes Hill). The forested communities that would be cleared are not unique or high quality plant communities, and similar forests are prevalent on the installation. The loss of up to 13 acres would not be significant as this loss would only constitute a fraction of a percent of the 50,000 acres of forested habitat on JBLM.</p>	<p>No change in vegetation disturbance would occur under the no action alternative.</p>
Human Health and Safety	<p>Risks to human health and safety associated with rocket firing include risks associated with rocket debris and/or the potential for a rocket to misfire or malfunction and land outside of its intended target area. Firing rockets results in a danger area around the launcher and a surface danger zone safety fan encompassing the corresponding flight corridor extending back toward the launcher. The probability of a rocket or its fragments landing outside the surface danger line has been calculated at one in 1,000,000. The entire surface danger zone would be clear of all personnel to avoid accidental injuries from occurring, thus the potential impacts to human health and safety are considered negligible.</p>	<p>No potential for impacts to human health and safety would occur under the no action alternative.</p>
Cultural Resources	<p>For the proposed noise assessment, the RRPR test launch may affect some portion of lands located on the Nisqually Indian Reservation, as well as lands on JBLM that are of traditional cultural and/or religious significance to Indian tribes. The Army presented the proposed action to the Nisqually Tribe in May 2015 and has continued to coordinate throughout the EA process. The Army will re-initiated consultation with State Historic Preservation Office to evaluate impacts to buildings, structures, and objects that are eligible for the National Register of Historic Places. The RRPR test launch could limit access to areas around the</p>	<p>No changes to cultural resources would occur under the no action alternative.</p>

	Hayes Hill firing point for three days, which could adversely affect tribal members, particularly if sacred or other culturally important sites are present in the area. However, these effects would be short-term in duration, lasting only for three days one time, and would be minimized by advance notice and coordination with the tribes.	
Aesthetic and Visual Resources	Clearing of up to 13 acres of forested training land near the Hayes Hill firing point would not significantly alter the visual characteristics of the area. Launching of RRPRs for the noise test would create short-term visual impacts at the firing point, along the rocket trajectory, and in the airspace immediately surrounding it. Given the infrequency and short-term nature of these visual effects, they would be considered minor.	Effects to visual resources would not occur under the no action alternative.
Recreation	RRPR test firing for the noise assessment could limit recreation on JBLM in the vicinity of the Hayes Hill firing point during that three day time period. These effects would be minor, given that the area is not used for recreation on a regular basis, no established recreational sites are in the area, and the activities could be rescheduled or relocated to other areas on the installation.	Under the no action alternative, battalion training activities would continue to restrict recreation in certain training areas for varying amounts of time.

### Cumulative Effects ✓

The proposed action is not expected to have any significant cumulative impacts. The decision to conduct long-term firing of RRPRs at JBLM was not considered an indirect effect, nor a cumulative effect of the proposed action, because conducting the noise assessment does not make reasonably certain that training firing of RRPRs will also occur at JBLM in the future. The proposed noise assessment is for obtaining noise data regarding launching of RRPRs at JBLM, and to have a forum for community feedback. If a plan to fire RRPRs for training were initiated in the future, additional NEPA analysis would be required for that action.

Because the proposed action would be a onetime occurrence lasting three days with 13 acre of forest cleared, cumulatively the effects to all the resources would overall be minimal. The existing land use would not change. In combination with the other noise and air emission generating activities on JBLM, the proposed noise assessment would only slightly add to the noise and air emission generating activities during the three day RRPR test launch. For all current and future on-base activities that have a fire risk

including the proposed action, existing fire management programs would be utilized to minimize the risk from fire, thereby the proposed action cumulatively would not increase the risk of fire. The cumulative effects to soils and water resources would be minimal due to the short duration of the proposed action. The three day test launch would not expose fish and wildlife to greater peak noise levels than they currently experience on and near the installation. Species that use these habitats likely have adapted to noise associated with military activities, and would not be cumulatively impacted by the short-term noise assessment. The proposed three day RRPR test launch would be shorter duration and consistent with other on-going activities at JBLM and therefore would only negligibly contribute to effects on cultural resources, aesthetic and visual resources, and recreation.

### **Public Comment**

The Army published a Notice of Availability for the draft EA and draft FNSI on 27 July 2015, in the Tacoma News Tribune and the Olympian. Notice of Availability post cards were mailed to all entities within the EA's distribution also on this date. The draft EA and draft FNSI was available to the public for review from July 27, 2015 through August 25, 2015. An open house was held on August 13, 2015 at the Eagles Pride Golf Course Conference Center, JBLM. The draft EA and FNSI were posted on the JBLM Directorate of Public Works' website. All comments have been considered, have been incorporated into the final EA, as appropriate. Responses to all comments received are located in Appendix C of the final EA.

### **Mitigation**

This EA is based on the assumption that ongoing resource protection and conservation measures at JBLM will continue to be implemented, as they are documented as policy in various regulations and management plans. The protection measures help to mitigate many of the potential adverse effects associated with the proposed tests. Ongoing protection measures include, but are not limited to, fire management programs and procedures, the dig permit program, refueling buffers around aquatic habitats and wetlands, restrictions on certain types of training within land use zones or other areas that are managed to protect sensitive resources, seasonal restrictions on certain types of training to protect sensitive species, and restrictions on nighttime firing of certain weapons. Training under the Proposed Action would conform to the JBLM Integrated Natural Resource Management Plan and the JBLM Cultural Resources Management Plan, which detail resource management policies on the installation.

The following measures are proposed as additional mitigation for adverse effects to the natural environment under the Proposed Action. These additional measures would apply to noise-related effects to the surrounding communities and to sensitive fish and wildlife.

Do not conduct the test rocket fires during late nighttime hours, or on holidays. The time window for the first firing event would be 9:00 a.m. to 6:00 p.m., with the window for subsequent events adjusted as monitoring data warrants (but not earlier than 7:00 a.m. or later than 10:00 p.m.). *DM*

Conduct an assessment of tribal cemeteries and burials on JBLM for possible damage following each day of noise testing. *DM*

Notify Nisqually tribal officials, city and county law enforcement agencies, 911 call centers, and local school officials, and the news media prior to the first firing event. *DM*

Monitor noise levels during all firing events. If the noise assessment documents 'significant' noise levels in a day, all RRPR firing would be discontinued immediately. To determine significance, the following noise monitoring criteria would be used: *DM*

Cessation of operation will be considered if noise levels from the test launch exceed an average of 130 dBP for a day (average noise levels of nine rockets) at the monitoring station beyond the JBLM boundary, any factors that could potentially stop the test will be taken into consideration and the decision will be made by the Installation Commander and 17<sup>th</sup> Field Artillery Brigade Commander. *DM*

### Conclusion

I have considered the results of the analysis referenced above, comments received, and Army mission requirements. In review of the resource areas potentially impacted by the proposed action of the noise assessment of test launches of RRPRs, it was found that the preferred alternative would have no significant environmental impacts on the natural or human environment. Based on this documentation, which has incorporated or referenced the best information available, I have taken a hard look at known impacts and determined that the implementation of the proposed action, with the mitigation referenced above, will not significantly affect the environment and therefore, an Environmental Impact Statement is not needed.

12 May 2016  
Date

  
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