

**This is a representative sample of an approved waiver application  
for 14 CFR § 107.31**

June XX, 20XX

U.S. Dept. of Transportation  
Federal Aviation Administration  
General Aviation and Commercial Division (AFS-800)

RE: 14 CFR Part 107 Waiver Reference No.: 107W-201X-XXXXX

To whom it may concern,

This letter is our waiver application to request BVLOS operations and safety precautions related to our waiver request for 14 CFR Part 107.31.

We are engaged in mining in a remote part of the state about 48 miles east of XXXXXXXX, XX and four miles east of XXXXXXXXXXXX, XX. Our mining operations process generates waste which includes salt and clay that accumulates in extensive piles known as tailings. The tailings piles are very large and contain canyons which are formed when storm water comes into contact with salt in the tailings. These canyons and tailings pose a safety hazard to our personnel and equipment we use to move material on the tailings, due to their unstable and unpredictable nature. We want to monitor both the tailings and canyons within our operations, but are currently unable to monitor several areas given the safety risks.

Several dams have been constructed near our main processing plant and certain dams must be inspected pursuant to the Office of the State Engineer, Dam Safety Bureau regulations. Some of the dams have roads built on them, but access is limited to vehicles with rollover protection due to safety concerns. We are required to inspect and monitor these dams on a recurring basis by two separate teams. However, given conditions of the roads, several of these inspections must be performed on foot. We are seeking safer and more efficient ways to monitor and inspect these dams.

Salt lakes are present naturally in the area and are within our responsibility. We work with the U.S. Fish and Wildlife Service, to monitor these lakes for any migratory birds that may land on the water. This is to ensure that the bird's wings do not become contaminated with salt making flying impossible for them. The lakes are currently monitored by small boats. In the past X years, we have had XX incidents involving an employee falling out of boats. The lakes that must be monitored cover a large area and must be patrolled multiple times a day during the migratory bird seasons. Our established safety culture requires us to reduce the likelihood of reoccurrence of the previous incidents and the continued risks posed to our employees, we have researched new ways to accomplish these tasks in the safest possible manner.

Using small unmanned aircraft systems (sUAS) would provide a safer and more efficient process to monitor the lakes, dams, canyons and tailings. We have divided these areas into XX

localized flight zones. The sUAS that will be used has the system, software and communication equipment necessary to operate within a four statute mile range. None of the flight zones exceed four miles to ensure adequate communications performance capabilities. Please see Exhibit X for a comprehensive image of the XX zones and our operations. While the pilot will be able to monitor any personnel or vehicles present in the zones, they will not be able to maintain unaided visual line of site of the 12 inch by 12 inch sUAS. Accordingly, we are requesting that a waiver to 107.31 be applied to these zones only.

Zone 1 is located on property that is owned by the Bureau of Land Management but operated by us. This zone consists of tailings and canyons. There are no roads or structures within Zone 1. The closest structure is XXX feet from Zone 1, and is owned and operated by us. The only personnel who would be located in this zone are our employees who operate heavy vehicles to move the tailings. The sUAS would operate only when the area is free of personnel. We are currently unable to monitor the canyons located on the tailings due to the safety hazards such activity poses to its employees. Additionally, monitoring the tailings on foot is time consuming and exposes our employees to possible cavities and voids which the sUAS would be able to detect. Please see Exhibit X for an aerial image, the dimensions, and geographical coordinates of Zone 1.

Zone 2 is located on property that is owned by the Bureau of Land Management but operated by us. This zone consists of three dams that are operated, inspected and maintained by us. The dams surround a setting pond. Currently, we are unable to monitor and view the center of the pond for any changes. Except for these inspections, the area is not occupied by personnel. However, the flight zone will be visually inspected prior to and during sUAS operations to ensure no one is present in the area before and during sUAS operation. Please see Exhibit X for an aerial image, the dimensions, and geographical coordinates of Zone 2.

Zone 3 is located on property that is owned by the Bureau of Land Management and monitored by us. This area consists of a salt lake. There are no structures or roadways in this zone. An abandoned road is located near the zone, and the closest roadway in operation is located 0.75 miles away. The nearest structure is an oil pad located XXX feet from the flight zone. The dimensions of Zone 3 may vary with the amount of rainfall and lake level, but in no event would the flight zone include any structures or roadways. The use of boats on this lake to monitor migratory birds depends on the amount of rainfall. No personnel will be allowed on the lake or in the zone while the sUAS are operating. Please see Exhibit X for an aerial image, the dimensions, and geographical coordinates of Zone 3.

Zone 4 will be the primary area of operation under the waiver, and is privately owned by us. This area consists of the largest lake in our operations. There are two salt mining operations near the region, however, they do not operate within the flight zone. There are XX structures located near Zone 4, with the closest structure located XXX feet away. The launch and landing sites will be located within a reasonable range of the structures and within the unaided visual line of site of the pilot. Our personnel operating boats would be the only personnel present in this zone. No personnel will be allowed on the lake or in the zone while the sUAS are operating. The dimensions of the lake may vary with the amount of rainfall, but in no event would the flight

zone include any structures or roadways. Please see Exhibit X for an aerial image, the dimensions, and geographical coordinates of Zone 4.

Zone 5 is located on property that is owned and operated by us. This area consists of dams and a lake. There is a road that runs parallel to Zone 5, and is located approximately XXX feet away from the flight zone. There is also a road on the dam which can only be accessed by vehicles with rollover protection and is exclusively utilized by our employees. The dam and lake are monitored for changes and migratory birds. We will only operate the sUAS if the road is cleared and there are no personnel in boats over the lake. The dimensions of the lake may vary with the amount of rainfall, but in no event would the flight zone include any structures or roadways. Please see Exhibit X for an aerial image, the dimensions, and geographical coordinates of Zone 5.

In addition to mapping out remote flight zones, We have established written policies and procedures to ensure that all flight operations will be conducted in a safe manner. Please see the material submitted in our application as Exhibit X, for more detailed information regarding the sUAS operation, functionality, and safety procedures in place. We will also follow the guidelines listed below to ensure that flights conducted beyond visual line of site are conducted within the Performance-Based Standards for Part 107.31 with safety as the first priority.

- All flights conducted shall include a pilot in command and visual observer.
- The visual observer will monitor the airspace for any approaching aircraft and notify the remote pilot in command to suspend operations. The flight will be suspended until such time as the airspace has been cleared of other aircraft.
- The pilot will ensure that the sUAS operates at an altitude no higher than 200 feet above ground level during daylight hours in Class G airspace.
- Before operation, we will purchase and apply bright colored “skins” for the sUAS to make them highly visible and conspicuous.
- All flights will be conducted with equipment and software that allows the pilot to continuously monitor the attitude, altitude, speed, direction of flight and location.
- All flight personnel will be required to complete a job safety analysis as required by the Mine Safety and Health Administration in the operation of equipment.
- All flight personnel will complete a risk assessment for each flight outlining the risk of the flight and a detailed plan to mitigate the risk.
- All sUAS will be equipped with a return home function in the event of a malfunction.
- A preflight checklist will be completed by the flight crew prior to all flights. The preflight checklist will include the inspection of all equipment used for the flight and require testing of all functions of the sUAS. Please see Exhibit X for the preflight checklist.
- All flights paths will be in the pre-determined flight zones detailed herein. All flight zones will be visually inspected to ensure that the area is clear of personnel and that any obstacles have been identified by our employees prior to and during the flight.

All five zones requested by us for the waiver of 14 CFR 107.31 operate in a remote region in the and do not contain any structures. As detailed above, no personnel will be allowed in the zone

while the sUAS are operating. However, all of the zones will be visually inspected prior to and during sUAS operations to ensure no people or other aircraft are present in the area, and that any obstacles have been identified. Additionally, we have established sUAS training and safety policies and requirements, and has procured the proper sUAS operating software and safety mechanisms to safeguard against a malfunction, and mitigate the associated risks.

The sUAS offers a solution which addresses both the safety and our efficiency concerns. There will be no structures, people or other aircraft present, the risk of injury or damage to property by operating the sUAS pursuant to the waiver in the five zones is extremely low. We accordingly request that the FAA grant our request for a waiver of 14 CFR Part 107.31 in the zones specified pursuant to the limitations detailed herein.