PG&E's

Fulton-Fitch Mountain Reconductoring Project

Preliminary Helicopter Use Plan

April 1, 2016

The following preliminary plan describes the anticipated helicopter operations for the Fulton-Fitch Mountain Reconductoring project.

FEDERAL AVIATION ADMINISTRATION

At a minimum, all helicopter operations will comply with applicable FAA regulations and requirements. This includes, but is not necessarily limited to:

- Pilot qualifications;
- Aircraft worthiness; and
- Use of FAA-approved practices and equipment, where applicable.

GENERAL HELICOPTER USAGE

At this stage of the project, Pacific Gas and Electric Company (PG&E) has not selected a construction contractor and, therefore, can only make assumptions on construction means and methods. The majority of helicopter operations will be completed during wire stringing operations and transporting of materials, equipment, or personnel. Helicopters that could be used include:

- Light/Medium Helicopter (Similar to MD 500)
- Blackhawk or other similar heavy-lift model.

Heavy lift helicopters are anticipated to be used on the proposed project, and could be used to transport steel poles to the right-of-way if the proposed access roads cannot be used by vehicles that would normally deliver this material. Detailed information regarding the type of helicopter to be used and the applicable flight plans is not available, as helicopter work could potentially occur at any point along the line, depending on conditions in the field during construction.

It is anticipated that helicopter operations and refueling of helicopters may be necessary at all landing zones (LZs) proposed for the project. Each staging area may be used for helicopter activities at certain times depending on the construction sequencing and other project restrictions.

DURATION OF HELICOPTER USE

Based on the current anticipated construction schedule of approximately 12-months' duration, the project could potentially use multiple helicopters at one time. At a minimum, one helicopter would be used for approximately 12-months during the construction period. Additional helicopter(s) could be used during the construction period depending upon the final sequencing of construction. Multiple helicopters will be used if multiple types of activities requiring helicopter operation (such as conductor stringing and material transport) occur simultaneously or if one type of activity requiring helicopter operation occur at two separate locations along the project alignment and one helicopter is not sufficient.

HELICOPTER-BASED CONSTRUCTION

In general, helicopter operations will support the following four phases of work:

- Removal of existing lines and poles.
- Foundation installation for the new TSPs.
- Erection of new poles and installation of hardware.
- Stringing of conductors, fiber optic and ground wire.

Each phase of work may require the use of a different mix of helicopters. The following paragraphs briefly describe the types of helicopters that could be employed and how they would be used in support of each phase of work. Depending on construction access and other factors, the Contractor could use a mix of light, medium and heavy helicopters.

- Light lift helicopters can be used for the daily transport of personnel to work areas. These helicopters may also be used for transporting material and crews during construction activities, wire stringing operations, and staging personnel near transmission towers.
- Medium lift helicopters can be used for the transporting of materials and equipment weighing up to 5,000 pounds. This may include the following:
    - Wood/Steel Poles
    - Arms
    - Insulators
    - Tools
    - Portable Equipment
- Heavy lift helicopters can be used for new installation of poles and equipment with weights exceeding 5,000 pounds but normally less than 20,000 pounds.

RIGGING AND HAULING

The pilot is responsible for the integrity of the rigging used for any external load and safe delivery of the cargo by continuously inspecting and monitoring the rigging throughout the operation. Prior to commencing operations, the following tasks will be completed:

- Determination of rigging requirements
    - Review materials being transported
        - Dimensions
        - Weight
    - Slings and taglines
        - Length
        - Hooks
        - Spreader bars
        - Load rating
    - Netting
- Inspect the condition and application of all rigging to ensure serviceability.
- Inspect electrically operated remote hooks or other such items

In addition to these items, several other factors need to be considered during flight planning including, but not limited to, geography, overhead utilities, weather, environmental restrictions, and public exposure at each work location.

FLIGHT MANAGEMENT

Operational Control

PG&E requires a two tier system of operational control of aircraft operations. The first tier consists of the Aviation Contractor's management, including those in management and leadership positions listed in the Contractor's Operations Specifications. This management structure will be responsible for ensuring the contractor's pilots are appropriately trained and qualified, that they are assigned to an aircraft that is airworthy and capable of completing the assigned mission, and that the risk associated with the flight is identified, assessed, and mitigated. The contractor's management structure has the authority to initiate, divert, or terminate any flight conducted by its own pilots. All aircraft flown by a Contractor will be listed on that Contractor's Operations Specifications. All crew members must be approved by PG&E's Helicopter Operations Department (HOD) prior to the commencement of any aviation operations.

The second tier consists of the operational control the pilot exercises as the final authority over the operation of the aircraft. The pilot determines whether a flight can be accepted, initiated, and conducted or whether it must be terminated. The pilot is expected to operate in compliance with Title 14, C.F.R. and all other relevant regulations. If the pilot has any doubts that a flight can be safely completed in accordance with applicable rules and regulations, the flight will not commence or will be terminated immediately and the pilot will contact his company's management for additional guidance.

HOD reserves the right to conduct a safety audit of any aviation operator contracted to work in PG&E service territory. PG&E also reserves the right to exclude any aviation operator from operating on any PG&E projects, work or property.

OTHER CONDITIONS

Helicopter operation could occur as close as approximately 100 feet to any residence.

Prior to any helicopter operations, the pilot will look at each anticipated helicopter landing site, or incidental landing area (ILA), to ensure there is adequate clearance for planned operations.

In each LZ where helicopters may be used, there will be a designated area for helicopter landing and associated activities required for construction. All required spill prevention measures will be in place. When the helicopter is at a LZ/staging yard there may be a fuel truck to support the helicopter, with a minimum of five hundred (500) gallons of fuel.

FLIGHT PATH AND USE ASSUMPTIONS

Helicopters will travel to the site from a nearby airport and associated flight paths will be dependent on the location where each helicopter will be hangered overnight. It is currently

assumed that the helicopter fleet will be hangered at either the Charles Schultz Airport in Santa Rosa, CA or the Nut Tree Airport in Vacaville, CA. Additionally, helicopters may intermittently fly to the project site from their base in Red Bluff, CA. It is currently assumed that, once at the project site, all helicopters will fly along the route of the existing utility line from each respective LZ in a linear fashion, unless prohibit by FAA rules, environmental considerations, or other rules governing such flight. For the Fulton-Shiloh segment, it is currently assumed that helicopters will be used daily for approximately 2-3 months. For the Shiloh-Fitch Mountain segment, it is assumed that helicopters will be used for approximately 10 months.

The general flight times for helicopters during wire stringing and structure installation are as follows:

- Transport of structure material, hardware installation and wire stringing will typically require approximately 50 trips per structure at 5 to 10 minutes each. This includes fly time between the structure and the staging yard nearest the section of the project being constructed.
- Installation or removal of a pole or tubular steel structure will require 15 to 30 trips of approximately 5 to 10 minutes each.
- During a 10-hour work day, a helicopter would typically be in operation for the entire 10-hour day.