ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

SUPPLEMENT TO APPLICATION FOR CONDITIONAL USE PERMIT

South Jordan to Draper Transmission Upgrade
Conditional Use Permit Application # PLCUP201800742

To: City of South Jordan

Applicant: Rocky Mountain Power

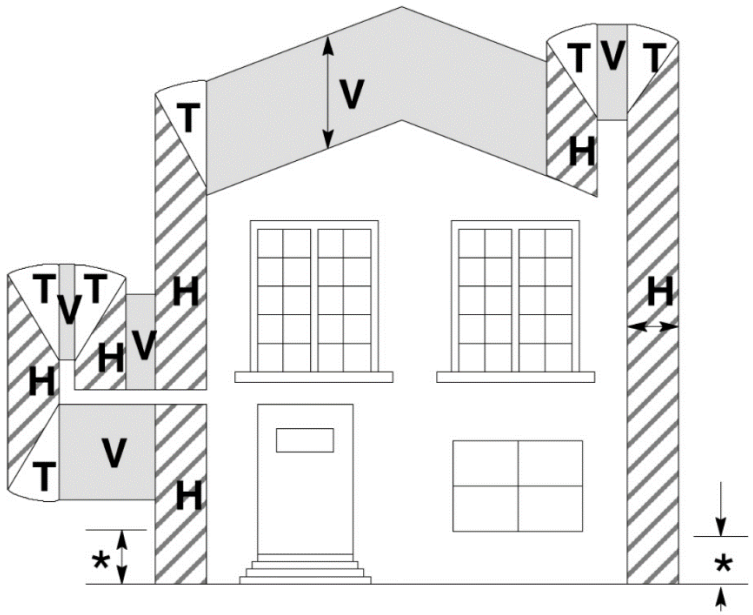
Date: December 11, 2018

The following information is provided as a supplement to Rocky Mountain Power's Conditional Use Permit application to (1) explain clearance requirements around the proposed rebuilt power line, and (2) describe measures taken by Rocky Mountain Power to mitigate electromagnetic fields (EMFs).

Clearances

Clearances are governed by the National Electric Safety Code (NESC) and by the applicable easements. The new power line has been designed to meet or exceed all clearance requirements.

The purpose of the NESC is to ensure the safe installation, operation, and maintenance of the electrical system. NESC clearances can be maintained from structures horizontally, vertically, or transitionally (the area between horizontal and vertical). The drawing below illustrates each of these types of clearances:



NESC clearance can be maintained by installing the conductor high enough vertically (V) directly over a building, or far enough away horizontally (H) adjacent to a building. NESC clearance is met if *any* of these clearances are met, so, for example, if there isn't sufficient horizontal (H) clearance from a structure, the NESC standard could be met by making the poles taller so the line meets the vertical (V) clearance standard.

However, the NESC does not prescribe an *easement* width. So, while the NESC applies to all of Rocky Mountain Power's power lines regardless of the type of easement, the requirements of the easement must also be taken into consideration.

Rocky Mountain Power holds two types of easements along this project – centerline easements and fixed-width easements.

- For centerline easements,[1] Rocky Mountain Power designed the new power line to follow the centerline described in the easement and used the NESC to determine clearances and ensure there is enough distance between the property owner's structures and the power line, as described above.
- For fixed-width easements, Rocky Mountain Power used the width of the easement as a starting point, but also ensured that the NESC clearances are met. The fixed-width easements on this project are 50 feet wide, and the easement provides restrictions on what structures the property owner can build within that corridor.

It is important to note that Rocky Mountain Power's existing easement rights would not be altered by the City granting the conditional use permit or by Rocky Mountain Power rebuilding the line. Also, Rocky Mountain Power's current policy regarding typical easement widths *on new easements* does not alter any pre-existing easements.

Also attached are copies of two Rocky Mountain Power standards relating to the calculation of clearances.

Electromagnetic Fields

Rocky Mountain Power is not aware of any scientific studies that prove electric fields from power lines cause negative impacts, including negative health effects. Independent bodies reviewing the EMF research conducted over the last twenty years have found no convincing link between EMF and adverse health effects. And although electromagnetic fields (EMFs) occur in the natural world and are generated at much higher levels by common household items like microwaves, hair dryers and heated blankets, Rocky Mountain Power acknowledges that some groups of people are concerned and prefer to limit their exposure to EMFs from power lines.

Rocky Mountain Power reduces EMF where practicable through "no-cost" measures. Rocky Mountain Power has planned to arrange the conductor on the pole using a "post-delta" arrangement where the line is single circuit. This arrangement produces lower magnetic fields than other single circuit conductor arrangements. Where there is a double circuit line, Rocky Mountain Power has planned to roll the phases of the two transmission lines to create a cancelling effect. While these no-cost measures do not eliminate the magnetic fields, they have proven to reduce magnetic fields relative to alternate arrangements and phasing.

[1] Please refer to Rocky Mountain Power's response to Question 1(a) on the Supplement to this application dated October 23, 2018, for more background on centerline easements.

A diagram of various conductor arrangements and the associated magnetic fields is found below. You will note the two types of arrangements we are planning on utilizing produce lower magnetic fields than any other arrangements.