

"Silcox Route"

July 13, 2009 email with Route from Goggle Earth
Attn: Mike Nelson, BLM Salt Lake Field Officer

As a way of introduction, I am the elected Chairman and Spokesperson for the Tooele Citizen's Committee who are opposing the Proposed and Alternate Routes running through the residential areas in Tooele Utah. Members of the Committee voted in favor of my proposed route attached at our last meeting Thursday July 9, 2009 and asked me to present it to the BLM and Rocky Mountain Power for consideration. We are not against Rocky Mountain Power; but we are steadfastly against where they want to place their lines. It is unacceptable to us as residents. We also realize the need to move forward by Rocky Mountain Power and the BLM and that part of the process of opposing the project is to also offer valid solutions to assist in resolving the issues.

At the BLM Meeting held in Tooele on June 23, 2009 I spoke with Brandon Smith, Rocky Mountain Power Project Manager suggesting the route I have attached as being a better route for Section 190 of the Mona to Oquirrh Transmission Project. My proposed route shifts RMP's route approx 1.8 miles South which I was told was within your scoping allowance variance. It is several miles shorter than any other proposed or alternate routes to reach the Oquirrh Substation and moves the lines away from all residential areas in Tooele. It is invisible from all roads entering and exiting Tooele City. It eliminates the route involving the East Bench of Tooele and the North Oquirrh Management area and it connects at Butterfield Pass following the BLM's Alternate Route to the Oquirrh Substation.

I spoke again with Brandon Smith last Friday July 10, 2009. Mr. Smith said Rocky Mountain Power was sending engineers to meet with the BLM on Tues, Wed and Thurs of this week to look at our area along with several issues along the Mona to Oquirrh Corridor. And following their assessment, he wanted to schedule a meeting with myself and a small group of representatives from our Committee.

Please review the attached route and also provide it to Mr. Smith so we can work together towards a positive solution for all involved. Thank you for your help and assistance. We appreciate your efforts and the protection of the BLM. I look forward to hearing from you and Mr. Smith soon. I can be reached via cell 435-840-8173 or 435-840-2467. email bradpratt7@hotmail.com or kmpratt1@hotmail.com

Sincerely,
Brad Pratt, Chair and Spokesperson
Tooele Committee Opposing RMP/ M2O Routes through Tooele Valley

Mona – Oquirrh Transmission Line

Link 190 Re-route analysis:

**Line shift to the south from Silcox Canyon to Middle
Canyon/Butterfield Canyon to Oquirrh**

Black and Veatch

7/29/09

**Mona – Oquirrh 345 kV Transmission Line Corridor in the vicinity of Tooele City –
Comparison between proposed routes of RMP vs. CCT**

Objective

The purpose of this analysis is to objectively highlight the differences between the alignments proposed by Rocky Mountain Power (referred RMP henceforth) and the Concerned Citizens of Tooele (referred CCT henceforth). Both of the alignments are broadly shown in Appendix A attached to this report. The differences between the two proposed routes mentioned above will be compared in the key characteristic areas of length, terrain, environmental impact, constructability, maintenance and cost.

Route length:

To compare the lengths of the two proposed routes accurately, RMP's and CCT's proposed routes were extended to a common starting and ending point (refer Appendix A). Please note that CCT's proposed route may not have been followed exactly, however CCT's starting point and Oquirrh Mountain crossing location are accurately shown. A conceptual design, based on these two locations provided by CCT, was completed and their suggested route change to link 190 was connected to link 215. The total length of RMP's proposed route is 19.6 miles. The total length of CCT's proposed route is 19.0 miles.

Terrain:

The terrain associated with each of the proposed routes varies significantly. RMP's route crosses the Oquirrh Mountain range at an elevation of approximately 8150 feet, whereas CCT's route crosses at approximately 9550 feet. It is important to note that PacifiCorp standards (which are based on National Electrical Safety Code, the regulatory code of practice) call for additional clearance requirements for elevations over 9300 feet. This will increase both the insulator length and clearance to ground, which will result in larger structures. Another major differentiator between the terrains of each alignment is how steep the Oquirrh Mountains are at each of the crossings. RMP's alignment has slopes approaching 2:1 for approximately 0.7 miles whereas CCT's alignment has slopes approaching 2:1 for approximately 2.0 miles.

Environmental impact:

CCT's alignment crosses over the Oquirrh Mountains in an area that has been relatively untouched. CCT's route will traverse through approximately 2.9 miles of steep mountainous terrain that lacks existing access roads. RMP's route over the west side of the Oquirrh Mountains will disturb approximately 1.6 miles of relatively untouched land, comparable to the terrain affected by CCT's route. However, the east side of RMP's Oquirrh Mountain crossing has already been highly disturbed due to Kennecott's mining activities. The areas along each route that will face significant access road issues are highlighted in Appendix B. The majority of the environmental impact involves the building new access roads which is discussed in more detail under "constructability" below.

Constructability:

The construction methods for both of these options would likely be similar. Preliminary research shows that a heavy lift helicopter can only lift 9732 lbs at an elevation of 9000 feet and a temperature of 50 degrees F. This lifting capacity for the same elevation drops approximately

linearly to 5832 lbs at 90 degrees F. The large angle tubular steel pole (which will be required at the peak) weighs in excess of 100,000 lbs with individual members weighing beyond the capacity of the heavy lift helicopter. This eliminates the possibility of using helicopter erection methods over the Oquirrh Mountain regions to minimize environmental impact utilizing tubular steel pole structures.

Hence, the standard method of construction using access roads will need to be utilized. In order to build and maintain the transmission line, access roads will need to be built to each structure location. Access road standards include a 10% maximum slope with up to 20% allowed for short stretches and approximately 2:1 cut/fill slopes. These criteria will force a large network of roads along each of the proposed routes. As a general rule: the steeper the terrain, the greater the scar from the access roads. Easements will also need to be purchased for all roads and cut or fill slopes outside of the transmission line Right of Way.

Lattice steel structures could be utilized in the mountainous areas possibly allowing the use of a heavy lift helicopter; however, they have a larger footprint resulting in greater environmental impact. Also, the need for access to maintain the transmission line will remain the same for lattice towers.

Both routes over the Oquirrh Mountains will face the above constructability issues. Both routes will also have challenges with building access roads. The existing access roads, with the exception of the Oquirrh Mountain crossing, are relatively similar for both of the proposed routes. Therefore, the greatest difference between constructability of the two routes is the Oquirrh Mountain crossing. RMP's route will be a lower cost and have less of an environmental impact on the surrounding terrain, drainage and vegetation because of the Oquirrh Mountain crossing location. Also, since CCT's proposed route will cross Oquirrh Mountains at a higher elevation, more access roads need to be built for that route.

Maintenance:

Due to the 1400 foot elevation difference between the proposed routes, maintenance access in the case of a winter outage will be a more challenging issue for the CCT's proposed route.

Cost:

The main cost differences between the two route options are influenced by the length, the Oquirrh Mountains crossing elevation, the varying number of angle structures and the new access road construction. Elevation and additional angle structures along CCT's proposed route will make it costlier to build. The access roads to CCT's proposed route in the proximity of the Oquirrh Mountain crossing will also increase cost due to the additional length of access roads.

Conclusion

In conclusion; RMP's route, although slightly longer, will provide a more constructable and cost effective design while minimizing environmental impact.

APPENDIX A

Proposed routes of RMP and CCT



APPENDIX B

Access road issues of RMP and CCT

