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 STATE OF UTAH
 NATURAL RESOURCES
 Wildlife Resources

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*orig Mike Lile
 cc J. Whitehead
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RECEIVED #3
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**DIVISION OF
 OIL, GAS & MINING**

Dr. Dianne Nielson, Director
 Utah Division of Oil, Gas and Mining
 355 West North Temple
 3 Triad Center, Suite 350
 Salt Lake City, UT 84180-1203

Attn: John Whitehead and Kathy Mutz

Dear Dianne:

In regard to Utah Power and Light Company's proposed monitoring plan for eagle nesting and subsidence associated with the Cottonwood Mine, the following is offered for your consideration.

The Division has reviewed the Company's proposed monitoring plan and find the seven objectives to be cumbersome and without the appropriate definition. It is recommended that the objectives be trimmed and modified such that only four exist. The following are recommended:

1. Establish trend data for golden eagle nest populations within Utah Power & Light's East Mountain mine plan area and nearby environments. This would be known as the study area.
2. Determine the rate of cliff spalling as effected by subsidence in the Newberry (experimental) and Miller Canyon (control) nesting areas.
3. Determine the effects of mining and subsidence on golden eagle nest activity in Newberry and Miller Canyons.
4. Identify potential mitigation measures for subsidence impacts to golden eagle nests.

In order to accomplish Objective 1, the Company needs to contract for a helicopter, either a Hughes 500 or a Jet Ranger with complete onboard communications, capable of transporting three field personnel. It is recommended that those personnel be represented by the Division of Wildlife Resources, U.S. Fish and Wildlife Service and Utah Power & Light Company. The helicopter inventory needs to make an intensive survey of the entire study area to determine the location of raptor nests and the status of such during the last half of the month of May. Such a task would require approximately 10 hours of flying time.

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In order to accomplish Objective 2, the cliffs associated with Newberry Canyon need to be monitored through the use of electronic distance meters (EDM) this should occur at two-month intervals throughout the period of mining as well as during post-mining until a time when subsidence has ceased. Although U.P. & L. anticipates that the subsidence would be fairly rapid following the completion of mining, that question still remains unresolved. Therefore, it is recommended that monitoring with EDM equipment continue for a minimum of two years post-mining. In addition, a photographic sampling of 10% of the cliff face in Newberry and Miller Canyons, which represents experimental and control situations respectively, should be made to determine the degree of spalling. This can be accomplished by having permanent photo locations over which a grid can be laid for statistical analysis. Such a grid should be of complexity to allow replacations and pooled data analysis.

In order to accomplish Objective 3, the Newberry Canyon area needs to be monitored from the ground for a four-hour period during six different time periods (late February, early and late March, mid-April, mid-May and early June). The purpose of this monitoring is to determine the nature of eagle activity associated with the four nest sites known in Newberry Canyon. Data collected is to be correlated with underground mining activities, EDM measurements and cliff spalling data.

In order to accomplish Objective 4, the company needs to search the literature and determine what other scientists have accomplished in the arena of mitigation relative to raptor nesting, particularly eagles. Without question, the mitigation potential can be expanded and manipulated by Utah Power & Light Company to fit the needs of their particular mining operation.

It is important to stress that the monitoring plan submitted to date by Utah Power & Light Company roughly indicates a monitoring technique. From a cursory position this technique appears to be nearly adequate. However, Utah Power & Light Company should be encouraged to draft a very detailed, but yet concise, monitoring plan such that the anticipated goals and associated methodology can be adequately evaluated. It is also important to note that the data collected under Objective 1 will have the least utility in the decision making process concerning the effect of underground coal mining and subsidence on raptor nesting.

Thank you for an opportunity to review and provide comment on this plan.

Sincerely,


Acting Director
William H. Geer
Director