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10 CFR 70.5

January 29, 2010

AES-O-NRC-10-00263-0

ATTN: Document Control Desk U.S. Nuclear Regulatory Commission Washington, DC 20555-0001

> AREVA Enrichment Services LLC Eagle Rock Enrichment Facility NRC Docket No: 70-7015

Subject: Environmental Report for the EREF; Supplemental Information – EREF 161-KV Transmission Line (ER RAI #4 - Revised Response)

On April 23, 2009, AES submitted a revised License Application to the U.S. Nuclear Regulatory Commission (NRC) to construct and operate the EREF (Ref. 1).

In August 2009, the NRC issued an RAI to AES requesting additional information to support its evaluation of the *cumulative impacts* of the off-site transmission lines (Ref. 2). AES provided additional information to the NRC on September 9, 2009 (Ref 3).

In our letter of January 27, 2010, we summarized our decision to remove the redundant west transmission line from the license application and indicated AES would revise the response to ER RAI #4 and submit the information by January 29, 2010 (Ref. 4).

The revised response to ER RAI #4 is provided in Enclosure 1 and provides the NRC with the information needed to support its evaluation of the *cumulative impacts* of the offsite transmission line.

The EREF License Application will be revised to show the selected transmission line route in the Revision 2.

If you have any questions regarding this submittal, please contact me at (508) 573-6554.

Respectfully,

James A. Kay / Licensing Manager

AREVA ENRICHMENT SERVICES LLC

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References:

- 1) S. Shakir (AES) Letter to the U.S. Nuclear Regulatory Commission, Revision 1 to License Application for the Eagle Rock Enrichment Facility, dated April 23, 2009.
- 2) B. Reilly (U.S. Nuclear Regulatory Commission) Letter to Jim Kay (AES), Request for Additional Information AREVA Enrichment Services LLC Environmental Report for the Eagle Rock Enrichment Facility, dated August 10, 2009.
- J. Kay (AES) Letter to the U.S. Nuclear Regulatory Commission, Response to Requests for Additional Information – AREVA Enrichment Services LLC Environmental Report for the Eagle Rock Enrichment Facility, dated September 9, 2009.
- 4) S. Shakir (AES) Letter to the U.S. Nuclear Regulatory Commission, EREF Transmission Line Review, dated January 27, 2010.

Enclosure:

1) Supplemental Information - EREF Environmental Report, ER RAI #4 Revised Response

Commitment:

1) The EREF License Application will be revised to show the selected transmission line route in the Revision 2.

CC:

Breeda Reilly, U.S. NRC Senior Project Manager Steve Lemont, U.S. NRC Senior Project Manager Bruce Biwer, Argonne National Laboratory

SUPPLEMENTAL INFORMATION EREF ENVIRONMENTAL REPORT

ER RAI #4 – Revised Response

Text of NRC RAI Number: ER RAI 4.a

Provide additional information regarding the analysis performed to locate the proposed electrical transmission lines for EREF site power consumption.

a. Provide a copy of the Rocky Mountain Power conceptual study report (December 2008) that describes potential facility access to the electric grid (transmission line options) as identified during the NRC site visit in June.

Section 4.1.2 (AES 2009a) described land use considerations, but did not provide a basis for the locations of the proposed transmission lines. This information is needed to assess the construction and operation cumulative impacts of the proposed EREF.

AES Response to NRC RAI:

The requested Rocky Mountain Power study report was provided previously.

AES selected the proposed eastern transmission line route because it includes the following positive features:

- It will be constructed entirely along privately owned lands, and does not cross any public, state, or federal lands.
- A portion of the proposed 161-kV transmission line will run along an existing 69-kV transmission line route minimizing the amount of new land used for the transmission line.
- The transmission line corridor route will be accessible using existing access roads from U. S. Highway 20. No new access roads along U.S. Highway 20 will be required.
- In locations where the transmission line crosses privately owned agricultural land or privately owned grazing land, farming and grazing could be continued on the property by the landowner. The transmission line will not interfere with existing center-pivot agricultural systems.
- Field surveys for a 91-meter (300-foot) width along the transmission line centerline concluded:
 - There are no cultural or historical resources along the transmission line corridor.
 - No sage-grouse leks or raptor nests occur within the transmission line corridor.
 - No burrows or other sign of pygmy rabbits were observed.
 - Sagebrush habitat loss would be less than 0.01% of the sagebrush steppe habitat within 8-km (5-mi) of the proposed corridor.

Refer to the attachment (161-kV Transmission Line Description and Land Use) for additional discussion related to land use for the proposed transmission line.

Rocky Mountain Power will obtain the necessary licenses and permits to construct and operate the 161-kV transmission line to the proposed EREF site under the provisions of 18 CFR 35. This activity will be conducted independently of the activity to acquire a Materials License under 10 CFR 70 to construct and operate the EREF.

1.0 OVERVIEW

This transmission line would originate from an existing substation east of the EREF (Bonneville Substation) and extend to the new point of service (Twin-Buttes Substation) for the EREF. AES would construct, own, and operate a 161-kV substation immediately adjacent to the new RMP Twin-Buttes Substation that would distribute power within the EREF. Approximately 14.5 km (9 mi) of the proposed 22.1-km (13.75-mi) transmission line route runs along an existing 69-kV with 25-kV under build, and would replace the existing transmission line service with 161-kV/69-kV double circuit with 25-kV under build. To the extent possible, the new single pole structures would be placed in the existing structure locations.

The proposed transmission line would traverse privately owned property within Bonneville County. As such, a permit to construct and operate the 161-kV transmission line is required from Bonneville County. Easements from private landowners would be required for the proposed route on their lands. The transmission line would not cross public, state, or federal lands.

Additional surveys and studies were conducted along the proposed transmission route to characterize the environment of areas not previously evaluated. Field surveys were conducted for a 91-meter (300-foot) width along the proposed transmission line centerline (Figure 1) including within the EREF property up to the area of proposed disturbance for the EREF project area (EREF ER Section 3.8.1).

Figure 1 (Sheets 1-7)

A description of use for Figure 1, sheets 1-7, is provided with Figure 1.

2.0 DESCRIPTION

Much of the proposed transmission line route is composed of irrigated agricultural land and pasture land. A portion of the transmission line route is composed of native sagebrush steppe and crested wheatgrass plantings.

The proposed 161-kV transmission line route would extend west from the existing RMP Bonneville Substation along the county road (West 65 North Street) to the existing RMP Kettle Substation, a distance of approximately 14.5 km (9 mi), continuing west to the eastern portion of the EREF site, a distance of approximately 1.2-km (0.75-mi), then north within the EREF site to its northern end, then west and south to the new RMP Twin-Buttes Substation, for a distance of approximately 6.4-km (4-mi); a total distance of approximately 22.1-km (13.75-mi) (Figure 1). This power source would involve a 14.5-km (9-mi) rebuild of the existing 69-kV line between the Bonneville Substation and the Kettle Substation to include a double-circuit line with one side energized at 69-kV and the other side energized at 161-kV, with a 25-kV under build. The 161kV point of service at the EREF, designated Twin-Buttes Substation, would be constructed and modifications to the Bonneville Substation would be required.

Design conducted since the surveys placed some portions of the pulling/tensioning sites at Bonneville substation and the western extent of the line (structures 116 and 113) outside the surveyed area. A portion of the new two track access road from the existing dirt farm road on the EREF property (at structure 116) is also outside the surveyed area. Refer to Figure 1, sheets 2 and 3. The pulling/tensioning sites are temporary; work at these sites would only occur for a few weeks with temporary easements obtained from those private land-owners. If the final transmission line design confirms that the additional area outside the previously surveyed area is needed, then consistent with the approach in the EREF Environmental Report, surveys will be conducted prior to the activities in the area proceeding. The tensioning sites at structures 139 and 149, and the area for other use such as the construction lay down area on the EREF property, though shown outside the transmission line corridor, are within the EREF Area of

Potential Effect (previously surveyed for the EREF). Access to existing farm roads on the EREF property are shown at structures 132 and 128. Refer to Figure 1, sheet 1. One new access road will be a two track access road (dirt road) from the existing dirt farm road on the EREF property to structure 116 on the EREF property. Refer to Figure 1, sheets 2 and 3.

Existing access roads to the transmission line corridor near Kettle Substation are shown at structures 112 and 109 (Figure 1, sheets 2 and 3). Existing access roads to the transmission line corridor east of the Kettle Substation are shown at structures 63, 36, and 18 (Figure 1, sheets 4 and 5). Continuing east, a tensioning and pulling site is shown as structures 2, 1, 118, 117, and 116 (Figure 1, sheet 5). Continuing east, existing access roads are shown at structure 82 (Figure 1, sheets 6 and 7). The tensioning and pulling sites at Bonneville Substation are shown on Figure 1, sheet 7.

A portion of the proposed transmission line route and the new RMP Twin-Buttes Substation are located within the EREF property and within the EREF area of proposed disturbance. The EREF ER describes the environment and mitigation measures related to construction activities within the EREF site. Prior to RMP construction activities within the EREF site, initial construction activities such as ground clearing and grading of the previously undisturbed areas will be completed and environmental concerns that accompany RMP transmission line and substation construction within the boundaries of the EREF (i.e., cultural resources, ecological resources) will have been mitigated. A portion of the RMP transmission line and the Twin-Buttes Substation will be within this cleared and graded area. AES will ensure that cultural resources site MW004 (EREF ER Sections 4.8 and 5.2.8) and ecological resources related to critical plants and habitat (EREF ER Sections 4.5 and 5.2.5) are mitigated prior to RMP construction activities within the boundaries of the EREF. RMP will comply with the AES practices, procedures, and applicable mitigation measures for construction activities within the EREF property. RMP will obtain a NPDES Construction General Permit from Region 10 of the EPA and a Stormwater Pollution Prevention Plan will be developed, pursuant to Section 402 of the Clean Water Act.

Structures

The proposed 161-kV transmission line would primarily use a combination of double wood pole H-frame structures and wood single pole structures. For dead-end structures, both wood threepole dead-end structures and steel single pole dead-end structures would be used. From the Bonneville Substation to the Kettle Substation along the county road North 65th, a single wood pole double-circuit with an under-build would be used. From the Kettle Substation to the RMP point of service (Twin-Buttes Substation), double wood pole H-frame structures would be used. Most poles would be directly imbedded in holes augured into the ground to a depth generally equal to 10 percent of the pole's length plus an additional 0.6-meters (2-feet); approximately 3meters (10-feet) imbedded below ground surface for the wood single pole structures, and approximately 2.7-meter (9-foot) imbedded below ground surface for the double wood H-frame structures. Steel dead-end poles would be imbedded to a depth of approximately 9.1-meters (30-feet). There are no poured foundations required for the transmission line structures. Most poles would be self-supporting (non-guyed), although poles at angles in the transmission line may require supporting guy wires. Steel single pole dead-end structures will be required along the route from Bonneville Substation to Kettle Substation, at the dead-end of the single pole route at Kettle Substation, and at the dead-end ties to the Bonneville Substation. Three-pole dead-end structures will be required along the double wood pole H-frame structure route from the Kettle Substation to the Twin-Buttes Substation.

The double wood pole H-frame structures would be spaced approximately 215 meters (700 feet) apart with a pole height of approximately 20-meters (65.5-feet) above ground. The wood single

pole structures would be spaced approximately 91-meters (300-feet) apart with a pole height of approximately 24-meters (79-feet) above ground, with the exact spacing and height of each structure governed by topography and safety requirements for conductor clearances and resource (e.g., cultural, biological) impact avoidance measures. The steel dead-end poles would have a pole height of approximately 24.4-meters (80-feet) above ground. The wood single pole structures along the existing 69-kV transmission line corridor will, to the extent possible, use the locations of the existing 69-kV poles to be dismantled and removed. The structure locations near the public land parcels will use new locations as the line is moved north and south of the public land approximately 10.7-meters (35-feet) from the existing structure locations to accommodate the required right-of-way for the 161-kV line while avoiding public property.

For the existing 69-kV transmission line that runs from the Bonneville Substation to the Kettle Substation near the EREF site, RMP will build a double-circuit transmission line (161-kV and 69-kV), with a 25-kV transmission line underbuild. The double-circuit build would consist of replacing the existing transmission line structures with new structures (as described above) that would support both the proposed 161-kV circuit and the existing 69-kV circuit on the opposite side of the 161-kV transmission line. The remainder of the transmission line route would accommodate the construction of the 161-kV line with no double-circuit or underbuild on the 161-kV structures.

Right-of-Way Acquisition

New rights-of-way or easements would be needed from private landowners for the proposed transmission line. Where two-pole H-frame structures would be used, right-of-way easements would need to be 38-meters (125-feet) in width. Where single pole structures would be used, the needed right-of-way easement would be 24-meters (80-feet) in width (the existing transmission line right-of-way along West 65 North Street is 15.2-meters [50-feet] and would be expanded by 4.6-meters [15-feet] on either side of the centerline). Easements will be obtained by RMP from landowners for the new right-of-way on private land. These easements would give RMP the right to construct, operate, and maintain the proposed transmission line as well as maintain vegetation in the right-of-way. Fee title for the land within the right-of-way would normally remain with the landowner, and a number of activities such as farming and cattle grazing could be continued on the property by the landowner. The easement would prohibit certain activities such as the construction of buildings and any other activities within the right-of way that could interfere with the transmission line or create a hazardous situation.

Access Roads

Transmission line construction requires the movement of large vehicles along the right-of-way and from U.S. Highway 20 to the right-of-way. Except for one new access road, the entire transmission line route can be accessed from existing access roads from U.S. Highway 20 and West 65 North Street, a county road which parallels the proposed route, or from AES property for structures at the EREF. The new access road will be a two track access road (dirt road) from the existing dirt farm road on the EREF property to structure 116 on the EREF property. Access roads are shown in Figure 1.

Construction Yard

All of the staging would occur along the transmission line corridor or on AES property. Poles would be transported to the structure locations along the right-of-way upon delivery. Other materials such as conductors, insulators, and associated hardware would be staged at a laydown area within the EREF disturbed area adjacent to the location of the proposed Twin-Buttes Substation. This staging area would be accessed from the EREF construction road to be

built by AES. Staging areas are approximately 0.8-ha (2-ac) in size relatively, flat, previously cleared. The staging area near the proposed Twin-Buttes Substation within the EREF disturbed area will have been previously excavated by AES construction activities.

Structure Sites

At structure sites, relatively level areas would be needed to facilitate the safe operation of equipment, such as construction cranes. These areas would be approximately 38 meters (125 feet) in-line and 38-meters (125-feet) wide. Because the terrain is relatively flat, grading is not expected. Vegetation in work areas would only be cut to the extent necessary to allow vehicle passage (drive-over) and construction assembly. After line construction, disturbed areas would be graded to blend as near as possible with the natural contours and the areas would be reseeded as necessary. Structure sites are shown in Figure 1.

Pulling and Tensioning Sites

Pulling and tensioning sites would be located at either dead-end structures or route angle change structures at approximately 3.2-km - 4.8-km (2-mi - 3-mi) increments along the centerline of the project. At pulling and tensioning sites, the work area would be approximately 122-meters (400-feet) in-line by 61-meters (200-feet) wide for H-poles and 122-meters (400-feet) in-line by 49-meters (160-feet) wide for single poles. At angles greater than 45 degrees, surface disturbance from pulling and tensioning may occur within a 150-meter (500-foot) radius of the outside of the structure angle. As with structure sites vegetation in the work areas would be cut only to the extent necessary to allow vehicle passage (drive-over). After line construction, disturbed areas would be graded to blend as near as possible with the natural contours and the disturbed areas would be reseeded as necessary. Pulling and tensioning sites are shown in Figure 1.

Substation Installation

The design, construction, operation, and maintenance of the new Twin-Buttes Substation will meet or exceed the requirements of the NESC, OSHA regulations, and RMP's requirements for safety and protection of landowners and their property. The proposed substation will sit within a 6-ha (15-ac) site on AES property located adjacent to the EREF. The Twin-Buttes substation footprint is approximately 174-meters by 122-meters (570 feet by 400-feet) and will have a gravel surface.

Expansion of the Bonneville Substation will be required to accommodate connections to the existing 161-kV distribution system for the new transmission line. The Bonneville Substation will be expanded by 19.8-meters (65-feet) to the east to support this project. The expanded fenced area will be 165-meters × 110-meters (540 feet × 360-feet). The Bonneville Substation expansion will remain within the RMP owned property. No changes are identified at the Kettle Substation at this time.

3.0 **RESOURCES**

Historical and Cultural Resources

A field survey of a 91-meter (300-foot) width along the transmission line centerline (up to the previously surveyed area for the EREF) was conducted to identify archaeological resources that may occur in the transmission line corridors. There are no historical and cultural sites along the transmission line corridor.

On the EREF site, Site MW004 is in the location of the Twin-Buttes Substation. AES will develop a treatment plan for Site MW004 in conjunction with the Idaho SHPO, and mitigation measures for Site MW004 will be stipulated. The treatment of Site MW004 will occur prior to

any transmission line construction activities in that location. Refer to the EREF ER Section 4.3 for additional information regarding Site MW004.

In the event that any inadvertent discovery of human remains or other items of archeological significance is made during construction, construction activities will immediately cease in the area around the discovery and the Idaho SHPO will be notified to make the determination of appropriate measures to identify, evaluate, and treat these discoveries. RMP will provide an Unanticipated Discoveries Plan and will communicate these requirements to construction workers, including contractors, prior to commencement of construction, and for any new personnel that join the construction team prior to their involvement in construction activities.

Biological and Ecological Resources

A rare, threatened and endangered species survey for both plants and animals was conducted along the transmission line corridor to the EREF. The EREF was surveyed previously as described in the EREF ER Section 3.5 and supplemental surveys. No threatened or endangered species or designated critical habitat is present along the proposed transmission line corridor.

No sage-grouse leks occur within the 91-meter (300-foot) corridor surrounding the transmission line centerline. No signs of sage-grouse were observed in the transmission line corridor survey. The low volume of use of habitat within the survey corridor was not unexpected due to the limited amount of suitable sagebrush habitat within the corridor.

Destruction of sagebrush is one of the most important measures of potential impact on sagegrouse. A total of 48-ha (118-ac) of sagebrush steppe habitat exists within the transmission line corridor. Considerably less sagebrush steppe habitat will be impacted since the only vegetation within the 91-meter (300-foot) wide corridor that will be permanently removed is at the locations for structure placement. Furthermore, much of the existing sage-grouse habitat along the transmission line route is marginal and fragmented because of roads and agricultural operations that have permanently changed the native vegetation communities in the area.

The sagebrush component within the transmission line corridor contains marginally suitable habitat for the pygmy rabbits. However, during the transmission line field surveys, no burrows or other sign of pygmy rabbits were observed. The nearest known populations are over 24-km (15-mi) west of the EREF on the INL.

No raptor nests were observed along the proposed transmission line corridor. Although the transmission line will occupy land that is potential habitat for several migratory species protected under the Migratory Bird Treaty Act, the mitigation measures are expected to minimize potential impacts to raptors and other avian species.

4.0 VEGETATION

The general vegetation within the transmission line corridor is made up of fragmented sagebrush steppe communities and agricultural croplands, with a few areas alongside the road edges containing crested wheatgrass plantings (Figure 1).

The sagebrush steppe community for the 91-meter (300-foot) wide corridor surveyed along the proposed transmission line centerline encompasses approximately 48-ha (118-ac). Irrigated agricultural croplands for the 91-meter (300-foot) wide corridor surveyed along the proposed transmission line centerline encompass approximately 155-ha (382-ac).

Conservatively assuming that a 6.1-meter (20-foot) wide swath of vegetation associated with the sagebrush communities will be permanently removed for access to the transmission line route and structures, construction within the sagebrush steppe habitat communities will result in the removal of approximately 3.2-ha (7.9-ac) of sagebrush habitat along the transmission line route.

However, vegetation would only be cut to a height that can be driven-over and sagebrush removal would occur only at structure sites.

To mitigate vegetation impacts, cleared or disturbed areas will be reseeded using a native seed mix and access routes will be limited to existing roads and trails.

5.0 CUMULATIVE IMPACTS

The past, present, and future actions in the project area are fairly limited since much of the proposed transmission line route is composed of agricultural cropland and native rangelands and grasslands. Agricultural practices have occurred and will continue to be practiced on the proposed route.

Projects and activities in the vicinity of the proposed transmission line corridors may contribute cumulatively to cultural resource impacts. Because these resources were not observed along the transmission line corridor, cumulative impacts to cultural resources will be small.

Cumulative effects to biological resources are generally additive and would be proportional to the amount of ground disturbance and native vegetation removal within specific project areas. Of primary consideration for biological resources are actions that could reduce native sagebrush habitat and result in a concomitant decrease in habitat for sagebrush obligate wildlife species. Conservatively assuming that a 6.1-meter (20-foot) wide swath of vegetation associated with the sagebrush communities will be permanently removed for access to the transmission line route and structures, construction and operation of the proposed transmission line and associated facilities will contribute to the direct loss of up to 3.2-ha (7.9-ac) of sagebrush habitat in the region. This loss will represent less than 0.01% of the sagebrush steppe habitat within 8-km (5-mi) of the proposed corridor. Therefore, cumulative impacts will be small.













