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Comment On: NRC-2012-0001-0008
License Renewal Application for Callaway Plant, Unit 1; Draft Supplemental Generic Environmental Impact Statement

Document: NRC-2012-0001-DRAFT-0006
Comment on FR Doc # 2014-03845

2/24/2014

Submitter Information

79FR 10200

Name: Robert Stout

(H)

General Comment

See attached file(s)

Attachments

Callaway Relicense SEIS comments MDNR 4-4-2014

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Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

April 4, 2014

Ms. Cindy Bladey, Chief, Rules, Announcements, and Directives Branch 15 (RADB)
Division of Administrative Services, Office of Administration
Mail Stop: 16 3WFN-06-44M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Generic Environmental Impact Statement for License Renewal of Nuclear Plants,
Supplement 51, Regarding Callaway Plant Unit 1, NUREG-1437

Dear Ms. Bladey:

The Missouri Department of Natural Resources (department) offers the following comments on the Supplemental Environmental Impact Statement for the license renewal of the Callaway Plant Unit 1.

Proposed Project Summary

The U.S. Nuclear Regulatory Commission licenses the operation of domestic nuclear power plants in accordance with the Atomic Energy Act of 1954 as amended and associated regulations. Union Electric Company, a subsidiary of Ameren Corporation and doing business as Ameren Missouri (licensee), operates Callaway Unit 1 near Fulton, in Callaway County, Missouri, pursuant to Nuclear Regulatory Operating License NPF-30 (expires October 18, 2024) under Docket Number 050-00483.

The U.S. Nuclear Regulatory Commission prepared the draft Supplemental Environmental Impact Statement (SEIS) as a result of Ameren's application to renew the Callaway Unit 1 operating license. The purpose and need for the proposed action, renewal of an operating license, is to provide an option that allows for power generation capability beyond the term of the current nuclear power plant operating license to meet future system generating needs. The renewed operating license would allow Unit 1 to operate an additional 20 years beyond its current operating period of 40 years until 2044.

Water Quality

Clean Water Act Section 401 Water Quality Certification (WQC): The department has previously determined that a WQC would not be needed for the reissuance of the Nuclear Regulatory Commission license since the current National Pollutant Discharge Elimination System Permit No. MO-0098001 effectively addresses water quality protection at the facility. However, future projects that would impact water resources, such as expansion of ponds, stream crossings or Missouri River dredging activities, may require a Section 404 permit. Maintenance

activities may or may not be covered under a pre-certified permit depending on the type, size and location of the activity. In such events, the licensee would need to contact the USACE's Regulatory Branch in the Kansas City District at (816) 389-3990 and the department's 401 Certification Unit at (573) 751-1300 for more information.

National Wetland Inventory: Mapping data shows that there are potentially several wetlands near the Missouri River intake structure. Dredged material may not be placed in wetlands without proper due diligence.

Ecological Drainage Unit: The facility lies within the Ozark/Moreau/Loutre Ecological Drainage Unit.

Watersheds: The northwest part of the facility area drains to the north into Hydrologic Unit Code 10300102 15 04 Cow Creek Sub-Watershed; the eastern half of the facility drains to the east and south into Hydrologic Unit Code 10300102 16 05 Logan Creek Sub-Watershed; and the southwest part of the facility drains to the south into Hydrologic Unit Code 10300102 16 06 Deer Creek – Missouri River Sub-Watershed.

Ecological drainage units and watershed locations may be needed should, after avoiding and minimizing impacts to water resources, mitigation be required.

Classified Streams: Logan Creek, Water Body Identification Number 704, is classified for 5.8 miles as an intermittently flowing water with the designated beneficial uses of protection of aquatic life and human health-fish consumption, livestock and wildlife watering, and whole body contact recreation-Category B. The Missouri River, Water Body Identification Number 701, is classified for 135 miles as a permanently flowing water with the designated beneficial uses of protection of aquatic life and human health-fish consumption, livestock and wildlife watering, drinking water supply, industry, irrigation, secondary contact recreation and whole body contact recreation-Category B. Through their designated beneficial uses, the streams shall be protected by numeric water quality criteria contained in 10 CSR 20-7.031(4) and Table A.

Unclassified Streams: The proposed project area contains many unclassified streams. Unclassified streams are protected by the general water quality criteria outlined in 10 CSR 20-7.031(3).

The licensee should ensure that all proper Best Management Practices are in place to protect the stream's chemical, physical and biological characteristics.

Sensitive Waters: According to the department's current water quality standards, there are no cold water fisheries, losing streams, outstanding state and national resource waters, metropolitan no-discharge streams, or biocriteria reference locations within or near the property.

Impaired Waters: This segment of the Missouri River is listed as impaired for bacteria from multiple point and nonpoint sources according to the 2012 U.S. Environmental Protection Agency's approved 303(d) List. The Missouri River has an approved Total Maximum Daily Load for Chlordane and Polychlorinated Biphenyl (approved November 3, 2006, <http://www.dnr.mo.gov/env/wpp/tmdl/0226-0356-0701-1604-missouri-r-tmdl.pdf>). No activities related to the project should increase the amount of pollutants impairing the river nor re-suspend any pollutants that might be bound to sediment.

Geospatial Data: Department geospatial data is available upon request, and all published data is available on the Missouri Spatial Data Information Service web site at <http://msdis.missouri.edu/>.

Land Disturbance Permits: Future construction work disturbing an area of one acre or more will require a Land Disturbance Permit prior to any earth work being initiated. Valuable resource waters may require additional conditions or a site-specific permit. Valuable resource waters include losing streams, outstanding resource waters, public drinking water supplies, critical habitat for endangered species, impairments due to sediment or unknown pollutants, permanent streams or major reservoirs, biocriteria reference locations, wetlands, or sinkholes or other direct conduits to groundwater. Applicants with land disturbance permitting questions are encouraged to visit <http://www.dnr.mo.gov/env/wpp/epermit/help.htm>, or call the department's ePermitting Technical Customer Assistance toll free number at (855) 789-3889. The licensee may contact the department's Northeast Regional Office at (660) 385-8000 with any additional questions.

Water Quality Citation Clarifications

Table 1-1, Pages 1-10: In the event that the U.S. Army Corps of Engineers (USACE) should determine that a Clean Water Act Section 404 Permit would be required for any future activities on the property; a Clean Water Act Section 401 Water Quality Certification (WQC) would likely be required. The department recommends that the licensee consults with the department to determine if a WQC would be required, whether the project would be pre-certified, or an individual WQC would be required.

The Section 404 Nationwide Permit 3 for "Maintenance" expires every five years. The current permit and associated pre-certified 401 conditions expire on March 18, 2017. The table seems to indicate that this permit never expires, which is incorrect.

The USACE File No. 2004-00468 is for an individual 404 permit, not a Nationwide Permit 3 for "Maintenance" according to our database. This information should be corrected in the table. The department issued an individual WQC on May 3, 2004, for that specific individual 404 permit.

Page 2-21, Line 3: Intake Well 2 is listed twice in this sentence. Should one instance be Intake Well 1 and the other Intake Well 2?

Page 2-29, Line 40: The most recent data provided by the U.S. Geological Survey for Gaging Station No. 06934500 Missouri River at Hermann, Missouri, appears to be more recent than 2008. Provisional data exists to present day with verified data typically up through September 30, 2013.

Page 2-33, Lines 8-14: According to our records there was no WQC issued for the initial licensing of the facility. The Section 402 National Pollutant Discharge Elimination System Permit No. MO-0098001 addresses water quality concerns regarding the general operation of the facility. The department sent a letter to Ameren on October 17, 2013, discussing this matter. However, a WQC may still be required for specific projects at the facility for Clean Water Act Section 404 Permits.

Chamois Power Plant: The department understands that the Chamois Power Plant has closed. There are numerous references to this coal-fired power plant.

Geology, Hydrology, Surface Water and Groundwater Resources

This section of our review focuses on sections pertaining to geology, hydrology, surface water and groundwater resources. In general, several sections used terminology that is inconsistent with current nomenclature used by the Missouri Geological Survey and the U. S. Geological Survey, which may have resulted from referring to previous site-related documents. For those instances, comments offered here are intended to help update the record. However, in other sections of the SEIS, inappropriate references were used to describe conditions and draw conclusions concerning water resource impacts. The impacts evaluated in Section 4.12.2.2 should be reevaluated, as mentioned in specific comments below. Selected references are listed at the end of the specific comments that follow.

Section 2.2.3.1 Physiography and Geology, Figure 2-9. General Geologic Column, page 2-27:

This illustration uses some geologic nomenclature that is out of date. The figure should be modified to reflect the current unit names. The “Graydon Chert Conglomerate” is now known as the Graydon Conglomerate. The “Burlington Formation” is properly the Burlington Limestone. The unit labelled “Bushberg Formation” is not likely the Bushberg Sandstone. Recent geologic mapping by Starbuck (2008) identifies this sandstone as either the Devonian System Holts Summit Sandstone or the Mississippian Subsystem, Kinderhookian Series Bachelor Sandstone. The “Snyder Creek Formation” is properly named the Snyder Creek Shale. The “Callaway Formation” is now the Cedar Valley Limestone and the “Cotter/Jefferson City Formation” is properly the Cotter and Jefferson City Dolomites (Thompson, 1995).

Section 2.2.4 Surface Water Resources, first paragraph, page 2-29: The first sentence of this paragraph states that “Callaway is located within the Missouri River Basin, Auxvasse Creek subwatershed, approximately 5 mi (8 km) northwest of the Missouri River (Figure 2-10) (Ameren 2011d).” The paragraph goes on to state that a significant portion of surface water runoff from the site, perhaps the majority, flows to Mud and Logan creeks, which is not within the Auxvasse Creek subwatershed as depicted on Figure 2-10, page 2-30. The first sentence of this paragraph and Figure 2.10 should be amended to include the Logan Creek subwatershed.

Section 2.2.4.1 Stormwater Retention Ponds, page 2-34: The last sentence of this paragraph states that the stormwater “receiving water bodies are an unnamed tributary of Logan Creek (Outfalls 010 and 011), an unnamed tributary of Mud Creek (Outfall 012), and Cow Branch (Outfalls 014 and 015).” However, the subsequent Table 2-4 indicates that Outfalls 014 and 015 discharge to Mud Creek. Cow Branch is a tributary to Auxvasse Creek, not Mud Creek. The table should be corrected so that it is consistent with the text (which is consistent with the Missouri state operating permit).

Section 2.2.5 Groundwater Resources, page 2-35 and Figure 2-12, page 2-36: Similar to comments in regard to Section 2.2.3.1 above, some of the nomenclature used in this section and in Figure 2-12 is not current. Further, the bedrock aquifer names, thicknesses and delineations are incorrect and inconsistent with scientific literature. The authors of the draft SEIS are referred to Miller and Vandike (1997) and Gann et al. (1971) for a discussion of the hydrology in the northeastern area of Missouri. In addition, the portion of the aquifer that is described as confined in Figure 2-12 is unconfined in the area of the Callaway plant; it is partially drained by local

streams and the Missouri River. In other areas of this groundwater province, the aquifer is confined.

Section 2.2.5 Groundwater Resources, page 2-37, lines 24 and 25: This paragraph discusses blowdown pipeline leakage incidents that resulted in releases of tritium to soils and groundwater. The last sentence of this section states that sampling showed that “All tritium concentrations were well below EPA’s drinking water standard of 20,000 picocuries per litre.” Sample analysis reports for samples collected at the site in June and July of 2006 indicate that many samples exceeded that standard, some by more than 10 times the standard. These samples were collected along the pipeline and at manholes in response to the discovery that pipeline air release valves had been discharging small amounts of pipeline fluids. The statement in the text of the draft SEIS should be revised.

Section 4.5.2.1, page 4-5, third paragraph and Section 4.5.2.2, page 4-6, third paragraph: These paragraphs again use an aquifer name that is inconsistent with accepted usage. The aquifer tapped by the Callaway plant wells, as well as most of the other local wells, and the aquifer that discharges to the Missouri River alluvial aquifer, is the Cambrian-Ordovician Aquifer.

Section 4.5.2.3 Radionuclides Released to Groundwater, page 4-6, second paragraph: As with the comment above with respect to Section 2.2.5, this paragraph discusses blowdown pipeline leakage incidents that resulted in releases of tritium to soils and groundwater. The second to the last sentence of this paragraph states that sampling showed that “All tritium concentrations were well below EPA’s drinking water standard of 20,000 picocuries per litre.” Sample analysis reports from June and July of 2006 groundwater sampling indicate that many samples exceeded that standard, some by more than 10 times the standard. These samples were collected along the pipeline and at manholes in response to the discovery that pipeline air release valves had been discharging small amounts of pipeline fluids. The statement in the text of the draft SEIS should be revised.

Section 4.12.2.2 Cumulative Impacts on Groundwater Resources, page 4-43: The conclusions drawn in this section are not adequately supported by the references cited. Farrar (2009) and USGS (2013) are not pertinent to the discussion. Though the geologic formations of the Ozark Aquifer of southern Missouri are by and large the same formations that make up the Cambrian-Ordovician Aquifer of northeast Missouri, the Missouri River forms a hydrologic boundary which separates them (Imes, 1985, and Miller and Vandike, 1997). Czarnecki et al. (2009) is cited as a reference to argue that water use by the Callaway plant will have a “SMALL” impact on water resources of the aquifer. The Czarnecki study examined a very limited area of the Ozark Aquifer in the southwest corner of Missouri, nearly 200 miles from the Callaway plant. The first sentence of the third paragraph, while not incorrect, does not support the conclusion made in the final sentence of the paragraph and section. The author is referred to Gann et al. (1971) and Miller and Vandike (1997) for a description of the groundwater aquifers of northeastern Missouri and to Imes (1985) as a basis to evaluate the potential impact to the water resources of the area of interest.

Section 4.12.8 Summary of Cumulative Impacts, Table 4-10, page 4-51: The text related to water resources in this table may have to be revised pending reevaluation of cumulative impacts to groundwater resources, as discussed in the previous comment.

Selected References

- Gann, E. E., Harvey, E. J., Jefferey, H. G., and Fuller, D. L., 1971, *Water resources of northeastern Missouri*, Hydrologic Investigations Atlas HA-372, U. S. Geological Survey, 4 plates
- Imes, Jeffrey L., 1985, *The ground-water flow system in northern Missouri with emphasis on the Cambrian-Ordovician Aquifer*. U.S. Geological Survey Professional Paper 1305, 61 p., 29 figs., 3 tbls.
- Miller, Don E. and Vandike, James E., 1997, *Missouri State Water Plan Series, Volume II, Groundwater Resources of Missouri*. Missouri Department of Natural Resources' Division of Geology and Land Survey, Water Resources Report Number 46, 210 p., 77 figs., 17 tbls.
- Starbuck, Edith A., 2008, *Bedrock geologic map of the Mokane 7.5' Quadrangle, Callaway and Osage Counties, Missouri*, Open File Map OFM-08-539-GS, Missouri Department of Natural Resources' Division of Geology and Land Survey, 1 map
- Starbuck, Edith A., 2008, *Bedrock geologic map of the Reform 7.5' Quadrangle, Callaway County, Missouri*, Open File Map OFM-08-537-GS, Missouri Department of Natural Resources' Division of Geology and Land Survey, 1 map
- Thompson, Thomas L., 1995, *The stratigraphic succession in Missouri (revised)*, Missouri Division of Geology and Land Survey, Volume 40-Revised, 2nd Series, 189 pp., 42 figs., 1 tbl.

Air Quality Comments and Corrections

This section of our review focuses on air quality concerns. The department offers several corrections and suggests substitutions that clarify and correct some of the information provided in the document.

Page 2-23: Lines 35-43 reference an air permit number "06210-003." This needs to be corrected to "062010-003."

Page 4-41: Line 10 currently reads: "Existing emission sources at Callaway are regulated under Operating Permit No. OP2008-045. This operating permit expires on September 17, 2013."

The department suggests the following edit: "Existing emission sources at Callaway are regulated under Operating Permit No. OP2008-045. This operating permit expired on September 17, 2013. A renewal application was submitted to the department on February 22, 2013 and is

under review. The facility will operate under the previous permit until the department issues a new operating permit.”

Page 4-41: Within a 50-mi (80-km) radius of Callaway, land use is primarily rural. A few minor emission sources are widely distributed in the area; the closest existing major emission source is the Chamois Power Plant, located approximately 6 mi (10 km) south of Callaway. In 2008, Chamois emitted 2,409 tons of nitrogen oxide and 5,038 tons of sulfur dioxide and is the dominant emission source in the region.

The department suggests the following addition: “However, Chamois’ most recent emission reporting, in 2012, indicated they emitted 1,490 tons of nitrogen dioxide and 999 tons of sulfur dioxide due to the shutting down of the facility. Although a permanent shut down date is unknown, it is expected this plant will not operate past 2015.”

Page 8-6: The document refers to the Central Regional Air Planning Association (CENRAP) in relation to regional haze and visibility issues.

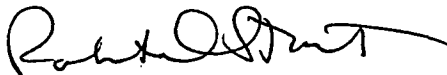
Comment: The group mentioned above, CENRAP, no longer exists. The department suggests the following edit: “The State of Missouri, at the time of the initial regional haze rule was among nine states (Nebraska, Kansas, Oklahoma, Texas, Minnesota, Iowa, Missouri, Arkansas, and Louisiana) that were members of the Central Regional Air Planning Association (CENRAP). CENRAP, along with tribes, Federal agencies, and other interested parties worked together to identify regional haze and visibility issues and develop strategies to address them. As the funding for this group no longer exists, the individual states work with each other and the federal land managers as necessary on continuing issues and updates to regional haze requirements.”

We appreciate the opportunity to provide comments for the Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 51, Regarding Callaway Plant, Unit 1, Draft Report for Comment, NUREG-1437. If you have any questions or need clarification, please contact me, phone number (573) 751-3195. The address for correspondence is Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102.

Thank you.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES



Robert Stout
Chief of Policy
/jb