

November 28, 2007

MEMORANDUM TO: William F. Burton, Chief  
Environmental Projects Branch A  
Division of Site and Environmental Reviews  
Office of New Reactors

FROM: H. Brent Clayton, Chief /RA/  
Environmental Technical Support Branch  
Division of Site and Environmental Reviews  
Office of New Reactors

SUBJECT: TRIP REPORT – AUGUST 23-24, 2007, READINESS ASSESSMENT  
(C-1) VISIT FOR A COMBINED LICENSE APPLICATION AT THE  
CALLAWAY NUCLEAR PLANT SITE

This report summarizes the U.S. Nuclear Regulatory Commission (NRC) staff's August 23-24, 2007, pre-application/readiness assessment (C-1) visit related to the environmental portion of a future Combined License (COL) application for the Callaway Nuclear Plant site. AmerenUE has indicated its intent to submit a COL application for this site. AmerenUE selected the Evolutionary Power Reactor design for the proposed new nuclear station.

The purpose of this visit was to assess the applicant's readiness and its progress toward submitting a COL application; the visit also allowed the NRC staff to begin gathering information regarding the applicant's plans for the COL application and to become familiar with the site. The visit took place at the site located in Callaway County, Missouri, approximately ten miles southeast of the town of Fulton, 25 miles northeast of Jefferson City, and 100 miles west of St. Louis, on the existing Callaway Nuclear Plant Unit 1 site. In addition, the NRC staff participated in off-site discussions with State cultural officials. Enclosure 1 provides a list of attendees. Enclosure 2 is the agenda used during the visit. Enclosure 3 is a summary of the more significant issues that were discussed. Note that this assessment was conducted several months prior to the applicants' planned COL application date and the staff did not expect the environmental report to be fully developed at this state. Furthermore, the applicant was aware of, and informed the NRC staff of many of the issues described in Enclosure 3. In summary, the NRC staff did not identify and issues related to the environmental report that would indicate it would not be ready by the planned date of application. However, this was not a formal or comprehensive staff review and additional issues could be identified during the staff's formal review after the application is submitted.

CONTACT: Michael Masnik, NRO/DSER/RENV  
301-415-1191

W. Burton

2

A C-2 readiness assessment visit and public information meeting are not yet scheduled at this time.

Project No. 750

Enclosures:  
As stated

W. Burton

2

A C-2 readiness assessment visit and public information meeting are not yet scheduled at this time.

Project No. 750

Enclosures:  
As stated

DISTRIBUTION:

PUBLIC

RidsNroDserRap1 (WBurton, NRO)  
RidsNroDserRap2 (RRaione, NRO)  
RidsNroDserRenv (HBClayton, NRO)  
RidsNroDnrINarp (JColaccino, NRO)  
MWillingham, NRO  
JStarefos, NRO  
LBurkhart, NRO  
IYu, NRO  
RKrieg, PNNL  
EHickey, PNNL  
RByrce, PNNL

ADAMS ACCESSION NUMBER: ML072760132

| OFFICE | GS:DSER:RAP2:NRO | LA:DSER:RAP2:NRO | PM:DSER:RENV:NRO | BC:DSER:RENV:NRO |
|--------|------------------|------------------|------------------|------------------|
| NAME   | LQuinn: srm3     | ARedden          | MMasnik          | HBClayton        |
| DATE   | 10/23/07         | 10/ 30/07        | 10/23/07         | 11/ 28/07        |

OFFICAL RECORD COPY

### List of Attendees – Callaway Readiness Assessment Visit

Location: Callaway Nuclear Power Station, Fulton, Missouri  
August 23-24, 2007

| Name               | Organization                 |
|--------------------|------------------------------|
| Michael Masnik     | NRC                          |
| Laura Quinn        | NRC                          |
| Michael Willingham | NRC                          |
| Richard Emch       | NRC                          |
| Paul Kallan        | NRC                          |
| David Mussatti     | NRC                          |
| Nancy Kuntzleman   | NRC                          |
| Mallecia Hood      | NRC                          |
| Bob Bryce          | PNNL                         |
| Rebekah Krieg      | PNNL                         |
| Tom Secrest        | PNNL                         |
| Rajiv Prasad       | PNNL                         |
| Mike Sackschewsky  | PNNL                         |
| Janelle Downs      | PNNL                         |
| Jeff Ward          | PNNL                         |
| Van Ramsdell       | PNNL                         |
| Beverly Miller     | PNNL                         |
| Ellen Kennedy      | PNNL                         |
| Ann Miracle        | PNNL                         |
| Peter LeRoy        | Areva                        |
| Pat Crydeman       | Ameren UE                    |
| Scott Bond         | Ameren UE                    |
| John Barbour       | Ameren UE                    |
| Corey Jotting      | Ameren UE                    |
| Steve Meyer        | Ameren UE                    |
| Rick Rice          | Ameren/Unistar               |
| Brian Holderness   | Ameren/Unistar               |
| Al Passwater       | Ameren/Unistar               |
| Neal Slaten        | Ameren/Unistar               |
| Rich Lutz          | Ameren/Unistar               |
| Steve Strout       | Ameren/UniStar               |
| Peter LeRoy        | Ameren/Unistar               |
| George Wrobel      | UniStar                      |
| John Tynan         | UniStar                      |
| Sam McCord         | MACTEC                       |
| Steve Stumne       | MACTEC                       |
| Bill Elzinga       | MACTEC                       |
| Emmett Brown       | MACTEC                       |
| Melissa Dubinsky   | Paul C. Rizzo and Associates |
| Lori Gross         | Paul C. Rizzo and Associates |
| Fehmida Mesania    | Paul C. Rizzo and Associates |

## **Agenda - Callaway Readiness Assessment Visit**

Location: Callaway Nuclear Power Station, Callaway County, Missouri  
August 23-24, 2007

### **Thursday, August 23, 2007**

**0800** Meet at Callaway Training Facility in Callaway County, Missouri.

- Welcome
- Opening remarks
- Introductions
- Orientation to site, health and safety

**0900** General tour of site

**1100** Presentations

- Applicant and contractor organizational structure
- Overview of environmental report

**1200** Lunch

**1300** Presentations

- Site selection process
- Status of environmental monitoring
- State and local regulators and permitting

**1400** Technical specialist breakout discussion and specialized tours

- Meteorological tower/air quality
- Terrestrial ecology
- Aquatic ecology
- Hydrology
- Others

**1700** Adjourn

### **Friday, August 24, 2007**

**0800** Meet at Callaway Training Facility in Callaway County, Missouri

- Questions from yesterday
- General discussion

**0830** Continue specialist breakouts and tours

**1130** General discussion and concluding remarks

**1200** Adjourn

## **Contacts made while onsite – See Enclosure 1 for Attendees**

### Need For Power:

- Scott Bond - Ameren UE
- Pat Crydeman - Ameren UE

### Alternatives:

- Scott Bond - Ameren UE
- Pat Crydeman - Ameren UE, Engineer

### Aquatic Ecology:

- Peter LeRoy - Ameren/Unistar
- Rick Rice – Ameren/Unistar
- Brian Holderness – Ameren/Unistar
- Sam McCord - MACTEC, Aquatic Ecologist
- Steve Stumne - MACTEC, Terrestrial/Wetlands Ecologist
- Bill Elzinga - MACTEC, Terrestrial Ecologist

### Terrestrial Ecology:

- Rick Rice – Ameren/Unistar, Engineer
- Bill Elzinga – MACTEC, Terrestrial Ecologist
- Steve Stumne – MACTEC, Terrestrial/Wetlands Biologist
- Sam McCord – MACTEC, Aquatic Ecologist

### Socioeconomics and Environmental Justice:

- Al Passwater - Ameren/Unistar
- George Wrobel - Ameren/Unistar
- Melissa Dubinsky – Paul C. Rizzo and Associates

### Cultural Resources:

- Emmett Brown - MACTEC Archaeologist
- Neal Slaten - Ameren/Unistar

### Hydrology:

- Rich Lutz, Ameren/UniStar, Site Contact
- Lori Gross, Paul C. Rizzo and Associates, Groundwater Hydrologist
- Fehmida Mesania, Paul C. Rizzo and Associates, Surface Water Hydrologist
- Pat Cryderman, Ameren/UniStar, Cooling Systems
- Steve Strout, Ameren/UniStar, Cooling Systems

## **Contacts made at offsite locations –**

### Cultural Resources:

- Judith Deel, Archaeologist Missouri Department of Resources, State Historic Preservation Office in Jefferson City on August 24, 2007.

**Additional Information Summarizing the Callaway Nuclear Power Plant/  
U.S. Nuclear Regulatory Commission (NRC)  
Environmental Staff Readiness Assessment Visit  
Location: Callaway Nuclear Power Station, Fulton, Missouri  
August 23-24, 2007**

As a result of the visit, the U.S. Nuclear Regulatory Commission (NRC) staff has identified the following issues or concerns:

Alternative Sites Analysis:

AmerenUE provided a presentation on the Callaway site selection process. After receiving AmerenUE's presentation the staff raised two concerns. The first is that the alternatives analysis is based extensively on a study that is over 30 years old. AmerenUE needs to demonstrate that the assumptions and criteria used in that early study are still valid. The second concern is primarily focused on the process used to identify the alternative sites. Each step in the process starting with the potential sites needs to be described. The criteria used to winnow out inferior sites at each step needs to be explained. The applicant needs to demonstrate that the criteria are uniformly applied during the evaluation of each site. The identification of alternative sites needs to be based on a defensible process that begins with a definition of the region of interest and, in a logical stepwise fashion, proceeds to the identification of a suite of alternatives to the preferred site. Then, each of the identified alternatives is carefully compared to the preferred site.

Need for Power:

AmerenUE prepares an integrated resource plan (IRP) every three years which is then submitted to the Missouri Public Utilities Commission (PUC). The IRP includes an analysis of the power needs in AmerenUE's service area and the resources available to meet those needs. The IRP has been submitted to the Missouri PUC. The PUC has held public meetings on the plan. A final IRP, reflecting the comments made at the public meetings, will be submitted to the PUC in February 2008. The results of this process will form the basis for AmerenUE's need for power section in the Combined Operating License (COL) application.

Cultural Resources:

AmerenUE has a reasonably complete record of onsite cultural resources; however some reassessment of previously recorded archeological resources on the new plant site may be needed. The staff was concerned about a proper archeological assessment of the bank area along the Missouri River where the Raney intake wells are to be constructed. AmerenUE also needs to consult with Native American Tribes identified by the Missouri State Historic Preservation Officer, not just the three Tribes identified by AmerenUE's contractor.

Transmission Lines:

AmerenUE plans to use existing transmission line corridors. No significant issues identified by the staff.

### Environmental Justice:

No real minority populations identified. AmerenUE needs to determine if there are any subsistence populations that may be affected by the construction and operation of additional units at the site. The applicant needs to focus on low income populations. The potential impact on the Missouri Department of Corrections facilities in Fulton and Jefferson City, Missouri should be considered.

### Socioeconomics:

AmerenUE staff had an understanding of baseline socioeconomic conditions in the vicinity of the Callaway site. Planned demographic studies will employ sound methodologies and should provide the necessary information for the application. The NRC staff however, expressed concern over the ability of the surrounding communities to adequately house construction workers and the capability of the road network to handle the commuting workforce, both from the operating plant and the unit planned for construction.

### Land Use:

No issues identified during review.

### Terrestrial Ecology:

AmerenUE will likely need to develop additional information or conduct surveys to properly document the presence or absence of special status species within the site and transmission corridor that will be impacted by plant construction and operation. A second issue identified relates to the site runoff plan. The applicant needs to identify the planned fate of existing onsite settling ponds and associated wetlands. Wetlands delineation is ongoing and should be completed by the time the application is submitted. At the time of the staff's visit to the Callaway site the final construction layout and design had not been completed and the storm water treatment and runoff plans were not finalized. This information is needed by the staff in the COL application for a proper assessment of construction related impacts. AmerenUE also needs to properly assess the impact of station construction and operation on the federally protected endangered grey bat (*Myotis grisescens*).

### Aquatic Ecology:

AmerenUE appears to have an adequate sampling program to properly characterize onsite aquatic resources. Data collection needs to be completed and the information incorporated in the COL application.

### Hydrology:

Hydrological analyses are in a very preliminary state. Studies are in place and data collection will be completed by early next year. The staff emphasized the need for a proper characterization of onsite groundwater resources. AmerenUE especially needs to properly characterize past tritium events related to the existing unit station discharge.



Air Quality:

No issues identified during review.

Meteorology:

No issues identified during review.

Radiological Issues:

Not discussed.

Accident Analysis:

Not discussed.

Cost-Benefit Analysis:

Not discussed.

Conclusion:

Based on its review of information during the August 23-24, 2007 visit, the staff's main area of concern is the conduct and presentation of the Alternative Sites Analysis. As explained above, the staff questions the value of relying on a siting study that is over 30 years old. The staff also had questions on how the alternatives were identified. Several areas (radiological issues, accident analysis, and cost-benefit) were not evaluated by the staff during the visit. Hydrology, need-for-power, terrestrial ecology, and cultural resources were in the early stages of evaluation by AmerenUE or their contractors, thus preventing a detailed staff examination.

The next NRC pre-assessment activity is a T-2 visit which entails assessing the readiness of the applicant's Environmental Report, a key component of the COL application. The visit is tentatively scheduled for early 2008. The current schedule for the submittal of the COL application is June 2008. Based on the August 23-24, 2007 visit the NRC staff did not identify any issues related to the environmental portion of the COL application that would indicate that it would not be ready by the planned date of application submittal. However, this was not a formal or comprehensive staff review and additional issues could be identified during the NRC' staff formal review after the application is submitted.