



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 26 1980

Docket Nos.: 50-483/486

MEMORANDUM FOR: George E. Lear, Chief
Hydrologic and Geotechnical Engineering Branch
Division of Engineering

THRU: William S. Bivins, Leader, Hydrologic Engineering Section
Hydrologic and Geotechnical Engineering Branch
Division of Engineering

FROM: Raymond O. Gonzales, Hydraulic Engineer
Hydrologic and Geotechnical Engineering Branch
Division of Engineering

SUBJECT: MEETING AND SITE VISIT TO THE CALLAWAY PLANT

On November 18, 1980, I visited the Callaway Plant along with Clarence Hickey the Environmental Review Coordinator, Gerry La Roche of the Environmental Engineering Branch, Alex Dromerick of Licensing Branch No. 1 and the Argonne National Lab team that is conducting the major portion of the Callaway Environmental Review.

The purpose of this site visit was to obtain environmental information for use in reviewing the Environmental Report and in preparing the DES.

The morning of November 18 was spent looking at the physical plant layout, particularly the structures located in the floodplain. I wanted to see how the executive order on floodplain management applies at Callaway. The intake structure and the discharge pipe outlet encroach very little on the floodplain because these structures are located in an opening within the existing rock revetment on the north bank of the Missouri River. The river in this area is about 1400 feet wide. By comparison, the intake structure occupies less than 100 feet of this width. This means that construction activities have not adversely affected the floodplain.

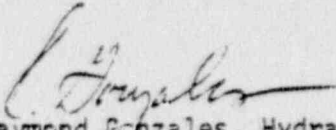
I also took a close look at the emergency cooling pond. At the present time, it is partially filled with water which was obtained from an onsite well. The applicant's consultant, Dames and Moore, is currently conducting tests to determine the amount of seepage from this pond. Several piezometers have been installed around the perimeter of the pond.

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The afternoon of November 18 was spent conducting an aerial reconnaissance of the area from a helicopter and discussing acceptance review questions with the utility and its consultants.

The helicopter ride provided an excellent opportunity to get a broad overview of the area. This overview showed that the plant is located on the topographic high point in the area. Surface runoff flows radially away from the plant. The questions which we (HES) had asked previously were discussed with representatives of Union Electric and Dames and Moore. Satisfactory responses were provided to all our questions. This will permit us to commence with our review of the ER.


Raymond Gonzales, Hydraulic Engineer
Hydrologic and Geotechnical
Engineering Branch
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cc: J. P. Knight
W. Bivins
A. Dromerick
C. Hickey
R. Gonzales
Loca: PDR
NRC PDR
ACRS (16)

I. CP Followup

1. Logan Creek Disturbance during Construction

The design of the Callaway Plant required placement of cooling water pipelines and an access road across Logan Creek, in association with operation of the cooling water intake and discharge structures on the north bank of the Missouri River. Reports on these activities were submitted to NRC during 1975 and 1976, with additional data on associated monitoring included in the ER-OL.

Discussions between Rosmarie Devine (ANL Aquatic Ecologist) and C. Hickey revealed that examinations thus far by ANL indicate the ER-OL has treated the Logan Creek problem reasonably. ANL will analyze this further during the environmental review. Inspection of the Creek crossings by helicopter overflight occurred on Wednesday, November 19, 1980. The Creek flow was low. Creek banks appeared stable with no erosion. Creek banks were vegetated. Vertical bridge supports of the access road were on either side of the Creek and not within the water.

II. New Information

1. Archaeological and Cultural Resources

Tours and examination of the site properties by Sue Ann Curtis (ANL) and Michael Weichman (Division of Parks and Historic Preservation, MO DNR) revealed that significant archaeological sites have not been protected properly during construction. Additionally, eight previously unrecorded sites were found during the tours; and the presence of other existing sites is likely. Mr. Weichman stated that the initial archaeological study conducted during 1973 was inadequate to identify all of the cultural resources contained within the Callaway property. Mr. Weichman was asked to forward his findings in writing to NRC. A letter dated November 20, 1980 from Weichman to Hickey has been received and is enclosed as Attachment 7. In the letter are recommendations for a re-assessment of the resources on the Callaway property and for NRC's coordination under the National Historic Preservation Act. A long-term management plan probably will be needed to protect certain sites.

2. NPDES/Sludge Pond Construction

The NPDES permit for Callaway does not permit discharges into the Missouri River of clarifier sludge particulate matter. As a result, the applicant must build a series of large settling ponds. Three ponds are under construction and were examined on Wednesday, November 19. Four additional ponds will be built every ten years. All totalled, 200-400 acres of ponds will be needed during the

operating life of Callaway. The ponds are in an area that had been pasture and farmland. Topsoil has been stockpiled and will be placed on the berms of the ponds and seeded.

The disturbance of land for placement of the ponds has not been examined. The applicant stated that no survey of the pond area was conducted for cultural and archaeological resources. A management plan for the ponds will be included in Revision 1 to the ER-OL. A telephone communication on November 25, 1980 between C. Hickey and Monte Phillips, OIE Region III Inspector, revealed that the inspector was not aware of the need for the ponds or the ongoing construction of the ponds. During the July 1980 annual inspection, the inspector did not see the ponds. The NPDES permit that restricted the discharge (and thus necessitated the use of ponds) was issued in August 1980. Construction of the ponds, therefore, has occurred subsequent to the annual inspection and the submittal of the ER-OL. The applicant stated that Revision 1 to the ER-OL will contain information on the NPDES/sludge pond problem, but Revision 1 will not be submitted until the ER-OL is accepted and docketed.

3. Emergency Buildings

Requirements resulting from the TMI accident will result in the placement of additional buildings onsite to be used during an emergency. Two buildings will be in areas already disturbed by construction. A third building (training center and simulator) will be on presently unused farmland. The Emergency Offsite Facility will be on land presently undisturbed by construction.

4. Prime and Unique Farmland

Since the CP permit was granted, the U.S. Department of Agriculture has become concerned about Prime and Unique Agricultural Land (Federal Register Tuesday, January 31, 1978, 43(21):4030-4033). Gerry LaRoche has coordinated the NRC needs with Bernie Jaroslow who has requested specific information from the Soil Conservation Service in Fulton, Missouri.

November 21, 1980

TO: Ron Zussman
FROM: Tom Gilbert ⁵³⁷
SUBJECT: Trip Report, Callaway Site Visit

My summary assessment of the Callaway site visit on November 18 and 19, 1980, is that it was unsatisfactory because the applicant did not receive the list of informal questions until 9:30 p.m. on Monday, November 17. There was, therefore, insufficient time for the applicant to prepare responses prior to the visit, and we were unable to discuss the responses in order to clear up residual misunderstandings. As a consequence, many of the applicant's staff and consultants, and also the state officials, were not effectively used, and an opportunity was missed. It is unlikely that all of the talent that was available at the site on Tuesday will again be assembled together at the same place and time.

There were other problems which, even though they were not of major consequence for the site visit, were symptomatic of the problems we have encountered in planning our work. We did not find out until Monday evening that Richard Stark, the LPM, would not attend. (One of the major reasons cited for postponing the visit, originally scheduled for October 27, was that Stark would not have been able to attend. That postponement required cancellation of a meeting with local officials, which could not be rescheduled for the site visit and will require an additional trip to Jefferson City in December.) Alex Dromerick, who substituted for Stark, did not arrive until 2 p.m. on Tuesday, and was not in a position to answer questions regarding scheduling or to make decisions because he was not familiar with the project.

The site visit was, in my judgement, worth the cost and effort in spite of the deficiencies noted above. However, I believe that if it were not for the efforts of Clarence Hickey, the environmental review coordinator, who has been very cooperative and helpful and impressed me with his competence and conscientiousness, the accomplishments might not have been sufficient to justify the cost.

The following trip report is a collection of my impressions and the matters which occupied my attention, not a balanced account. I have devoted considerable space to the issues related to cultural resources because concerns expressed by a state official led to discussions involving a number of ANL, NRC and UE personnel and gave me reason to believe that there are potential problems in this area.

POOR ORIGINAL

The meeting on Tuesday (November 18) was attended by 4 NRC staff (Alex Dromerick, temporary LPM; Clarence Hickey, ERC and aquatic ecology; Germain LaRoche, terrestrial ecology; and Ray Gonzales, hydrology and water use) and 8 ANL staff members (Tom Gilbert, project leader; D. A. Brodnick, assistant project leader and socioeconomics; Lee Busch, need for power and cost-benefit; Sue Ann Curtis, cultural resources; Rosemarie Devine, aquatic ecology; Bernie Jaroslow, terrestrial ecology; Gary Marmer, noise and thermal discharge; and Aldona Siczek, water quality). Donald F. Schnell, General Manager, Operations, for Union Electric and 12 of his staff members; 7 state officials (6 from Missouri Department of Natural Resources and 1 from the Missouri Department of Conservation) and 3 consultants for Union Electric were also present.

On Monday afternoon (November 17) at 4 p.m. Sue Ann Curtis and I met with Michael S. Weichman, Senior Archeologist, Office of Historic Preservations, Missouri Department of Natural Resources. He expressed the concerns that, in his opinion, the site was not in compliance with Sec. 106 of the National Historic Preservation Act (site 20, which had been identified by a Union Electric consultant as meeting eligibility requirements for the National Register had not been nominated for the Register and the state and Advisory Council had not commented on the other sites that might be on the 7000 acre plant property); the survey was probably inadequate (a site that had been overlooked by the consultant had been found on the Callaway property); and a program for monitoring and protecting known sites had not been submitted or approved.

Mr. Weichman had been invited to participate in the site visit on Tuesday. I told him that after he had inspected the site and had an opportunity to meet with the applicants cultural resource consultants on Tuesday morning I wanted to meet with him, the NRC manager and coordinator and Union Electric Officials in order to determine whether there was a potential problem and what course of action should be taken.

The meeting at the site opened at about 3:30 a.m. on Tuesday morning, with everyone present except the NRC staff. (Gerry and Ray arrived around 9 a.m.; Clarence and Alex arrived around 2 p.m.) After a brief review of the history and present status of the project by Donald F. Schnell, General Manager of Operations for Union Electric, we broke up into groups for consultation and site tours.

Union Electric officials were very cooperative, and provided all the assistance we could ask for to see everything we wanted to see: by air (a helicopter was available all day); by water (a boat was available all day) and by ground (on foot or by car).

In addition to a general overview by means of a supervised plant tour, ground tours, boat tours and aerial tours, ANL staff members met individually with the appropriate Union Electric Staff and Consultants and State Officials. A very limited amount of information was provided immediately; the additional information needed will be provided in pending revisions of the Environmental Report which should be ready for release within two weeks (some revisions are ready now) or as responses to the formal questions.

POOR ORIGINAL

Among the changes (which will be covered in revision) to the CP are the construction of sludge ponds to receive the particulate material that must be removed from the river water before it enters the plant cooling system (in case regulatory agencies do not allow it to be returned to river); an emergency operation facility (EOF) which will be built outside the restricted area for use as a command facility in case of a TMI-type event; a technical support center; and secondary access facilities to facilitate entrance and exit during emergency situations. It does not now appear that these changes will present any problems.

The Callaway OL review has not yet been docketed. The holdup appears to be due to legal problems associated with resolution of the one-unit/two-unit problem. Both the ANL staff and the NRC staff have recommended acceptance of the environmental report. The applicant is unwilling to submit the ER revisions until notification is received that the ER has been accepted and the case has been docketed. Clarence Hickey and Alex Dromerick are going to check into the matter. If there are further delays in docketing, Clarence and Alex are going to check into the possibility of providing Union Electric with the formal questions and enabling Union Electric to provide us with informal copies of the revisions prior to docketing in order to expedite preparation of the DS FES CP. I told Clarence that I planned to have the list of formal questions ready for mailing to him on Friday, November 21.

The revisions to Chapter 1 of the ER (need for power) are massive and will require a great deal of effort to make the DS FES CP timely and accurate. It appears likely that this unexpected new development, together with the delays from the original schedule in acquiring all of the information needed for preparing the DS FES CP, will probably lead to slippage in the schedule. (This possibility was pointed out in attachment 1 of my letter of September 9, 1980, to Clarence Hickey.) It is too early to tell what this slippage might be; we will do our best to minimize it.

It appears, on the basis of concerns expressed by the state archaeologist, Michael Weichman, at a meeting with Dromerick, Hickey, Gilbert, Brodnick, Curtis, Marmor and (later) Schnell and several of his staff that there may be a potential problem in the area of cultural resources. During their reconnaissance of the site on Tuesday morning Michael Weichman and Sue Ann Curtis, independently, found evidence that cultural resource sites had been overlooked, including an additional site that may be eligible for the National Register, and that sites have been exposed that will suffer damage and destruction during operation of the plant unless an adequate protection and monitoring program is designed and implemented. Mr. Weichman stated that his concern is to protect the remaining sites.

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Clarence Hickey suggested to Mr. Weichman that he send a letter to NRC outlining his assessment of the facts of the situation and what needs to be done. Mr. Weichman agreed to do this and to send us a copy.

Mr. Weichman expressed a number of concerns, based on his knowledge of the situation and the information he gained during the site visit, and raised a number of questions that will have to be resolved by consultation between the state and the NRC before we can proceed with preparation of the section on cultural resources.

Donald Schnell was rather upset by the complaints made and questions raised by Mr. Weichman. He requested that they be resolved as soon as possible.

One of the complaints that disturbed Mr. Schnell was that a survey of the entire 7000 acres should be done. The survey done by his consultant was limited to the assumed construction areas. Mr. Schnell told me that his consultant had told him that a survey of the 7000 acres would cost up to \$500,000. Mr. Weichman informed me later that the total cost for such a survey and the preparation of a protection and monitoring plan would be about \$50,000 and could not reasonably exceed \$100,000. Neither the consultant's nor Mr. Weichman's figures included excavation of archeological sites, in the unlikely event that this should be necessary.

One of the problems is that the distinction between what is considered an operating phase impact and what is considered a construction phase impact has not been clearly defined. The former would be of immediate concern for us in preparing the DS FES CP.

Sue Ann met again with Mr. Weichman on Wednesday morning, at his office, to obtain from him any relevant material in his file pertaining to the Callaway project. She was allowed to Xerox any material that she found to be of interest, and will send a copy of this to Clarence Hickey.

Sue Ann deserves commendation for handling herself in an exemplary and professional manner in a difficult situation. Clarence Hickey also commented that she has done an excellent job and expressed appreciation for her efforts. If the potential problems concerning cultural resources had not been brought to light for appropriate action at this time, they might have led to serious problems that could have reflected on the professional quality of the Callaway DS FES CP.

The entire ANL team met with Clarence Hickey, Alex Dromerick and Gerry LaRoche on Tuesday evening in order to review the developments of the day. Several team members expressed concern regarding the delay in forwarding informal questions to the applicant.

Three NRC staff (Alex, Clarence and Gerry) and three ANL staff (Bernie, Rosemarie, and myself) went back to the site on Wednesday morning for an inspection of features that had been missed (the exchange of information on Tuesday night revealed a few points that some of us had missed) and final consultation. Twelve Union Electric staff and consultants were also present.

POOR ORIGINAL

Robert also visited Robert Hentges, Chief of the Permit Section, Water Quality Program, Division of Environmental Quality, Missouri Department of Natural Resources (accompanied by David Warbold, a Union Electric biologist) on Wednesday morning.

Bernie arranged to have soil maps of the Callaway site mailed to him by a state official in Fulton, thereby avoiding a side trip to Fulton, Mo.

I discussed with Clarence the matter that the DS FES CP outline provided for Callaway was different from the outline that was being provided for other OL projects. Clarence is going to look into this and also check into the matter of a budget letter for Callaway. He mentioned the lack of a budget letter to Dan Muller around November 3.

Clarence will also check with Rich Stark to obtain permission for us to contact Neal Slaten (UE, Supervising Engineer, Environmental) directly on technical matters.

D. A. Brodnick and I will probably go back to Jefferson City on December 17, the date of the monthly meeting of the Mid-Missouri Council of Governments, to collect socioeconomic information from local officials. A special meeting had been arranged to accommodate us when the site visit was scheduled for the week of October 27. This meeting was cancelled when the site visit was called off (after the invitations had been sent out), and it was not possible to reschedule a special meeting during the week of November 17.

Neal Slaten will arrange a conference call with Scott Humrickhouse and James and Moore consultants on Thursday, November 20, to discuss cooling tower questions.

I especially appreciated the help and cooperation I received from the team, and the very competent manner in which they carried through their assignments. (Both NRC and UE officials commented to me on their professional competence.)

TLG:gml

cc: D. A. Brodnick	A. J. Dvorak
L. S. Busch	A. Dromerick - NRC
J. E. Carson	W. J. Hallett
S. A. Curtis	C. J. Hays - NRC
R. L. Devine	P. F. Gustafson
R. F. Freeman	R. Stark - NRC
S. A. Humrickhouse	W. S. White
B. N. Jaroslow	
G. J. Manner	
J. Milsted	
A. A. Siczek	

POOR ORIGINAL

November 20, 1960

TO: Tom Gilbert, Project Leader, Callaway
FROM: Rosemarie Devine, Aquatic Ecology *RD*
SUBJECT: November 19 A.M. Meeting with DNR Members

The following is a summary of what transpired at the meeting with Bob Hentges, Chief, Permits, Water Pollution Control Program, Missouri Dept. of Natural Resources, Jefferson City, Mo. Hentges, Laux, and four other DNR members were present as well as Dave Wambold (UE) and myself. The majority of the discussion was between Bob and Dave.

Bob stated that he was initially dissatisfied with the impingement possibilities, but found that the design was as previously approved and therefore not subject to question. He feels the fish gates may prove to be sufficiently mitigating to allay those objections.

Bob and Dave then discussed the Impingement Study, with Dave pointing out the parts of the study that are continuous with the previous program, and those which would be added to, modified or deleted. Essentially, the adult fish program remains unchanged; the larval work, in addition to counts, is to be related to their source, i.e. backstream, Mr. [redacted] chute, etc. Mention was made of rationale for employing certain methodologies, and the need for a "calendar-year" fish production study rather than a split-year study of fingerling and adult counts in one year followed by egg and larvae counts the next year. Entrainment and radiological studies were merely touched on.

I did agree that the benthos and zooplankton studies could probably be dropped, especially with the expanded and continuing fish population studies which are more meaningful.

There is a public hearing December 3 for an appeal of the NPDES, but Hentges does not anticipate any reverse judgement because the NPDES permit is sufficiently stringent to protect the downstream drinking water from impact by the UE Callaway operations.

RD:bjp

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