

February 19, 2008

MEMORANDUM TO: Richard Raione, Chief
Environmental Projects Branch 2
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 – NOVEMBER 6-7, 2007, READINESS
ASSESSMENT (T-1) VISIT FOR A COMBINED LICENSE
APPLICATION AT THE RIVER BEND STATION SITE

This report summarizes the staff's November 6 and 7, 2007, pre-application/readiness assessment (T-1) visit related to the environmental portion of a future combined license (COL) application for the River Bend Station site. Entergy has indicated its intent to submit a COL application for this site. Entergy selected the General Electric's "economic simplified boiling water reactor," or ESBWR, 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 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 West Feliciana Parish, Louisiana, about 24 miles north-northwest of Baton Rouge, Louisiana, on the existing River Bend Station site for Unit 1. In addition the staff participated in off-site discussions with state and local 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 applicant's planned COL application date and the staff did not expect the environmental report to be fully developed at this stage. Furthermore, the applicant was aware of, and informed the NRC staff of many of the issues described in Enclosure 3. In summary the staff did not identify any 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.

The staff is planning a T-2 readiness assessment visit for February 2008. The public outreach meeting is not yet scheduled.

Project No.: 745

Enclosures: As stated

CONTACT: Andrew Kugler, NRO/DSER/RAP2
301-415-2828

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FROM: Andrew J. Kugler, Sr. Project Manager
Environmental Projects Branch 2
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ADAMS Accession No. ML080230353

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Memo to Brent Clayton and Richard Raione from Andrew Kugler dated _____

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ADAMS ACCESSION NUMBER: ML080230353

**Document name: Trip Report November 6-7, 2007 Visit For combined Licensed
Application At The River Bend Station Site**

List of Attendees – River Bend T-1 Readiness Assessment Visit

Location: River Bend Station, St. Francisville, Louisiana
November 6-7, 2007

Name	Affiliation
Jerry Burford	Entergy
Patrick Grove	Black and Veatch
Larry Drbal	Black and Veatch
George Madden	Black and Veatch
Tony Bockelman	Black and Veatch
Ralph Brooks	Black and Veatch
Doug Timpe	Black and Veatch
Dusty Miller	Black and Veatch
John Caldwell	Black and Veatch
Greg Johnson	Black and Veatch
Jason DeStigler	Black and Veatch
John Wynne	Black and Veatch
Bruce Boomer	Black and Veatch
Geirma Mergia	Black and Veatch
Jay Reeder	Black and Veatch
Brian O'Neal	Black and Veatch
Robert Sauer	Black and Veatch/Excel
Billy W. Reid	Black and Veatch/Excel
William Miller	DTE Energy
Claire Garwin	ENSR
Kurtis Schlicht	ENSR
Jessica Stephens	ENSR
Sean Coughlin	Goodwin & Assoc.
Jim Eberwine	Goodwin & Assoc.
Kyle Turner	McCallum & Turner
Kenneth See	NRC
Andy Kugler	NRC
Eric Oesterle	NRC
Irene Yu	NRC
Philip Brandt	NRC
Nancy Kuntzelman	NRC
Thomas Fredrichs	NRC
Daniel Strom	PNNL / Radiological (Shadow)
Eva Eckert Hickey	PNNL / Radiological
Jim Becker	PNNL / Terrestrial
Mike Sackschewsky	PNNL / Team Lead
Carl Berkowitz	PNNL / Air (Shadow)
Dave Anderson	PNNL / Socio, Land Use, EJ
Steve Breithaupt	PNNL / Hydrology
Tim Hanrahan	PNNL / Aquatic (Shadow)
Amoret Bunn	PNNL / Aquatic
Tara O'Neil	PNNL / Cultural Resources
Paul Hendrickson	PNNL / Need for Power, Alternatives
Van Ramsdell	PNNL / Air, Accidents

River Bend Station T-1 Environmental Review Meeting Agenda

Tuesday, November 6, 2007			
Time	Presentation	Presenter	Location
8:00-9:00	Opening Remarks / Introductions	Entergy	Main
	Team Organization	Entergy	Main
	Site Overview / Description of Site & Vicinity / Reactor Technology	Entergy / B&V	Main
	Safety Review	Caldwell	Main
9:00-11:30	Site Tour	Caldwell	
11:30-12:30	Lunch		
12:30-1:00	Status of ER / Status of Environmental Monitoring	Timpe	Main
1:00-1:30	Transmission Line Routing	Ralph Brooks	Main
1:30 – 2:00	Alternative Sites and the Selection Process	Entergy / Kyle Turner (MTI)	Main
2:00-2:15	Break		
2:15 – 4:00 Breakout Sessions			
<i>PNNL/NRC</i>	<i>Subject AREA</i>	<i>APPLICANT</i>	
Van / Carl	Met Tower Tour / Meteorology / Air Quality	Brian O'Neal / Jay Reeder	Tour
Dave / Tom	Socioeconomics / Environmental Justice	John Wynne/ Jason Destigter	A
Tara	Cultural Resources	Sean Coughlin or Jim Eberwine (Goodwin)	B
Steve / Kenneth	Hydrology / Water Quality / Water Use	Greg Johnson / Girma Mergia / Bruce Boomer / Kurtis Schlicht and Jessica Stephens (ENSR)	C
Jim, Tim, Amoret / Nancy, Phil	Terrestrial / Aquatic Ecology	Ralph Brooks / Kurtis Schlicht and Jessica Stephens (ENSR)	D

Paul, Mike / Andy	Alternatives (Sites, Systems, Energy Generation)	Entergy / Kyle Turner (MTI)	E
Eva, Dan, Irene	Health Physics / Uranium fuel cycle	Tony Bockelman, Larry Drbal	F
4:00– 4:30	Daily Wrap-up		M

Wednesday, November 7, 2007			
8:00 -8:30	General Day 1 Summary		M
8:30-10:30 Break out discussions and Tours			
<i>PNNL/NRC</i>	<i>Subject AREA</i>	<i>APPLICANT</i>	
Van, Carl	Meteorology / Air Quality / Accident analysis review	Brian O'Neal / Jay Reeder	A
Paul, Mike / Andy	Need for power / Cost-Benefit Analysis	Entergy	B
Steve/ Kenneth	Hydrology / Water Quality / Water Use	Greg Johnson / Girma Mergia / Bruce Boomer / Schlicht or Stephens (ENSR)	C
Jim, Tim, Amoret, / Nancy, Phil	Terrestrial / Aquatic Ecology	Ralph Brooks / Kurtis Schlicht or Jessica Stephens (ENSR)	Tour(s)
Tara / Irene	Cultural Resources	Sean Coughlin or Jim Eberwine (Goodwin)	Tour
Dave/Tom	Land Use	Laura McNeil / Dusty Miller	Tour
Eva, Dan	Health Physics / Uranium fuel cycle	Tony Bockelman	D
10:40-11:30	NRC Caucus		M
11:30-12:30	Lunch		M
12:30-1:30	Daily Wrap-up / Summary		M
1:30	Adjourn if tours and meetings are complete		

**Additional Information Summarizing the River Bend Station
Readiness Assessment Visit (T-1)
Location: River Bend Station, St. Francisville, Louisiana
November 6-7, 2007**

Overall, Entergy appears to be on track for gathering most or all of the needed data that will allow them to submit an adequate environmental report (ER) by mid-2008. During the review several issues were identified that warrant follow up on subsequent visits. The following sections describe the results of the visit.

Alternatives: Entergy's four candidate sites are the four operating nuclear power plants owned by Entergy in the region (River Bend, Grand Gulf, Waterford, and Arkansas Nuclear One). Entergy may not have considered other potential sites within its region of interest including greenfield or brownfield sites. The River Bend site was selected as the proposed site based on geographic considerations (generation site diversity, proximity to load centers), and the fact that River Bend scored well in the Grand Gulf early site permit (ESP) site selection process. However, a more detailed description of the overall candidate site selection process, including a discussion of potential greenfield and brownfield sites will be expected for the environmental report. The proposed plant would be a regulated plant subject to the regulations of the Louisiana Public Service Commission.

Need for Power and Cost/Benefit: Both of these sections of the ER are at very early stages of development and will need to be examined in more detail during subsequent readiness assessment reviews.

Cultural Resources: Overall, Entergy appears to have completed most of the cultural resource work required to support an application. Follow up issues include identifying the avoidance measures to be followed to protect two cultural resource sites, Best Management Practices (BMPs) for inadvertent discovery of cultural resources, responses to tribal consultation letters, and completion of the State Historic Preservation Officer consultation.

Meteorology and Air Quality: The quality of the meteorological data and the viability of the meteorological data system are of concern. The tower clearing is smaller than the staff would typically expect, therefore trees on all sides may affect wind measurements. There is also a recreational vehicle park located west of the tower within the clearing that also is likely to affect the wind measurements. Additionally, the instrument data system is antiquated, both in the computer components, and in the magnetic tape data storage system. The system data storage system has to be taken off line to review old data. Some time should be spent examining the meteorological data during the T-2 visit to determine if there are trends in the wind data that could be due to the surrounding trees, and those data should be compared with data from Baton Rouge over as many years as possible. If the data have been badly distorted by the obstructions in the area, it could take more than a year to obtain the data to support an application for a new plant.

Accidents: The need for site-specific MACCS2 (MELCOR Accident Consequence Code System version 2) calculations were discussed, otherwise relatively little accident analysis has been completed.

Radiological Health. Uranium Fuel Cycle, Decommissioning, and Waste Systems: The reviewers evaluated the existing environmental monitoring program, and the dose modeling that had been performed by a specialized subcontractor (NAI). The staff expects that Entergy will be able to provide documentation for assumptions used for all calculations, for example, the report used to support the dose rate from the independent spent fuel storage installation and the dose contribution to the construction workers.

Hydrology: For the most part Entergy is using existing data except for a few new wells. A significant redesign of the site drainage will be required, including West Creek. Dewatering during excavation will be required to lower the water table by 53 feet – this will require a total withdrawal of approximately 9800 gpm for approximately 9 months, and will affect an area of approximately 9700 ft radius. Entergy has not yet determined what will be done with the groundwater pumped during construction. Another issue is that the proposed site is over a sole-source aquifer (Pascagoula Aquifer). Entergy has not informed the U.S. Environmental Protection Agency or delegated state authority, or considered potential ramifications of the sole-source aquifer designation. There was concern about the Cornell Mixing Zone Expert System modeling; Entergy used Version 1 of the model (Version 5 is now available), the available bathymetry data are from 1992, and the temperature and velocity data are from approximately 40 miles upstream from the proposed site.

Aquatic Resources: A major concern is that no new data have been collected to support the combined license (COL) application; Entergy is relying on the Final Environmental Statement for the existing River Bend plant, and other data that they have gathered from the area. Entergy had not looked at the Grand Gulf ESP hearing comments / questions or the Vogtle aquatic contention. There is very little information about on-site aquatic resources other than the Mississippi River. Information from Entergy was unclear regarding the size of the barge slip and the activities required to upgrade it for future use. Calculations regarding intake structure flow rates need to be examined at future visits. Threatened and Endangered species considerations have not been included yet in the transmission corridor selection process, and may not be available in time for the expected ER submittal.

Terrestrial Resources: There have been several seasons of terrestrial surveys performed, but they did not appear to be systematically designed, and did not include major classes of wildlife, such as breeding birds. There might be more definitive surveys conducted prior to submittal of the COL application. Wetlands on site have been qualitatively identified, but have not been delineated and may not be completed prior to submittal of the COL application, and there are no immediate plans to submit a delineation to the Army Corps for jurisdictional determination. There has not been an analysis of salt drift or other cooling tower impacts.

Land Use / Socio-Economics/ Environmental Justice: Overall, Entergy appears to be in very good shape regarding these areas – almost all of the census analysis and modeling has been completed, and they appear to be well acquainted with existing plans and zoning laws. Entergy has done very little offsite consultation, but should be able to easily complete this prior to submittal of the COL application. The staff expects to follow-up in areas that include assurance that adequate community consultation has taken place, and that Entergy is aware of forthcoming planning efforts regarding parish zoning and development – especially in the area near the new bridge over the Mississippi River. The West Feliciana Parish Tax Assessor pointed out that there is a proposed run-of-the river hydropower project (4700, 20KW submersible turbines) that would be located at Morgan's Bend, just upstream from the River Bend site. This project should be considered from several perspectives in upcoming readiness reviews. The staff expects the transmission corridor analysis to be completed.

Contacts made at Offsite Locations

The following off-site contacts were made regarding socio-economics, land use, and environmental justice:

- Roger Richard, Director and CEO, Port of West Feliciana
- Steve Jones, Director, West Feliciana Community Development Foundation
- Randy Metz, Chief Deputy, West Feliciana Parish Sheriff's Department
- Randy Ritchie, Assessor, West Feliciana Parish
- Stephen Spohrer, Deputy Director of Construction, LA (Transportation Infrastructure Model of Economic Development (TIMED) Managers)
- Chad Vosburg, Region 61 staff, LA Department of Transportation and Development (DOTD)
- Ron Carter, Region 61 Traffic, LA DOTD