

September 24, 2007

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

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

Richard Raione, Branch Chief
Environmental Projects Branch B
Division of Site and Environmental Reviews
Office of New Reactors

FROM: Paul Kallan, Project Manager */RA/*
Environmental Projects Branch A
Division of Site and Environmental Reviews
Office of New Reactors

SUBJECT: TRIP REPORT - JUNE 25 - 29, 2007, PRE-APPLICATION VISIT
FOR A COMBINED LICENSE (COL) APPLICATION AT THE
SOUTH TEXAS PROJECT (STP) SITE

This report summarizes the staff's June 25 - 29, 2007, pre-application visit related to the environmental portion of a future combined license (COL) application for the STP site. NRG Energy, Inc. has indicated its intent to submit a COL application for this site in early October 2007.

On June 25-29, 2007, the Division of Site and Environmental Reviews (DSER) and the Division of New Reactor Licensing (DNRL) staff, with the support of contract staff from Pacific Northwest National Labs (PNNL), conducted COL pre-application readiness assessment activities at the South Texas Project (STP) site and STP corporate offices. The team visited the STP site on June 25th for a tour of the proposed Advanced Boiling Water Reactor (ABWR) site. The applicant provided overview presentations regarding its site selection process, environmental monitoring programs, and interactions with state permitting authorities. Several NRC safety reviewers also participated in the site visit to familiarize themselves with site-specific issues in the areas of hydrology and meteorology. 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: Paul Kallan, RAP1/NRO/DSER
301-415-2809

On June 26-29, DSER and PNNL staff visited the STP corporate offices in Bay City, TX to examine portions of the environmental report that is being prepared by the applicant to support the pending COL application. The purpose of the visits was to assess the status of the environmental report in relation to its planned submission in early October 2007. Enclosure 1 provides a list of attendees. Enclosure 2 is the planned agenda for the visit. Enclosure 3 is a summary of the more significant issues that were discussed.

Project No. 749

Enclosures: As stated

W. Burton

-2-

On June 26-29, DSER and PNNL staff visited the STP corporate offices in Bay City, TX to examine portions of the environmental report that is being prepared by the applicant to support the pending COL application. The purpose of the visits was to assess the status of the environmental report in relation to its planned submission in early October 2007. Enclosure 1 provides a list of attendees. Enclosure 2 is the planned agenda for the visit. Enclosure 3 is a summary of the more significant issues that were discussed.

Project No. 749

Enclosures: As stated

DISTRIBUTION:

RAP1 R/F
RidsNroDserRap1
RidsNroDserRap2
RidsNroDserRenv
BClayton
LBurkhart
WBurton
RRaione
MThaggard
Scoffin
PKallan
GHawkins
MWillingham
RKrieg, PNNL
EHickey, PNNL

ADAMS ACCESSION NUMBER: ML072220487

OFFICE	PM:DSER/RAP1:NRO	LA:DSER/RAP1:NRO	BC:DSER/RAP1:NRO
NAME	PKallan: srm3	GHawkins	WBurton
DATE	08/15/07	09/14/07	09/24/07

OFFICIAL RECORD COPY

**STP Combined License
Pre-Application Visit on June 25 - 29, 2007**

List of Attendees

NAME	AFFILIATION
Hosung Ahn	U.S. Nuclear Regulatory Commission (NRC)
William Burton	NRC
Allen Fetter	NRC
Thomas Fredrichs	NRC
Brad Harvey	NRC
Henry Jones	NRC
Paul Kallan	NRC
Nancy Kunzleman	NRC
James Lyons	NRC
Michael Masnik	NRC
Dan Mussatti	NRC
Robert Schaaf	NRC
Linda Tello	NRC
Michael Williamham	NRC
Dave Anderson	Pacific Northwest National Laboratory (PNNL)
Amoret Bunn	PNNL
Nona Diediker	PNNL
Janelle Downs	PNNL
Eva Hickey	PNNL
Sharon Hook	PNNL
Rajiv Prasad	PNNL
Van Ramsdell	PNNL
Mike Sackschewsky	PNNL
Darby Stapp	PNNL
Jon Conly	STP

**STP Combined License
Pre-Application Visit on June 25 - 29, 2007**

List of Attendees

NAME	AFFILIATION
Sandy Dannhardt	STP
Greg Gibson	STP
Russell Kiesling	STP
Bill Maher	STP
Evans Heacock	STPNOC
Chuck Conrad	STPNOC
German Ibanez	NRG Texas
Joe Shepard	NRG Texas
Mark Walker	NRG Texas
Ken Clough	Bechtel
Garrett Day	Bechtel
Senarath Ekanayake	Bechtel
Yijen Lin	Bechtel
Kit Ng	Bechtel
Allen Shaw	Bechtel
Dave Wagner	Bechtel
Ram Yelamanchi	Bechtel
Yifan Zheng	Bechtel
Larry Bryan	Tetra Tech NUS
Nikki Hill	Tetra Tech NUS
Mary Hoganson	Tetra Tech NUS
Anne Lovell	TetraTech NUS
Phil Moore	TetraTech NUS
Kathy Roxlau	Tetra Tech NUS
Daniel Thelsen	Tetra Tech NUS

**STP Combined License
Pre-Application Visit on June 25 - 29, 2007**

List of Attendees

NAME	AFFILIATION
Bridget Twigg	Tetra Tech NUS
Jeffrey Zimmerly	Tetra Tech NUS
Louis Eichenberger	GE
Lisa Schichlein	GE
Rand Singeo	GE
Steve Franz	Morgan, Lewis & Bockius
Curtis Schlicter	ENSR

Contacts Made at Offsite Locations

NAME	ORGANIZATION
Bill Martin	Texas Historical Commission
Nate McDonald	Matagorda County Judge
Dan Pustka	Matagorda County Commissioner Precinct #1
George Deshotels	Matagorda County Commissioner Precinct #2
James Gibson	Matagorda County Commissioner Precinct #3
David Woodson	Matagorda County Commissioner Precinct #4
Elmo Duke	Texana Real Estate, Bay City

Agenda
STP NRC Environmental Staff Site Visit
Location: STP Site, Bay City, Texas
June 25 - 29, 2007

Agenda

Monday, June 25, 2007

0800 Met at NRG Energy Inc., Synergy Learning Center, Bay City, Texas

- Welcome
- Opening Remarks
- Introductions
- Orientation to South Texas Project Site (health and safety)

• Bus Tour of Site including

- Toured site perimeter (observed meteorological tower, groundwater well, transmission corridors, and wetlands)
- Entered security area (observed essential cooling pond, heavy haul road, Nuclear Support Center)
- Intake discharge and barge slip
- Toured main cooling reservoir
- Toured Units 3 and 4 footprint

1200 Lunch

1300 Presentations at Synergy Learning Center

- Environmental Report Overview
- Status of Federal, State, and local permitting actions
- Need for power
- Alternate site selection

• Adjourn

1745 NRC Staff and PNNL Staff meeting at Best Western Inn for daily debriefing

Tuesday, June 26, 2007

0700 Met at NRG Energy Inc., Synergy Learning Center, Bay City, Texas

- Questions from yesterday
- General discussion

0730 Breakout Sessions

- Helicopter tours throughout the day

1200 Lunch

- Breakout Sessions for technical area discussions on the draft Environmental Report (ER)

1700 Adjourn

Wednesday, June 27, 2007

0800 Met at NRG Energy Inc., Synergy Learning Center, Bay City, Texas

- Questions from yesterday
- General discussion

0900 Breakout Sessions for technical area discussions on the draft ER

1100 Meeting with Greg Gibson and NRC management

1200 Lunch

1300 Breakout sessions for technical area discussions on the draft ER

1700 Open house (1700-1900) Bay City Civic Center (201 Seventh St, Bay City, Texas)

1900 Public outreach meeting (1900-2200) Bay City Civic Center (201 Seventh St, Bay City, Texas)

Thursday, June 28, 2007

0800 NRC/PNNL internal discussion at NRG Energy Inc., Synergy Learning Center, Bay City, Texas

- Questions from yesterday
- General discussion and comments

0830 Environmental report feedback session

1200 Lunch

1300 Staff left site or continued working as time permitted

**Additional Information Summarizing the
STP NRC Environmental Staff Site Visit
Location: STP Site, Bay City, TX
June 25 - 29, 2007**

As a result of the June 25 - 29, 2007 visit to Bay City, TX the staff has identified the following issues or concerns:

Level of Detail – The Staff found that some sections of the draft ER did not provide adequate detail to support the conclusions drawn. Although the author provides an introduction, information, and conclusion, there is no discussion that ties together the information, including the technical basis and assumptions made, to guide the reader through a logical process that leads to the conclusion. The Staff found that STP has the information needed to reach the conclusion but it needs to be incorporated into the draft ER.

Alternatives – Two of the three alternative sites have potential water problems that should be discussed in more detail. Reading the information provided, one could conclude that two of the alternative sites do not meet the water availability criteria in the site evaluation process. This is particularly significant because STP only proposed three alternative sites.

The physical description of the alternative sites lack detail. For example, very little information is provided about the terrestrial resources present at the sites, the quantity of habitats of concern that would be impacted, or the important species that are likely to be encountered.

Cultural Resources – There are concerns that the applicant did not really do a “resource assessment.” The applicant’s consulting archaeologist had not gone onsite to look at the proposed areas of construction. During a walk down of the site, staff found lithic and shell material in the footprint locations of Units 3 and 4. The material likely came from offsite; however, that explanation needs to be developed and substantiated in the draft ER. It appears that when the applicant received a letter from the State Historic Preservation Office stating “no historic properties affected,” the applicant’s consultant did no additional work.

Aquatic Ecology – There is no current information on impingement and entrainment at either the river or the reservoir intake structures. The lack of any recent impingement and entrainment from the Colorado River intake structure or sampling in the river severely limits any assessments of impact of two additional units to the river fishery. It also precludes any comparison to data collected in the early 1980's. Potential discharge effects are not assessed in sufficient detail to determine potential impacts. TDS and chemical additions to the reservoir should be assessed as possible sources of impact to the Colorado River and the Matagorda Bay. The draft ER currently lacks information about how plant activities will impact essential fish habitat. The applicant does not provide the necessary recent site specific information to accurately predict the effects of construction and operations on the Colorado River and the Matagorda Bay. Much of the quantitative information on the hydrology of the system is listed as either “TBD” or “TBC;” therefore, there is no quantitative information to come to final conclusions about the impacts on aquatic resources. Aquatic monitoring will not be complete at the time the ER is submitted.

Radiological Impacts and Uranium Fuel Cycle – Following a review of the draft ER related to radiological impacts to construction workers, impacts to the public, biota and occupational workers, the initial observation is that the draft ER did not provide adequate detail to support the conclusions drawn. In most cases, the models, assumptions and input data were not provided to allow the staff to review and validate the findings. The discussion of radiological monitoring appeared sufficient. The discussion of uranium fuel cycle impacts also did not provide adequate information to be able to recreate the results. Waste management systems were not reviewed during this visit.

Terrestrial Ecology – The applicant needs to accurately summarize what work has been done to support the terrestrial ecological discussions.

The wetlands need to be better described and a more comprehensive discussion as to why the wetlands are thought to be non-jurisdictional should be provided. A completed review by the U.S. Army Corps of Engineers (USACE) is preferred. The applicant did not provide adequate information to determine whether there would be impacts to wetlands outside of the immediate construction area. For example, activities associated with construction of the heavy haul road, barge slip improvement, and changes in the total water balance of the reservoir thereby affecting wetlands associated with the discharge canal. The draft ER should describe the Best Management Practices that they intend to use to protect wetlands within the project area.

The draft ER should describe any surveys conducted for terrestrial threatened and endangered species and/or other sensitive resources that have been performed in support of the application.

Better maps of the project area that include which facilities will go where and the type of habitats in each area should be provided in the final ER.

The description of the alternative sites lack detail. Very little information is provided about the terrestrial resources present at the site, the quantity of habitats of concern that would be impacted, or the important species that are likely to be encountered.

Hydrology - From the hydrology review perspective, the main issue is having an adequate description of the water budget for the main cooling reservoir (MCR). Discussion of elements of the MCR water budget is scattered throughout the draft ER; however, a complete description of the water budget is not provided.

Sections 4.2 and 5.2 of the draft ER were not complete at the time of this site visit. The submitted application must be checked for completeness and consistency across sections and also between the Standard Safety Analysis Report (SSAR) and the ER. The hydrology review team was told that the applicant is working on the SSAR and that the SSAR and the ER would likely be submitted to NRC together. However, the draft of the SSAR was not provided for a hydrology review.

Socioeconomics/Environmental Justice/Land Use – The text for the socioeconomics and environmental justice sections are incomplete. Local research for these subjects is not described and appears to not have been adequately conducted.

For example, in the applicant's characterization of the demographics of the area, they did not

identify any Census block areas with a concentrated population of Asian people. However, Palacios, the community closest to the proposed site, has a large number of Vietnamese people who immigrated to Southern Texas in the early eighties. A second example of lack of completeness in the ER would be their lack of relevant road data. The ER did not characterize any of the roads surrounding the proposed site in any meaningful manner (LOS, condition, etc.). In general, Staff felt the level of investigation performed by the socioeconomic authors was not sufficient. Over 80 percent of the references made in the relevant sections were performed via internet searches, rather than through personal contacts within the potentially affected communities.

Severe Accidents – The severe accidents discussion is based entirely on core damage associated with internally initiated events. The ER does not mention externally initiated events, even though the Safety Evaluation Report for the AP1000 includes several open items related to evaluation of risks from externally initiated events.

Conclusion

Based on its review of the draft ER, the staff believes the following issues need to be resolved:

- Insufficient level of detail in the ER
- Potential significance of the finding that two of the three alternative sites may have water problems thus not viable alternative sites
- Lack of a water budget
- Use of outdated or inconsistent data
- Incomplete or general lack of detailed information

The current schedule is for submittal of the environmental report and the application in October 2007.