Nuclear Operating Company

South Texas Project Electric Generating Station 4000 Avenue F – Suite A Bay City, Texas 77414

June 10, 2010
U7-C-STP-NRC-100135

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Compliance With 10 CFR 52.79(a)(31)

Reference: COL-ISG-022, "Interim Staff Guidance on Impact of Construction of New Nuclear Plants on Operating Units at Multi-Unit Sites"

The referenced NRC interim guidance contains supplemental information to be included in Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)" regarding the evaluation of potential hazards to the structures, systems, and components important to safety for operating units resulting from construction activities on new units at the same site to ensure compliance with 10 CFR 52.79(a)(31).

STP Nuclear Operating Company submits South Texas Project, Units 3 & 4 procedure U7-P-EN02-0005, "Interface Evaluations of Units 3 & 4 on Units 1 & 2" to demonstrate our conformance with COL-ISG-022. This procedure contains guidance regarding evaluation of construction impacts on the operating units at the STP site which is consistent with the information provided in the referenced interim staff guidance.

There are no commitments in this letter.

If you have any questions regarding this submittal, please contact me at (361) 972-7136, or Bill Mookhoek at (361) 972-7274.

D091
NRO

STI 32690698

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 6/10/10

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

rhs

Attachment:
U7-P-EN02-0005

cc: w/o attachment except*
(paper copy)

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Interface Evaluations of Units 3 & 4 on Units 1 & 2			
Quality	Non Safety-Related	Usage: Available	Effective Date: 02/17/2010

Cheryl Preston	Lona Smith	Units 3 & 4	Units 3 & 4 Engineering
PREPARER	REVIEWER	USER	COGNIZANT DEPT.

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1.0 Purpose and Scope

1.1 The purpose of this procedure is to provide guidelines for the evaluation and documentation of Units 3 & 4 impacts on Units 1 & 2. The scope includes potential impacts to Units 1 & 2 engineering and licensing documents, environmental, security, and emergency plans, direct and indirect construction activities having impact on the safe and reliable operation of Units 1 & 2, and identification of mitigating strategies or provisions that may be put in place.

2.0 Definitions

2.1 **Interface Evaluations:** An action which involves performing an assessment or appraisal of potential impacts of a Units 3 & 4 activity on Units 1 & 2 design or licensing basis and operational impact identified during Units 3 & 4 engineering and construction. An Interface Evaluation shall not authorize a change to documentation or to physical plant systems, structures, or components (SSC)s.

2.2 **EPC:** Engineering Procurement and Construction

2.3 **Units 1 & 2 Licensing Basis:** The set of NRC requirements which include:

- NRC regulations in 10 CFR Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 70, 72, 73, and 100 and appendices thereto
- Commission Orders
- Environmental Report
- Security Plan
- Emergency Plan
- License conditions
- Exemptions
- Technical Specifications
- Design Basis information documented in the most recent UFSAR
- Licensee commitments contained in correspondence such as responses to NRC Bulletins, Licensee Event Reports, Generic Letters, Enforcement Actions, and NRC safety evaluations

2.4 **Design Bases**: As defined by 10 CFR 50.2,1 is information documented in the Units 1 & 2 UFSAR as required by 10 CFR 50.71. The design basis of safety-related SSCs is established initially during the original plant licensing and relates primarily to the accident prevention or mitigation functions of safety-related SSCs. The design basis of a safety-related SSC is a subset of the current licensing basis.

[1] NRC Regulatory Guide 1.186, "Guidance and Examples for Identifying 10 CFR 50.2 Design Bases," endorses Appendix B to Nuclear Energy Institute (NEI) document NEI 97-04, "Guidance and Examples for Identifying 10 CFR 50.2 Design Bases."

2.5 **Units 3 & 4 Activity:** Any activity that is performed to support or in support of the construction of Units 3 & 4.

3.0 Responsibilities

3.1 The Engineering Manager Units 3 & 4 is responsible for development and maintenance of this procedure. The Engineering Manager is also responsible for determining the organization responsible for performing the evaluation and assigning a supervisor to the evaluation.

3.2 The Construction Manager Units 3 & 4 is responsible for assigning a supervisor to the non-engineering evaluations and for supporting engineering evaluations.

3.3 The Supervisor is responsible for assigning personnel to perform evaluations.

3.4 The Evaluator(s), engineering or construction personnel, are responsible for utilizing the guidelines in this procedure to perform Interface Evaluations. The evaluator, with consultation with his/her Supervisor, ensures that other appropriate discipline engineers and/or other support personnel are included as necessary.

4.0 Interface Evaluation Process

4.1 On a quarterly periodicity, engineering, construction and personnel from Units 1 & 2 will review the schedule and schedule change notices (CN)s on a forward looking basis for any activities requiring evaluation. These reviews will ensure the process is dynamic in nature and activities requiring evaluation are continually fed into the process.

4.2 When a Units 1 & 2 interface issue that requires an evaluation is identified, the Engineering Manager and/or Construction Manager will decide which organization is responsible for the evaluation and resolution. A list of potential Units 3 & 4 activities that could have an interface issue with Units 1 & 2 is documented under the Units 3 & 4 ABWR Corrective Action Program (ACAP). The Condition Reports (CR)s shall control the potential interfaces and contain the completed evaluations.

4.3 If an interface evaluation has been determined not to be necessary for an activity, the reason for not performing a full evaluation should be documented in a CR action.

4.4 An interface evaluation shall be completed and accepted by the appropriate key stakeholders in the operating unit(s) prior to the start of the scheduled activity being evaluated.

4.5 A Supervisor is assigned as the sponsor of the evaluation. The Supervisor will assign a responsible evaluator to perform the evaluation.

4.6 The evaluator first reviews the Units 3 & 4 ACAP to determine whether the interface under evaluation is already identified by a CR or CR action. If so, the Evaluator shall assign and schedule actions, strategies and/or provisions that will serve to mitigate the impact of the interface, as necessary. If the interface is not identified, the evaluator creates a new CR and/or action in ACAP database and shall assign and schedule actions as necessary.

4.7 Prior to and during implementation of the activities within the scope of this procedure, the Units 3 & 4 staff will attend regularly scheduled meetings with the appropriate key stakeholders in the operating unit(s) to identify any up coming and in progress activities and the strategies in place to mitigate any identified risk(s).

4.8 Evaluation Guidance:

4.8.1 As part of the evaluation, Units 1 & 2 drawings, design basis documents, UFSAR, Operating Procedures, Environmental Report, Emergency Plan and Security Plan shall be reviewed for impacts and documented on the Interface Evaluation form, Addendum 1.

4.8.2 An interface evaluation is required when the potential for impact on Units 1 & 2 design and/or licensing basis is expected. These evaluations, at a minimum, require a completed evaluation form and notification of the appropriate Units 1 & 2 personnel. In addition, they may require, as appropriate, completion of any or all of the following (see References 6.5.1 through 6.5.5):

- Design Modification
- 10CFR50.59 screening/evaluation
- Health Physics review
- Security review
- Environmental review
- Licensing review

4.8.3 The evaluation needs to take into account not only physical changes, but also impacts from construction activities such as dust effects, chemicals used for construction of Units 3 & 4, interim construction activities, etc. See addendum 2 for examples.

4.8.4 Physical changes which impact Units 1 & 2 design documentation shall be documented as a CR in the Units 1 & 2 Corrective Action Program (CAP).

4.8.5 If a change does not require a design modification but requires a 10CFR50.59 screen or evaluation, then the screen or evaluation shall be performed by qualified personnel and documented in accordance with Units 1 & 2 processes.

4.9 The Evaluator, in consultation with his/her Supervisor, will determine the extent of inter-disciplinary input and reviews necessary to support the evaluation/review.

4.10 Each evaluation shall have a risk level of High, Medium or Low assigned to the activity being evaluated.

4.10.1 HIGH: The work activity causes or could cause:

- the unit to lose all power generation capability (i.e., trip the unit)
- damage during the activity which could trip equipment
- affect offsite power sources

4.10.2 MEDIUM: The work activity causes or could cause:

- an unplanned power reduction less than 20%
- an unplanned shutdown LCO entry (not scheduled)
- a single point failure to be established not covered by an existing procedure or work document

4.11 The Evaluator will enter and/or attach other pertinent information into the CR and add actions, strategies and/or provisions that will serve to mitigate the impact of the interface as necessary per guidance contained in Units 3 & 4 ABWR Corrective Action Program procedure.

4.12 The Evaluator will ensure that the evaluation is routed to impacted organizations.

4.13 The Evaluator will hold a meeting with the appropriate key stakeholders in the operating unit(s) to communicate activity risk(s) and coordinate implementation of any activities identified to mitigate the risk(s). The designated Units 1 & 2 personnel shall sign the Interface Evaluation showing concurrence of the identified Units 3 & 4 impacts on Units 1 & 2.

4.14 The Evaluator will conduct a readiness review for any activity that poses significant risk to Units 1 & 2 operations which have been ranked High or Medium in section 4.10 above.

4.15 The Evaluator obtains an STI number for the evaluation from Records Management & Document Control (RMDC).

4.1.6 The Evaluator shall ensure that the STI number of the evaluation is referenced on the CR action.

5.0 Documentation

5.1 The Evaluator shall ensure that the evaluation is transmitted to Units 3 & 4 RMDC.

6.0 References

6.1 U7-P-QP01-QAPD, STP 3 & 4 Quality Assurance Program Description

6.2 U7-P-AD02-0003, Units 3 & 4 ABWR Corrective Action Program

6.3 U7-P-RM02-0001, Units 3 & 4 Records Management and Document Control

6.4 U7-P-LI02-0002, Responding to NRC Requests for Additional Info for COLA

6.5 Units 1 & 2 Procedures:

6.5.1 0PGP03ZX0002, Condition Reporting Process

6.5.2 0PGP05ZN0004, Changes to Licensing Basis Documents and Amendments to the Operating License

6.5.3 0PGP05ZA0002, 10CFR50.59 Evaluations

6.5.4 0PGP04ZE0309, Design Change Package

6.5.5 0PGP03-ZA-0090, Work Process Program

7.0 Support Documents

7.1 Addendum 1, Interface Evaluation (Sample)

7.2 Addendum 2, Examples of Activities Requiring Interface Evaluations

7.3 Addendum 3, Interface Evaluation Example

STI #	Interface Evaluation	Page 1 of ___
Units 3&4 CR Action #:		
Units 3 & 4 Activity Description:		
Units 1 &/or 2 Component Tag Number or description of site feature:		
Units 1 & 2 UFSAR Design Functions:		
Units 1 & 2 Design Basis Described in the Design Basis Document (DBD):		

STI #	Interface Evaluation	Page ___ of ___
Units 3 & 4 CR Action #		

Assessment:

STI #	Interface Evaluation	Page ___ of ___
Units 3 & 4 CR Action #	**Risk Ranking:** _____	

Risks to the Operating Unit(s):

Strategies and actions to mitigate risks:

STI #	Interface Evaluation	Page ___ of ___
Units 3 & 4 CR Action #		

Conclusion:

References:

	☐ **Units 1 & 2 Notification Required**	☐ **Units 1 & 2 10CFR50.59 Screening/Evaluation Required**
	☐ **Units 1 & 2 Design Modification Required**	
	Units 1 & 2 CR # **(Required for Modifications and 50.59 Screens and Evaluations)**	

Approvals:

Preparer (Print/Sign) **Date**	**Supervisor Approval (Print/Sign)** **Date**
Technical Reviewer (Print/Sign) **Date**	**Manager Approval (Print/Sign/Title)** **Date**
Unit 1 & 2 Concurrence **Date**	

Examples of activities that would require an interface evaluation:

Units 3 & 4 Main Foundation Excavation

Vibration effect of sheet piling installation on seismic monitoring
Effect of dewatering – adequate monitoring
Effect of excavation for Units 3 & 4 buildings on Unit 2 and Main Cooling Reservoir
Dust – Units 1 & 2 air intakes; switchyard and main transformers insulators/bushings; other
Traffic problems – Plant evacuation issues
Outage access/parking
Threat to switchyard/transmission lines
Environment issues with tritium at south part of Units 3 & 4 excavation
Environment issues with wet lands protection/storm water run off

Unit 3 & 4 Circulating Water Intake Structure

Silting on intake side of Main Coolant Reservoir
Physical protection of Units 1 & 2 intake structure
Physical protection of Units 1 & 2 discharge structure
Environment issues with tritium
Control of equipment and materials going in and out of the Main Coolant Reservoir
Traffic on south road next to Main Coolant Reservoir
Protection of Units 1 & 2 sodium hypo tanks and other existing equipment
Effect of construction
Effect of piles in the Main Coolant Reservoir for pipe support
Effect of soil boring in the Main Coolant Reservoir
Effect of excavation close to the dike
Dike monitoring
Design change documentation due to the addition of the Units 3 & 4 Circulating Water intake structure (i.e. Units 1 & 2 design drawings and calculations)
Evaluation of the possible effects on Units 1 & 2 during the construction of the intake structure
Changes to the Units 1 & 2 UFSAR

This Addendum provides instruction on how to perform and document a interface evaluation and disposition on Addendum 1 of this procedure.

1. **Units 3 & 4 Activity Description:**

   Write a concise sentence of the SSC in terms of WHAT, WHERE, WHEN, HOW, and HOW MUCH as applicable.

   WHAT is affected: Use the MED Description Name followed by the TAG/TPNS number in parenthesis if applicable.
   HOW is it affected: Describe HOW the WHAT is affected.
   HOW MUCH: Indicate quantity when appropriate or the extent of the effect
   WHERE: Indicate WHERE on the SSC the issue is located if applicable.
   WHEN: Indicate WHEN the condition exists if it is not continuous

   EXAMPLE:
   Units 3 & 4 Circulating Water Intake Structure is being built in close proximity to the Units 1 & 2 Circulating Water Intake Structure. Construction activities on the Units 3 & 4 structure could cause physical damage to the Units 1 & 2 structure.

2. **Units 1 &/or 2 Component Tag Number or description of site feature:**

   List all applicable TPNS associated with this Interface Evaluation and include the component and system description.

   EXAMPLE:
   9T221MTW0130 - CIRCULATING WATER PUMPS TRAVELING SCREEN 1
   9T221MTW0230 - CIRCULATING WATER PUMPS TRAVELING SCREEN 2
   9T221MTW0330 - CIRCULATING WATER PUMPS TRAVELING SCREEN 3
   9T221MTW0430 - CIRCULATING WATER PUMPS TRAVELING SCREEN 4
   9T221MTW0530 - CIRCULATING WATER PUMPS TRAVELING SCREEN 5
   9T221MTW0630 - CIRCULATING WATER PUMPS TRAVELING SCREEN 6
   9T221MTW0730 - CIRCULATING WATER PUMPS TRAVELING SCREEN 7
   9T221MTW0830 - CIRCULATING WATER PUMPS TRAVELING SCREEN 8

   Drainage ditch on the north and west of existing units, just west of north access road.

3. UNITS 1 & 2 UFSAR DESIGN FUNCTIONS:

List applicable UFSAR sections and summarize or the design functions that are relevant to the TS requirements.

UFSAR EXAMPLE:

UFSAR Section 2.4.2.3 Effects of Local Intense Precipitation. There are two local drainage areas adjacent to the plant structures. Considering a PMP of a point rainfall magnitude, a PMF on either of these two adjacent areas would result in water levels in the plant area that would be above plant grade. The larger of these two areas lies west and northwest of the plant structures and contains 4.5 mi_2 of land surface. This area drains into relocated Little Robbins Slough. The PMF from this area is estimated conservatively to have a peak discharge of 8,000 ft_3/sec. It would cause a water level of about 32 ft at the site.

4. UNITS 1 & 2 DESIGN BASIS DESCRIBED IN THE DESIGN BASIS DOCUMENT (DBD):

Clearly state the design basis from the DBD (if applicable) for the SSC or condition.

EXAMPLE:

DBD 5V229VB01052 Rev. 4, Section 2.1.3 describes the function of Circulating Water Intake Structure:

The function of the CW intake structure is to supply an evenly distributed flow of water to each pump suction bell, and to provide support for the circulating water pumps, service water pumps, screen wash pumps, traveling water screens and crane. The traveling water screens prohibit objects larger than 3/8-inch from entering the pumps.

5. ASSESSMENT:

Interface Evaluations are needed whenever there is a possibility of a Units 3 & 4 activity that could either affect the design/licensing basis of Units 1 & 2 or the physical change affects on the operating units such as dust from excavation or security issue due to proximity to boundaries. The following are some items to consider that would have a direct affect on Units 1 & 2 from a design/licensing basis or a secondary affect from a construction activity for Units 3 & 4:

Evaluate whether the change adversely affects the ability of a Units 1 & 2 components/systems to perform its described design function. Evaluate the condition and document the thought process on determining the conclusion. The evaluation needs to include the impact the change could have on Units 1 & 2 SSCs (evaluate failure modes & effects analysis). Consideration should be given to the following content:

- Background
- Field Data/Inspection Results/Pictures/etc.
- Evaluation Methodology (if needed)
- Acceptance Criteria (if needed)

The scope evaluation must be sufficient to address the capability of SSCs to perform its specified functions. The evaluation may be based on analysis, a test or partial test, experience with operating events, engineering judgment, or a combination of these factors, considering SSC functional requirements.

Environmental Quality

Items considered important to environmental quality are those Structures, Systems or Components (SSCs), or facilities that provide protection and preservation of or have the potential to adversely impact the air, water, and terrestrial quality during the construction and operation of Units 1 & 2.

The phrase "important to environmental quality" is defined below under the headings of air, water, and terrestrial quality:

a. Air Quality - SSCs which cause chemical gaseous releases, such as emissions from concrete batching plants; cause sand blasting activities and cause noise pollution from equipment operation.

b. Water Quality (marine and freshwater) - SSCs which: release chemical effluents into the Colorado River; contribute to changes in physical or chemical characteristics of existing discharges; increase thermal effects in the discharge and velocity effects in the intake; changes in the dissolved oxygen content, or turbidity of receiving waters in the Colorado River; any station conditions which could lead to the degradation of aquatic communities.

c. Terrestrial Quality - SSCs which: potentially contribute to chemical contamination of ground water, or the leach field; cause soil such as the underground storage tanks erosion, such as the drainage system and road construction; cause disruption of plant or animal species' distribution or foraging habits.

The above items include:

- Facilities and systems for the collection, treatment, and control of wastewater.
- All facilities used for transport, treatment, or disposal of non-radiological wastes (solid, liquid, and gas effluents).
- Systems for main condenser heat transfer improvement (demusseling operation).
- Systems for cooling water discharge temperature control.
- Facilities to minimize entrainment and impingement of marine organisms.
- Systems for defouling of slime along cooling water pathways.

Personnel Safety

Changes which could have a possible impact on personnel safety should be developed in compliance with OSHA requirements. The following should be considered:

Will the change:

a. Create a personnel hazard (e.g., hearing, overhead loads, traffic, etc.)?
b. Introduce hazardous material into the Units 1 & 2 area?
c. Affect evacuation routes?
d. Create an equipment access problem?

Toxic Chemicals

Changes adding or relocating toxic chemicals and asphyxiants need to be evaluated to assess the possible impact on control room habitability (Ref. RG 1.78 and RG 1.95). Potential asphyxiants such as CO2, N2, H2, diesel exhaust, etc., need to be included in this review.

Security Systems/Barriers/Detection Systems

Changes which impact or might jeopardize security systems, barriers, or detection systems SHALL be evaluated for compliance with/impact on the Units 1 & 2 Physical Security Plan. The following questions should be considered:

Will the Change:

a. affect a vital area boundary or barrier?
b. affect a security barrier?
c. affect safeguards equipment or documents?
d. affect access control?

Station Emergency Response or the Radiological Environmental Monitoring Program (REMP)

Changes that may affect the Emergency Plan OR its implementing procedures should be discussed with the Emergency Response Division so that the impact of the changes are addressed and that all appropriate design features have been applied.

6. RISKS TO THE OPERATING UNIT(S):

List what the possible risks are to Units 1 & 2. Risks include air intake of gasses or large quantities of dust; shifting of foundations or main coolant reservoir dike; effects of dust on other components like insulators; cranes and large machinery near existing security fencing; etc. A risk ranking needs to be assigned for the activity being evaluated as High, Medium or Low.

7. STRATEGIES AND ACTIONS TO MITIGATE RISKS:

List required compensatory measures, until the activity is complete.

EXAMPLE:
Place GPS sensors to detect movement, height and lateral, on or around buildings and MCR dike.
Water dirt roads and excavation area to control dust.
Keep cranes and heavy machinery from Units 1 & 2 security fences.

8. CONCLUSION:

Based on the findings of the Interface Evaluation, document a concise conclusion.

9. REFERENCES:

List all references used such as DBDs, Technical Specifications, Procedures, Data Sheets, etc.

EXAMPLE:

1. P&ID 5V139V00015#2 Revision 14 - HVAC Diesel Generator Building
2. Architectural Mechanical and Electrical Auxiliary Bldg, 9M132A01033, Rev. 13.
3. Control Room Emergency Air Cleanup System Function Test procedure, 0PSP11-HE-0002, Rev. 25.
4. UFSAR, Sections 6.4 and 9.4

10. TRACKING AND NOTIFICATION OF IMPACTS ON UNITS 1 & 2

For any impact to Units 1 & 2, check the box for notification. If any evaluation determines that there could be an impact to the Units 1 & 2 UFSAR, then check the box for a 10CFR50.59 Screening/Evaluation. If any evaluation determines that a Units 1 & 2 design change is required, then check the box for modification required. A Condition Report shall be opened in the Units 1 & 2 Corrective Action Program and be listed on the evaluation.

11. APPROVALS:

For all interface evaluations, a documented Supervisory review/concurrence is required. Supervisor will ENSURE that a technical review is performed if warranted. If an interface evaluation determines that there is an impact on Units 1 & 2, then Manager review/concurrence is required and Units 1 & 2 signed concurrence is also required.