REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST FOR APPROVAL OF A REVISION TO THE SOUTH TEXAS PROJECT FIRE PROTECTION PROGRAM RELATED TO THE ALTERNATIVE SHUTDOWN CAPABILITY AT SOUTH TEXAS PROJECT, UNITS 1 AND 2
(TAC NOS. ME6346 AND ME6347)

By letter dated June 2, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11161A143), as supplemented by letter dated August 1, 2011 (ADAMS Accession No. ML11221A230), STP Nuclear Operating Company (the licensee) requested for approval of a license amendment request for revision to the South Texas Project (STP) fire protection program related to the alternative shutdown capability. The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information provided and requires the following additional information to complete its review.

RAI-01: Crediting of Actions

Section 2.2 of letter dated June 2, 2011 states that, "Performing the additional actions inside the control room ensures that the RCS [reactor coolant system] process variables remain within those values predicted for a loss of normal a-c [alternating current] power," and that, "The proposed change assumes one spurious actuation to occur before control of the plant is achieved through the alternative or dedicated shutdown system." However, the licensee did not state whether operators can achieve safe shutdown in the event that some or all of the requested actions are not completed before evacuating the control room and a spurious actuation occurs before operators reach the alternate control station.

Also, the request does not describe what the postulated fire scenarios are that might necessitate the requested actions. For instance, it is not clear whether the actions would be required or feasible given a rapid fire within the fire area or within a particular piece of equipment or why a postulated fire would not damage more than one circuit.

RAI-01.1

Please provide a technical justification that plant safe shutdown is achievable in the event that some or all of the requested actions are not completed before evacuating the control room and a spurious actuation occurs before operators reach the alternate control station.

RAI-01.2

Please provide a discussion of what was assumed for the postulated fire scenarios as well as T=0 (time zero) for the fire, thermal-hydraulic analysis, and the requested actions. Additionally, provide a discussion of the relationship between the postulated fire scenarios and the operators or equipment necessary to perform the requested actions.

RAI-02: Evaluation of Operator Actions

Section 3.7 of letter dated June 2, 2011 refers to NUREG-1852, "Demonstrating the Feasibility and Reliability of Operator Manual Actions [OMAs] in Response in Response to Fire," but NUREG-1852 clearly defines OMAs as actions occurring outside the main control room. However, all of the requested actions occur inside the main control room. Additionally, no discussion is provided on what procedures or guidance operators will follow in order to

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successfully perform the requested actions or how operators and equipment will be impacted by a control room fire or possible fire brigade operations during a control room fire.

RAI-02.1

Please provide a justification for why NUREG-1852 is an appropriate standard to evaluate the requested actions and whether any other evaluations were performed. For example, Generic Letter (GL) 86-10 Question 3.8.4 includes considerations such as physical and electrical proximity of controls and the ability to predict which systems in the control room that would be affected.

RAI-03: Turbine Trip Assumptions

Section 3.5 (letter dated June 2, 2011) concerning the automatic turbine trip when the reactor is tripped states "It is unlikely that a fire-induced circuit failure would impact both independent channels" of the solid state protection system logic trains. However, no justification is provided for the unlikelihood of such a failure occurring or how such a failure has been addressed in the analysis to support taking credit for an automatic turbine trip in response to the reactor trip.

Section III.L of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix R requires that a loss of offsite power be assumed while GL 86-10, Question 3.8.4 and Regulatory Guide 1.189, Revision 2 states that the analysis should also assume the loss of automatic starting of the onsite AC [alternating current] generators and the automatic function of valves and pumps with control circuits that could be affected by a control room fire.

RAI-03.1

Please provide additional detail on the basis for concluding that a single fire will not affect a turbine or common trip signal for a control room fire. Include, if applicable, a brief description of separation distances and intervening combustible materials.

RAI-04: Lack of Automatic Suppression in Control Room

Attachment 3, Section 2.4.4 of letter dated June 2, 2011 states that no fixed suppression is provided in the control room but does not provide an explanation for whether the arguments used to justify this deviation remain valid or the deviation has any impact on the requested actions.

RAI-04.1

Please state what impact, if any, the lack of fixed suppression in the control room has on the postulated fire scenarios and requested actions. Additionally, confirm that the assumptions used in the original deviation for a lack of fixed suppression remain valid.