9.0 Alternatives to the Proposed Action

The proposed action is for NRC to issue combined operating license (COL) to authorize construction and operation of two 1350 MWe nuclear power units to address future baseload generation needs.

Chapter 9 describes the alternatives to construction and operation of new nuclear units at the STP site, as well as alternative plant and transmission systems. The descriptions provide sufficient detail to assess the impacts of the alternative generation options or plant and transmission systems relative to those of the proposed action. The chapter includes four subsections:

- No-Action Alternative (Section 9.1)
- Energy Alternatives (Section 9.2)
- Alternative Sites (Section 9.3)
- Alternative Plant and Transmission Systems (Section 9.4)

As discussed in Chapter 8, the STP site is located within the Electric Reliability Council of Texas (ERCOT) region. ERCOT is the reliability coordinator, balance authority, and transmission operator for 75% of the geographical area and 85% of the load in the state of Texas (Reference 9.0-1). The ERCOT grid is separated electrically from the rest of North America. ERCOT has two DC ties to the Southwest Power Pool (SPP) and one to Mexico with a total capacity of approximately 856 MW (Reference 9.0-2). Because the ERCOT grid is isolated from the rest of North America, STPNOC defines the region of interest as the area served by ERCOT.

9.1 No-Action Alternative

The no-action alternative is NRC denial of the COL for STP 3 & 4. Under the no-action alternative, STP 3 & 4 would not be constructed or operated at the STP site, and the benefits associated with construction and operation of STP 3 & 4 would be lost. These benefits include the direct employment of 888 people for operation of STP 3&4. The creation of 888 permanent STP 3 & 4 operations jobs would inject $90,181,728 to $110,129,760 per year into the regional economy. Additionally, for every new operations job an estimated additional 1.47 indirect jobs would be created, which means that the 888 direct jobs would result in an additional 1,305 jobs in Matagorda and Brazoria Counties, for a total of 2,193 new jobs in these two counties.

The no-action alternative also includes failure to construct and operate the proposed facilities. This would mean that the electrical capacity to be provided by the project would not become available. The no-action alternative also presupposes that no additional conservation measures would be enacted to decrease the amount of electrical capacity that would otherwise be required in the ERCOT region.

As discussed in Chapter 8, there is a demonstrated need for additional baseload generation capacity in the ERCOT region. The current ERCOT forecast for 2007 to 2012 indicates the peak demand is expected to increase by 2.1% annually. Although

overall peak demand forecast calls for a 2.1% annual growth rate, some areas may experience growth as high as 6.1% per year, with the greatest growth around the metropolitan areas.

Without additional capacity, ERCOT would be unable to maintain the minimum 12.5% target level of reserve margin necessary to mitigate uncertainties in load requirements that can arise from unit outages, adverse weather conditions, unexpected demand, or an unplanned loss in the transmission system. The addition of nuclear generation capacity would address these needs, and would also support national and international goals to reduce the generation of greenhouse gases as outlined in the Energy Policy Act of 2005 (Reference 9.1-1). Finally, the no action alternative would not serve NRG's purpose to use STP 3 & 4 as a merchant generator to sell power on the wholesale market and make a profit.

In light of the benefits for the proposed project, the No-Action alternative is not preferable to the construction and operation of STP 3&4.

9.1.1 Reference

9.1-1 ERCOT (Electric Reliability Council of Texas) 2007. "ERCOT Fact Sheet." February 19, 2007. Available online at http://www.ercot.com/news/presentations/2007/ERCOT_Fact_Sheet_2-19-07.pdf.

9.1-2 ERCOT (Electric Reliability Council of Texas) 2007. "ERCOT Releases 2004 Summer Reliability Assessment," dated May 12, 2004, available at http://www.ercot.com/news/press_releases/2004/nr20040512.html, accessed on July 1, 2007.

9.1-3 Public Law 109-58, Energy Policy Act of 2005. August 8, 2005. Available online at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ058.109.pdf.