

South Texas Project's (STP) Nuclear Reactors... What is Proposed Derived from Combined Operating License Application

Applicant and Owner

NRG South Texas 3 & 4 LP (NRG) and City Public Service Board of San Antonio, Texas (CPS Energy) are applying to the Nuclear Regulatory Commission (NRC) for Combined Operating Licenses for South Texas Project Units 3 and 4, two additional nuclear reactors proposed for Matagorda County, Texas, located 12 miles south-southwest of Bay City.

NRG and CPS Energy are the applicants and would be the owners. STP Nuclear Operating Company (STPNOC) would be the operator.

Proposed Units 3 & 4 would be baseload merchant generator plants, with NRG selling its share of power on the wholesale market. CPS Energy may either use energy to supply its service area or sell the power on the wholesale market.

Site Location

The reactors would be located on 12,220 acres along the west bank of the Colorado River, 10 miles north of Matagorda Bay. The site boundary runs 2000 feet northwest of the existing Units 1 and 2.

Reactor Information

The reactor would be the General Electric (GE) Advanced Boiling Water Reactor (ABWR). The design was submitted to the NRC in November 2007.

Output

Each reactor would produce net electrical output of 1300 MW, for a total of 2600 MW.

Cooling/Water

Cooling would use a closed-loop cooling water system, which would withdraw and discharge water from and to the Main Cooling Reservoir (MCR). Makeup water for the MCR will be withdrawn from the Colorado River, using the preexisting intake structure. Blowdown will discharge from the MCR to the Colorado River. Waste heat will be dissipated through mechanical draft cooling towers and a water storage basin will be used for safety related cooling.

Transmission

STP connections to the regional grid would use existing rights-of-way where possible. The onsite power system consists of the STP 3 & 4 345kV switchyard, five 345kV power transmission lines, and a 345 kV tie-line from STP 1 & 2 to STP 3 & 4. The Hillje substation 20 miles northwest of the STP site would be upgraded where they connect.

Connection to the existing transmission line corridor would occur a quarter of a mile to the north.



Proposed Dates for Major Activities

Applicants are allowed to perform preconstruction and site preparation activities before the NRC issues the Combined Operating License (COL). STPNOC will start these in January 2009. Limited work authorization (LWA) may begin in January 2010 and conclude in January 2011.

NRC's decision on whether or not to approve the COL application is projected for January 2011. Construction would begin for STP 3 in January 2011 and STP 4 in May 2011. Construction would occur over a 63 month period for both units with commercial operation projected for March 2015 (STP 3) and March 2016 (STP 4).

Milestone	Unit 3	Unit 4
Preconstruction activities	Jan 2009	Jan 2009
Receive NRC-issued COL	Jan 2011	Jan 2011
Construction	Jan 2011	May 2011
Commercial operation	March 2015	March 2016

Reviews, Approvals, Consultations

Authorizations are divided by project phase, i.e. COL issuance, preconstruction, construction, and operation.

No Native American Tribal Agency authorizations are required.

Permits acquired in early work phases would be amended, revised, and resubmitted as necessary to allow follow-on activities. STPNOC has initiated the permit process for several of the state level permits, notably Clean Air Act and Clean Water Act, promulgated by the EPA to the Texas Commission on Environmental Quality (TCEQ).

Combined Operating License Issuance

Authorizations required before NRC may issue a COL:

- Endangered Species Act of 1973; requires that federal agencies ensure that endangered or threatened species be protected. Proximity of STP's reactors to the Gulf of Mexico may require consultation between the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.
- National Historic Preservation Act of 1966; federal agencies must take into account the effect on historic properties of an activity before issuance of a license.
- Federal Coastal Zone Management Act of 1972; imposes requirements on agencies which could affect a state's coastal zone.
- Clean Water Act; requires federal agencies to ensure that activities that might result in a discharge into navigable water comply with the Act.

Preconstruction Activities

Activities that don't constitute construction are defined by 10 CFR 50.10(a)(2) and may be conducted without prior NRC authorization, although federal, state and local authorizations must be obtained to perform portions of the work.

COL applicants may begin preconstruction activities, including:

- Planning and site exploration activities – including soil boring/sampling, installing monitoring wells, or additional geophysical borings.
- Site preparation - including installation of temporary facilities, construction support facilities, service facilities, utilities, docking and unloading facilities, excavations for facility structures and foundations, and construction of certain structures, systems, or components not considered construction by 10 CFR 50.10(a)(1).

Construction Activities

A Limited Work Authorization may be sought by STPNOC to perform certain construction activities allowed under LWA regulations.