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Citizens File in Opposition to South Texas Project Reactors 3 and 4

Raises Health, Safety and Financial Risks to the Public

Austin, TX On April 21st, citizens submitted a filing to the Nuclear Regulatory Commission opposing NRG's proposed South Texas Project nuclear reactors. Petitioners included the Sustainable Energy and Economic Development (SEED) Coalition, Public Citizen and the South Texas Association for Responsible Energy.

Problems with the License Application

“Our contentions laid out the many defects in the South Texas Project license application, including inadequate fire protection, the lack of viable radioactive waste disposal plan, an inability to secure against airplane attacks, vast water consumption, water contamination risks, the failure to analyze clean, safe alternatives and an array of other financial, health and safety risks.” said Karen Hadden, Executive Director of the SEED Coalition.

Safety and Security Risks

New regulations took effect this March that require proposed nuclear plants to plan for fires and explosions of the magnitude that would result from a jetliner crash. South Texas Project's design does not meet the new requirements. New reactors are now required to show that even if large areas of the plant were lost, the reactor core would remain contained and the spent fuel pool would still have enough water to prevent an uncontrolled radioactive chain reaction. These are reasonable safety requirements in a post-911 world, but the license application falls short on this front.

Radioactive Waste

The license application assumes that high-level radioactive waste, such as fuel rods, could be disposed of at a federal site, presumably Yucca Mountain, a plan that has no basis in reality. The Yucca Mountain site isn't likely to open. Even if it did, it would rapidly fill up with waste from existing reactors. After more than 50 years of promises from the nuclear industry, there is still no authorized national repository and no solution for high-level radioactive waste disposal. Radioactive waste is dangerous now and some of the radionuclides remain dangerous for millions of years. The license application fails to adequately address the public health consequences of accidents and releases related to

off-site radioactive waste disposal, wrongly assuming there would not be risks during processing and transport.

Water Concerns

The South Texas Project license application fails to evaluate the increasing levels of groundwater tritium, a radioactive isotope of hydrogen that can be dangerous if inhaled, ingested or absorbed through the skin. Tritium has been detected in two of the pressure relief wells that collect water leaking from the unlined bottom of the existing main cooling reservoir. Concentrations of tritium have been increasing in both wells, and these concentrations could rise if two more nuclear reactors are built at the site.

A state water permit proposed for the site fails to address radionuclides such as tritium, and doesn't require monitoring for total dissolved solids, some metals or the chemicals added by the facility, such as biocides, sulfuric acid, and anti-scalants. There are no sulfur or sodium limits for the wastewater discharges.

The application's Environmental Report relies upon a dilution factor of 10 to meet discharge standards, but fails to provide information about how much the waste discharge loads would change with two additional nuclear reactors, and the consequences of the load increases into a system with only a small change in the dilution factor, since the storage volume would increase only 7.4%.

The application admitted that "5,700 acre-feet per year leaks through the unlined bottom of the main cooling reservoir into the underlying Gulf Coast Chicot Aquifer" and 68% of it is recovered. The rest migrates underground, seeping into nearby surface water bodies, into pumped wells or the estuaries of the Gulf of Mexico. Dr. Lauren Ross of Glenrose Engineering stated in a report submitted with this filing that "failure to monitor and regulate leakage through the MCR (main cooling reservoir) bottom constitutes a failure to protect groundwater and surface water from plant operations."

Nuclear reactors require vast quantities of water, an increasingly precious resource with existing drought conditions. The application states that over 42,000 gallons per minute would be required for the two proposed reactors under normal operating conditions, and up to 44,000 gallons per minute could be required.

The water needed from the Colorado River to replace evaporated water would be about 74,500 acre feet per year for all four reactors, but water can only be taken from the river when the flow is high enough, since low flow conditions leave the river water too salty to use for reactor purposes. While the South Texas Project has backup water rights, the application fails to discuss whether the volume could be delivered reliably during a drought. The percentage of flow withdrawn from the river has been equal to or greater than one quarter of the entire river flow at times, and even up to 48% of river flow at one point. This problem could increase with more reactors.

Dr. Ross found that estimated groundwater use would more than double from an average of 798 gallons per minute for the existing facility over the last five years to a level of

2040 gallons per minute for all four reactors, but the applicant wants to wait on analyzing groundwater availability until after the permit is issued.

Financial Concerns

The applicant fails to provide cost estimates for the proposed reactors. In fact, CPS Energy, a partner in the planned expansion project, has also refused to provide cost estimates for their share of the project. The municipal utility had to reduce a recent rate hike and take out funding for nuclear power as a result of citizen outcry. An analysis by Dr. Arjun Makhijani has estimated costs for the two reactors at between \$12.5 - \$17 billion and the Federal Energy Regulatory Commission rates nuclear power as the most expensive form of electric generation.

Decommissioning Funding Assurance described in the application is inadequate to fully decontaminate and decommission South Texas Project Units 3 and 4. Neither the federal or state law related to funding of decommissioning will be met if NRG proceeds as planned

Clean Safe Energy Alternatives Analysis Inadequate

The license application for South Texas Project Units 3 and 4 fails to demonstrate that the reactors are needed.

“Wind energy is booming in Texas, solar costs are coming down, the legislature supports efficiency and more renewable energy, transmission lines for renewable energy have been approved and with efficiency improvements, projected demand needs to be re-examined” said Karen Hadden, director of the Sustainable Energy and Economic Development (SEED) Coalition. The nuclear reactor license application (page 9.2-18) states that “it is conceivable that a mix of alternatives might be cost-effective and may also provide a better environmental solution...STPNOC has not exhaustively evaluated each combination.” It is a massive failure that they did not explore clean, safe, affordable options thoroughly.

Whooping Crane / Endangered Species Concerns

Whooping cranes winter only 35 miles from the reactor site, and get closer yet during migration times. This past winter was the worst in twenty years, with an 8.5% mortality rate. A USFWS biologist has described the birds as looking thin with disheveled plumage. The license application should, but doesn't, adequately research the possibility of radionuclides bioaccumulating and biomagnifying in the ecosystem and impacting the birds. Nor does it address the impacts that a nuclear accident could have on the whooping cranes and other endangered species in the region.

In summary, there are numerous flaws and serious inadequacies in the license for the proposed reactor. The licensing process should be halted until these inadequacies are addressed. The next step in the licensing process will be for the NRC to respond to our petition and contentions. ###