10.4 Benefit-Cost Balance

The benefits and costs of constructing and operating STP 3 & 4 are discussed in the following paragraphs. The results are summarized in Table 10.4-2. Costs are given as monetary (where feasible), quantitative, or qualitative.

A summary of the overall benefits and costs of the proposed project and the comparison to the alternative sites, discussed in Section 9.3, is included in Subsection 10.4.3. Table 10.4-3 is a comparative summary of the benefits of the proposed project and alternative sites. Table 10.4-4 summarizes the unavoidable adverse impacts, which could be considered qualitative costs, of the proposed project at the alternative sites and measures and controls to reduce environmental impacts.

10.4.1 Benefits

10.4.1.1 Need for Power

STP 3 & 4 will each generate approximately 1350 MWe for a total of approximately 2700 MW. Assuming a reasonably low capacity factor of 85%, the two-unit plant average annual electrical-energy generation would be more than 20,000,000 MW-hours. A reasonably high capacity factor of 93% would result in approximately 22,000,000 MW-hours of electricity.

As discussed in Chapter 8, the Electric Reliability Council of Texas (ERCOT), the independent system operator for the electric grid for most of Texas, conducted several studies on the need for power in their service area. ERCOT has concluded that a significant amount of new generation will be needed to meet the demand projected for 2016 along with maintaining the recommended minimum of a 12.5% reserve margin. The addition of 20,000,000 to 22,000,000 MW-hours of electricity from STP 3 & 4 will help maintain system reliability by increasing the availability of baseload power in the ERCOT distribution area.

10.4.1.2 Fuel Diversity and Natural Gas Alternative

Fuel diversity is the key to affordable and reliable electricity. A diverse fuel mix protects electric companies and consumers from contingencies such as fuel unavailability, price fluctuations, and changes in regulatory practices (Reference 10.4-1). Experience has shown that it is risky to develop an over-reliance on any one energy source. In fact, a balanced energy portfolio has been the key to providing the United States with a growing supply of affordable electricity for the past 30 years (Reference 10.4-2).

Nuclear power plants currently generate approximately 20% of the electricity produced in the United States; however, recent electric generating capacity additions and projected future additions are primarily fueled by natural gas. According to the Department of Energy, an over-reliance on a single fuel source, like natural gas, is a potential vulnerability to the long-term security of our nation's energy supply. Additional new nuclear plants must be built in the next decade to address increasing concerns over air quality and to ease the pressures on natural gas supply (Reference 10.4-3). The ERCOT region fuel mix consists of approximately 46.6% natural gas, 37.4% coal,

13.6% nuclear, 1.9% renewables and 0.4% from other sources (actual energy production values June 2005–May 2006) (Reference 10.4-4).

Maintaining fuel diversity is a matter of maintaining a balance of fuel mixes. Relying heavily on natural gas is a matter of choosing a limited resource over more abundant fuels. High prices for natural gas and the intense, recurring periods of price volatility experienced over the last several years are influenced partly by demand for natural gas in the electric generation sector. Electric sector demand for natural gas is being driven by new gas-fired electric generating capacity built in the United States during the last decade. More than 90% of all new electric generating capacity added over the past 5 years is fueled with natural gas. New nuclear plants provide forward price stability that is not available from generating plants fueled with natural gas. The intense volatility in natural gas prices experienced over the last several years is likely to continue, and leaves the U.S. economy vulnerable. Although nuclear plants are capital-intensive to build, the operating costs are stable and dampen the volatility elsewhere in the electricity market (Reference 10.4-5). Natural gas has uses that are not readily served by other fuel choices, such as many manufacturing processes. This led the U.S. House of Representatives to prepare a Majority Staff report that included the following findings (Reference 10.4-6):

- To enhance competitiveness and protect American jobs, natural gas must not be used for baseload electricity generation or for new generating capacity. Natural gas should be reserved for industries that use it as a feedstock or for primary energy and cannot substitute for it by fuel-switching.
- Nuclear energy must become the primary generator of base load electricity, thereby relieving the pressure on natural gas prices and dramatically improving atmospheric emissions.

For Texas, the addition of STP 3 & 4 would represent a step towards maintaining what has been a successful mix of fuel types for generating electricity. STP 3 & 4 will help maintain the state's fuel diversity while meeting state and national goals of creating new baseload generation that would not use natural gas as a fuel.

10.4.1.3 Emissions Reduction

Nuclear generation contributes considerable air quality benefits to the nation. Unlike electricity generated from coal and natural gas, nuclear energy does not result in significant emissions of air pollutants associated with global warming and climate change (e.g., nitrogen oxides, sulfur dioxide, carbon dioxide) or methyl mercury (Reference 10.4-6). Fossil fuel-fired power plants are responsible for 64% of the nation's sulfur dioxide emissions, 26% of nitrogen oxide emissions, 33% of mercury emissions, and 36% of man-made carbon dioxide emissions. The majority of the industry's emissions are from coal-fired plants (Reference 10.4-6).

Subsections 9.2.3.1 and 9.2.3.2 analyze coal- and gas-fired alternatives to STP 3 & 4, respectively. Air emissions from these alternatives and for nuclear power are summarized in Table 10.4-1.

Regardless of which reasonable alternative one compares to nuclear power, STP 3 & 4 would represent a substantial benefit in emission reduction, or emission avoidance, assuming that an alternative power source would be constructed if STP 3 & 4 were not.

10.4.1.4 Advantages of Nuclear Power

Concerns about global warming and climatic change make it reasonable to expect that, eventually, the United States may have to strictly curb emissions from fossil-fuel electric generation plants, conceivably to the point of displacing coal- and gas-fired electricity generation. If environmental policies greatly restrict carbon emissions in the future, the cost of building and operating fossil-fired plants could increase by 50% to 100%. Nuclear power is the only technology currently available that is a viable alternative to fossil-fired plants for baseload generation. In view of the time that it takes the nuclear industry to regain its capacity for construction and operation, the prospect of needing nuclear power to displace fossil-fuel power is one of the reasons for national concern with maintaining a nuclear energy capability (Reference 10.4-7).

10.4.1.5 Licensing Certainty

The regulatory scheme used for the existing domestic fleet of nuclear plants, under 10 CFR 50, was a two-step process that resulted in much uncertainty about cost projections and, in retrospect, final costs. This was due, in part, to the fact that the industry had to make large capital investments before resolving licensing issues. In large, capital-intensive construction projects, interest costs are a significant portion of the project cost. Interest charges on overnight capital costs account for a quarter of the levelized cost of electricity from nuclear power plants (Reference 10.4-7). For existing nuclear power plants built under 10 CFR 50, licensing delays quickly and substantially increased project cost. Design changes, whether driven by licensing concerns, backfit requirements, or other factors, had similar effects.

STPNOC is looking to NRC's 10 CFR 52 process to increase the licensing certainty of proposed new nuclear power plants. This new regulatory process provides for early resolution of siting issues before making large investments of financial capital and human resources in new plant design and construction, early resolution of issues on the environmental impacts of construction and operation of proposed reactors, the ability to bank sites on which nuclear plants may be located, and the facilitation of future decisions on whether to build new nuclear plants. STPNOC believes that the resultant increase in licensing certainty will reduce project costs by decreasing premiums associated with uncertainty and making licensing and construction scheduling more controllable and reliable.

10.4.1.6 Tax Payments

During construction, STPNOC has projected the sales tax payments to be an estimated \$23.9 million per unit, with \$5.8 million due to Bay City and \$18.1 million to the state of Texas over the construction period. These payments would provide a total of \$11.6 million to Bay City over the 7-year construction period. Increased tax revenues will also come from housing purchases by the incoming workforce and increased school and property taxes as a result of the construction of STP 3 & 4.

The owners will pay property taxes on STP 3 & 4 for the duration of the 40-year operating licenses. Matagorda County receives the taxes paid on STP property. As described in Subsection 5.8.2.2.2, over the life of the plant, annual franchise tax payments could range from approximately \$4.7 million during initial operations to approximately \$10 million in the last years of the 40-year operational life. Additional tax revenue would be generated from sales and use taxes, and property taxes on the operational workforce housing. Most people consider large tax payments a benefit to the taxing entity because they support the development of infrastructure which supports further economic development.

10.4.1.7 Local Economy

STP 3 & 4 would require a construction peak workforce of 5950 people. As presented in Subsection 4.4.2.2.1, 4790 direct and indirect jobs would be created during the 7-year construction period, assuming that 50% of the workforce migrates into the 50-mile region. The creation of these jobs could inject between \$67.6 and \$676 million dollars into the regional economy during the life of the construction project, reduce unemployment by up to 20%, and create business opportunities for housing and service-related industries.

STP 3 & 4 would require an operations workforce of about 888 people. Of this total, 444 are assumed to migrate into the 50-mile region. According to the multiplier effect, for every one job at STP 3 & 4, an estimated 1.47 jobs would be created within the 50-mile region. This would result in the creation of 653 additional indirect jobs. In total, 1097 new jobs within about a 50-mile radius of the plant (Subsection 5.8.2.2.1) would be created by the startup of STP 3 & 4 and would be maintained throughout the life of the plant. Many of these indirect jobs would be in the service sector and could be filled by local residents, lessening demands on social service agencies in addition to strengthening the economy. The economic multiplier effect of the increased spending by the direct and indirect labor force created as a result of STP 3 & 4 would increase the economic activity in the region, most noticeably in rural Matagorda County. The dollar impact of these jobs, as discussed in Subsection 5.8.2.2.1, would be approximately \$45,000,000 to \$55,000,000 per year within the 50-mile region.

Nuclear plants such as the STP site are estimated to generate approximately \$350 million in total output for the local community and roughly \$60 million in total labor income. The Southern States Energy Board reference (Reference 10.4-8) does not provide specific years for the \$350 and \$60 million figures, nor does it specifically identify the studies done by the NEI to support this statement. However, the Southern States Energy Board's interpretation of NEI's data is correct, reasonably current (within the late 1990s to early 2000s), and useful for this analysis, even if the exact years of the data cannot be determined. These figures include direct effects, which reflect expenditures for goods, services, and labor, and indirect effects, which include subsequent spending in the community. The economic multiplier effect is one way of measuring indirect effects. Every dollar spent by nuclear plants results in the creation of an additional \$1.13 in the community (Reference 10.4-8).

10.4.1.8 Benefit Summary

Table 10.4-2 includes a summary of the benefits of the proposed project (STP <u>Units</u> 3 & 4). In <u>ER</u> Section 9.3, STPNOC evaluated environmental impacts of construction and operation of the proposed project at three <u>alternative alternate</u> sites (<u>Red 2</u> greenfield site, <u>Limestone Site</u>, Allens Creek Ggreenfield <u>Site</u>, and <u>Trinity 2 greenfield</u> <u>site</u> the Malakoff Greenfield Site). Two additional sites were previously selected and evaluated as alternate sites in other revisions of the ER: Malakoff and Limestone. For completeness, similar evaluations of these two sites are also included in ER Section 9.3. Table 10.4-3 provides a comparison of the benefits of construction and operation of STP <u>Units</u> 3 & 4 to those at the three <u>alternative alternate</u> sites and the two additional sites.

10.4.2 Costs

10.4.2.1 Monetary–Construction

In evaluating the STP 3 & 4 monetary cost, STPNOC reviewed published literature, vendor information, internally generated general information, and internally generated site-specific information. There are many cost studies available in the literature with a wide range of cost estimates. STPNOC found four studies to be most authoritative due to the breadth and depth of their analyses and the fact that other studies tend to be based on them. These are:

- University of Chicago Study (Reference 10.4-7)
- MIT Study (Reference 10.4-9)
- OECD Study (Reference 10.4-10)
- EIA Study (Reference 10.4-11)

The phrase commonly used to describe the monetary cost of constructing a nuclear plant is "overnight capital cost." The capital costs are those incurred during construction, when the actual outlays for equipment, construction, and engineering are expended. Overnight costs are exclusive of interest and include engineering, procurement, and construction costs, owner's costs, and contingencies (Reference 10.4-7).

Estimates of overnight capital costs in 2003 dollars range from \$1000 per kW to \$2500 per kW (Reference 10.4-10), with \$1500 to \$2000 per kW being the most representative range (Reference 10.4-10). Many factors account for the range in cost, such as:

- The specific technology used
- Assumptions about the number of like-units built
- Allocation of first-of-a-kind cost

- Site location
- Parity adjustments to allow comparison between countries
- Allowances for contingencies

The estimates are not based on nuclear plant construction experience in this country, which is more than 20 years old. Actual construction costs overseas have been less than the most recent domestic construction, suggesting that the industry has learned from the domestic experience. There is an assumption that the overseas experience can be applied domestically and the studies have found the overseas experience to be most applicable to estimating the cost of new domestic nuclear plant construction (Reference 10.4-7). There is reason to believe that new reactors will be less expensive to build than those currently in operation in the United States. Over the past 30 years, there have been technological advances in construction techniques that would reduce costs. In addition, simplified, standardized, and pre-approved designs clearly result in cost savings. The newer plants have fewer components and therefore would be less expensive. Because the designs of advanced reactors are pre-approved by the NRC, much of the design work will be done before construction begins, and this will lower the costs (Reference 10.4-11)

The four studies tend to support \$2000 per kW as a reasonable high-end overnight capital cost estimate. The \$2500 value is based on construction in Japan. While no explanation is offered as to why the cost in Japan is so high in this study, it is reasonable to suggest that contributing factors are the high cost of living in Japan (labor accounts for more than 20% of costs) and difficulties associated with construction on an island. Construction experience with ABWR plants worldwide will be used to minimize First of a Kind Engineering (FOAKE) costs discussed in the studies. For the purposes of analysis in this environmental report, to avoid understating the cost, STPNOC has chosen to use the \$2000 per kW value (year 2003 dollars). Together with an installed capacity of 2700 MWe, \$2000 per kW results in a STP 3 & 4 construction cost of approximately \$5.4 billion in 2003 dollars.

10.4.2.2 Monetary–Operation

The four studies discussed in Subsection 10.4.2.1 show a wide range of operation cost estimates. Operation costs are frequently expressed as levelized cost of electricity, which is the price at the busbar needed to cover operating costs and annualized capital costs. The levelized cost of a project is equivalent to the constant dollar ("real") price of electricity that would be necessary over the life of the plant to cover all operating expenses, interest, and principal repayment obligations on project debt, taxes, and provide an acceptable return to equity investors over the economic life of the project (Reference 10.4-9). Overnight capital costs account for a third of the levelized cost, and interest costs on the overnight costs account for another 25%. Levelized cost estimates range from \$36 to \$65 per MW-hour (3.6 to 6.5 cents per kW hour) (Reference 10.4-7). Factors affecting the range include choices for discount rate, construction duration, plant lifespan, capacity factor, cost of debt and equity and split between debt and equity financing, depreciation time, tax rates, and premium for uncertainty. It is concluded that \$65 per MW-hour (6.5 cents per kW-hour) is a

reasonably conservative high-end levelized cost of electricity for nuclear generation. This includes nuclear fixed operation and maintenance and fuel costs of approximately \$60,000 per MW-hr (\$60 per kW – hour) and \$4.35 per MW-hr (0.435 cents per kW-hour), respectively. Decommissioning costs have been estimated for one reactor at STP to be approximately \$517 million (in year 2006 dollars), consistent with the formula established by the NRC in 10 CFR 50.75.

In addition to nuclear plant costs, the four studies provide coal- and gas-fired generation costs for comparison to nuclear generation costs. One study shows nuclear costs competitive with coal and gas (Reference 10.4-10). The other studies show nuclear costs that exceed those of coal and gas. The MIT study indicates that new nuclear power is not economically competitive but goes on to suggest steps that the government could take to improve nuclear economic viability (Reference 10.4-9). Since this study, the government has undertaken those steps as follows:

- U. S. Department of Energy has provided financial support for plants testing the U. S. NRC licensing processes for early site permits and combined operating licenses.
- The U. S. government has endorsed nuclear energy as a viable carbon-free generation option.
- The Energy Policy Act of 2005 instituted a production tax credit for the first advanced reactors brought on line in the United States.

STPNOC has concluded that the government steps have negated the MIT study's conclusion that new nuclear power is not economically competitive.

10.4.2.3 Environmental and Material

Section 10.1 identifies unavoidable adverse impacts of the proposed action (i.e., impacts after consideration of proposed mitigation actions), and Section 10.2 identifies irretrievable commitments of resources. Table 10.4-2 includes these costs. The qualitative costs that are unavoidable impacts to the environment are in the general categories of land and water.

Environmental impacts of construction and operation of the proposed project at three alternativealternate sites (Red 2 greenfield site, Limestone site, Allens Creek Gereenfield site, and the Malakoff Greenfield Trinity 2 greenfield site) are discussed in ER Section 9.3. Two additional sites were previously selected and evaluated as alternate sites in other revisions of the ER: Malakoff and Limestone. For completeness, similar evaluations of these two sites are also included in ER Section 9.3. Table 10.4-4 describes the impacts of construction and operation of the proposed project at the three alternativealternate sites and the two additional sites, and provides details regarding potential mitigation, and the unavoidable adverse impacts after mitigation has been considered.

Consistent with Regulatory Guide (RG) 4.2, each site was evaluated using preliminary publicly available and reconnaissance level information. Consequently, the costs of

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mitigation <u>must be estimated</u> are not easy to determine at this time. Many costs would be built into the project design (e.g., scheduling to ensure that construction is completed in the shortest possible time; using construction best management practices to limit erosion, fugitive dust, runoff, spills, and air emissions; providing first aid stations at the construction site). Others Other cost categories would be dependent rely on communications between STPNOC and the affected communities to mitigate the impacts and associated costs.

10.4.3 Summary

Table 10.4-3 summarizes benefits of the proposed action in comparison to the benefits of constructing the units at <u>alternativealternate</u> sites, as identified in Section 9.3. Table 10.4-4 summarizes the environmental costs (adverse impacts) associated with construction and operation of the proposed project at the three <u>alternativealternate</u> sites. Most of the impacts associated with construction of the proposed project, particularly operational impacts, would be the similar regardless of the location of the site. The impacts that are similar are stated as such and can be found in detail in <u>Section 10.1</u>.

10.4.4 References

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- 10.4-4 "Electric Reliability and Resource Adequacy Update," Electric Reliability Council of Texas July 13, 2006. Available at http://www.ercot.com/news/ presentations/2006/index.html, accessed August 7, 2007.
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May 8, 2006. Available at http://www.nei.org/documents/House_Energy_Report_5-8-06.pdf, accessed March 19, 2007.

- 10.4-7 "The Economic Future of Nuclear Power; A Study Conducted at The University of Chicago," University of Chicago 2004, August 2004. Available at http://np2010.ne.doe.gov/reports/NuclIndustryStudy.pdf, accessed March 19, 2007.
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- 10.4-10 International Energy Agency, Organization for Economic Co-operation and Development, and International Energy Agency, Projected Costs of Generating Electricity; 2005 Update, available at http://www.iea/org/Textbase/ publications/free_new_Desc.asp?PUBS_ID=1472, accessed March 23, 2007.
- 10.4-11 "Annual Energy Outlook 2004,"Energy Information Administration. Available at http://www.eia.doe.gov/oiaf/archive/aeo04/pdf/0383(2004).pdf, accessed April 2, 2007.

Pollutant	Coal Emissions (tons per year/ 2700 MWe) [1]	Gas Emissions (tons per year/ 2700 MWe) [1]	Nuclear Emissions (tons per year) [2]
Sulfur dioxide	2,900	41	0
Nitrogen oxides	2,000	680	0
Carbon monoxide	2,800	141	0
Carbon dioxide	27,000,000	6,900,000	0
Mercury	0.46	0	0
Particulates having a diameter of less than 10 microns	50	0	0
Particulates having a diameter of less than 2.5 microns	13	119	0

Table 10.4-1	Avoided Air Pollutant Emissions
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[1] Based on constructing two units to replace the power produced by STP 3 & 4 (gross power) (see Section 9.2).

[2] Nuclear power plants have emergency and auxiliary equipment that is fossil-fuelfired and emits pollutants. The equipment is generally operated only for testing purposes for less than 250 hours per year. As such, the emissions are considered minimal and are excluded here.

Benefit-Cost Category	Description
	Benefits
Electricity generated	20,000,000 (85% capacity) to 22,000,000 (93% capacity) MW-hours per year
Generating capacity	2700 MW (gross)
Fuel diversity and natural gas alternative	Nuclear option to coal- and gas-fired baseload generation
Emissions reduction	Avoidance of 41 to 2900 tons per year sulfur dioxide Avoidance of 680 to 2000 tons per year nitrogen oxides Avoidance of 141 to 2800 tons per year carbon monoxide Avoidance of 6,900,000 to 27,000,000 tons per year carbon dioxide Avoidance of 13 to 119 tons per year fine particulates
Advanced Light Water Reactor development	Maintaining domestic nuclear technology capability as hedge against possible need to control global warming
Tax payments (construction and operation)	Projected sales tax payments on construction goods at an estimated \$23.9 million per unit, with \$5.8 million due to Bay City and \$18.1 million to the State of Texas over the 7 yr construction period. \$4.7 to \$5.4 million in franchise taxes in 2015, the first year of operation for STP 3, and an estimated \$8.6 to \$10.0 million in 2016, when STP 4 comes on line, and in subsequent years.
Socioeconomics	2975 direct and 1815 indirect jobs added to local economy during construction. 444 direct jobs and 653 indirect jobs added to local economy during operation. The creation of jobs during construction could inject between \$67.6 and \$676 million dollars into the regional economy during the life of the construction project, reduce unemployment by up to 20 percent, and create business opportunities for housing and service-related industries. The operations workforce impact on the regional economy would be estimated at between approximately \$45,000,000 to \$55,000,000 per year in the 50-mile region.

Table 10.4-2 Benefit-Cost Summary

Benefit-Cost Category	Description
	Costs
Construction cost	\$5.4 billion dollars (overnight capital cost)
Operating cost	 6.5 cents per kW-hour (levelized cost of electricity) \$60 per kW fixed O&M cost 0.435 cents per kW hour nuclear fuel cost \$517 million for decommissioning of one reactor
Land use	90 acres (excluding the Main Cooling Reservoir [MCR]) occupied on long-term basis by STP 3 & 4 and associated infrastructure. On-site landfill may restrict future uses of that land.
	Total annual land requirements for fuel cycle support would be 21 permanently committed acres and 160 temporarily committed acres per unit.
Hydrology - Groundwater use	During operations, the expected average rate of groundwater removal for STP 3 & 4 would be 1077 gpm for normal operations and 3935 gpm for maximum (peak) operations. During the construction period, dewatering of shallow, water-table aquifer would have only small, local affect.
Hydrology - Surface water use	The expected rate of withdrawal of Colorado River water to replace water losses from the MCR will be 42,604 gallons per minute (gpm) for normal two-unit operations and 44,779 gpm during maximum (peak) use operations
Material (per reactor building)	240,000 yards concrete 13,000 tons structural steel 2,500,000 linear feet cable for reactor building 6,500,000 linear feet of cable for a single reactor 55,000 feet of piping having diameter >2.5 inches 17,000 metric tons of uranium

Table 10.4-2 Benefit-Cost Summary (Continued	le 10.4-2 E	enefit-Cost	Summary	(Continued)
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Benefit Category	<u>Project as</u> Proposed	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
<u>Description of</u> <u>Project</u>	<u>STP Units 3 & 4</u>	Proposed Project at Red 2 Site (Greenfield)	Proposed Project at Allens Creek Site (Greenfield)	Proposed Project at Trinity 2 Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)	Proposed Project at Limestone Site (Greenfield)
		I	Monetary Benefits	1	I	
<u>Electricity</u> Generated		otion applies to all pro 0,000 MW-hours per y		onal sites.		
<u>Generating</u> Capacit <u>y</u>	The following descrip 2,700 MW	otion applies to all pro	posed/alternate/additi	onal sites.		
		State	and Local Tax Payr	nents		
During Construction	During the 7-year construction period for STP 3&4, NRG would not pay franchise tax, but would pay additional property taxes, and state will see an increase in sales tax revenues. Projected sales tax payments on construction goods at an estimated \$23.9 million per unit, with \$5.8 million due to Bay City and \$18.1 million to the State of Texas.	During the 7-year construction period, additional property tax will be paid to Fannin County and the state will see an increase in sales tax revenues.	During the 7-year construction period, additional property tax will be paid to Austin County and the state will see an increase in sales tax revenues.	During the 7-year construction period, additional property tax will be paid to Freestone County and the state will see an increase in sales tax revenues.	During the 7-year construction period, additional property tax will be paid to Henderson County and the state will see an increase in sales tax revenues.	During the 7-year construction period, additional property tax will be paid to Freestone County and the state will see an increase in sales tax revenues.

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Benefit Category	<u>Project as</u> <u>Proposed</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2	
<u>Description of</u> <u>Project</u>	STP Units 3 & 4	Proposed Project at Red 2 Site (Greenfield)	Proposed Project at Allens Creek Site (Greenfield)	Proposed Project at Trinity 2 Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)	Proposed Project at Limestone Site (Greenfield)	
During Operations	\$4.7 to \$5.4 million in franchise taxes in 2015, the first year of operation for STP 3, and an estimated \$8.6 to \$10.0 million in 2016, when STP 4 comes on line, and in subsequent years.	During operation, tax payments for the 2 new units will be made to Fannin County.	During operation, tax payments for the 2 new units will be made to Austin County.	During operation, tax payments for the 2 new units will be made to Freestone County.	During operation, tax payments for the 2 new units will be made to Henderson County.	During operation, tax payments for the 2 new units will be made to Freestone County.	
	•	Effect	s on Regional Produ	ictivity	·		
During Construction	In The following description applies to all proposed/alternate/additional sites. 5,950 direct jobs (2,975 would in-migrate) and 1,815 indirect jobs added to local economy. The creation of jobs during construction could inject between \$67.6 and \$676 million dollars into the regional economy during the life of the construction project.						
During Operation	The following description applies to all proposed/alternate/additional sites. 888 direct jobs and 1,305 indirect jobs added to local economy. The operations workforce impact on the regional economy is estimated at between \$45,090,864 to \$55,064,880 per year.					gional economy is	
		<u>Technical a</u>	nd Other Non-Monet	ary Benefits			
Fuel Diversity		otion applies to all pro al- and gas-fired base	posed/alternate/additi load generation.	onal sites.			
Emissions Reduction	Avoidance of 41 to 2	,900 tons per year su	posed/alternate/additi Ifur dioxide, 680 to 2,0 0 tons per year carbor	000 tons per year nitro			
Advanced Light Water Reactor Development		carbon monoxide; 6,900,000 to 27,000,000 tons per year carbon dioxide; 13 to 119 tons per year fine particulates. The following description applies to all proposed/alternate/additional sites. Maintaining domestic nuclear technology capability as hedge against possible need to control global warming.					

Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
		Constru	uction-Related		
and Use	Adverse Impact –				
	Approximately 2,500 acres	Approximately 10,300 acres	Approximately 2,500 acres	Approximately 3,100 acres	Approximately 4,000 acres
	of the site would be				
	disturbed during				
	construction (including	construction. This includes	construction (including	construction (including	construction (including
	construction of a cooling	9,500 acres (cumulative) for	construction of a cooling	construction of a cooling	construction of a cooling
	reservoir up to 1,700-acres	a cooling water reservoir to	reservoir up to 1,700-acres	reservoir up to 2,300-acres	reservoir up to 3,200-acres
	in size, based on existing	support the nuclear plant	in size, based on existing	in size, based on existing	in size, based on existing
	topography).	combined with a water	topography).	topography).	topography).
	Land devoted to	supply reservoir currently	Land devoted to	Land devoted to	Land devoted to
	construction of access	planned for the same	construction of access	construction of access	construction of makeup
	roads (20 acres), rail spur	location by the Brazos River	roads (27 acres), rail spur	roads (29 acres), rail spur	water intake line (582 acres)
	line (26 acres), and makeup	Authority to supply future	line (120 acres), and	line (16 acres), and makeup	would not be available for
	water intake line (35 acres)	water supply needs of the	makeup water intake line	water intake line (42 acres)	other uses.
	would not be available for	City of Houston; the	(36 acres), would not be	would not be available for	Mitigation Measure –
	other uses.	proposed reservoir size is	available for other uses.	other uses.	Comply with applicable
	Mitigation Measure –	based in part on existing	Mitigation Measure –	Mitigation Measure –	laws, regulations, zoning
	Comply with applicable	topography.	Comply with applicable	Comply with applicable	and permit requirements
	laws, regulations, zoning	Land devoted to	laws, regulations, zoning	laws, regulations, zoning	and use good engineering
	and permit requirements	construction of access	and permit requirements	and permit requirements	construction practices (Best
	and use good engineering	roads (11 acres), rail spur	and use good engineering	and use good engineering	Management Practices or
	construction practices (Best	line (5 acres), and makeup	construction practices (Best	construction practices (Best	BMP). Implement
	Management Practices or	water intake line (36 acres)	Management Practices or	Management Practices or	environmental controls
	BMP). Implement	would not be available for	BMP). Implement	BMP). Implement	required in a Stormwater
	environmental controls	<u>other uses.</u>	environmental controls	environmental controls	Pollution Protection Plan
	required in a Stormwater	Mitigation Measure –	required in a Stormwater	required in a Stormwater	(SWPPP) such as weekly
	Pollution Protection Plan	Comply with applicable	Pollution Protection Plan	Pollution Protection Plan	compliance inspections,
	(SWPPP) such as weekly	laws, regulations, zoning	(SWPPP) such as weekly	(SWPPP) such as weekly	documentation of runoff
	compliance inspections,	and permit requirements	compliance inspections,	compliance inspections,	controls, etc. Restrict
	documentation of runoff	and use good engineering	documentation of runoff	documentation of runoff	construction to designated
	controls, etc. Restrict	construction practices (Best	controls, etc. Restrict	controls, etc. Restrict	areas within the site. Re-

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<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description	of Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
and Use	construction to designated	Management Practices or	construction to designated	construction to designated	contour and re-vegetate
ontinued)	areas within the site. Re-	BMP). Implement	areas within the site. Re-	areas within the site. Re-	land used for temporary
	contour and re-vegetate	environmental controls	contour and re-vegetate	contour and re-vegetate	construction purposes.
	land used for temporary	required in a Stormwater	land used for temporary	land used for temporary	Identify and avoid wetlands
	construction purposes.	Pollution Protection Plan	construction purposes.	construction purposes.	to the extent possible
	Identify and avoid wetlands	(SWPPP) such as weekly	Identify and avoid wetlands	Identify and avoid wetlands	(although no high quality
	to the extent possible	compliance inspections,	to the extent possible (high	to the extent possible	wetlands were identified on
	(although no high quality	documentation of runoff	quality wetlands would be	(although no high quality	the site). Install fencing
	wetlands were identified on	controls, etc. Restrict	impacted by reservoir	wetlands were identified on	around wetlands during
	the site). Install fencing	construction to designated	construction). Install	the site). Install fencing	construction to protect
	around wetlands during	areas within the site. Re-	fencing around wetlands	around wetlands during	against inadvertent
	construction to protect	contour and re-vegetate	during construction to	construction to protect	excursion into the area.
	against inadvertent	land used for temporary	protect against inadvertent	against inadvertent	Stabilize and contour
	excursion into the area.	construction purposes.	excursion into the area.	excursion into the area.	permanently disturbed
	Stabilize and contour	Identify and avoid wetlands	Stabilize and contour	Stabilize and contour	locations in accordance with
	permanently disturbed	to the extent possible (high	permanently disturbed	permanently disturbed	design specifications.
	locations in accordance with	quality wetlands would be	locations in accordance with	locations in accordance with	Unavoidable Adverse
	design specifications.	affected by reservoir	design specifications.	design specifications.	Environmental Impacts –
	Unavoidable Adverse	construction). Install	Unavoidable Adverse	Unavoidable Adverse	Areas within the exclusion
	Environmental Impacts –	fencing around wetlands	Environmental Impacts –	Environmental Impacts –	zone would be excluded
	Areas within the exclusion	during construction to	Areas within the exclusion	Areas within the exclusion	from future agricultural and
	zone would be excluded	protect against inadvertent	zone would be excluded	zone would be excluded	recreational use. Small
	from future agricultural and	excursion into the area.	from future agricultural and	from future agricultural and	unavoidable adverse
	recreational use. Small to	Stabilize and contour	recreational use. Small to	recreational use. Small to	impacts would be expected
	moderate unavoidable	permanently disturbed	moderate unavoidable	moderate unavoidable	during construction within
	adverse impacts would be	locations in accordance with	adverse impacts would be	adverse impacts would be	immediate site footprint
	expected during	design specifications.	expected during	expected during	(since most of area has
	construction of the plant.	Unavoidable Adverse	construction of the plant.	construction of the plant,	been previously disturbed);
		Environmental Impacts –		depending on final size of	small to moderate adverse
		Areas within the exclusion		reservoir and extent to	impacts at reservoir site
		zone (if necessary) would		which forested areas are	depending on final size of
		be excluded from future		affected.	reservoir and extent to
		agricultural and recreational			which forested areas are

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Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
and Use	<u></u>	use. Moderate to large	<u>(C.CC.)</u>	<u>, e. e </u>	affected.
continued)		unavoidable adverse			anecteu.
<u>continucu</u>		impacts would be expected			
		during construction of the			
		plant (considering			
		cumulative impacts from			
		planned construction of			
		water supply reservoir at			
		same location).			
and Use	Adverse Impact – Three	Adverse Impact – Three	Adverse Impact – Three	Adverse Impact – Three	Adverse Impact – Three
Fransmission)	new 345-kilovolt	new 345-kilovolt	new 345-kilovolt	new 345-kilovolt	new 345-kilovolt
<i>,</i>	transmission lines would be	transmission lines would be	transmission lines would be	transmission lines would be	
	required in a new 200-foot	required, each in a new	required in a new 200-foot	required, each in a new	required in a new 200-foot
	wide corridor. Construction	200-foot wide corridor.	wide corridor. Construction	200-foot wide corridor.	wide corridor. Construction
	of new transmission line	Construction of new	of new transmission line	Construction of new	of new transmission lines
	corridor (120 acres) would	transmission line corridors	corridor (120 acres) would	transmission line corridors	corridors (total of 24 acres)
	occur in an area consisting	(2,060 acres) would be	occur in area consisting	(total of 970 acres) would	would be required.
	primarily of pasture and	required.	primarily of open pasture	require new right-of-way,	Mitigation Measure – The
	crops.	Mitigation Measure – Where	and woodland.	and would occur in an area	proposed site is
	Mitigation Measure - Where	possible select corridors	Mitigation Measure - Where	consisting primarily of	approximately 1 mile east of
	possible select corridors	that follow existing rights-of-	possible select corridors	farmland and woodlands.	the existing Limestone
	that follow existing rights-of-	way. Avoid impacts to	that follow existing rights-of-	Mitigation Measure – Where	
	way. Avoid impacts to	streams, ponds, reservoirs	way. Avoid impacts to	possible select corridors	345 kV connections exist.
	streams, ponds, reservoirs	and wetlands. If required,	streams, ponds, reservoirs	that follow existing rights-of-	
	and wetlands. If required,	conduct siting study that	and wetlands. If required,	way. Avoid impacts to	plant, it is assumed that the
	conduct siting study that takes into account	takes into account environmental impacts.	<u>conduct siting study that</u> takes into account	streams, ponds, reservoirs and wetlands. If required,	lines could parallel existing ROW (with potential need
	environmental impacts.	Incorporate	environmental impacts.	conduct siting study that	for expansion). Minimal
	Incorporate	recommendations of federal	Incorporate	takes into account	impact given the short
	recommendations of federal	and state agencies into	recommendations of federal	environmental impacts.	distance between site and
	and state agencies into	route selections. Site new	and state agencies into	Incorporate	transmission tie-in, and area
	route selection decisions.	corridors to avoid state or	route selection decisions.		has been previously
	Route new corridors to	federal parks, and critical or	Route new corridors to	and state agencies into	disturbed. Additional siting
	avoid state or federal parks,	sensitive habitats or species	avoid state or federal parks,	route selection decisions.	study not expected to be
	and critical or sensitive	as much as possible.	and critical or sensitive	Route new corridors to	required. Restrict

<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
and Use	habitats or species as much		habitats or species as much	avoid state or federal parks,	construction activities to
ansmission)		activities to transmission	as possible. Restrict	and critical or sensitive	transmission corridors and
<u>ontinued)</u>	construction activities to	corridors and access roads.	construction activities to	habitats or species as much	access roads. Sensitive
		Before site disturbance,	transmission corridors and	as possible. Restrict	resources not expected to
	access roads. Before site	conduct archaeological and	access roads. Before site	construction activities to	be found within the
	disturbance, conduct	ecological surveys and	disturbance, conduct	transmission corridors and	corridors; however, before
	archaeological and	determine site-specific	archaeological and	access roads. Before site	site disturbance, conduct
		erosion control measures.	ecological surveys and	disturbance, conduct	archaeological and
	determine site-specific	Comply with all applicable	determine site-specific	archaeological and	ecological surveys and
	erosion control measures.	laws, regulations, permits,	erosion control measures.	ecological surveys and	determine site-specific
		zoning requirements, good	Comply with all applicable	determine site-specific	erosion control measures.
	laws, regulations, permits,	engineering, environmental	laws, regulations, permits,	erosion control measures.	Comply with all applicable
	zoning requirements, good	management, and	zoning requirements, good	Comply with all applicable	laws, regulations, permits,
		construction practices.	engineering, environmental	laws, regulations, permits,	zoning requirements, good
		Unavoidable Adverse	management, and	zoning requirements, good	engineering, environmental
	construction practices.	Environmental Impacts –	construction practices.	engineering, environmental	management, and
	Unavoidable Adverse	Moderate unavoidable	Unavoidable Adverse	management, and	construction practices.
	Environmental Impacts -	adverse impacts of new	Environmental Impacts –	construction practices.	Unavoidable Adverse
	Small unavoidable adverse	transmission lines on land	Small unavoidable adverse	Unavoidable Adverse	Environmental Impacts –
	impacts of new transmission	use.	impacts of new transmission	Environmental Impacts -	Small unavoidable adverse
	lines on land use.		lines on land use.	Moderate unavoidable	impacts of new transmission
				adverse impacts of new	lines on land use.
				transmission lines on land	
				use, based on assumption	
				that portion would be in	
				previously undisturbed	
				rights-of-way.	
Ind Use (Waste	The following description apr	blies to all alternate/additional	sites.		
anagement)			in onsite and/or offsite landfills	S.	
	Mitigation Measure – Use wa			<u></u>	
				and use. Landfill space would	be consumed for disposal of
	construction debris and woul				

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Table 1	0.4-4 Unavoidable Adv	verse Environmental I	mpacts of Proposed Pr	oject at Alternate Sites	<u>s (Continued)</u>			
Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2			
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at			
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site			
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)			
and Use (Cultural	The following description app	lies to all alternate/additional	sites.					
<u>esources)</u>			aeological, or paleontological					
	Mitigation Measure – Consult State Historic Preservation Officer. Before site disturbance, conduct archaeological surveys. Develop and implement procedures that include actions to protect or recover cultural, historic, or paleontological resources.							
			or destruction of unanticipated	d historic, cultural, or paleonto	ological resources. Small			
	unavoidable adverse impacts to cultural resources from construction.							
ydrology and	The following description applies to all alternate/additional sites.							
/ater Use	Adverse Impact – Construction would require up to 1,200 gpm of groundwater for use during construction. Mitigation Measure – Comply with applicable water rights requirements, laws, regulations, and permit requirements. Practice water conservation							
	as practical. No other measures or controls would be necessary.							
	Unavoidable Adverse Environmental Impacts – Small unavoidable adverse impacts.							
	Adverse Impact – Install exca	avation dewatering wells for u	se during construction.					
	Mitigation Measure - Install c	Irainage system to divert dew	vatering runoff to settling basir	<u>n before discharge through a </u>	permitted TPDES outfall.			
	Follow best management pra							
	Unavoidable Adverse Environmental Impacts – Small unavoidable adverse impacts.							
	Adverse Impect Construction	an alang rivar banka ar atraar	n hanka aguld introduce agdir	nonto into watarwaya				
			<u>m banks could introduce sedir</u> on Storm Water Pollution Prev		ict monitoring as required by			
			nd adjacent to shoreline cons		· · · · · ·			
	construction, re-seed the area		nd adjacent to shoreline cons		nior devices and alter			
	Unavoidable Adverse Enviror		voidable adverse impacts.					
		·····						
	Adverse Impact - Use of hea	vy equipment introduces the	possibility of petroleum spills	that could enter surface wate	<u>r.</u>			
			maintain equipment, and prev					
		termeasures (SPCC) Plan fo	or construction activities. Rest	rict activities using petroleum	products that are equipped			
	with spill containment.							
	Unavoidable Adverse Enviror	nmental Impacts – Small una	voidable adverse impacts.					

	<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
			Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
De	scription of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
	Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
qua	atic Ecology	Adverse Impact – Reservoir	Adverse Impact – Reservoir	Adverse Impact – Reservoir	Adverse Impact – Reservoir	Adverse Impact – Reservoir
		construction would inundate	construction would inundate	construction would inundate	construction would inundate	construction would inundate
		the natural aquatic habitat	the natural aquatic habitat	the natural aquatic habitat	the natural aquatic habitat	the natural aquatic habitat
		along existing streams in	along existing streams in	along existing streams in	along existing streams in	along existing streams in
		the area (e.g., Bushy	the area (e.g., Allens	the area (e.g., Tehuacana	the area (Cedar Creek and	the area (Red Hollow
		Creek). Construction/	Creek). Construction/	Creek and Big Brown	Walnut Creek). Some high	Channel and Lynn Creek).
		dredging along the reservoir	dredging along the reservoir	Creek). Construction/	quality wetlands are in the	Some high quality wetlands
		shoreline, including an	shoreline, including an	dredging along the reservoir	site area.	along Lynn Creek are in the
		intake structure, would	intake structure, would	shoreline, including an	Construction/dredging along	potential reservoir area.
		cause the loss of some	cause the loss of some	intake structure, would	the reservoir shoreline,	Construction/dredging along
		organisms, and temporary	organisms, and temporary	cause the loss of some	including an intake	the reservoir shoreline,
		degradation of habitat.	degradation of habitat.	organisms, and temporary	structure, would cause the	including an intake
		However, no Federally listed	There are no Federally	degradation of habitat.	loss of some organisms and	structure, would cause the
		aquatic species are found in	listed aquatic species in	However, no Federally listed	temporary degradation of	loss of some organisms,
		Fannin County/Red River.	Austin County; however, a	aquatic species are found in	habitat. However, no	and temporary degradation
		Transmission line and rail	candidate species	Freestone County/Trinity	Federally listed aquatic	of habitat. However, no
		construction could require	(sharpnose shiner) has	River. Transmission line	species are found in	Federally listed aquatic
		crossing of waterbodies or	potential to occur in the	and rail construction could	Henderson County.	species are found in
		erection of towers within	Brazos River. Transmission	require crossing of	Transmission line and rail	Freestone County/Trinity
		waterbodies and would	line and rail construction	waterbodies or erection of	construction could require	River. Construction of water
		cause the loss of some	could require crossing of	towers within waterbodies	crossing of waterbodies or	intake line could require
		organisms and temporary	waterbodies or erection of	and would cause the loss of	erection of towers within	crossing of waterbodies and
		degradation of habitat.	towers within waterbodies	some organisms and	waterbodies and would	would cause temporary
		Mitigation Measure – Install	and would cause the loss of	temporary degradation of	cause the loss of some	degradation of habitat.
		cofferdam and store	some organisms and	habitat.	organisms and temporary	Mitigation Measure – Install
		excavated sediment and	temporary degradation of	Mitigation Measure – Install	degradation of habitat.	cofferdam and store
		soils in spoils area designed	habitat.	cofferdam and store		excavated sediment and
		to prevent loading in	Mitigation Measure – Install	excavated sediment and	cofferdam and store	soils in spoils area designed
		wetlands and watercourses;	cofferdam and store		excavated sediment and	to prevent loading in
		use storm water retention	excavated sediment and	to prevent loading in	soils in spoils area designed	
		basins as needed; re-seed	soils in spoils area designed	wetlands and watercourses;	to prevent loading in	use storm water retention
		spoils area after	to prevent loading in	use storm water retention	wetlands and watercourses;	basins as needed; re-seed
		construction. Develop and	wetlands and watercourses;	basins as needed; re-seed	use storm water retention	spoils area after
		implement a construction	use storm water retention	spoils area after	basins as needed; re-seed	construction. Develop and

Benefit-Cost Balance

Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
quatic Ecology	SWPPP; conduct	basins as needed; re-seed	construction. Develop and	spoils area after	implement a construction
continued)	monitoring as required by	<u>spoils area after</u>	implement a construction	construction. Develop and	SWPPP; conduct
	the storm water general	construction. Develop and	SWPPP; conduct	implement a construction	monitoring as required by
	permit. Stabilize upslope	implement a construction	monitoring as required by	SWPPP; conduct	the storm water general
	areas and adjacent to	SWPPP; conduct	the storm water general	monitoring as required by	permit. Stabilize upslope
	shoreline construction sites	monitoring as required by	permit. Stabilize upslope	the storm water general	areas and adjacent to
	with erosion control devices	the storm water general	areas and adjacent to	permit. Stabilize upslope	shoreline construction sites
	and after construction, re-	permit. Stabilize upslope	shoreline construction sites	areas and adjacent to	with erosion control devices
	seed the areas.	areas and adjacent to	with erosion control devices	shoreline construction sites	and after construction, re-
	Avoid wetlands and water	shoreline construction sites	and after construction, re-	with erosion control devices	seed the areas.
	bodies and sensitive areas	with erosion control devices	seed the areas.	and after construction, re-	Avoid wetlands and water
	when possible; plan	and after construction, re-	Avoid wetlands and water	seed the areas.	bodies and sensitive areas
	transmission routes to	seed the areas.	bodies and sensitive areas	Avoid wetlands and water	when possible; plan water
	minimize impacts to	Avoid wetlands and water	when possible; plan	bodies and sensitive areas	intake pipeline routes to
	wetlands and water bodies	bodies and sensitive areas	transmission routes to	when possible; plan	minimize impacts to
	that must be crossed; use	when possible; plan	minimize impacts to	transmission routes to	wetlands and water bodies
	equipment specifically	transmission routes to	wetlands and water bodies	minimize impacts to	that must be crossed; use
	designed for work around	minimize impacts to	that must be crossed; use	wetlands and water bodies	equipment specifically
	wetlands and streams,	wetlands and water bodies	equipment specifically	that must be crossed; use	designed for work around
		that must be crossed; use	designed for work around	equipment specifically	wetlands and streams,
	implement best	equipment specifically	wetlands and streams.	designed for work around	install erosion controls, and
	management practices to	designed for work around	install erosion controls, and	wetlands and streams,	implement best
	minimize impacts to aquatic		implement best	install erosion controls, and	management practices to
	systems. Before	install erosion controls, and	management practices to	implement best	minimize impacts to aquatic
	transmission line	implement best	minimize impacts to aquatic	management practices to	systems. Before water
	construction, conduct	management practices to	systems. Before	minimize impacts to aquatic	intake line construction,
		minimize impacts to aquatic	transmission line	systems. Before	conduct ecological surveys
		systems. Before	construction, conduct	transmission line	and determine site-specific
	erosion control measures.	transmission line	ecological surveys and	construction, conduct	erosion control measures.
	If there is potential for	construction, conduct	determine site-specific	ecological surveys and	If there is potential for
	construction of a new	ecological surveys and	erosion control measures.	determine site-specific	construction of new pipeline
	transmission line to degrade	determine site-specific	If there is potential for	erosion control measures.	to degrade habitat of a listed
	habitat of a listed aquatic	erosion control measures.	construction of a new	If there is potential for	aquatic species, work
	species, work closely with	If there is potential for	transmission line to degrade	construction of a new	closely with the state
		construction of a new	habitat of a listed aquatic		agency to develop a

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<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
Aquatic Ecology	a construction schedule and	transmission line to degrade	species, work closely with	habitat of a listed aquatic	construction schedule and
continued)	construction techniques that	habitat of a listed aquatic	the state agency to develop	species, work closely with	construction techniques that
	are protective of the habitat	species, work closely with	a construction schedule and	the state agency to develop	are protective of the habitat
	and species in question.	the state agency to develop		a construction schedule and	and species in question.
	Unavoidable Adverse	a construction schedule and	are protective of the habitat	construction techniques that	Unavoidable Adverse
	Environmental Impacts –	construction techniques that	and species in question.	are protective of the habitat	Environmental Impacts –
	Moderate unavoidable	are protective of the habitat	Unavoidable Adverse	and species in question.	Moderate unavoidable
	adverse impacts.	and species in question.	Environmental Impacts –	Unavoidable Adverse	adverse impacts at the
		Unavoidable Adverse	Moderate unavoidable	Environmental Impacts –	reservoir location; small
		Environmental Impacts –	adverse impacts.	Moderate unavoidable	unavoidable adverse
		Large unavoidable adverse		adverse impacts at the reservoir location; small	impacts at power plant site.
		impacts (considering cumulative impacts of larger			
		reservoir compared to other		unavoidable adverse impacts at power plant site.	
		sites; and potentially more		impacts at power plant site.	
		waterbody crossings due to			
		longer transmission line			
		length).			
errestrial Ecology	Adverse Impact – Habitat	Adverse Impact – Habitat	Adverse Impact – Habitat	Adverse Impact – Habitat	Adverse Impact – Habitat
enestilai Loology	loss, and potential impacts	loss, and potential impacts	loss, and potential impacts	loss, and potential impacts	loss, and potential impacts
	to threatened or	to threatened or	to threatened or	to threatened or	to threatened or
	endangered animals at the	endangered animals at the	endangered plants or	endangered animals at the	endangered plants or
	site or in the vicinity.	site or in the vicinity.	animals at the site or in the	site or in the vicinity.	animals at the site or in the
	Construction activities	Construction activities	vicinity. Construction	Construction activities	vicinity. Construction
	would result in a permanent	would result in a permanent	activities would result in a	would result in a permanent	activities would result in
	loss of 2,000 acres of	loss of up to 9,800	permanent loss of 2,000	loss of up to 2,600 acres of	permanent loss of up to
	habitat, including the	cumulative acres of habitat,	acres of habitat, including	habitat, including the	3,500 acres of habitat,
	proposed reservoir.	including the proposed	the proposed reservoir.	proposed reservoir.	including the proposed
	Displacement of animals	reservoir(s) (to support the	There would also be a	Displacement of animals	reservoir. Displacement of
	from the construction site,	plant and provide public	potential loss of over 300	from the construction site,	animals from the
	loss of less mobile	water supply).	acres of high quality habitat	loss of less mobile	construction site, loss of
	individual animals, and the	Displacement of animals	at reservoir site. Moderate	individual animals, and the	less mobile individual
	potential degradation of	from the construction site,	to large (permanent)	potential degradation of	animals, and the potential
	wetlands could also occur.	loss of less mobile	impacts to habitat and	forested lands and high	degradation of forested

Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
errestrial Ecology	Mitigation Measures - Land	individual animals, and the	wildlife at reservoir site	quality wetlands could also	lands and high quality
continued)	clearing would be	potential degradation of	given potential for impacting	occur.	wetlands could also occur.
	conducted according to	wetlands could also occur.	high quality habitat during	Mitigation Measures – Land	Mitigation Measures – Land
	federal and state	Mitigation Measures – Land	the construction phase of	clearing would be	clearing would be
	regulations and permits,	clearing would be	the project. Displacement	conducted according to	conducted according to
	zoning requirements, good	conducted according to	of animals from the	federal and state	federal and state
	construction practices, and	federal and state	construction site, loss of	regulations and permits,	regulations and permits,
	established best	regulations and permits,	less mobile individual	zoning requirements, good	zoning requirements, good
	management practices.	zoning requirements, good	animals, and the potential	construction practices, and	construction practices, and
	Schedule equipment	construction practices, and	degradation of wetlands	established best	established best
	maintenance procedures to	established best	could also occur.	management practices.	management practices.
	minimize emission and	management practices.	Mitigation Measures – Land	Schedule equipment	Schedule equipment
	spills. Minimize fugitive	Schedule equipment	clearing would be	maintenance procedures to	maintenance procedures to
	dust by watering. Delineate	maintenance procedures to	conducted according to	minimize emission and	minimize emission and
	wetlands and determine	minimize emission and	federal and state	spills. Minimize fugitive	spills. Minimize fugitive
	impacts and mitigation prior	spills. Minimize fugitive	regulations and permits,	dust by watering. Delineate	dust by watering. Delineate
	to beginning construction	dust by watering. Delineate	zoning requirements, good	wetlands and determine	wetlands and determine
	activities (no high quality	wetlands and determine	construction practices, and	impacts and mitigation prior	impacts and mitigation prior
	wetlands identified).	impacts and mitigation prior	established best	to beginning construction	to beginning construction
	Restrict construction to	to beginning construction	management practices.	activities (no high quality	activities (no high quality
	designated areas.	activities (no high quality	Schedule equipment	wetlands identified).	wetlands identified).
	Unavoidable Adverse	wetlands identified).	maintenance procedures to	Restrict construction to	Restrict construction to
	Environmental Impacts –	Restrict construction to	minimize emission and	designated areas.	designated areas.
	Small temporary impact to	designated areas.	spills. Minimize fugitive	Unavoidable Adverse	Unavoidable Adverse
	habitat and wildlife at	Unavoidable Adverse	dust by watering. Delineate	Environmental Impacts –	Environmental Impacts –
	immediate plant site during	Environmental Impacts –	wetlands and determine	Small temporary impact to	Small temporary impact to
	the construction phase of	Small temporary impact to	impacts and mitigation prior	habitat and wildlife at	habitat and wildlife at
	the project. Moderate	habitat and wildlife at	to beginning construction	immediate plant site during	immediate plant site during
	(permanent) impacts to	immediate plant site during	activities (no high quality	the construction phase of	the construction phase of
	habitat and wildlife at	the construction phase of	wetlands identified).	the project. Large	the project. Moderate to
	reservoir site.	the project. Large	Restrict construction to	(permanent) impacts to	large (permanent) impacts
		(permanent) impacts to	designated areas.	habitat and wildlife at	to habitat and wildlife at
		habitat and wildlife at	Unavoidable Adverse	reservoir site given potential	reservoir site. Potential for
		reservoir site. Moderate to	Environmental Impacts –	to impact high quality	more forested areas to be
		large impacts along	Small temporary impact to	habitat in Cedar	disturbed than at Malakoff,

antimued) percentage of right-of-way that is undisturbed, immediate joint is lis during, that is undisturbed, immediate joint is lis during, the construction phase of the project. Moderate to large (permanent) immeds; ad potential for protected, species to be present, small, impact in area of facility, foot int, and large impact, to habitat and wildlife at reservoir site, because of plant site; and moderate to large impacts at the reservoir site, because of plant undisturbed rights-of-way, reservoir site, because of high quality habitat. Adverse Impact – Construction-related population influx of 9.616 into the region would increase the demand for. housing, add to school, enrollment and increase the rened for public services. Mitigation Measure – Project-related employment would increase gradually, would be offset by increase dropetry and, sales/use tax revenues, generated by the construction project, which, counties and cities could, use to add staff, facilities, could use to add staff, facilitities, use and potentinthorease read up the		<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
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Image: Source of the project. Moderate to large (permanent) impacts are expected at the plant site. and moderate to plant site. and moderate to large impacts are expected at the plant site. and moderate to large impacts are expected at the plant site. and moderate to large impacts at the reservoir site. because of high quality habitat.impacts are expected at the position the second site. position related. population influx of 9.616 into the region wouldimpact are of facility, reservoir site. because of noal.impact and are impact, assuming a significant, position of the 970 acress assuming a significant, position of the 970 acress noal.impact access read.isocioeconomicAdverse Impact Construction-related, population influx of 9.616 into the region would increase the demand for housing, add to school enrollment and increase the enamd for housing, add to school enced for public services. Mitigation Measure - Project-related employment, would increase gradually. An increased demand for local services and more classroom space/leachers would be offset by increased property and sales/use tax revenues, generated by the construction project, which, counties and offic scould uncreased property	co	ntinued)		percentage of right-of-way	immediate plant site during		
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Benefit-Cost Balance

Table ?	10.4-4 <u>Unavoidable Ad</u>	<u>verse Environmental li</u>	<u>mpacts of Proposed Pr</u>	oject at Alternate Sites	<u>s (Continued)</u>
Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
Socioeconomic	Discuss construction plans				
<u>continued)</u>	and anticipated influx of				
	workers with community				
	leaders. Builders and				
	developers would meet the				
	demand for additional				
	housing. Because the				
	project has a long lead time,				
	it is likely that if the				
	community anticipates the				
	increase in population,				
	adequate affordable				
	housing, classroom space,				
	and public services would				
	be available.				
	Unavoidable Adverse				
	Environmental Impacts –				
	Large impacts to host	Large impacts to host	Large impacts to host	Moderate impacts to host	Large impacts to host
	county if majority of in-				
	migrating population resides				
	there. Small to moderate	there. Small impacts to two-	there. Small to moderate	there. Small impacts on	there. Large impacts to
	impacts on two-county area,	county area and region	impacts on two-county area.	two-county area, given	two-county area, since area
	given proximity to Sherman-	given site's proximity to	Small impacts to region.	proximity to Dallas	is very rural; small impacts
	Denison metropolitan area	large metropolitan area of		metropolitan area; Ellis	to the region. Note that
	in adjacent Grayson County.	Houston and the ability of	Adverse Impact – Increased	County includes southern	impacts could be alleviated
	Small impacts to region.	Houston to easily absorb a	traffic on local roads,	suburbs of Dallas and can	to a certain extent if the
		population influx.	especially combined with	readily absorb a population	construction workforce
	Adverse Impact – Increased		workers commuting to	influx.	supporting the planned Unit
	traffic on local roads.	Adverse Impact – Increased	nearby Big Brown coal plant		3 expansion at the
	Mitigation Measure –	traffic on local roads.	and lignite mining operation.	Adverse Impact – Increased	Limestone coal plant
	Develop construction	Mitigation Measure –	Mitigation Measure –	traffic on local roads.	(estimated at 1,000 workers
	management traffic plan	Develop construction	Develop construction	Mitigation Measure –	who would already be living
	prior to the start of	management traffic plan	management traffic plan	Develop construction	in the area) would be
	construction. Add turn	prior to the start of	prior to the start of	management traffic plan	available to support
	lanes at construction	construction. Add turn	construction. Add turn	prior to the start of	construction of the new
	entrance and possible	lanes at construction	lanes at construction	construction. Add turn	

Benefit-Cost Balance

10.4-25

Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
Socioeconomic	second entrance. Install	entrance and possible	entrance and possible	lanes at construction	nuclear facility; this would
<u>(continued)</u>	traffic-control lighting and	second entrance. Install	second entrance. Install	entrance and possible	depend on final scheduling
	directional signage. Post	traffic-control lighting and	traffic-control lighting and	second entrance. Install	for the two construction
	signs near construction	directional signage. Post	directional signage. Post	traffic-control lighting and	projects.
	entrances and exists to	signs near construction	signs near construction	directional signage. Post	
	make the public aware of	entrances and exists to	entrances and exists to	signs near construction	Adverse Impact – Increased
	potentially high construction	make the public aware of	make the public aware of	entrances and exists to	traffic on local roads,
	traffic areas. Encourage	potentially high construction		make the public aware of	especially combined with
	carpooling, offer shuttle	traffic areas. Encourage	traffic areas. Encourage		workers commuting to
	service to workers to and	carpooling, offer shuttle	carpooling, offer shuttle	traffic areas. Encourage	nearby Limestone plant
	from site, and stagger shifts	service to workers to and	service to workers to and	carpooling, offer shuttle	(including new Unit 3 which
	to avoid traditional	from site, and stagger shifts	from site, and stagger shifts	service to workers to and	is assumed to be
	congestion time periods.	to avoid traditional	to avoid traditional	from site, and stagger shifts	constructed well before
	Unavoidable Adverse	congestion time periods.	congestion time periods.	to avoid traditional	peak construction for
	Environmental Impacts -	Unavoidable Adverse	Unavoidable Adverse	congestion time periods.	nuclear plant).
	Small to moderate adverse	Environmental Impacts –	Environmental Impacts –	Unavoidable Adverse	Mitigation Measure –
	impacts during construction	Small to moderate adverse	Small to moderate adverse	Environmental Impacts -	Develop construction
	due to increased traffic on	impacts during construction	impacts during construction	Moderate to large adverse	management traffic plan
	local roads.	due to increased traffic on	due to increased traffic on	impacts during construction	prior to the start of
		local roads.	local roads.	due to increased traffic on	construction. Add turn
				local roads which also	lanes at construction
				appear to support area	entrance and possible
				recreation. Primary site	second entrance. Install
				access would be SH-31	traffic-control lighting and
				which is also part of the	directional signage. Post
				Texas Lakes Heritage Trails	signs near construction
				System, and also provides	entrances and exists to
				access to Cedar Creek and	make the public aware of
				Richland Chambers	potentially high construction
				Reservoirs.	traffic areas. Encourage
					carpooling, offer shuttle
					service to workers to and
					from site, and stagger shifts
					to avoid traditional
					congestion time periods.

<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2				
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at				
Description of	of Proposed Project at Allens Creek Site Trinity 2 Site Malakoff Site Limestone Site								
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)				
ocioeconomic					Unavoidable Adverse				
ontinued)					Environmental Impacts –				
					Large unavoidable adverse				
					impacts during construction				
					due to increased traffic on				
					local roads.				
nvironmental	The following description app								
<u>istice</u>		ortionately high or adverse im	pact on minority or low-incom	e populations from construct	ion of the proposed new units				
	have been identified.								
	Mitigation Measure – None required.								
	Unavoidable Adverse Environmental Impacts – Small unavoidable adverse impacts.								
nysical and	The following description applies to all alternate/additional sites.								
<u>on-Radiological</u>									
	Mitigation Measure – Train and appropriately protect construction workers to reduce the risk of potential exposure to noise, dust and exhaust emissions. Make public announcements or prior notification of atypically loud construction activities. Regularly inspect and maintain equipment to								
			accordance with federal, stat						
			to daylight hours. Restrict de						
			s watering unpaved roads, sta	abilizing construction roads, p	bhasing grading activities and				
	ceasing them during high win		porary and localized noise, fu	aitive duct, and exhaust amis	aiona during construction				
	Unavoidable Adverse Environ	imentai impacts – Smail temp	porary and localized holse, tu	gilive dust, and exhaust ernis	sions during construction.				
	Advorso Impact Construction	n workers could experience	occupational illnesses, injurie	s or doath					
					s to develop and implement				
	Mitigation Measure – Train contractors on safety requirements. Require construction contractors and subcontractors to develop and implement safety procedures. Provide onsite services for emergency first aid; conduct regular health and safety monitoring.								
	Unavoidable Adverse Environmental Impacts – Small, temporary impacts during the construction phase of the project.								
adiological					<u></u>				
auiuiuyiuai	The following description applies to all alternate/additional sites.								
	Adverse Impact – None.								
	<u>Adverse Impact – None.</u> Mitigation Measure – No mitig	nation required							

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<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
tmospheric and	The following description app	plies to all alternate/additional	sites.		
1eteorological	Adverse Impact – Temporary			during construction.	
-				minimize daily emissions. De	
	control plan that includes mit	igation measures such as wa	tering unpaved roads, stabiliz	ing construction roads, phasir	ng grading activities, and
				vering truck loads and debris	
				emission control equipment, e	
		nmental Impacts – Small, tem	porary impacts from localized	I noise, fugitive dust, and exha	aust emissions during
	construction.				
			<u>tions-Related</u>		
and Use	Adverse Impact – Land				
		occupied by plant facility			
		and associated reservoir(s)	and associated reservoir	and associated reservoir	and associated reservoir
	would be permanently				
		dedicated until	dedicated to the plant until	dedicated to the plant until	dedicated to the plant until
		decommissioning.	decommissioning.	decommissioning.	decommissioning.
		Operation and maintenance	Operation and maintenance		Operation and maintenance
	of transmission line and				
		corridors would restrict land	corridors would restrict land	corridors would restrict land	
		use within the transmission			
	rights-of-way, but transmission operation	rights-of-way. but transmission operation	rights-of-way, but transmission operation	rights-of-way. but transmission operation	rights-of-way, but transmission operation
		would be potentially	would be potentially	would be potentially	would be potentially
		compatible with cultivation.	compatible with cultivation.	compatible with cultivation.	compatible with cultivation.
		grazing and hunting but			
		preclude residential and	preclude residential and	preclude residential and	preclude residential and
	industrial use.				
		Mitigation Measure – No			
	mitigation would be required				
	for continued land use post				
		construction.	construction.	construction.	construction.
	Unavoidable Adverse				
	Environmental Impact –	<u>Environmental Impact –</u>	Environmental Impact –	Environmental Impact –	<u>Environmental Impact –</u>
		Small impacts: land will not			
	<u>be</u>	be available until	be available until	be available until	be available until

<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2					
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at					
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site					
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)					
and Use	available until	decommissioning of the	decommissioning of the	decommissioning of the	decommissioning of the					
continued)	decommissioning of the	plant.	<u>plant.</u>	<u>plant.</u>	<u>plant.</u>					
	<u>plant.</u>									
and Use (Waste	The following description app									
<u>anagement)</u>			e radioactive and non-radioac							
		-	ent fuel will require disposal in	-						
			ram. Disposal area(s) would							
			age facilities would be operate							
	_	· · · ·	onstructed. At that time, the s							
	Unavoidable Adverse Environmental Impacts – Small unavoidable impacts. Some land would be dedicated to permitted landfills or licensed									
	disposal facilities and would not be available for other uses.									
lydrology and	The following description app									
<u>/ater Use</u>			ction of a cooling water reserve	<u>oir. Makeup water would be v</u>	withdrawn from the cooling					
	water source to replace water	-								
		-	d water withdrawal requireme	-	and operate intake structures					
			impacts as required by water	<u>permit(s).</u>						
	Unavoidable Adverse Enviro	nmental Impacts – Small una	ivoidable adverse impacts.							
	Adverse Impact Operation	would result in discharge of	small amounts of chemicals t	o Toxas waters - Water would	he added back to the river					
	through the blowdown discha	•	sinal amounts of chemicals i	o lexas waters. Water would	The added back to the fiver					
			PDES permit and applicable w	ater quality standards Prens	are and implement a SW/PPP					
	Mitigation Measure – All discharges would comply with TPDES permit and applicable water quality standards. Prepare and implement a SWI									
	to avoid/minimize releases of contaminated storm water. Prepare and implement a SPCC plan to prevent/minimize contamination from spills.									
	Unavoidable Adverse Environmental Impacts – Small unavoidable adverse impacts.									
	Adverse Impact – Operations	s may result in a small therma	al plume discharged to Texas	waters.						
			perature and ambient water to		ned within limits set in the					
	Unavoidable Adverse Enviro		TPDES permit.							

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Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2				
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at				
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site				
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)				
Aquatic Ecology									
	Adverse Impact – Impacts to aquatic biota from impingement, entrainment and thermal discharges.								
	Mitigation Measure – Intake structure designed to minimize impingement and entrainment mortality with the "Best Technology Available". Discharges would comply with USEPA and Texas regulations (e.g., TPDES permit conditions) addressing discharges to surface water. Use of								
				ditions) addressing discharges	s to surface water. Use of				
	cooling towers that minimize								
	Unavoidable Adverse Enviro	nmental Impacts – Small una	voidable adverse impacts.						
	Adverse Impert		amall amounts of chamicals t						
	Adverse Impact – Operations would result in discharge of small amounts of chemicals to Texas waters. Mitigation Measure – The TPDES permit limits are set to ensure that discharges do not significantly affect aguatic populations or water guality.								
		nmental Impacts – Small una			<u>pulations of water quality.</u>				
	Onavoidable Adverse Enviro			aqualic ecology.					
	Adverse Impact – Potential ir	mpacts to aquatic ecology due	e to petroleum spills from rout	tine maintenance activities ne	ar water.				
		e and implement a SPCC Pla			<u></u>				
				<u></u>					
Terrestrial Ecology	Unavoidable Adverse Environmental Impacts – Small unavoidable adverse impacts. ogy The following description applies to all alternate/additional sites.								
	Adverse Impact – No adverse impacts from cooling towers are anticipated.								
	Mitigation Measures – None required.								
	Unavoidable Adverse Enviro	nmental Impacts – No unavoi	<u>dable adverse impacts.</u>						
		oud noises at the site or along							
		displacement due to noise w							
	Unavoidable Adverse Enviro	nmental Impacts – Small tem	porary unavoidable adverse i	mpacts.					
	Adverse Impact – Retential in	mages to vocatation and hab	itat within the transmission lin	e rights-of-way from routine n	azintonanco of woody				
		and mechanical methods an		le lights-oi-way from routine fr					
				designed to protect flora and f	auna Train personnel in the				
				lave adequate spill response					
	maintenance activities in the								
		nmental Impacts – Small una	voidable adverse impacts dur	ing the life of the plant.					
Socioeconomic	Adverse Impact –	Adverse Impact –	Adverse Impact –	Adverse Impact –	Adverse Impact –				
	Operations-related direct	Operations-related direct	Operations-related direct	Operations-related direct	Operations-related direct				
	and indirect workers (and	and indirect workers (and	and indirect workers (and	and indirect workers (and	and indirect workers (and				
	their families) would	their families) would	their families) would	their families) would	their families) would				
	increase demand for	increase demand for	increase demand for	increase demand for	increase demand for				
	housing, classroom space,	housing, classroom space,	housing, classroom space,	housing, classroom space,	housing, classroom space,				

<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
ocioeconomic	and public services within				
continued)	Fannin and Grayson	Austin and Fort Bend	Freestone and Henderson	Henderson and Ellis	Henderson and Ellis
	Counties and the ROI over				
	pre-construction conditions,				
	but much less than the				
	construction-related	construction-related	construction-related	construction-related	construction-related
	population.	population.	population.	population.	population.
	Mitigation Measure –				
	Discuss anticipated influx of				
	workers and schedule with				
	community leaders,				
	allowing local and regional				
	officials the opportunity to				
	plan for the influx. Builders				
	and developers would meet				
	the demand for additional				
	housing. Increased tax				
	revenues as a result of the				
	project would fund				
	additional school resources,				
	and could be used to				
	purchase additional				
	facilities/equipment and hire				
	train additional public				
	service staff if necessary.				
	Because the project has a				
	long lead time, it is likely				
	that if the community				
	anticipates the increase in				
	population, adequate				
	affordable housing,				
	classroom space, and				
	public services would be				
	available.	available.	available.	available.	available.

Benefit-Cost Balance

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<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
cioeconomic	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse
ontinued)	Environmental Impacts –	Environmental Impacts –	Environmental Impacts –	Environmental Impacts –	Environmental Impacts –
	Small to moderate	Small unavoidable adverse	Small to moderate	Small unavoidable adverse	Small to moderate
	unavoidable adverse	impacts given proximity to	unavoidable adverse	impacts given site proximity	unavoidable adverse
	impacts.	metropolitan area of	impacts.	to Dallas suburbs, which is	impacts, given site's rural
		Houston, which is expected		expected to readily absorb	location.
	Adverse Impact - Operation			population influx.	
	of two units would increase	influx.	of two units would increase		Adverse Impact – Operation
	the traffic on local roads		the traffic on local roads	Adverse Impact – Operation	of two units would increase
	during shift change. Valley	Adverse Impact – Operation	during shift change,	of two units would increase	the traffic on local roads
	power plant is located	of two units would increase	especially if they coincided		during shift change,
	adjacent to the site,	the traffic on local roads	with operating shifts of	during shift change; Trinidad	especially given site's close
	although its workforce is	during shift change.	workers at nearby Big	power plant is nearby	proximity to the existing
	expected to be significantly	Outages at the site would	Brown plant and lignite	although its workforce is	Limestone coal plant and
	smaller given type of plant.	increase traffic even further.		expected to be significantly	lignite mining operations.
	Outages at the site would	Mitigation Measure –	at the site would increase	smaller given type of plant.	Outages at the site would
	increase traffic even further.	Consider staggering outage	traffic even further.	Outages at the site would	increase traffic even further.
	Mitigation Measure –	shifts to reduce plant-	<u> Mitigation Measure –</u>	increase traffic even further.	Mitigation Measure –
	Consider staggering outage	associated traffic on local	Encourage	Mitigation Measure –	Consider staggering outage
	shifts to reduce plant-	roads during shift changes;	carpooling/vanpooling, offer	Consider staggering outage	shifts to reduce plant-
	associated traffic on local	vanpooling and travel		shifts to reduce plant-	associated traffic on local
	roads during shift changes;	reduction incentives	and from site, and travel	associated traffic on local	roads during shift changes;
	vanpooling and travel	(currently in use at STP	reduction incentives	roads during shift changes;	vanpooling and travel
	reduction incentives	<u>Units 1 & 2).</u>	(currently in use at STP	vanpooling and travel	reduction incentives
	(currently in use at STP	Unavoidable Adverse	Units 1 & 2). Consider	reduction incentives	(currently in use at STP
	<u>Units 1 & 2).</u>	Environmental Impacts –	staggering outage shifts to	(currently in use at STP	<u>Units 1 & 2).</u>
	Unavoidable Adverse	Small unavoidable adverse	reduce plant-associated	<u>Units 1 & 2).</u>	Unavoidable Adverse
	Environmental Impacts -	impacts.	traffic on local roads during	Unavoidable Adverse	Environmental Impacts –
	Small unavoidable adverse		shift changes.	Environmental Impacts –	Small to moderate
	impacts.	Adverse Impact – Additional	Unavoidable Adverse	Small to moderate	unavoidable adverse
		cooling towers may impact	Environmental Impacts –	unavoidable adverse	impacts.
	Adverse Impact – Additional	existing viewscape.	Small unavoidable adverse	<u>impacts.</u>	
	cooling towers may impact		impacts.		Adverse Impact – Additional
	existing viewscape.	plant layout, attempt to		Adverse Impact – Additional	cooling towers may impact
	Mitigation Measure – During	locate towers in an area	Adverse Impact – Additional	cooling towers may impact	existing viewscape.

Benefit-Cost Balance

<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
Socioeconomic	plant layout, attempt to	isolated from area view	cooling towers may impact	existing viewscape,	Mitigation Measure – During
continued)	locate towers in an area	points to maximum extent	existing viewscape.	especially given heavy	plant layout, attempt to
	isolated from area view	possible.	Mitigation Measure - During	recreational use in the	locate towers in an area
	points to maximum extent	Unavoidable Adverse	plant layout, attempt to	general area.	isolated from area view
	possible.	Environmental Impacts –	locate towers in an area	Mitigation Measure – During	points to maximum extent
	Unavoidable Adverse	Small to moderate	isolated from area view	plant layout, attempt to	possible.
	Environmental Impacts –	unavoidable adverse	points to maximum extent	locate towers in an area	Unavoidable Adverse
	Small to moderate	impacts.	possible.	isolated from area view	Environmental Impacts –
	unavoidable adverse		Unavoidable Adverse	points to maximum extent	Site is located in an
	impacts.	Adverse Impact –	Environmental Impacts –	possible.	industrialized area. Small
		Consumption of fossil fuels	Small to moderate	Unavoidable Adverse	unavoidable adverse
	Adverse Impact –	during the fuel-cycle	unavoidable adverse	Environmental Impacts –	impacts.
	Consumption of fossil fuels	process would be small	impacts.	Small to moderate	
	during the fuel-cycle	relative to the power	Adverse Impact –	unavoidable adverse	Adverse Impact –
	process would be small	production.	Consumption of fossil fuels	impacts.	Consumption of fossil fuels
	relative to the power	Mitigation Measure – No	during the fuel-cycle		during the fuel-cycle
	production.	mitigation needed.	process would be small	Adverse Impact –	process would be small
	Mitigation Measure – No	Unavoidable Adverse	relative to the power	Consumption of fossil fuels	relative to the power
	mitigation needed.	Environmental Impacts –	production.	during the fuel-cycle	production.
	Unavoidable Adverse	Small unavoidable adverse	Mitigation Measure – No	process would be small	Mitigation Measure – No
	Environmental Impacts –	impacts.	mitigation needed.	relative to the power	mitigation needed.
	Small unavoidable adverse	<u>inipaoto.</u>	Unavoidable Adverse	production.	Unavoidable Adverse
	impacts.		Environmental Impacts –	Mitigation Measure – No	Environmental Impacts –
	<u>Impacto:</u>		Small unavoidable adverse	mitigation needed.	Small unavoidable adverse
			impacts.	Unavoidable Adverse	impacts.
				Environmental Impacts –	
			Adverse Impact – Site is in	Small unavoidable adverse	Adverse Impact – Site is in
			an area of historic and	impacts.	an area of historic and
			potential mineral		potential mineral
			development (evidence of	Adverse Impact – Site is in	development (evidence of
			oil and gas drilling and	an area of historic and	oil and gas drilling and
			lignite mining operation	potential mineral	lignite mining operation
			nearby). Purchase of	development (evidence of	nearby). Purchase of
			mineral rights to develop	oil and gas drilling and	mineral rights to develop
			site for nuclear would result	lignite mining operation	site for nuclear would result

<u>Category</u>	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2	
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at	
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site	
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	
ocioeconomic			in displacement or loss of	nearby). Purchase of	in displacement or loss of	
<u>ontinued)</u>			active oil/gas wells; lost	mineral rights to develop	active oil/gas wells; or	
			potential to expand lignite	site for nuclear would result	prevent potential plans to	
			mining operations (if	in displacement or loss of	expand existing lignite	
			needed for nearby Big	active oil/gas wells (or	mining operations (if	
			Brown coal plant); and	possible reopening of	needed for Limestone	
			potential loss of oil and gas	historic lignite mine at	plant); and potential loss of	
			exploration jobs.	Malakoff); and potential loss	oil and gas exploration jobs.	
			Mitigation Measure –	of oil and gas exploration	Mitigation Measure –	
			Sufficient lead time for	jobs.	Sufficient lead time for	
			current mineral rights	Mitigation Measure –	current mineral rights	
			owners will allow them to	Sufficient lead time for	owners will allow them to	
			plan for loss of mineral	current mineral rights	plan for loss of mineral	
			rights; workers could	owners will allow them to	rights; workers could	
			presumably find	plan for loss of mineral	presumably find	
			construction work at new	rights; workers could	construction work at new	
			nuclear plant.	presumably find	nuclear plant.	
			Unavoidable Adverse	construction work at new	Unavoidable Adverse	
			Environmental Impacts –	nuclear plant.	Environmental Impacts –	
			Small unavoidable impact,	Unavoidable Adverse	Small unavoidable impact,	
			including loss of access to	Environmental Impacts –	including loss of access to	
			potentially valuable	Small unavoidable impact,	potentially valuable	
			minerals (coal, oil, gas).	including loss of access to	minerals (coal, oil, gas).	
				potentially valuable		
				minerals (coal, oil, gas).		
vironmental	The following description app	lies to all alternate/additiona	l sites.		1	
stice	Adverse Impact – No disproportionately high or adverse impacts on minority or low-income populations resulting from operation of the proposed					
	new units have been identifie				<u></u>	
	Mitigation Measure – No mitigation needed.					
	Unavoidable Adverse Environmental Impact – No unavoidable adverse impacts.					

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Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
hysical and	Adverse Impact – Potential	Adverse Impact – Potential	Adverse Impact – Potential	Adverse Impact – Potential	Adverse Impact – Potential
Non-Radiological	for occupational injuries and	for occupational injuries and	for occupational injuries and	for occupational injuries and	for occupational injuries and
	illnesses.	illnesses.		illnesses.	illnesses.
	Mitigation Measure –	Mitigation Measure –		Mitigation Measure –	Mitigation Measure –
	Implement industrial safety	Implement industrial safety	Implement industrial safety	Implement industrial safety	Implement industrial safety
	program.	program.	program.	<u>program.</u>	program.
	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse
	Environmental Impacts –	Environmental Impacts –	Environmental Impacts –	Environmental Impacts –	Environmental Impacts –
	Small unavoidable adverse	Small unavoidable adverse	Small to moderate	Small unavoidable adverse	Small unavoidable adverse
	impacts.	impacts.		impacts.	impacts.
	Adverse Impact The	Advoragimpagt The	impacts, depending on	Adverse Impect The	Adverse Impost The
	Adverse Impact – The	<u>Adverse Impact – The</u> plants emit low noise.	mineral reserves found	<u>Adverse Impact – The</u> plants emit low noise.	<u>Adverse Impact – The</u> plants emit low noise.
	<u>plants emit low noise.</u> Mitigation Measure – Noise	Mitigation Measure – Noise		Mitigation Measure – Noise	Mitigation Measure – Noise
	levels would normally not be			levels would normally not be	levels would normally not be
	above background at the	above background at the	plants emit low noise.	above background at the	above background at the
	site boundary. No mitigation	site boundary. No mitigation		site boundary. No mitigation	
	is necessary.	is necessary.	levels would normally not be		is necessary.
	Unavoidable Adverse	Unavoidable Adverse	above background at the	Unavoidable Adverse	Unavoidable Adverse
	Environmental Impacts –	Environmental Impacts –	site boundary. No mitigation		Environmental Impacts –
	Small unavoidable adverse	Small unavoidable adverse	is necessary.	Small unavoidable adverse	Small unavoidable adverse
	impacts.	impacts.	Unavoidable Adverse	impacts.	impacts.
			Environmental Impacts –		
	Adverse Impact – Episodic	Adverse Impact – Episodic	Small unavoidable adverse	Adverse Impact – Episodic	Adverse Impact – Episodic
	loud noises could annoy	loud noises could annoy		loud noises could annoy	loud noises could annoy
	nearby residents.	nearby residents.		nearby residents.	nearby residents.
	Mitigation Measure –	Mitigation Measure –		Mitigation Measure –	Mitigation Measure –
	Handle incidents on a case-	Handle incidents on a case-		Handle incidents on a case-	Handle incidents on a case-
	by-case basis.	by-case basis.		<u>by-case basis.</u>	by-case basis.
	Unavoidable Adverse	Unavoidable Adverse	•	Unavoidable Adverse	Unavoidable Adverse
	Environmental Impacts –	Environmental Impacts –		Environmental Impacts –	Environmental Impacts –
	Small temporary	Small temporary	by-case basis.	Small temporary	Small temporary
	unavoidable adverse	unavoidable adverse	Unavoidable Adverse	unavoidable adverse	unavoidable adverse
	impacts.	impacts.		impacts.	impacts.
			Small temporary		

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Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2	
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at	
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site	
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	
hysical and	Adverse Impact – New	Adverse Impact – New	unavoidable adverse	Adverse Impact – New	Adverse Impact – New	
on-Radiological	transmission line has	transmission line has	impacts.	transmission line has	transmission line has	
<u>ontinued)</u>	potential to induce electric	potential to induce electric		potential to induce electric	potential to induce electric	
	shock in people standing	shock in people standing	Adverse Impact – New	shock in people standing	shock in people standing	
	near the line.	near the line.	transmission line has	near the line.	near the line.	
	Mitigation Measure – Build	Mitigation Measure – Build	potential to induce electric	Mitigation Measure – Build	Mitigation Measure – Build	
	transmission line to NESC	transmission line to NESC	shock in people standing	transmission line to NESC	transmission line to NESC	
	code to minimize noise and	code to minimize noise and	near the line.	code to minimize noise and	code to minimize noise and	
	electric shock.	electric shock.	Mitigation Measure – Build	electric shock.	electric shock. Unavoidable Adverse	
	Unavoidable Adverse	<u>Unavoidable Adverse</u> Environmental Impacts –	transmission line to NESC code to minimize noise and	Unavoidable Adverse Environmental Impacts –	Environmental Impacts –	
	Environmental Impacts –	Small unavoidable adverse	electric shock.	Small unavoidable adverse	Small unavoidable adverse	
	Small unavoidable adverse	impacts.	Unavoidable Adverse	impacts.	impacts.	
	impacts.	<u>mpaoto.</u>	Environmental Impacts –	<u>inpucto.</u>	<u>impaoto:</u>	
			Small unavoidable adverse			
			impacts.			
adiological	The following description applies to all alternate/additional sites.					
•	Adverse Impact – Potential doses to workers and members of the public from releases to air and surface water. Dose to terrestrial and aquatic					
	ecosystems from chronic radiation exposure caused by the small discharges of radioactive liquids. Dose to public and workers due to transport of					
	nuclear fuel.					
	Mitigation Measure – Monitor radiological releases as required by radiological monitoring program. All releases would be well below regulatory					
	limits. No further mitigation required.					
	<u>Unavoidable Adverse Environmental Impact – Small unavoidable adverse impacts.</u>					
	Adverse Inspect. Evel evels estivities would have liquid discharges					
	Adverse Impact – Fuel cycle activities would have liquid discharges.					
	Mitigation Measure – Monitor radiological releases as required by radiological monitoring program. No further mitigation required. Unavoidable Adverse Environmental Impact – Small unavoidable adverse impacts.					
	Unavoluable Auverse Eliviro	ninental impact – Small unav	oluable auverse impacts.			

Table 1	Table 10.4-4 Unavoidable Adverse Environmental Impacts of Proposed Project at Alternate Sites (Continued) Category Alternate Site #1 Alternate Site #2 Alternate Site #3 Additional Site #1 Additional Site #2				
Category	Alternate Site #1	Alternate Site #2	Alternate Site #3	Additional Site #1	Additional Site #2
		Proposed Project at	Proposed Project at	Proposed Project at	Proposed Project at
Description of	Proposed Project at	Allens Creek Site	Trinity 2 Site	Malakoff Site	Limestone Site
Project	Red 2 Site (Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)	(Greenfield)
<u>Atmospheric and</u> <u>Meteorological</u>	quickly so noise levels would Mitigation Measure –None re emission sources. Unavoidable Adverse Enviror Adverse Impact – Emissions	of cooling towers would result be minimal at the site bounds quired for cooling towers. Pla mental Impact – Small unave from intermittent operation of facility must meet applicable to small quantities of air pollutar gation required.	t in noise, salt deposition, and ary. Salt deposition of less that ant operation will comply with oidable adverse impacts. diesel generators and other of federal, state (TCEQ), and loc oidable adverse impacts.	cal air quality permitting regula	sult in damage to vegetation. tions for operating air

Benefit Category	Project as Proposed	Alternative Site #1	Alternative Site #2	Alternative Site #3
Description of Project	STP 3 & 4	Proposed Project at Limostone Site (Brownfield)	Proposed Project at Allens- Creek Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
		Monetary Benefits		
Electricity Generated	20,000,000 to 22,000,000- MW-hours per year	20,000,000 to 22,000,000- MW-hours per year	20,000,000 to 22,000,000- MW-hours per year	20,000,000 to 22,000,000 MW-hours per year
Generating Capacity	2700 MW	2700 MW	2700 MW	2700 MW
	L	State and Local Tax Payme	ents	
During Construction	During the 7-year construction period for STP 3 & 4, NRG- would not pay franchise tax- but would pay additional- property taxes and state will- see an increase in sales tax- revenues. Projected sales tax- payments on construction- goods at an estimated \$23.9 million per unit, with \$5.8- million due to Bay City and \$18.1 million to the State of- Texas.	During the 7-year construction period, additional property tax- will be paid to Limestone- County and the state will see an increase in sales tax- revenues	During the 7-year construction period, additional property tax- will be paid to Austin County- and the state will see an increase in sales tax- revenues	During the 7-year construction period, additional property tax- will be paid to Henderson County and the state will see an increase in sales tax- revenues
During Operations	\$4.7 to \$5.4 million in franchise taxes in 2015, the first year of operation for STP- 3, and an estimated \$8.6 to \$10.0 million in 2016, when STP 4 comes on line, and in subsequent years.	During operation, tax- payments for the 2 new units- will be made to Limestone- County.	During operation, tax- payments for the 2 new units- will be made to Austin County.	During operation, tax- payments for the 2 new units- will be made to Henderson- County.

Benefit Category	Project as Proposed	Alternative Site #1	Alternative Site #2	Alternative Site #3
Description of Project	STP 3 & 4	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens- Creek Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
		Effects on Regional Produc	tivity	
During Construction	5950 direct jobs (2975 would- in migrate) and 1815 indirect- jobs added to local economy. The creation of jobs during- construction could inject- between \$67.6 and \$676- million dollars into the regional- economy during the life of the- construction project.	Similar effects as proposed- project at STP.	-Similar effects as proposed- project at STP.	-Similar effects as proposed project at STP.
During Operations	888 direct jobs and 1305- indirect jobs added to local- economy. The operations workforce- impact on the regional- economy would be estimated- at between \$45,090,864 to- \$55,064,880 per year.	-Similar effects as proposed- project at STP.	-Similar effects as proposed- project at STP.	-Similar effects as proposed project at STP.
	Tec	hnical and Other Non-Moneta	ry Benefits	1
Fuel Diversity	Nuclear option to coal and gas fired baseload generation.	Nuclear option to coal and gas fired baseload generation.	Nuclear option to coal and gas fired baseload generation.	Nuclear option to coal and gas fired baseload generation.

Benefit Category	Project as Proposed	Alternative Site #1	Alternative Site #2	Alternative Site #3
Description of	STP 3 & 4	Proposed Project at-	Proposed Project at Allens-	Proposed Project at
Project		Limestone Site (Brownfield)	Creek Site (Greenfield)	Malakoff Site (Greenfield)
Emissions Reduction	Avoidance of 41 to 2900 tons-			
	per year sulfur dioxide, 680 to-	per year sulfur dioxide, 680 to-	per year sulfur dioxide, 680 to-	per year sulfur dioxide, 680 to
	2000 tons per year nitrogen-			
	oxides; 141 to 2800 tons per-	oxides; 141 to 2800 tons per	oxides; 141 to 2800 tons per	oxides; 141 to 2800 tons per-
	year carbon monoxide;	year carbon monoxide;	year carbon monoxide;	year carbon monoxide;
	6,900,000 to 27,000,000 tons-			
	per year carbon dioxide; 13 to	per year carbon dioxide; 13 to-	per year carbon dioxide; 13 to-	per year carbon dioxide; 13 to
	119 tons per year fine-			
	particulates.	particulates.	particulates.	particulates.
Advanced Light Water- Reactor Development	Maintaining domestic nuclear- technology capability as- hedge against possible need- to control global warming.	Maintaining domestic nuclear- technology capability as- hedge against possible need- to control global warming.	Maintaining domestic nuclear- technology capability as- hedge against possible need- to control global warming.	Maintaining domestic nuclear- technology capability as- hedge against possible need- to control global warming.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
		Construction Related	
Land Use	Adverse Impact No new land-would be acquired for additional-facilities. The proposed project-could be configured to fit within the existing, previously disturbed area-of the site. Land would not be-available for other uses. Mitigation Measure - Conduct-construction activities using Best-Management Practices (BMP) in accordance with regulatory and permit requirements. Implement-environmental controls required in a-Stormwater Pollution Protection-Plan (SWPPP) such as weekly-compliance inspections, documentation of runoff controls, etc. Unavoidable Adverse_Environmental Impacts Environmental Impacts Environmental Impacts Environmental Impacts excluded from future agricultural-and recreational use. Small-unavoidable adverse impacts during-construction of the plants.	Adverse Impact – Based on STP 3 & 4, approximately 770 acres of land out of the 11,000 acre site- would be disturbed during- construction, with the potential for- erosion. Land would not be- available for other uses. <u>Mitigation Measure – Conduct-</u> construction activities using Best- Management Practices (BMP) in- accordance with regulatory and- permit requirements. Implement- environmental controls required in a- Stormwater Pollution Protection- Plan (SWPPP) such as weekly- compliance inspections,- documentation of runoff controls,- etc. <u>Unavoidable Adverse-</u> <u>Environmental Impacts –. Exclusion-</u> zone (if necessary) would be- excluded from future agricultural- and recreational use. Moderate to- large unavoidable adverse impacts- during construction of the plants.	Adverse Impact - Clearing of approximately 650 and 2700 acres (some of the cleared area consists of- forested systems) of land for construction of the new facilities and from clearing additional acreage for- construction of roads, parking lots, and switchyard Land would not be available for other uses <u>Mitigation Measure</u> - Conduct construction activities- using Best Management Practices (BMP) in- accordance with regulatory and permit requirements. Implement environmental controls required in a- Stormwater Pollution Protection Plan (SWPPP) such as weekly compliance inspections, documentation of runoff controls, etc. <u>Unavoidable Adverse Environmental Impacts</u> Exclusion zone (if necessary) would be would be excluded from future agricultural and recreational- use. Moderate unavoidable adverse impacts during- construction of the plants

Category	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
		Construction-Related	
Land Use (continued)	Adverse ImpactTwo new 345-kilovolt transmission lines would be-required in a new 200 foot wide-corridor. The new lines would be-installed mostly within existing-Right of Ways.Mitigation MeasureMitigation Measure- If required,-conduct siting study that takes into-account environmental impacts.Incorporate recommendations of-federal and state agencies into-route selections. Site new corridors-to avoid critical or sensitive habitats-or species as much as possible.Restrict construction activities to-transmission corridors and access-roads. Restrict sites of access to-corridors. Before site disturbance,-conduct archaeological and-ecological surveys and determine-site specific erosion control-measures. Comply with all-applicable laws, regulations,-permits, good engineering,-environmental management, and-construction practices.Unavoidable Adverse-Environmental Impacts Small to-moderate unavoidable adverse-impacts of new transmission lines-on land use.	Adverse Impact Two 345 kv transmission lines in new corridor- would be required. <u>Mitigation Measure</u> Conduct siting- study that takes into account environmental impacts. Incorporate recommendations of federal and- state agencies into route selections. Site new corridors to avoid critical or- sensitive habitats or species as- much as possible. Restrict- construction activities to- transmission corridors and access- roads. Restrict sites of access to- corridors. Before site disturbance, conduct archaeological and- ecological surveys and determine- site specific erosion control- measures. Comply with all- applicable laws, regulations, permits, good engineering, environmental management, and- construction practices. <u>Unavoidable Adverse- Environmental Impacts</u> Small to- large unavoidable adverse impacts of new transmission lines on land- use:	Adverse Impact – New transmission lines could be built in the existing ROW, but it may need to be expanded. <u>Mitigation Measure</u> – Conduct siting study that takes- into account environmental impacts. Incorporate- recommendations of federal and state agencies into- route selections. Site new corridors to avoid critical- or sensitive habitats or species as much as possible. Restrict construction activities to transmission- corridors and access roads. Restrict sites of access- to corridors. Before site disturbance, conduct- archaeological and ecological surveys and determine- site specific erosion control measures. Comply with all applicable laws, regulations, permits, good- engineering, environmental management, and- construction practices. <u>Unavoidable Adverse Environmental Impacts</u> – Small- to moderate unavoidable adverse impacts.

Benefit-Cost Balance

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
and Use continued)	Adverse Impact – Potential to disturb- buried historic, archaeological, or- paleontological resources. <u>Mitigation Measure – Consult State</u> Historic Preservation Officer. Before- site disturbance, conduct archaeological surveys. Develop- and implement procedure for- construction activities that includes- actions to protect cultural, historic, or paleontological resources. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> – Potential- for destruction of unanticipated- historic, cultural, or paleontological- resources. Small unavoidable- adverse impacts to cultural- resources from construction.	Adverse Impact – Potential to disturb- buried historic, archaeological, or- paleontological resources. <u>Mitigation Measure</u> – Select- transmission routes to avoid- historical properties. Consult State- Historic Preservation Officer. Before- site disturbance, conduct- archaeological surveys. Develop- and implement procedure for- construction activities that includes- actions to protect cultural, historic, or paleontological resources. <u>Unavoidable Adverse- Environmental Impacts</u> – Potential- for destruction of unanticipated- historic, cultural, or paleontological- resources. Small unavoidable- adverse impacts to cultural- resources from construction.	Adverse Impact – Potential to disturb buried historic, archaeological, or paleontological resources. <u>Mitigation Measure</u> – Select transmission routes to avoid historical properties. Consult State Historic- Preservation Officer. Before site disturbance, conduct archaeological surveys. Develop and implement procedure for construction activities that includes actions to protect cultural, historic, or- paleontological resources. <u>Unavoidable Adverse Environmental Impacts</u> – Potential for destruction of unanticipated historic, cultural, or paleontological resources. Small- unavoidable adverse impacts to cultural resources from construction.
	Adverse ImpactConstruction- debris would be disposed in onsite- and/or offsite landfills.Mitigation MeasureUse waste- minimization to reduce volume of- debris.Unavoidable Adverse- Environmental ImpactsSmall- unavoidable adverse impacts to- land use. Landfill space would be- consumed for disposal of- construction debris and would not- be available for disposal of other- wastes.	Adverse Impact Construction debris would be disposed in onsite- and/or offsite landfills. <u>Mitigation Measure</u> Use waste- minimization to reduce volume of- debris. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Moderately- unavoidable adverse impacts to- land use. Landfill space would be- consumed for disposal of- construction debris and would not- be available for disposal of other- wastes.	Adverse Impact Construction debris would be disposed in onsite and/or offsite landfills. <u>Mitigation Measure</u> Use waste minimization to- reduce volume of debris. <u>Unavoidable Adverse Environmental Impacts</u> Moderate unavoidable adverse impacts to land use. Landfill space would be consumed for disposal of construction debris and would not be available for- disposal of other wastes.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Hydrology and Water Use-	Adverse Impact Based on STP 3 & 4, construction would require up to 1200 gpm of groundwater. Mitigation Measure Practice water conservation as practical. No other measures or controls would be necessary. Unavoidable Adverse Environmental Impacts unavoidable adverse impacts.	Adverse Impact — Based on STP 3- & 4, construction would require up- to 1200 gpm of groundwater. <u>Mitigation Measure</u> — Practice water- conservation as practical. No other- measures or controls would be- necessary. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> . Small- unavoidable adverse impacts.	Adverse Impact Based on STP 3 & 4, construction- would require up to 1200 gpm of groundwater. <u>Mitigation Measure</u> Practice water conservation as- practical. No other measures or controls would be- necessary. <u>Unavoidable Adverse Environmental Impacts</u> . Small unavoidable adverse impacts.
	Adverse ImpactPotential need to- dewater excavation areas.Mitigation MeasureInstall drainage system to divert dewatering runoff to- settling basin before discharge- through a permitted TPDES outfall.Follow best management practices for erosion control.Unavoidable Adverse- Environmental ImpactsEnvironmental ImpactsSmall- unavoidable adverse impacts.	Adverse Impact – Potential need to- dewater excavation areas. <u>Mitigation Measure</u> – Install drainage- system to divert dewatering runoff to- settling basin before discharge- through a permitted TPDES outfall. Follow best management practices- for erosion control. <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> – Small- unavoidable adverse impacts.	Adverse Impact Potential need to dewater- excavation areas. <u>Mitigation Measure</u> Install drainage system to divert- dewatering runoff to settling basin before discharge- through a permitted TPDES outfall. Follow best- management practices for erosion control. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
lydrology and Water Use continued)	Adverse ImpactConstruction- along river banks or stream banks- could introduce sediments into- waterways.Mitigation MeasureDevelop and- implement a construction Storm- Water Pollution Prevention Plan- (SWPP); conduct monitoring as- required by the storm water general- permit. Stabilize upslope areas and- adjacent to shoreline construction- sites with erosion control devices- and after construction, re-seed the- areas.	<u>Adverse Impact</u> Construction- along river banks or stream banks- (in the case of the transmission line)- could introduce sediments into- waterways. <u>Mitigation Measure</u> Develop and- implement a construction SWPP- Plan; conduct monitoring as- required by the storm water general- permit. Stabilize upslope areas and- adjacent to shoreline construction- sites with erosion control devices- and after construction, re-seed the- areas.	<u>Adverse Impact</u> Construction along river banks or- stream banks (in the case of the transmission line)- could introduce sediments into waterways. <u>Mitigation Measure</u> Develop and implement a- construction SWPP Plan; conduct monitoring as- required by the storm water general permit. Stabilize- upslope areas and adjacent to shoreline construction- sites with erosion control devices and after- construction, re seed the areas.
	Unavoidable Adverse- Environmental Impacts - Small- unavoidable adverse impacts.	<u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Unavoidable Adverse Environmental Impacts - Small- unavoidable adverse impacts.
	Adverse Impact – Use of heavy- equipment introduces the possibility of petroleum spills that could enter- surface water. <u>Mitigation Measure</u> – Use good- maintenance practices to maintain- equipment, and prevent spills and- leaks. Prepare and implement Spill- Prevention Control and- Countermeasures (SPCC) Plan for- construction activities.	Adverse Impact Use of heavy- equipment introduces the possibility- of petroleum spills that could enter- surface water. <u>Mitigation Measure</u> Use good- maintenance practices to maintain- equipment, and prevent spills and- leaks. Prepare and implement SPCC Plan for construction- activities.	Adverse Impact Use of heavy equipment introduces the possibility of petroleum spills that could enter- surface water. <u>Mitigation Measure</u> Use good maintenance practices to maintain equipment, and prevent spills- and leaks. Prepare and implement SPCC Plan for- construction activities.

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Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Hydrology and- Water Use (continued)	Restrict activities using petroleum products and solvents to designated- areas that are equipped with spill- containment.Unavoidable Adverse Environmental ImpactsSmall unavoidable adverse impacts.	Restrict activities using petroleum products and solvents to designated- areas that are equipped with spill- containment. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Restrict activities using petroleum products and solvents to designated areas that are equipped with spill containment. <u>Unavoidable Adverse Environmental Impacts</u> Small unavoidable adverse impacts.
Aquatic Ecology	Adverse Impact Construction- along shoreline, including an intake- structure, would cause the loss of some organisms, and temporary- degradation of habitat Transmission line construction- across streams would cause the- loss of some organisms and temporary degradation of habitat.	Adverse Impact Construction at- rivers, lakes, and the proposed- reservoir, including an intake- structure, would cause the loss of- some organisms, and temporary- degradation of habitat. Transmission line construction- across streams would cause the- loss of some organisms and- temporary degradation of habitat.	<u>Adverse Impact</u> Construction at rivers, lakes, and the proposed reservoir, including an intake structure, would cause the loss of some organisms, and temporary degradation of habitat. Transmission line construction across streams would cause the loss of some organisms and temporary degradation of habitat.

Category	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Aquatic Ecology (continued)	<u>Mitigation Measure</u> Install cofferdam and store excavated sediment and soils in spoils area- designed to prevent loading in- wetlands and watercourses; use- storm water retention basins as- needed; re seeding of spoils area- after construction. Develop and- implement a construction SWPP Plan; conduct monitoring as- required by the storm water general- permit. Stabilize upslope areas and- adjacent to shoreline construction- sites with erosion control devices- and after construction, re seed the-	<u>Mitigation Measure</u> Install- cofferdam and store excavated- sediment and soils in spoils area- designed to prevent loading in- wetlands and watercourses; use- storm water retention basins as needed; re-seeding of spoils area- after construction. Develop and- implement a construction SWPP- Plan; conduct monitoring as required by the storm water general- permit. Stabilize upslope areas and- adjacent to shoreline construction- sites with erosion control devices- and after construction, re-seed the-	<u>Mitigation Measure</u> Install cofferdam and store- excavated sediment and soils in spoils area- designed to prevent loading in wetlands and- watercourses; use storm water retention basins as- needed; re seeding of spoils area after construction. Develop and implement a construction SWPP Plan; conduct monitoring as required by the storm water- general permit. Stabilize upslope areas and adjacent- to shoreline construction sites with erosion control- devices and after construction, re seed the areas.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Aquatic Ecology	Avoid wetlands and water bodies-	Avoid wetlands and water bodies	Avoid wetlands and water bodies and sensitive areas-
(continued)	and sensitive areas when possible;	and sensitive areas when possible;	when possible; plan transmission routes to minimize-
	plan transmission routes to	plan transmission routes to	impacts to wetlands and water bodies that must be
	minimize impacts to wetlands and	minimize impacts to wetlands and	crossed; use equipment specifically designed for-
	water bodies that must be crossed;	water bodies that must be crossed;	work around wetlands and streams, install erosion
	use equipment specifically designed	use equipment specifically designed	controls, and implement best management practices
	for work around wetlands and	for work around wetlands and	to minimize impacts to aquatic ecosystems. Before
	streams, install erosion controls,	streams, install erosion controls,	transmission line construction, conduct ecological
	and implement best management	and implement best management	surveys and determine site specific erosion control
	practices to minimize impacts to	practices to minimize impacts to	measures. If there is potential for construction of a
	aquatic ecosystems. Before	aquatic ecosystems. Before	new transmission line to degrade habitat of a listed
	transmission line construction,	transmission line construction,	aquatic species, work closely with the state agency
	conduct ecological surveys and	conduct ecological surveys and	to develop a construction schedule and construction
	determine site specific erosion	determine site specific erosion	techniques that are protective of the habitat and
	control measures. If there is	control measures. If there is	species in question.
	potential for construction of a new-	potential for construction of a new	
	transmission line to degrade habitat	transmission line to degrade habitat	
l	of a listed aquatic species, work-	of a listed aquatic species, work	
	closely with the state agency to	closely with the state agency to	
	develop a construction schedule	develop a construction schedule-	
	and construction techniques that are-	and construction techniques that are-	
	protective of the habitat and species-	protective of the habitat and species-	
	in question.	in question.	
	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse Environmental Impacts Small
	Environmental Impacts Small	Environmental Impacts Small	unavoidable adverse impacts.
	unavoidable adverse impacts.	unavoidable adverse impacts.	

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Terrestrial Ecology	Adverse Impact – Habitat loss, and potential impacts to threatened or- endangered plants or animals at the site or in the vicinity. Displacement- of animals from the construction- site. Loss of less mobile individual- animals. Potential degradation of- wetlands. <u>Mitigation Measure</u> – Land clearing- would be conducted according to- federal and state regulations and permits, plant procedures, good- construction practices, and- established best management- practices. Schedule equipment- maintenance procedures to- minimize emission and spills. Minimize fugitive dust by watering. Delineate wetlands and determine- impacts and mitigation prior to- beginning construction activities <u>Unavoidable Adverse- Environmental Impacts</u> Small, temporary impacts to habitat and- wildlife during the construction- phase of the project	Adverse Impact – Habitat loss, and potential impacts to threatened or- endangered plants or animals at the site or in the vicinity. Displacement of animals from the construction- site. Loss of less mobile individual- animals. Potential degradation of- wetlands. <u>Mitigation Measure</u> – Land clearing- would be conducted according to- federal and state regulations and- permits, plant procedures, good- construction practices, and- established best management- practices. Schedule equipment- maintenance procedures to- minimize emission and spills. <u>Minimize fugitive dust by watering.</u> Delineate wetlands and determine- impacts and mitigation prior to- beginning construction activities <u>Unavoidable Adverse- Environmental Impacts</u> Small, temporary impacts to habitat and- wildlife during the construction- phase of the project	Adverse Impact Habitat loss and potential impacts to threatened or endangered plants or animals at or in the vicinity. Displacement of animals from the construction site. Loss of less mobile individual- animals. Potential degradation of wetlands. <u>Mitigation Measure</u> – Land clearing would be- conducted according to federal and state regulations and permits, plant procedures, good construction- practices, and established best management- procedures to minimize emission and spills. Minimize fugitive dust by watering. Delineate wetlands and- determine impacts and mitigation prior to beginning- construction activities <u>Unavoidable Adverse Environmental Impacts</u> Small to moderate temporary impacts to habitat and wildlife during the construction phase of the project

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Socioeconomic	Adverse Impact Temporary and localized noise, fugitive dust, and exhaust emissions during- construction. <u>Mitigation Measure</u> Train and appropriately protect construction workers to reduce the risk of potential exposure to noise, dust- and exhaust emissions.	Adverse Impact Temporary and localized noise, fugitive dust, and exhaust emissions during- construction. <u>Mitigation Measure</u> Train and appropriately protect construction- workers to reduce the risk of- potential exposure to noise, dust- and exhaust emissions.	<u>Adverse Impact</u> Temporary and localized noise, fugitive dust, and exhaust emissions during- construction. <u>Mitigation Measure</u> Train and appropriately protect- construction workers to reduce the risk of potential exposure to noise, dust and exhaust emissions.
	Make public announcements or prior notification of atypically loud- construction activities. Regularly inspect and maintain equipment to- include exhaust and noise aspects.Phase construction to minimize daily emissions. Restrict noise- related activities to daylight hours.Restrict delivery times to daylight hours. Develop and implement a- dust control plan that includes- mitigation measures such as- watering unpaved roads, stabilizing- construction roads, phasing grading- activities and ceasing them during- high winds, etc.Unavoidable Adverse- Environmental ImpactsEnvironmental Impacts during construction.	Make public announcements or- prior notification of atypically loud- construction activities. Regularly- inspect and maintain equipment to- include exhaust and noise aspects. Phase construction to minimize- daily emissions. Restrict noise- related activities to daylight hours. Restrict delivery times to daylight- hours. Develop and implement a- dust control plan that includes- mitigation measures such as- watering unpaved roads, stabilizing- construction roads, phasing grading- activities and ceasing them during- high winds, etc. <u>Unavoidable Adverse- Environmental Impacts</u> — Small, temporary and localized noise,- fugitive dust, and exhaust emissions- during construction.	Make public announcements or prior notification of atypically loud construction activities. Regularly- inspect and maintain equipment to include exhaust and noise aspects. Phase construction to minimize- daily emissions. Restrict noise related activities to daylight hours. Restrict delivery times to daylight hours. Develop and implement a dust control plan- that includes mitigation measures such as watering- unpaved roads, stabilizing construction roads, phasing grading activities and ceasing them during- high winds, etc. <u>Unavoidable Adverse Environmental Impacts</u> Small, temporary and localized noise, fugitive dust, and exhaust emissions during construction.
	Adverse Impact Construction workers could experience occupational illnesses, injuries, or death.	Adverse Impact Construction- workers could experience- occupational illnesses, injuries, or- death.	Adverse Impact Construction workers could- experience occupational illnesses, injuries, or death.

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Category	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Socioeconomic continued)	Mitigation Measure Train- contractors on safety requirements Require construction contractors and subcontractors to develop and- implement safety procedures Provide onsite services for- emergency first aid; conduct regular- health and safety monitoring. conduct regular-	Mitigation Measure Train- contractors on safety requirements Require construction contractors and subcontractors to develop and- implement safety procedures Provide onsite services for- emergency first aid; conduct regular- health and safety monitoring.	<u>Mitigation Measure</u> Train contractors on safety- requirements. Require construction contractors and subcontractors to develop and implement safety- procedures. Provide onsite services for emergency- first aid; conduct regular health and safety- monitoring.
	Unavoidable Adverse Environmental Impacts — Small, temporary impacts during the construction phase of the project	Unavoidable Adverse Environmental Impacts Small, temporary impacts during the construction phase of the project	Unavoidable Adverse Environmental Impacts Small, temporary impacts during the construction- phase of the project.
	Adverse Impact Increased traffic on local roads <u>Mitigation Measure</u> – Develop- construction management traffic- plan prior to the start of- construction. Add turn lanes at- construction entrance. Post signs- near construction entrances and exits to make the public aware of- potentially high construction traffic- areas. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> – Small to- moderate adverse impacts during.	Adverse Impact Increased traffic on local roads <u>Mitigation Measure</u> Develop construction management traffic- plan prior to the start of construction. Add turn lanes at construction entrance. Post signs- near construction entrances and exits to make the public aware of- potentially high construction traffic- areas. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small to- moderate adverse impacts during	Adverse Impact Increased traffic on local roads. <u>Mitigation Measure</u> — Develop construction- management traffic plan prior to the start of- construction. Add turn lanes at construction- entrance. Post signs near construction entrances- and exits to make the public aware of potentially high- construction traffic areas. <u>Unavoidable Adverse Environmental Impacts</u> — Small- to moderate adverse impacts during construction due to Increased traffic on local roads
	construction due to Increased traffic- on local roads. <u>Adverse Impact</u> Increase in- demand for housing.	construction due to Increased traffic- on local roads. <u>Adverse Impact</u> Increase in- demand for housing	Adverse Impact Increase in demand for housing.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Socioeconomic (continued)	<u>Mitigation Measure</u> Discuss- construction plans and anticipated influx of workers with community- leaders. Builders and developers- would meet the demand for- additional housing, and because the project has a long lead time, and the construction workforce would build- gradually, it is likely that if the- community anticipates the increase- in population, adequate affordable- housing would always be available.	<u>Mitigation Measure</u> Discuss- construction plans and anticipated- influx of workers with community- leaders. Builders and developers- would meet the demand for- additional housing, and because the project has a long lead time, and the construction workforce would build- gradually, it is likely that if the community anticipates the increase- in population, adequate affordable- housing would always be available.	- <u>Mitigation Measure</u> - Discuss construction plans- and anticipated influx of workers with community- leaders. Builders and developers would meet the- demand for additional housing, and because the- project has a long lead time, and the construction- workforce would build gradually, it is likely that if the- community anticipates the increase in population, adequate housing would always be available.
	Unavoidable AdverseEnvironmental ImpactsModerateto large short lived unavoidableadverse impacts.Adverse ImpactInitially there maybe insufficient classroom space forthe influx of construction workersfamilies.	Unavoidable Adverse Environmental Impacts Moderate- to large short-lived unavoidable- adverse impacts. Adverse Impact Initially there may- be insufficient classroom space for- the influx of construction workers- families.	Unavoidable Adverse Environmental Impacts Moderate to large short lived unavoidable adverse- impacts. Adverse Impact Initially there may be insufficient- classroom space for the influx of construction- workers families.

Category	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Socioeconomic continued)	<u>Mitigation Measure</u> Discuss- construction plans and anticipated- influx of workers with community- leaders. Increased tax revenues as- a result of the large construction- project would fund additional school- resources. Because the project has- a long lead time, and the- construction workforce would build gradually, it is likely that if the- community anticipates the increase- in population, adequate classroom- space would always be available.	<u>Mitigation Measure</u> Discuss- construction plans and anticipated- influx of workers with community- leaders. Increased tax revenues as- a result of the large construction- project would fund additional school- resources. Because the project has- a long lead time, and the- construction workforce would build- gradually, it is likely that if the- community anticipates the increase- in population, adequate classroom- space would always be available.	<u>Mitigation Measure</u> Discuss construction plans and anticipated influx of workers with community leaders. Increased tax revenues as a result of the large- construction project would fund additional school- resources. Because the project has a long lead time, and the construction workforce would build gradually, it is likely that if the community anticipates the- increase in population, adequate classroom space- would always be available.
	Unavoidable Adverse Environmental Impacts Moderate to Large temporary unavoidable adverse impacts.	Unavoidable Adverse Environmental Impacts Moderate to Large temporary unavoidable- adverse impacts.	Unavoidable Adverse Environmental Impacts Moderate to Large temporary unavoidable adverse- impacts.
	Adverse Impact Increase in demand for public services.	Adverse Impact Increase in demand for public services.	Adverse Impact Increase in demand for public- services.
	Mitigation Measure Discuss- construction plans and anticipated- influx of workers with community leaders. Increased tax revenues- after construction begins could be- used to purchase additional facilities/equipment and hire/train- additional staff, if necessary.	Mitigation Measure Discuss- construction plans and anticipated- influx of workers with community- leaders. Increased tax revenues- after construction begins could be- used to purchase additional- facilities/equipment and hire/train- additional staff, if necessary.	<u>Mitigation Measure</u> Discuss construction plans and anticipated influx of workers with community leaders. Increased tax revenues after construction begins could be used to purchase additional- facilities/equipment and hire/train additional staff, if- necessary.
	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse Environmental Impacts - Small
	Environmental Impacts — Small to- large temporary unavoidable- adverse impacts.	Environmental Impacts — Small to- large temporary unavoidable- adverse impacts.	to large temporary unavoidable adverse impacts.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Radiological	Adverse Impact None. The site is- currently a coal fired plant that does- not house any radioactive materials. <u>Mitigation Measure</u> No mitigation- required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> No- unavoidable adverse impacts.	Adverse Impact None. The site is- undeveloped so the construction- workers would not be exposed to- radiation. <u>Mitigation Measure</u> No mitigation- required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> No- unavoidable adverse impacts.	Adverse Impact None. The site is undeveloped so- the construction workers would not be exposed to- radiation. <u>Mitigation Measure</u> No mitigation required. <u>Unavoidable Adverse Environmental Impacts</u> No- unavoidable adverse impacts.
Atmospheric and Meteorological	Adverse Impact - Temporary and localized noise, fugitive dust, and exhaust emissions during- construction <u>Mitigation Measure</u> - Regularly- inspect and maintain equipment. Phase construction to minimize- daily emissions. Develop and- implement a dust control plan that- includes mitigation measures such as watering unpaved roads, stabilizing construction roads, phasing grading activities and- ceasing them during high winds, etc. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> - Small, temporary impacts from localized- noise, fugitive dust, and exhaust emissions during construction.	Adverse Impact Temporary and localized noise, fugitive dust, and exhaust emissions during- construction <u>Mitigation Measure</u> Regularly- inspect and maintain equipment. Phase construction to minimize daily emissions. Develop and- implement a dust control plan that- includes mitigation measures such as watering unpaved roads,- stabilizing construction roads,- phasing grading activities and- ceasing them during high winds,- etc. <u>Unavoidable Adverse- Environmental Impacts</u> Small,- temporary impacts from localized- noise, fugitive dust, and exhaust- emissions during construction.	Adverse Impact Temporary and localized noise, fugitive dust, and exhaust emissions during- construction <u>Mitigation Measure</u> Regularly inspect and maintain- equipment. Phase construction to minimize daily- emissions. Develop and implement a dust control- plan that includes mitigation measures such as- watering unpaved roads, stabilizing construction- roads, phasing grading activities and ceasing them- during high winds, etc. <u>Unavoidable Adverse Environmental Impacts</u> Small, temporary impacts from localized noise, fugitive dust, and exhaust emissions during- construction.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Environmental- Justice	Adverse Impact No- disproportionately high or adverse- impacts on minority or low income- populations from construction of the- proposed new units have been- identified Mitigation Measure None required. Unavoidable Adverse Environmental Impacts Small- unavoidable adverse impacts.	Adverse Impact No- disproportionately high or adverse- impacts on minority or low income- populations resulting from- construction of the proposed new- units have been identified <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact No disproportionately high or adverse impacts on minority or low income- populations resulting from construction of the proposed new units have been identified. <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	- I	Operations-Related	
_and Use	Adverse Impact Operating the new- units would generate radioactive and non-radioactive wastes that are- required to be disposed in permitted disposal facilities or permitted- landfills. Generation of spent fuel- will require disposal in a geologic- repository.	Adverse Impact Operating the new- units would generate radioactive and non radioactive wastes that are- required to be disposed in permitted- disposal facilities or permitted- landfills. Generation of spent fuel- will require disposal in a geologic- repository.	<u>Adverse Impact</u> Operating the new units would- generate radioactive and non-radioactive wastes that are required to be disposed in permitted disposal- facilities or permitted landfills. Generation of spent- fuel will require disposal in a geologic repository.
	Mitigation Measure – Disposal- area(s) would be a permitted waste- disposal facility with a land use- designated for such activities. Disposal area would be operated- under appropriate regulations and- guidelines until such time a NRC- licensed high level waste disposal- facility is constructed. At that time, the storage area could be restored for other uses.	<u>Mitigation Measure</u> – Disposal- area(s) would be a permitted waste- disposal facility with a land use- designated for such activities. Disposal area would be operated- under appropriate regulations and- guidelines until such time a NRC- licensed high level waste disposal- facility is constructed. At that time, the storage area could be restored- for other uses.	<u>Mitigation Measure</u> – Disposal area(s) would be apermitted waste disposal facility with a land use designated for such activities. Disposal area would be operated under appropriate regulations and guidelines until such time a NRC licensed high levelwaste disposal facility is constructed. At that time, the storage area could be restored for other uses.

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Category	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
_ and Use	Unavoidable Adverse	Unavoidable Adverse	Unavoidable Adverse Environmental Impacts - Small
continued)	Environmental Impacts Small	Environmental Impacts Small	unavoidable impacts Some land would be dedicated
	unavoidable impacts. Some land	unavoidable impacts Some land	to permitted landfills or licensed disposal facilities
	would be dedicated to permitted	would be dedicated to permitted	and would not be available for other uses.
	landfills or licensed disposal	landfills or licensed disposal	
	facilities and would not be available	facilities and would not be available	
	for other uses.	for other uses.	
	Adverse Impact Approximately 21	Adverse Impact Approximately 21	Adverse Impact Approximately 21 acres of land will
	acres of land will be permanently	acres of land will be permanently	be permanently dedicated and 160 will be
	dedicated and 160 will be	dedicated and 160 will be	temporarily committed to the uranium fuel cycle
	temporarily committed to the	temporarily committed to the	during plant operation.
	uranium fuel cycle during plant	uranium fuel cycle during plant	Mitigation Measure No mitigation would be required
	operation.	operation.	Unavoidable Adverse Environmental Impacts Small
	Mitigation Measure No mitigation	Mitigation Measure No mitigation	unavoidable impacts 160 acres of land will not be
	would be required	would be required	available until decommissioning of the plant resulting
	Unavoidable Adverse	Unavoidable Adverse	in a small unavoidable impact. 21 acres will never be
	Environmental Impacts Small	Environmental Impacts Small	available for future use.
	unavoidable impacts 160 acres of	unavoidable impacts 160 acres of	
	land will not be available until-	land will not be available until	
	decommissioning of the plant-	decommissioning of the plant	
	resulting in a small unavoidable	resulting in a small unavoidable	
	impact. 21 acres will never be	impact. 21 acres will never be	
	available for future use.	available for future use.	

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Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Hydrology and- Mater Use	Adverse ImpactOperations would- result in discharge of small amounts- of chemicals to Texas waters- Mitigation MeasureMitigation MeasureAll discharges- would comply with TPDES permit- and applicable water quality- standards. Prepare and implement- a SWPP plan to avoid/ minimize- releases of contaminated storm- water. Prepare and implement a- 	Adverse Impact — Operations would- result in discharge of small amounts of chemicals to Texas water <u>Mitigation Measure</u> — All discharges- would comply with TPDES permit- and applicable water quality- standards. Prepare and implement- a SWPP plan to avoid/minimize- releases of contaminated storm- water. Prepare and implement a SPCC plan to avoid/minimize- contamination from spills. <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> — Small- unavoidable adverse impacts.	Adverse Impact – Operations would result in- discharge of small amounts of chemicals to Texas- waters. <u>Mitigation Measure</u> – All discharges would comply- with TPDES permit and applicable water quality- standards. Prepare and implement a SWPP plan to- avoid/ minimize releases of contaminated storm- water. Prepare and implement a SPCC plan to- avoid/minimize contamination from spills. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	Adverse Impact - Maintenance- activities at the site and along the- transmission line could result in- small petroleum spills. <u>Mitigation Measure</u> - Prepare and implement a SPCC plan to- avoid/minimize contamination from spills. Adhere to the SPCC plan- when working on transmission lines. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> - Small- unavoidable adverse impacts.	Adverse Impact Maintenance- activities at the site and along the transmission line could result in- small petroleum spills. <u>Mitigation Measure</u> Prepare and- implement a SPCC plan to avoid/minimize contamination from spills. Adhere to the SPCC plan- when working on transmission lines. <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Maintenance activities at the site and along the transmission line could result in small- petroleum spills. <u>Mitigation Measure</u> Prepare and implement a SPCC plan to avoid/minimize contamination from- spills. Adhere to the SPCC plan when working on- transmission lines. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.

Category	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
lydrology and Vater Use- continued)	Adverse Impact Water required for- site operation will be obtained from- Carrizo Wilcox Aquifer and Lake- Limestone. <u>Mitigation Measure</u> Design and- operate intake structures based on- best available technology. Monitor- hydrological impacts as required by- water permit(s) <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts	Adverse Impact Adequate- groundwater is available; however- Allens Creek reservoir would need- to be constructed for the plant. <u>Mitigation Measure</u> Design and- operate intake structures based on- best available technology. Monitor- hydrological impacts as required by- water permit(s) <u>Unavoidable Adverse- Environmental Impacts</u> Small to- moderate unavoidable adverse- impacts	Adverse Impact Surface water consumption from Palestine Lake <u>Mitigation Measure</u> Design and operate intake structures based on best available technology Monitor hydrological impacts as required by water permit(s). Modification to existing long range water management plans for region. <u>Unavoidable Adverse Environmental Impacts</u> Small unavoidable adverse impacts
	Adverse Impact – Operations may- result in a small thermal plume- discharged to Texas waters. <u>Mitigation Measure</u> – The differences between plume- temperature and ambient water- temperature would be maintained- within limits set in the TPDES- permit. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> – Small- unavoidable adverse impacts.	Adverse Impact Operations may- result in a small thermal plume- discharged to Texas waters. <u>Mitigation Measure</u> The- differences between plume- temperature and ambient water- temperature would be maintained- within limits set in the TPDES- permit. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	<u>Adverse Impact</u> Operations may result in a small- thermal plume discharged Texas waters. <u>Mitigation Measure</u> The differences between plume- temperature and ambient water temperature would- be maintained within limits set in the TPDES permit. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	Adverse Impact Water consumption and discharges during- fuel cycle activities. <u>Mitigation Measure</u> No mitigation- would be required.	Adverse Impact Water consumption and discharges during- fuel cycle activities. <u>Mitigation Measure</u> No mitigation- would be required.	Adverse Impact - Water consumption and discharges during fuel cycle activities. <u>Mitigation Measure</u> - No mitigation would be- required.

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Category	Proposed Project at Limestone Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Hydrology and Water Use- (continued)	Unavoidable Adverse Environmental Impacts Small unavoidable adverse impacts. Consumptive use of water- resources from fuel cycle. Total annual water use for the fuel cycle- would be 1.82 x 10 ¹⁰ gallons per- unit.	Unavoidable Adverse <u>Environmental Impacts</u> Small- unavoidable adverse impacts. Consumptive use of water- resources from fuel cycle. Total- annual water use for the fuel cycle- would be 1.82 x 10 ¹⁰ gallons per- unit.	<u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts. Consumptive use of- water resources from fuel cycle. Total annual water- use for the fuel cycle would be 1.82 x 10 ¹⁰ gallons- per unit.
.quatic Ecology	Adverse Impact – Operations would- result in discharge of small amounts of chemicals to Texas waters. <u>Mitigation Measure</u> – The TPDES- permit limits are set to ensure that discharges do not significantly affect aquatic populations or water quality. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> – Small- unavoidable adverse impacts on- aquatic ecology.	Adverse Impact Operations would- result in discharge of small amounts- of chemicals to Texas waters_ <u>Mitigation Measure</u> The TPDES- permit limits are set to ensure that- discharges do not significantly affect aquatic populations or water quality. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts on- aquatic ecology	Adverse Impact Operations would result in discharge of small amounts of chemicals to Texas- water <u>s.</u> <u>Mitigation Measure</u> The TPDES permit limits are set to ensure that discharges do not significantly affect- aquatic populations or water quality. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts on aquatic ecology
	Adverse Impact Potential impacts- to aquatic ecology due to petroleum spills from routine maintenance- activities near water. Mitigation Measure Prepare and- implement a SPCC Plan to- avoid/minimize contamination from spills. Unavoidable Adverse- Environmental Impacts Small- unavoidable adverse impacts.	Adverse Impact Potential impacts	Adverse Impact – Potential impacts to aquatic- ecology due to petroleum spills from routine- maintenance activities near water. <u>Mitigation Measure</u> – Prepare and implement a- SPCC Plan to avoid/minimize contamination from- spills. <u>Unavoidable Adverse Environmental Impacts</u> – Small- unavoidable adverse impacts.

10.4-59

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Aquatic Ecology continued)	Adverse Impact Impacts to aquatic- biota from impingement, entrainment and thermal- discharges. <u>Mitigation Measure</u> Intake structure designed with the "Best- Technology Available". Use of- cooling towers that minimize- withdrawal of river water. <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact – Impacts to aquatic- biota from impingement, entrainment and thermal- discharges <u>.</u> <u>Mitigation Measure</u> – Intake- structure designed with the "Best- Technology Available". <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> – Small- unavoidable adverse impacts.	<u>Adverse Impact</u> Impacts to aquatic biota from- impingement, entrainment and thermal discharges. <u>Mitigation Measure</u> Intake structure designed with the "Best Technology Available". <u>Unavoidable Adverse Environmental Impacts</u> Small unavoidable adverse impacts.
errestrial Ecology	Adverse Impact No adverse- impacts from dry cooling tower are- anticipated. <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> No- unavoidable adverse impacts.	<u>Adverse Impact</u> Potential impacts- from cooling towers, based on design. <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	<u>Adverse Impact</u> Potential impacts from cooling- towers, based on design. <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	Adverse Impact - Episodic loud- noises at the site or along- transmission lines could frighten- animals. <u>Mitigation Measure</u> - Animal- displacement due to noise should- be temporary in nature <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> - Small- temporary unavoidable adverse- impacts.	Adverse Impact Episodic loud- noises at the site or along- transmission lines could frighten- animals. <u>Mitigation Measure</u> Animal- displacement due to noise should- be temporary in nature. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- temporary unavoidable adverse- impacts.	<u>Adverse Impact</u> Episodic loud noises at the site or along transmission lines could frighten animals. <u>Mitigation Measure</u> Animal displacement due to- noise should be temporary in nature. <u>Unavoidable Adverse Environmental Impacts</u> Small- temporary unavoidable adverse impacts.

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Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Terrestrial Ecology (continued)	Adverse Impact Potential impacts- to vegetation and habitat within the- transmission line rights of way from- routine maintenance of woody- vegetative growth by manual and- mechanical methods and- herbicides.	Adverse Impact Potential impacts to vegetation and habitat within the transmission line rights of way from- routine maintenance of woody vegetative growth by manual and- mechanical methods and herbicides.	<u>Adverse Impact</u> Potential impacts to vegetation and habitat within the transmission line rights of way from routine maintenance of woody vegetative growth by manual and mechanical methods and herbicides.
	Mitigation Measure Implement- existing procedures for transmission- line maintenance designed to- protect flora and fauna. Train- personnel in the handling of fuel and- lubricants and the clean up and- reporting of any incidental spills Have adequate spill response- equipment on hand during- maintenance activities in the- corridors <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts during- the life of the plant	Mitigation MeasureImplement-existing procedures for transmission-line maintenance designed to-protect flora and fauna. Train-personnel in the handling of fuel and-lubricants and the clean up and-reporting of any incidental spillsHave adequate spill response-equipment on hand during-maintenance activities in the-corridorsUnavoidable Adverse-Environmental Impacts - Small-unavoidable adverse impacts during-the life of the plant	Mitigation Measure Implement existing procedures for transmission line maintenance designed to protect flora and fauna. Train personnel in the handling of fuel and lubricants and the clean up and reporting of any incidental spills. Have adequate spill response equipment on hand during maintenance- activities in the corridors <u>Unavoidable Adverse Environmental Impacts</u> Small to moderate unavoidable adverse impacts during the life of the plant
Socioeconomic	Adverse Impact — The plants emit- low noise. Mitigation Measure — Noise levels- would normally not be above- background at the site boundary. No- mitigation is necessary. Unavoidable Adverse- Environmental Impacts — Small- unavoidable adverse impacts.	Adverse Impact The plants emit- low noise. Mitigation Measure Noise levels- would normally not be above- background at the site boundary. No- mitigation is necessary. Unavoidable Adverse- Environmental Impacts Small- unavoidable adverse impacts.	<u>Adverse Impact</u> The plants emit low noise. <u>Mitigation Measure</u> Noise levels would normally not- be above background at the site boundary. No- mitigation is necessary. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.

10.4-61

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Socioeconomic- (continued)	Adverse Impact Episodic loud- noises could annoy nearby- residents <u>Mitigation Measure</u> Handle- incidents on a case by case basis. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small, temporary unavoidable adverse-	Adverse Impact Episodic loud- noises could annoy nearby- residents <u>Mitigation Measure</u> Handle- incidents on a case by case basis. <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> Small, temporary unavoidable adverse-	Adverse Impact Episodic loud noises could annoy nearby residents <u>Mitigation Measure</u> Handle incidents on a case by- case basis. <u>Unavoidable Adverse Environmental Impacts</u> Small, temporary unavoidable adverse impacts.
	impacts. <u>Adverse Impact</u> Increase in- demand for housing in Freestone, Limestone, and Leon Counties. <u>Mitigation Measure</u> Discuss anticipated influx of workers with- community leaders. Builders and- developers would meet the demand- for additional housing, and because- the project has a long lead time, it is- likely that if the community- anticipates the increase in- population, adequate affordable- housing would always be available.	impacts. <u>Adverse Impact</u> Increase in- demand for housing in Austin, Fort- Bend, and Waller Counties <u>Mitigation Measure</u> Discuss anticipated influx of workers with- community leaders. Builders and- developers would meet the demand- for additional housing, and because the project has a long lead time, it is- likely that if the community- anticipates the increase in- population, adequate affordable- housing would always be available	<u>Adverse Impact</u> Increase in demand for housing in- Henderson and Navarro Counties <u>Mitigation Measure</u> – Discuss anticipated influx of- workers with community leaders. Builders and- developers would meet the demand for additional- housing, and because the project has a long lead- time, it is likely that if the community anticipates the increase in population, adequate affordable housing- would always be available
	Unavoidable Adverse- Environmental Impacts — Small to- moderate unavoidable adverse- impacts	<u>Unavoidable Adverse</u> <u>Environmental Impacts</u> — Small to large unavoidable adverse impacts.	Unavoidable Adverse Environmental Impacts – Small to large unavoidable adverse impacts.

Environmental Report

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
ocioeconomic continued)	Adverse Impact - Increase in- demand for classroom space <u>Mitigation Measure</u> - Discuss- construction plans and anticipated- influx of workers with community- leaders. Increased tax revenues as- a result of the large construction- project would fund additional school- resources. Because the project has- a long lead time, it is likely that if the community anticipates the increase- in population, adequate classroom- space would always be available. <u>Unavoidable Adverse- Environmental Impacts</u> - Small to- moderate unavoidable adverse- impacts.	Adverse Impact Increase in- demand for classroom space. Mitigation Measure Discuss- construction plans and anticipated- influx of workers with community leaders. Increased tax revenues as- a result of the large construction- project would fund additional school- resources. Because the project has- a long lead time, it is likely that if the community anticipates the increase- in population, adequate classroom- space would always be available. Unavoidable Adverse- Environmental Impacts Small to- moderate unavoidable adverse- impacts.	Adverse Impact – Increase in demand for classroom space <u>Mitigation Measure</u> – Discuss construction plans and anticipated influx of workers with community leaders Increased tax revenues as a result of the large- construction project would fund additional school- resources. Because the project has a long lead time, it is likely that if the community anticipates the increase in population, adequate classroom space- would always be available. <u>Unavoidable Adverse Environmental Impacts</u> – Small- to moderate unavoidable adverse impacts.
	Adverse Impact Increase in demand for public services- Mitigation Measure Discuss- anticipated influx of workers with- community leaders. could be used to purchase- additional facilities/equipment and hire/train additional staff, if necessary. Unavoidable Adverse Environmental Impacts Small to- moderate unavoidable adverse- impacts.	Adverse Impact Increase in demand for public services <u>Mitigation Measure</u> Discuss- anticipated influx of workers with community leaders. Increased tax- revenues after construction begins could be used to purchase- additional facilities/equipment and hire/train additional staff, if necessary. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small to- moderate unavoidable adverse- impacts.	Adverse Impact Increase in demand for public- services <u>Mitigation Measure</u> Discuss anticipated influx of- workers with community leaders. Increased tax- revenues after construction begins could be used to purchase additional facilities/equipment and- hire/train additional staff, if necessary.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Socioeconomic 'continued)	Adverse Impact – New transmission line has potential to induce electric- shock in people standing near the- line. <u>Mitigation Measure</u> – Build- transmission line to NESC code to- minimize noise and electric shock. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> – Small- unavoidable adverse impacts.	Adverse Impact New transmission- line has potential to induce electric- shock in people standing near the- line <u>Mitigation Measure</u> Build- transmission line to NESC code to- minimize noise and electric shock. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact New transmission line has potential to induce electric shock in people standing near the line <u>Mitigation Measure</u> Build transmission line to NESC- code to minimize noise and electric shock. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	Adverse Impact Additional cooling towers may impact existing- viewscape. <u>Mitigation Measure</u> No mitigation- needed. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Additional cooling- towers may impact existing- viewscape <u>Mitigation Measure</u> No mitigation- needed <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Additional cooling towers may- impact existing viewscape <u>Mitigation Measure</u> No mitigation needed <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	Adverse Impact — Operation of two- units would increase the traffic on local roads during shift change. Outages at the site would increase traffic even further. <u>Mitigation Measure</u> — Consider- staggering outage shifts to reduce- plant associated traffic on local- roads during shift changes. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> — Small- unavoidable adverse impacts.	Adverse Impact Two additional- units would increase the traffic on local roads during shift change Outages at the site would increase- traffic even further Mitigation Measure Consider- staggering outage shifts to reduce- plant associated traffic on local- roads during shift changes. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact — Operation of two units would- increase the traffic on local roads during shift- change. Outages at the site would increase traffic- even further <u>Mitigation Measure</u> — Consider staggering outage- shifts to reduce plant associated traffic on local roads- during shift changes. <u>Unavoidable Adverse Environmental Impacts</u> — Small- unavoidable adverse impacts.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Socioeconomic (continued)	Adverse ImpactPotential foroccupational injuries and illnessesMitigation MeasureImplement-industrial safety program.Unavoidable AdverseEnvironmental ImpactsSmall-unavoidable adverse impacts.	Adverse Impact - Potential for- occupational injuries and illnesses Mitigation Measure - Implement- industrial safety program. Unavoidable Adverse- Environmental Impacts - Small- unavoidable adverse impacts.	Adverse Impact – Potential for occupational injuries- and illnesses <u>Mitigation Measure</u> – Implement industrial safety- program. <u>Unavoidable Adverse Environmental Impacts</u> – Small- unavoidable adverse impacts.
	Adverse Impact Consumption of fossil fuels during the fuel cycle- process would be small relative to- the power production <u>Mitigation Measure</u> No mitigation- needed. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Consumption of fossil fuels during the fuel cycle- process would be small relative to- the power production <u>Mitigation Measure</u> No mitigation- needed. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Consumption of fossil fuels during the fuel cycle process would be small relative to the power production <u>Mitigation Measure</u> No mitigation needed. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
Radiological	Adverse Impact Potential doses to members of the public from-releases to air and surface water. Mitigation Measure All releases would be well below regulatory-limits. No mitigation required. Unavoidable Adverse Environmental Impacts Small-unavoidable adverse impacts.	Adverse Impact Potential doses to- members of the public from- releases to air and surface water. <u>Mitigation Measure</u> All releases would be well below regulatory- limits. No mitigation required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Potential doses to members of the public from releases to air and surface water <u>Mitigation Measure</u> All releases would be well- below regulatory limits. No mitigation required. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	Adverse Impact Fuel cycle- activities would have liquid- discharges <u>Mitigation Measure</u> No mitigation- needed. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Fuel cycle- activities would have liquid- discharges <u>Mitigation Measure</u> No mitigation- needed. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Fuel cycle activities would have- liquid discharges. Mitigation Measure No mitigation needed. Unavoidable Adverse Environmental Impacts – Small- unavoidable adverse impacts.

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Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Atmospheric and Meteorological	Adverse Impact No adverse- impacts from dry cooling tower are- anticipated. <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> No- unavoidable adverse impacts.	Adverse Impact Potential visible plumes from cooling towers, if used. <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Potential visible plumes from- cooling towers, if used. <u>Mitigation Measure</u> None required. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.
	Adverse Impact - Emissions from- intermittent operation diesel- generators and other emission- emitting equipment <u>Mitigation Measure</u> - Comply with- TCEQ permit limits and regulations- for installing and operating air- emission sources. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> - Small- unavoidable adverse impacts.	Adverse Impact Emissions from- intermittent operation diesel- generators and other emission- emitting equipment <u>Mitigation Measure</u> Comply with- TCEQ permit limits and regulations- for installing and operating air- emission sources. <u>Unavoidable Adverse-</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact — Emissions from intermittent- operation diesel generators and other emission- emitting equipment <u>Mitigation Measure</u> — Comply with TCEQ permit limits- and regulations for installing and operating air- emission sources. <u>Unavoidable Adverse Environmental Impacts</u> — Small- unavoidable adverse impacts.
	Adverse Impact Relatively small quantities of air pollutants would be- result from the fuel cycle. <u>Mitigation Measure</u> No mitigation- needed. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	Adverse Impact Relatively small quantities of air pollutants would be- result from the fuel cycle. <u>Mitigation Measure</u> No mitigation- needed. <u>Unavoidable Adverse</u> <u>Environmental Impacts</u> Small- unavoidable adverse impacts.	<u>Adverse Impact</u> Relatively small quantities of air- pollutants would be result from the fuel cycle. <u>Mitigation Measure</u> No mitigation needed. <u>Unavoidable Adverse Environmental Impacts</u> Small- unavoidable adverse impacts.

Category	Proposed Project at Limestone- Site (Brownfield)	Proposed Project at Allens Creek- Site (Greenfield)	Proposed Project at Malakoff Site (Greenfield)
Environmental	Adverse Impact No-	Adverse Impact No-	Adverse Impact No disproportionately high or-
Justice	disproportionately high or adverse	disproportionately high or adverse	adverse impacts on minority or low income-
	impacts on minority or low income	impacts on minority or low income	populations resulting from operation of the proposed
	populations resulting from operation-	populations resulting from operation	new units have been identified.
	of the proposed new units have	of the proposed new units have	Mitigation Measure - No mitigation needed.
	been identified.	been identified.	Unavoidable Adverse Environmental Impacts Small
	Mitigation Measure No mitigation	Mitigation Measure No mitigation	unavoidable adverse impacts.
	needed.	needed.	·
	Unavoidable Adverse	Unavoidable Adverse	
	Environmental Impacts Small	Environmental Impacts Small	
	unavoidable adverse impacts.	unavoidable adverse impacts.	