6.7 Summary of Monitoring Programs

The following sections summarize the monitoring programs described in detail in Sections 6.1 through 6.6. Also, Table 6.7-1 describes the monitoring programs to be implemented during site preparation and construction activities, preoperation, and operation of STP 3 & 4.

6.7.1 Preconstruction and Construction Monitoring

The STP 1 & 2 current thermal, radiological, hydrological, meteorological, ecological, and chemical monitoring programs have been used to characterize the conditions at the proposed STP 3 & 4 site.

In addition to STP 1 & 2 hydrological monitoring, additional observation wells were installed as discussed in Subsection 6.3.2, in and around the proposed project footprint in order to better characterize the site hydrologically. Information collected historically and through ongoing monitoring will form a basis from which to assess the impacts of site preparation and construction activities. In addition, STPNOC will implement any monitoring requirements that may be imposed by the construction storm water permit.

6.7.2 Preoperational Monitoring

The current monitoring programs for STP 1 & 2, as described in Sections 6.1 through 6.6, also will serve to provide baseline data for evaluating the impact of operation of STP 3 & 4. It should be noted, as described in section 6.4, new instrumentation was added to the meteorological tower in 2006, which is being used in the existing STP 1 & 2 meteorological monitoring program, and would be used to characterize meteorological conditions for STP 3 & 4 during the preoperational and operational periods.

6.7.3 Operational Monitoring

While specific requirements for thermal, radiological, hydrological, meteorological, ecological, and chemical monitoring programs for operation of STP 3 & 4 have not yet been established, they are expected to be similar to the ongoing STP 1 & 2 monitoring programs described in the Sections 6.1 through 6.6.

Table 6.7-1 Summary of Monitoring Programs

Program	Scope/Content	Status	Requiring Agency
Site Preparation and Construction Monitoring			
Thermal Monitoring	Thermal monitoring is required for discharges to the Colorado River when discharge occurs from the Main Cooling Reservoir (MCR) (see Table 6.6-1)	Existing	TCEQ
Radiological Monitoring	Existing STP 1 & 2 radiological monitoring program will serve as the preoperational monitoring program for STP 3 & 4. The following exposure pathways to radiation would be monitored. • Direct (dosimeters) • Airborne (iodine and particulates) • Waterborne (surface water, groundwater, drinking water and sediment) • Ingestion (milk, broadleaf vegetation, fish, invertebrates, meat) Parameters presented in Table 6.2-3.	Existing	NRC
	Ongoing groundwater tritium monitoring would be used to assess any potential changes in groundwater tritium concentrations during construction (see Table 6.2-4)	Existing	NA
Hydrological Monitoring	Twenty-eight wells were installed in the vicinity of the STP 3 & 4 footprint to establish baseline hydrological conditions (groundwater levels, flow paths, and gradients). Hydrologic monitoring at select or new wells will continue through construction to assess and monitor potential impacts of construction on groundwater conditions (e.g. de-watering, wellhead protection) (see Table 6.3-3)	Existing	NA
	The TCEQ General Permit Relating to Discharges from Construction Activities requires a monitoring program to ensure pollution (e.g., sediment loading) from storm water is minimized.	Permit Requirement	TCEQ
Meteorological Monitoring	New meteorological tower dew point and relative humidity instrumentation was installed in 2006. Current data gathering would be used to determine meteorological conditions at STP 3 & 4 for assessing safety and environmental factors that would influence radiological exposure in the event of a radiological release.	Existing	NRC
Ecological Monitoring	Regulatory agencies have not required ecological monitoring of STP 1 & 2 or its associated transmission corridors since the period of reservoir filling (mid 1980s) and there is no on-going monitoring	Not Required	NA

Table 6.7-1 Summary of Monitoring Programs (Continued)

Program	Scope/Content	Status	Requiring Agency
Chemical Monitoring	Ongoing monitoring program for Units 1 & 2 required by the current TPDES permit would be used to identify potential impacts of site preparation and construction of Units 3 & 4. Parameters measured are presented in Table 6.6-1.	Existing	TCEQ
	Ongoing monitoring for drinking water parameters (e.g. metals, trihalomethanes) at various locations located throughout Units 1 & 2 would be used to monitor and assess any impacts to drinking water quality from construction of Units 3 & 4 (see Table 6.6-2).	Existing	TCEQ
	Groundwater quality monitoring at select wells would be performed to ascertain the chemical effects of construction activities on local groundwater quality (see Table 6.6-3).	Existing	TCEQ
	Monitoring for analytical parameters (e.g. TSS, iron) at storm water outfall and/or discharge points from STP 3 & 4 would be performed.	Proposed	TCEQ
Preoperational			
Thermal Monitoring	Thermal monitoring is required for discharges to the Colorado River when discharge occurs from the MCR (see Table 6.1.-1)	Existing	TCEQ
Radiological Monitoring	Existing STP 1 & 2 radiological monitoring program will serve as the pre-operational monitoring program for STP 3 & 4. The following exposure pathways to radiation would be monitored. • Direct (dosimeters) • Airborne (iodine and particulates) • Waterborne (surface water, groundwater, drinking water and sediment) • Ingestion (milk, broadleaf vegetation, fish, invertebrates, meat) Parameters presented in Table 6.2-3	Existing	NRC
	Ongoing groundwater tritium monitoring would be used to assess any changes in groundwater tritium concentrations during pre-operation of STP 3 & 4 (see Table 6.2-4).	Existing	NA
Hydrological Monitoring	Hydrologic monitoring at identified wells will continue (see Table 6.3-3)	Existing	NA

Table 6.7-1 Summary of Monitoring Programs (Continued)

Program	Scope/Content	Status	Requiring Agency
Meteorological Monitoring	Current data gathering would be used to determine meteorological conditions at the new units for assessing safety and environmental factors that would influence radiological exposure in the event of a radiological release.	Existing	NRC
Ecological Monitoring	Regulatory agencies have not required ecological monitoring of STP or its associated transmission corridors since the period of reservoir filling (mid 1980s) and there is no on-going monitoring	Not Required	NA
Chemical Monitoring	Ongoing monitoring program for STP 1 & 2 required by the current TPDES permit would continue. Parameters measured are presented in Table 6.6-1.	Existing	TCEQ
	Ongoing monitoring for drinking water parameters (e.g. metals) at various locations located throughout STP 1 & 2 would continue (see Table 6.6-2).	Existing	TCEQ
	Monitoring for analytical parameters (e.g. TSS, iron) at storm water outfall and/or discharge points from STP 3 & 4 would be performed	Proposed	TCEQ
Operational			
Thermal Monitoring	Thermal monitoring is required for discharges to the Colorado River when discharge occurs from the MCR (see Table 6.1-1).	Existing	TCEQ
Radiological Monitoring	Existing STP 1 & 2 radiological monitoring program would be utilized to monitor the impacts from operation of STP 3 & 4. The following exposure pathways to radiation would be monitored. • Direct (dosimeters) • Airborne (iodine and particulates) • Waterborne (surface water, groundwater, drinking water and sediment) • Ingestion (milk, broadleaf vegetation, fish, invertebrates, meat) Parameters presented in Table 6.2-3	Proposed	NRC
	Ongoing groundwater tritium monitoring would be used to assess any changes in groundwater tritium concentrations during operation of STP 3 & 4 (see Table 6.2-4).	Existing	NA

Table 6.7-1 Summary of Monitoring Programs (Continued)

Program	Scope/Content	Status	Requiring Agency
Hydrological Monitoring	Monitoring of effluent and flow at TPDES outfalls and/or discharge points utilized by STP 3 & 4 would be performed.	Proposed	TCEQ
	Monitoring for storm water parameters (e.g., flow, physical characteristics) at specified site outfalls and/or discharge points utilized by STP 3 & 4 would be performed.	Proposed	TCEQ
Meteorological Monitoring	Separate data links will be added for STP 3 & 4. The data recorded by the instrumentation would be used to determine operational airborne release impacts and when measures should be considered to protect health, safety, and property.	Existing	NRC
Ecological Monitoring	No ecological monitoring is proposed for STP 3 & 4.	NA	NA
Chemical Monitoring	Monitoring for analytical parameters (e.g. chlorine, total suspended solids, iron, oil and grease, BOD) in effluent at outfalls and/or discharge points utilized by STP 3 & 4 would be performed in accordance with the TPDES permit.	Proposed	TCEQ
	Monitoring for analytical parameters at storm water outfall and/or discharge points from STP 3 & 4 would be performed.	Proposed	TCEQ
	Monitoring for drinking water parameters (e.g. metals, trihalomethanes) at various locations located throughout STP 3 & 4 would be performed.	Proposed	TCEQ

TCEQ – Texas Commission on Environmental Quality
NRC – Nuclear Regulatory Commissions
NA – Not Applicable