

**CHAPTER SIX**  
**WATER SUPPLY**

## 6.0 WATER SUPPLY

### 6.1 WATER SOURCE

As described in Section 2.5.6, project water requirements for process makeup water will average 182 gallons per minute and peak at a maximum of 240 gallons per minute.

Water will be supplied to the SGGs by the existing EGS water supply system. The EGS currently draws water from the existing 4-acre reservoir, located at the northeast corner of the property, to use as makeup water for the Unit 3 and 4 cooling towers. Reservoir water is also circulated through the EGS heat exchangers to provide cooling for auxiliary equipment. Water used for equipment cooling is returned to the reservoir.

The Applicant has a long-term agreement (AKB02019) with Inland Empire Utilities Agency (IEUA) for use of reclaimed water at the EGS. This agreement was signed in July 2002 and is effective for 20 years. The agreement sets forth a rate structure and minimum water quality requirements for the reclaimed water to be delivered to the EGS. The agreement does not limit the quantity of water supply. IEUA has an abundant amount of reclaimed water available to the region and is currently in the process of tripling the existing capacity of its wastewater treatment plant (RP#4) just south of the EGS. The amount of reclaimed water produced by IEUA is greater than the ability to deliver to the plant. The current limit on delivering recycled water to the plant is the supply line size, which limits the flow to 5,000 gallons per minute. The will serve letter from IEUA (see Appendix J) confirms adequate water supply is available for the proposed project.

The reservoir receives water from four sources: reclaimed water, groundwater, MWD aqueduct water, and cooling water return. The primary source of water is reclaimed water from IEUA, which is provided under an existing water services agreement. Groundwater, which is provided from three existing onsite wells, is added to the reservoir during periods of high ambient temperatures to reduce the temperature of the makeup water supply. MWD aqueduct water is added to the reservoir only on an emergency basis, e.g., if the reclaimed water and well water sources are not capable of providing sufficient makeup water to the reservoir. MWD aqueduct water was used historically at the EGS but has not been used since the plant began using reclaimed water in 2003.

The proposed project will not require additional sources of water because current allotments are sufficient to meet the demands of both the existing and proposed plants. No new offsite pipelines for reclaimed water will be constructed to supply the needs of the proposed project, since there is adequate capacity in the delivery pipeline system. With the operation of the SGGs combined cycle plant, it is expected that well water will need to be added to the makeup water reservoir very infrequently because the plant has been designed to use primarily reclaimed water.

The existing EGS well water system will be the source of water for the SGGs potable water system. The SGGs will treat the water at a new potable water treatment system that will consist of filtration and chlorination processes. The SGGs potable water system will distribute potable water to the plant's washrooms, safety eyewash showers and other potable water uses. The potable water treatment system will be located inside the water treatment building as shown on Figure 2.5-1.

The EGS extracts groundwater from three onsite wells. The EGS has adjudicated rights to 954 acre-feet per year from the Chino Basin. As shown on Table 2.5-7, the SGGs would only use a limited amount of groundwater for potable water (approximately one acre-foot per year).

## 6.2 WATER CONVEYANCE

Makeup water from the reservoir will be pumped to the proposed combined cycle plant using new water pumps that will be installed in a pump intake structure, which had previously been occupied by the former Units 1 and 2 cooling tower makeup water pumps. Two 100 percent capacity pumps will provide redundant equipment for this service. This pump intake structure will be shared with the fire pumps that serve the EGS and new power plant fire protection systems. Makeup water will be conveyed between the reservoir and the combined cycle plant through a new underground pipeline that will be run along the EGS entrance road (to the north of the Metropolitan Water District aqueduct right-of-way). This pipeline will follow the same general path as the new natural gas pipeline being routed through the plant for the proposed project. Currently, the makeup water pipeline is expected to be a 10-inch-diameter, high-density polyethylene (HDPE) pipe, but final size and material will be determined during detailed design.

Well water used for SGGs potable water will be supplied from a tie in to the EGS well water system located to the west of the EGS makeup water reservoir. The well water supply pipeline will be routed from the reservoir to the water treatment building primarily underground along the EGS entry road. The pipeline is expected to be a 3-inch-diameter HDPE pipe.

## 6.3 WATER PIPELINE CONSTRUCTION

The new makeup water supply pipeline between the reservoir and the combined cycle plant will be installed in a trench using standard pipeline installation techniques and in accordance with the manufacturer's requirements for the installation of HDPE piping (see Figure 2.5-9). Topsoil will be removed and stored prior to excavation of the pipeline trench. Any portion of the existing road that must be removed in the trenching process will be disposed of off site in an appropriate disposal area. Spoils from trenching will be stored alongside the trench. The pipe sections will be joined by fusion welding and laid in the trench on a sand base. To the extent possible, excavation spoils will be used for backfill. Where trenching spoils are not suitable, imported backfill will be used. Following removal of any excess spoils, topsoil will be replaced and the construction area reseeded. Portions of the entrance road that are removed for the pipe installation will be repaved. At the combined cycle plant site, the makeup water piping will be routed underground to each consumer of the plant's service water system.

The well water supply pipeline will be installed in a trench using standard pipeline installation techniques similar to those described above for the makeup water supply pipeline. Figure 2.5-9 provides a conceptual cross section of the trench and pipelines. All applicable state and local regulations concerning the routing of water piping used for potable services will be followed in the design of this system.

## 6.4 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

A description of the laws, ordinances, regulations, and standards that pertain to the construction of the water supply pipeline is included in Sections 7.14.5 through 7.14.7, inclusive.