

3. Affected Environment

3.9 ENERGY RESOURCES

Energy resources in the project area consist of hydroelectric power generation. Hydroelectric power generation plants provide approximately 24 percent of California's electrical generation capacity. The Central Valley Project hydropower system provides a significant portion of the available energy to the San Joaquin Valley. The CVP system of power plants and pumping plants has an installed capacity of 749,000 kilowatts. Most of the power that is generated from the CVP system is used to operate CVP pumping plants or is sold to public agencies.

The major storage reservoirs that supply water for hydroelectric power generation located in the project area are New Melones, Tulloch, New Don Pedro, and Lake McClure. Hydroelectric power generation facilities located downstream of these reservoirs include the New Melones and Tulloch projects on the Stanislaus River, the New Don Pedro Project located on the Tuolumne River, and the Exchequer, McSwain, and Merced Falls projects located on the Merced River.

3.9.1 New Melones and Tulloch Projects

The New Melones Project is located in Calaveras and Tuolumne counties on the Stanislaus River. It is part of the CVP hydropower system that is owned and operated by Reclamation. Project facilities include: New Melones Reservoir, New Melones Dam and powerhouse. The Tulloch Project is located in Calaveras and Tuolumne counties on the Stanislaus River downstream of the New Melones Project, and it is owned and operated by OID and SSJID. Project facilities include: Tulloch Reservoir and powerhouse. Table 3.9-1 describes the project facilities associated with the New Melones and Tulloch projects.

Table 3.9-1: HYDROELECTRIC POWER FACILITIES LOCATED ON THE STANISLAUS RIVER

Reservoir/Powerhouse	Total Storage Capacity (1,000 ac-ft)	Hydropower capacity (MW)	Estimated Average Annual Generation (1,000 KWH)
New Melones Reservoir and Powerhouse	2,420.0	300	385,000
Tulloch Reservoir and Powerhouse	56.0	17	93,000

Source: Federal Energy Regulatory Commission. *Hydroelectric Power Resources of the United States, Developed and Undeveloped, 1992.*

3.9.2 New Don Pedro Project

The New Don Pedro Project (NDPP) is located at the western edge of Tuolumne County on the Tuolumne River. It is owned and operated jointly by MID and TID. The NDPP consists of the New Don Pedro Dam, Don Pedro Reservoir, and the New Don Pedro Powerhouse (FERC 1996). MID

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and TID own 31.54 percent and 68.46 percent respectively of the New Don Pedro hydroelectric plant. This equates to approximately 63 MW and 136.2 MW of the power produced. In addition to providing water, flood control, and recreational opportunities, the NDPP system produces hydropower. There are four dams and associated powerhouses in the system, described in Table 3.9-2.

Table 3.9-2: HYDROELECTRIC POWER FACILITIES LOCATED ON THE TUOLUMNE RIVER

Reservoir/Powerhouse	Total Storage Capacity (1,000 ac-ft)	Hydropower capacity (MW)	Estimated Average Generation (1,000 Kilowatt hours)
New Don Pedro Reservoir and Powerhouse (TID and MID)	2,030.0	199.2	618,400
La Grange Reservoir and Auxiliary Powerhouse (TID)	0.5	4.0	18,000
Turlock Lake and Powerhouse (TID)	48.0	3.3	not available
Modesto Reservoir and Powerhouse (MID)	28.0	1.1	not available

Source: Federal Energy Regulatory Commission. *Reservoir Release Requirements for Fish at the New Don Pedro Project, California, Final Environmental Impact Statement, 1996, pg 2-2.*

Reservoir operations at NDPP are controlled by various agreements between CCSF, MID and TID, the COE, and CDFG as well as FERC license articles. The NDPP has a minimum flow requirements schedule below New Don Pedro Dam in order to protect fishery resources.

3.9.3 Exchequer, McSwain, and Merced Falls Projects

The Exchequer, McSwain, and Merced Falls projects (Table 3.9-3) are located downstream of Lake McClure on the Merced River in Mariposa County. The Exchequer and McSwain project are owned and operated by Merced ID. The Merced Falls project is owned by PG&E. Both the Exchequer and McSwain projects include storage facilities, but the Merced Falls project does not.

Table 3.9-3: HYDROELECTRIC POWER FACILITIES LOCATED ON THE MERCED RIVER

Reservoir/Powerhouse	Total Storage Capacity (1,000 ac-ft)	Hydropower capacity (MW)	Estimated Average Generation (1,000 Kilowatt hours)
Lake McClure and Exchequer Powerhouse	1,024.6	80.1	316,000
Lake McSwain and McSwain Powerhouse	9.2	9.0	45,000
Merced Falls Powerhouse	none	3.4	19,100

Source: Federal Energy Regulatory Commission, *Hydroelectric Power Resources of the United States, Developed and Undeveloped, 1992.*

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