Preliminary Revised Draft
Sphere of Influence Plan/Municipal Service Review
South San Joaquin Irrigation District

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Submitted to:
San Joaquin Local Agency Formation Commission
509 West Weber Avenue, Suite 420
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Published March 3, 2014
Revised September 9, 2014
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EXECUTIVE SUMMARY

One of the primary responsibilities of a Local Agency Formation Commission (LAFCo) is to determine Spheres of Influence (SOI) for local governmental agencies. An SOI designates the probable physical boundaries and service area of a local agency. The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, as amended, (CKH Act) requires LAFCo to prepare a Municipal Service Review (MSR) prior to or concurrent with an update of an SOI. The MSR evaluates existing and future service conditions and reviews the advantages and disadvantages of various government service options. An MSR provides information upon which the LAFCo can base its action on an SOI.

San Joaquin LAFCo initiated preparation of an MSR for the South San Joaquin Irrigation District (SSJID or the District) in 2008. This is the first Sphere of Influence Plan/MSR (SOI Plan/MSR) prepared for SSJID. As part of this MSR, SSJID requested San Joaquin LAFCo amend the South San Joaquin Irrigation District’s SOI in accordance with the requirements of the CKH Act and San Joaquin LAFCo policies. Since the District is requesting an expansion of its existing SOI, the MSR determinations address the ability of the District to provide adequate services under Government Code Section 56430 within the proposed SOI for the services the District plans to provide in those areas. This MSR provides the basis for adopting the District’s SOI amendment request.

SSJID is separately petitioning San Joaquin LAFCo for a change of organization to provide retail electric service pursuant to Government Code 56654 and to initiate proceedings on the petition, pursuant to Part 3, Division 3, Title 5 of the California Government Code. San Joaquin LAFCo policies and procedures require that the District’s SOI Plan be amended when, “a district seeks to provide a new or different function or class of service” or “an agency proposes a significant change in its plans for service which makes the current MSR inaccurate.” Since the District is petitioning San Joaquin LAFCo to annex an 80-acre island and for a change in organization to provide retail electricity, this SOI Plan/MSR includes an assessment of the District’s ability to serve the annexation area and to provide retail electricity.

Issues Addressed

In accordance with the CKH Act, MSRs are required to address six categories for which LAFCo must render written determinations:

1. Growth and population projections for the affected area;
2. Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies;
3. Financial ability of agencies to provide services;

4. Status of, and opportunities for, shared facilities;

5. Accountability for community service needs, including governmental structure and operational efficiencies; and

6. Disadvantaged unincorporated communities.

Written determinations supported by specific findings are included in this MSR for each of these six categories. The analysis and determinations in this MSR comply with the LAFCo Municipal Service Review Guidelines (August 2003) prepared by the State Office of Planning and Research, and comply with the San Joaquin LAFCo Policies and Procedures, as amended December 2012.

**SSJID History and Background**

Since its formation in 1909, SSJID has provided irrigation water to southern San Joaquin County. The District receives water from several sources within the Stanislaus River watershed, including groundwater sources. The District stores water in reservoirs behind the Donnells, Beardsley, and Tulloch Dams, which SSJID co-owns with the Oakdale Irrigation District (OID), and Woodward Dam, which is owned solely by the District. SSJID, OID, and Stockton East Water District each own a one-third interest in Goodwin Dam. SSJID and OID retain storage rights at Old Melones Dam, which is submerged by New Melones Reservoir. SSJID and OID entered into an agreement with the Department of the Interior in 1988 in recognition of the impact of New Melones Reservoir on their water rights, including their direct diversion rights at Goodwin Dam and their jointly-owned storage rights. By the terms of this agreement, known as the Agreement and Stipulation, the two districts are now entitled to receive the first 600,000 acre-feet of inflow to New Melones Reservoir each year.

The District has provided domestic drinking water to Tracy, Manteca, and Lathrop since 2005. This domestic drinking water is treated at the Nick C. DeGroot Water Treatment Plant (Treatment Plant). The Treatment Plant is the result of a cooperative effort known as the South County Water Supply Program (SCWSP) by the District and the cities of Escalon, Lathrop, Manteca, and Tracy. Under Phase 1 of the SCWSP, SSJID provides water to Lathrop, Manteca, and Tracy. Under Phase 2 of the SCWSP, SSJID will begin providing water to Escalon. The District also provides tailwater drainage service to farms and access to its drainage facilities to cities within its service area for urban stormwater conveyance.

Beginning in the 1950s the District developed a series of hydro-electric generation projects. The District, together with OID, developed a series of dams and hydro-electric generation plants on the Stanislaus River. Three such projects were constructed in the 1950s: the Donnells, Beardsley, and Tulloch Dams and powerhouses. These three projects are co-owned with OID and are
referred to as the Tri-Dam Project. In the early 1980s the District developed additional hydro-
geneneration facilities in conjunction with Turlock Irrigation District (TID), on the District’s inlet
and outlet facilities at Woodward Reservoir. TID provided the funds and management of the
project under a long-term management contract. In the mid-1980s, through a joint powers
authority (Tri-Dam Power Authority), the District and OID constructed a separate hydro-
geneneration project, known as Sand Bar.

Upon expiration in December 2004 of the 50-year contract to sell wholesale power at cost to
Pacific Gas and Electric (PG&E), the District and OID entered into a five-year contract to sell
power to PG&E at market rates. That contract was replaced in January 2009 by a power
marketing agreement with Shell Energy North America which expired on December 31, 2013.
Since January 2005 the District’s share of net revenues from its ownership of hydro-electric
generation plants has averaged over $10 million per year. Under a new contract effective on
January 1, 2014, power will be sold to the City of Santa Clara on a set price schedule.

The District plans to provide retail electric service to an estimated 38,000 customers in Escalon,
Manteca, Ripon, and adjacent unincorporated areas. In 2005 the SSJID Board of Directors
sought the consent of LAFCo to exercise their statutory right granted pursuant to the California
Water Code to provide retail electric service, but LAFCo rejected the District’s application on
grounds of insufficient information. SSJID filed a new application in September 2009. If granted,
the District plans to acquire PG&E’s electricity distribution system and provide retail electric
service at rates lower than PG&E rates.

Once acquired, separated, and improved, SSJID plans to put the electric distribution system into
service immediately. However, the physical transition from PG&E to SSJID would require
cooperation from PG&E in transferring customer data, removing PG&E facilities, and separating
the two systems, while preserving continuity of service to District and PG&E customers. Once
the physical transition is complete, the District expects to operate and maintain the facilities
independent of PG&E. However, the District expects to continue receiving some transmission
services from PG&E through the California Independent System Operator (CAISO).

MSR Determinations

The following section lists the determinations based on the data, analysis and supporting findings
included in Chapters 3 through 7 of this MSR.

Determination 1: Growth and Population Projections for the Affected Area

It is anticipated population within SSJID’s territory increase to 204,657 through 2040. Chapters
4, 5, 6, 7, and 8 discuss the need for, and patterns of, service provision based on these population
projections and their associated growth patterns. These chapters evaluate whether projections for
future growth are addressed in SSJID’s planning for future facility and services.

See Chapter 3 of this MSR for detailed data, analysis, and findings for this determination.
**Determination 2:** Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies.

**Water Supply, Treatment, and Distribution**

Irrigation water demand in the district currently (2013) averages approximately 230,000 AF of water, serves approximately 47,500 acres of agricultural land, and accounts for about 80 to 90 percent of the total water supplied by the District. SSJID also operates the Nick C. DeGroot Water Treatment Plant and sells wholesale treated water to Manteca, Escalon, Lathrop, and Tracy through the South County Water Supply Program (SCWSP). Aside from its agreements with the cities, SSJID is not obligated to provide domestic water service. As a result of the SCWSP, the cities rely on SSJID to provide them with treated domestic water. It is reasonable to expect that SSJID will continue to sell treated water, or in the long-term, raw water for treatment, to the cities participating in the SCWSP. Finally, SSJID transfers or sells surplus raw water to other water purveyors, which provides an additional source of revenue. While this source of revenue is not consistent or reliable on an annual basis, on average it can be expected that SSJID will generate revenue from the sale of water transfers. It can also be expected that as water demand increases for agricultural irrigation from district annexations and for treated water from urban growth, SSJID may not have as much surplus water available to sell.

**Water Supply**

SSJID holds adjudicated, pre-1914, surface water rights, which have seniority dating back to the early 1850s. It is reasonable to assume that SSJID’s water supply is very secure because its water rights are all senior in priority to those held by the United States for its New Melones Reservoir project. While SSJID’s annual surface water diversions fluctuate significantly from year to year, SSJID’s average surface water diversions are a reliable source to meet water demand. As recommended by the SSJID Water Balance Study (Davids Engineering, 2009), SSJID should take steps to improve its monitoring and operations practices to ensure water supplies are delivered to customers as efficiently as possible.

As a result of groundwater pumping within and outside the district, groundwater levels have decreased an average of 1.5 feet per year, and over 100 feet in some areas, over the past 40 years in eastern San Joaquin County, resulting in about 2 million acre-feet of lost groundwater basin storage capacity and depressions in the groundwater table. Water well testing in the district in 2010 showed a -0.2 foot net change in groundwater levels. While monitoring showed an overall decrease, groundwater levels increased in the western parts of the district. Based on average recharge rates compared to average groundwater pumping within the district, SSJID’s Agricultural Water Management Plan found that SSJID activities result in a net recharge to the groundwater basin of about 57,300 acre-feet per year. Despite SSJID’s contribution to recharging the groundwater basin, pumping from property owners and cities within and outside the district continues to deplete groundwater sources.
While it is anticipated that SSJID will have sufficient water to meet future demands, SSJID may not have sufficient surface water supplies in all years to meet anticipated irrigation and domestic water demands. In wet years SSJID will have sufficient surface water supplies to meet current and projected irrigation and domestic water demand; however, in dry years SSJID may need to rely on groundwater sources to meet part of its demand. In extremely dry years or periods of prolonged drought, some SSJID irrigation water or domestic water customers may receive reduced deliveries. SSJID maintains sufficient contingency plans and measures for irrigation water and domestic water in the event of an extreme circumstance (e.g., drought) that limits or restricts the District’s ability to meet demand.

SSJID’s water supplies could be impacted in the future by the effects of climate change, and according to SSJID, regulatory trends are threatening the rights of many water districts. SSJID should monitor climactic changes and their impacts on future water supplies and plan and invest in water conservation projects and programs to secure long-term water supplies, and reduce water demand and reliance on groundwater sources. SSJID’s ability to meet future water demand could be affected by changes to SSJID’s water rights; however, it is too speculative to predict if or when these circumstances would occur.

SSJID has a history of initiating and implementing water management actions that meet its overall water management objectives and result in water conservation and efficiency. SSJID has adopted an Agricultural Water Management Plan and an Urban Water Management Plan, which identify water conservation measures SSJID will continue implementing over time. SSJID staff regularly attends water management conferences and evaluates technological advances in the context of SSJID’s water management objectives and regional setting. It is expected that SSJID will continue to implement water management measures and explore new opportunities to improve water management that provides additional conservation and efficiency improvements.

**Water Facilities**

SSJID’s existing irrigation water system and domestic water treatment and delivery system are adequate to meet existing customer demands. SSJID has conducted several analyses to identify improvements to its water system. SSJID’s Five-Year Capital Expenditures Plan identifies ongoing system improvements to maintain and enhance its irrigation water and water treatment facilities. In addition, SSJID has several major capital improvement projects planned or underway to improve system efficiencies, conserve water, and deliver water to new customers, including: the Phase II of the South County Water Supply Project; expansion of the pressurized agricultural water delivery system; treated water delivery to Ripon; irrigation water delivery to the 80-acre annexation area; and the SBx7-7 Water Measurement Program. While SSJID’s Five-Year Capital Expenditures Plan may change to reflect findings from its pressurized irrigation system study, it is reasonable to assume that the District’s improvements will ensure it continues providing adequate irrigation water and treated water service to its customers. SSJID has not identified any system improvements for the expansion of its irrigation water system beyond its existing boundaries.
SSJID should conduct a financial analysis of the Agricultural Water Management Plan (Davids Engineering, Inc. 2012), Water Balance Report (Davids Engineering, Inc. 2009) and Urban Water Management Plan (2011), and prepare a comprehensive, near- to mid-term Capital Improvement Plan to carry out identified improvements for areas within its boundary and SOI. See Chapter 4, Section 4.1 of this MSR for detailed data, analysis, and findings for this determination.

**Stormwater Capture and Conveyance**

SSJID’s water conveyance facilities are used by SSJID’s agricultural customers, the cities within the district, and a variety of agencies, organizations, and other property owners. Approval of this SOI Plan/MSR will resolve an out-of-area service issue created when SSJID began providing stormwater drainage service to the City of Manteca for areas beyond SSJID’s service area.

The District’s facilities, in combination with on-site detention facilities, are adequately sized and maintained to meet current agricultural drainage demands during a 100-year storm event. SSJID’s irrigation and drainage facilities are sufficient to meet anticipated agricultural drainage demands. SSJID’s drainage facilities comply with all Federal, State, regional, county, and other water quality laws and regulations. The District offers economic incentives to farmers to develop retention ponds, install drip-irrigation, and/or use laser level grading on their agricultural properties to limit agricultural runoff into drainage facilities. Cities are responsible for ensuring urban runoff conveyed in District facilities meet water quality standards.

The District’s facilities have varying capacities and the District works with users of the facilities to ensure their discharges do not interfere with the District's primary use of its canals and pipelines for water distribution. In some cases SSJID limits urban discharges to ensure its facilities can convey agricultural stormwater. Cities are responsible for holding water until additional capacity becomes available. As annexations occur, expansion of water distribution facilities will provide access and capacity to meet new drainage demands. SSJID’s facilities may be expanded to meet new urban runoff demands from cities and other users as growth occurs; however, the user would be responsible for paying to upgrade facilities.

In cases of extreme precipitation events (i.e., greater intensity and duration), it is possible that SSJID’s conveyance facilities could run out of capacity and cause localized flooding resulting in property and crop damage, and pose health and safety hazards. However, it cannot be determined at this time if or when such an event would occur or whether SSJID’s facilities would not be able to convey the runoff. SSJID could evaluate the ability of its stormwater facilities to capture and convey stormwater in the event of an extreme weather event (e.g., a 200-year or 500-year flood) and make facility improvements, as necessary, to accommodate higher stormwater flows.

See Chapter 4, Section 4.2 of this MSR for detailed data, analysis, and findings for this determination.
Electricity Generation, Supply, and Transmission

SSJID, MID, and PG&E currently (2013) provide for electricity generation, supply, or distribution within SSJID’s SOI. SSJID generates electricity only to meet its own internal demand and for wholesale, while PG&E and MID provide retail electricity services within SSJID’s service area and SOI.

Service Areas

PG&E and MID service areas represent an unconventional service area within San Joaquin LAFCo’s jurisdiction. This situation has already resulted in overlapping boundaries and service providers. Because State legislation authorized MID to provide retail electricity in San Joaquin County, San Joaquin LAFCo has no authority to consolidate MID’s service area into a more efficient, logical boundary. Furthermore, if MID was barred from providing retail electric service in San Joaquin County, its distribution lines would need to be separated from San Joaquin County and MID would need to be compensated for its electricity distribution facilities. While MID is authorized to serve within San Joaquin County, it has established a Routine Expansion Area that defines limited areas along the southern edge of SSJID’s service area and SOI where it would consider expanding services to new customers. It is not expected that MID will compete with PG&E or SSJID to provide retail electric service beyond the areas it has identified in its routine expansion area. If a new customer requested to be served beyond the routine expansion area, it would likely be too costly to extend transmission lines and facilities.

SSJID is petitioning LAFCo for a change of organization to provide retail electric service pursuant to Government Code 56654. SSJID’s plan would increase the number of retail electric service providers within SSJID’s service area and SOI to include areas where: 1) SSJID serves exclusively, 2) SSJID and MID compete; 2) PG&E and MID compete; and 4) PG&E serves exclusively. Authorizing SSJID to provide retail electric service would increase the number of overlapping service areas from one (PG&E/MID) to two (PG&E/MID and SSJID/MID).

MID has adopted a policy to limit the active expansion of its electricity services to areas along the southern edge of San Joaquin County (i.e., the routine expansion area). Based on MID’s routine expansion area and adopted policies, it is not expected that competition between SSJID and MID would impact SSJID’s ability to provide service. If SSJID is able to provide rates lower than MID, it is unlikely that MID would be able to successfully compete with SSJID.

Border Area Service

SSJID’s retail electric plan would require SSJID to acquire facilities outside its service area to maintain service continuity. SSJID has proposed, as its preferred option, to enter into an agreement with MID to serve customers within the border area and construct additional facilities to serve remaining PG&E customers. However, while MID has studied and found it feasible to serve these areas, and has agreed to work with SSJID on this issue in the future, MID has not made any formal commitment to enter into a wholesale metering agreement with SSJID or to serve border area customers. Therefore, it is uncertain whether MID would agree to serve border
areas, and it is speculative to assume they would do so. In order to ensure that border area customers continue to receive service, San Joaquin LAFCo should require SSJID to serve border areas by agreement PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue providing service.

**Planned Power Generation and Supply**

Should LAFCo approve SSJID providing retail electricity service, the District would use a wholesale power supply portfolio consistent with California requirements. SSJID would be required to comply with resource adequacy standards and renewable energy supply standards. SSJID would procure electricity to serve its customers through contract agreements with generators in the deregulated marketplace. Given SSJID’s history and experience in the wholesale power markets, it is reasonable to expect that SSJID would secure sufficient power to meet customer demands.

PG&E and SSJID would both be subject to the same renewable energy requirements. There would be no overall change in reliance on renewable resources as a result of a change in retail electric service provider.

**Power Demand and Supply**

It is expected that power demand within SSJID’s service area would increase to 432.1 MW of electricity by 2040. According to Siemens Energy, Inc., SSJID’s planned system would have the capacity to distribute 507 MW. SSJID is planning to meet energy demands through the purchase of electricity. Due to the complexity of the relationships between utility programs and demand, the lack of detail available about energy efficiency and demand response programs, and the limited effect the utility may have on demand, it would be speculative to conclude that SSJID’s proposed retail electric service plan would result in higher peak loads or changes in the relationship of peak to base period usage. SSJID’s plan includes programs to manage peak and base period demands so that SSJID’s customers could avoid inefficient, wasteful, or unnecessary consumption of energy. Therefore, the proposed retail electric service plan would not have an adverse effect on peak and base period demands because of inefficient, wasteful, or unnecessary consumption of energy. It is expected that SSJID has the planned system capacity and ability to purchase electricity on the open market to meet existing and future peak energy demand within its boundaries.

Furthermore, SSJID and PG&E would be similarly affected by any impacts associated with climate change. For potential reductions in hydroelectric power generation resulting from less snowpack and higher temperatures, SSJID could experience reduced revenue from the wholesale of electricity and impact irrigation water customers who currently pay lower rates. High temperatures could also reduce transmission efficiencies, which could result in both higher line losses and, in turn, higher capacity costs. Additional facilities may be required to overcome
reduced efficiencies. Retail electric customers could experience higher electricity rates to fund additional infrastructure and facilities. Finally, higher temperatures could increase power demand and the corresponding cost of power. SSJID proposes to provide demand response as part of its plan’s public benefits programs. It is expected that SSJID’s public benefits programs will also promote energy efficiency, further reducing demand. SSJID should monitor and evaluate its vulnerability to and the potential impacts of climate change.

**Electric Facilities**

SSJID’s plan will require significant facility improvements in order to sever PG&E facilities from the PG&E system. SSJID has conducted numerous facility inventories, engineering studies, and severance and improvement plans, and has determined that it has the ability to undertake such improvements. However, accurately forecasting the reliability of SSJID’s proposed retail electric system for the purpose of comparing it to PG&E is not possible because SSJID has yet to provide service and address issues that would establish its reliability rating. However, based on SSJID’s proposed system improvements and planned operations, it can be reasonably assumed that SSJID would be able to maintain a level of system reliability similar to that currently provided by PG&E.

While SSJID has indicated that its plan to provide retail electricity will resolve several existing duplicate or obsolete facilities and other issues with PG&E’s electricity transmission facilities, it would also result in new duplicate facilities and underbuilds. These additional facilities would be necessary to ensure continuity of service among SSJID, MID, and PG&E customers both within and outside the District service area. SSJID’s plan will also likely result in the need to construct additional facilities, including more duplicate facilities, if SSJID implements the border area alternative. Siemens, on behalf of SSJID, has prepared a plan identifying options for how SSJID could construct these additional facilities if needed. Based on findings from the Siemens plan, it is not expected that implementation of one or more of these options would undermine the feasibility of SSJID’s plan. An agreement with PG&E would avoid this construction by interfacing new facilities with existing metering points.

**Energy Conservation**

It is difficult to compare PG&E’s demand response programs with those proposed by SSJID. Certain data on the effectiveness of PG&E’s programs is public, but public data is not available at a sufficiently detailed level to determine the baseline success of the programs for customers in the SSJID service area. Likewise, accurately forecasting the effectiveness of SSJID’s proposals is not possible due to their preliminary nature. Without more specifics about the nature of and participation rates in PG&E’s interruptible and demand response programs in the SSJID service area, no conclusion can be drawn as to whether demand response programs of the proposed retail electric service plan would result in better response to peak demand situations.

SSJID’s retail electric service plan would result in changes in energy efficiency and conservation programs, and the programs SSJID ultimately provides cannot be verified until SSJID conducts
the required needs assessments. Likewise, data on the effectiveness of PG&E’s programs is public but not available at a level of detail sufficient to analyze benefits to customers within SSJID’s service area. Public benefit programs provided by SSJID may be more or less effective than those currently managed by PG&E; however, SSJID’s plan would result in a focused needs assessment and outreach to customers within its boundaries regarding the public benefits program needs of low-income customers. Therefore, it can be reasonably expected that SSJID’s public benefits programs will provide a range of options to meet local customers’ needs.

While this MSR finds that SSJID’s retail electric service plan is feasible, it is unclear based on SSJID’s application how the District plans to provide a low-income rate discount. It is also unclear how much of SSJID’s proposed funding for public purpose programs would need to be allocated to low-income customers, including low-income rate discounts. In order to ensure CARE customers’ rates are maintained, SSJID should provide a low-income rate discount program as part of its basic rate structure that matches the rates paid by PG&E CARE program customers in addition to a 15 percent rate discount.

See Chapter 4, Section 4.3 of this MSR for detailed data, analysis, and findings for this determination.

**Determination 3: Financial Ability of Agencies to Provide Service**

SSJID is financially sound and is projecting to have adequate revenues to provide the services that it is currently authorized to provide (i.e., irrigation, water, drainage). An independent evaluation of SSJID by Mintier Harnish and MBMC finds that SSJID will maintain cash-on-hand and a debt service coverage ratio well above the minimum standards. Continued growth in SSJID’s reserves may become excessive at some point in the future unless the District reevaluates its rates or continues to invest in facility improvements and programs that enhance customers’ services.

SSJID maintains a superior credit rating and has sufficient revenues to pay existing debt service, which is expected to be fulfilled in 2019. SSJID has a current debt service coverage ratio well above the minimum standard of 125 percent. The District’s Series 2008A Certificates of Participation allows SSJID to incur future debt obligations with an equal (“parity”) claim on District revenues if the new debt establishes the same debt service coverage calculation with a minimum requirement of 125 percent coverage of all parity debt service.

SSJID receives funding, collects fees, and generates revenues that are adequate to allow the District to provide irrigation, water, and drainage services and associated maintenance of District facilities. The District’s revenues are sufficient to meet current demand for irrigation, water, and drainage services; perform necessary maintenance; improve facilities; and maintain District reserves. Continued growth in SSJID’s reserves indicates that the District may need to reevaluate its rates or invest in facility improvements and programs that enhance customers’ services.

SSJID has historically received a significant amount of revenue from the sale of surplus water and wholesale power, which has allowed the District to subsidize the cost of providing irrigation
services and operating its solar generation facilities. By using these other sources revenues, SSJID has been able to maintain irrigation rates below the cost of service (i.e., subsidize rates) and pursue facility enhancement projects (e.g., pressurized system improvements). However, these revenues have fluctuated due to factors such as available water supply, wholesale energy demands, and hydro-electric facility issues. SSJID projects that it will continue to receive revenue from these sources in the future and it is reasonable to expect the District will receive more money in the future as power and water prices increase. SSJID also has several opportunities to increase its revenues as current debts are retired and existing contracts expire. SSJID could improve the likelihood and stability of future revenues by entering into long-term surplus water sales contracts, and by selling treated water to the City of Ripon.

Financial Feasibility of SSJID’s Retail Electric Service Plan

The financial model and analysis of SSJID’s plan was prepared by Mintier Harnish and MBMC using the MRW & Associates model. SSJID’s plan to provide retail electricity could provide a 15 percent rate discount to PG&E rates. The provision of a rate discount would not require SSJID to make ongoing equity contributions, beyond an initial investment to acquire PG&E’s distribution facilities. SSJID’s retail electric plan does not rely on surplus water or wholesale power revenues to subsidize service. SSJID’s plan would likely need to use a source of non-operating revenue to pay in-lieu taxes and fees in order to avoid a Prop 26 election or being challenged as a gift of public funds. However, SSJID’s plan is not reliant on these outside funding sources in order to be financially feasible.

SSJID’s days cash-on-hand are maintained above the standard minimum of 120 days, except during first year of operation (2015) when the District would only have 107 days of cash-on-hand. SSJID’s debt service coverage ratio to meet its current and additional debts remains well above the minimum standard of 125 percent.

SSJID would incur debt to acquire the necessary electric distribution facilities, separate from PG&E facilities, and construct system improvements. San Joaquin LAFCo’s legal counsel opined that San Joaquin LAFCo could condition approval of SSJID’s plan to require that SSJID obtain sufficient financing in order to ensure sufficient revenues are available to provide service. However, the statutes covering bonds are broad (Government Code Section 5850), and California Water Code Section 25201 specifically authorizes SSJID’s Board of Directors to determine the type of bonds it issues and sells. Therefore, San Joaquin LAFCo should condition that SSJID have sufficient revenue sources pursuant to Government Code Section 56886, but not prescribe the type of bonds, such as revenue bonds or certificates of participation.

While it appears that SSJID’s plan is financially feasible, this conclusion is based on a certain set of assumptions. If one or more of these assumptions is inaccurate, it could affect the financial feasibility of SSJID’s plan to provide retail electric service and protect customers from increased rates. According to San Joaquin LAFCo’s legal counsel, San Joaquin LAFCo may condition SSJID’s plan to provide retail electric service on the conditions set forth under Government Code
Section 56886 to ensure sufficient revenue sources to acquire PG&E’s facilities and provide retail electric service. The Mintier Harnish/MBMC Analysis assumed SSJID would pay about $310 million to acquire PG&E’s facilities, separate from them, construct necessary improvement, and pay other costs (stranded costs, damages), while still maintaining minimum days-cash-on-hand and a minimum debt service coverage ratio. San Joaquin LAFCo should condition the approval of SSJID’s plan on any acquisition cost up to $310 million to ensure the financial feasibility of SSJID’s plan.

SSJID’s retail electric plan would provide opportunities for the District to generate additional revenues. SSJID would generate revenue from interest resulting from its retail electric investments, as well as from the sale of greenhouse gas allowances under the California Cap-and-Trade program. While its interest earnings would not be restricted, the Cap-and-Trade program stipulates that this revenue must be used to benefit retail electric rate payers and furthers the objectives of AB 32 (e.g., energy efficiency).

Mintier Harnish and MBMC developed assumptions that are reasonable, realistic, and tend toward conservative as they apply to SSJID cost and revenue. Mintier Harnish and MBMC used reliable and accurate data sources provided by MRW & Associates and PG&E to back-up their assumptions. Mintier Harnish and MBMC are confident that the analysis is sufficient for the purpose of San Joaquin LAFCo’s evaluation. Ultimately, the financial feasibility of providing retail electric service at a discount to PG&E rates must be determined by San Joaquin LAFCo based on the information presented in the District’s application and this SOI Plan/MSR. San Joaquin LAFCo should consider the modeling, analysis, and conclusions contained in the Mintier Harnish/MBMC Analysis and this SOI Plan/MSR as adequate and reliable for the purposes of evaluating SSJID’s plan.

Potential Effects of SSJID’s Retail Electric Plan on Customer Rates

Based on the financial analysis prepared by Mintier Harnish and MBMC, SSJID’s plan is not expected to cause the District to raise irrigation, treated water, or drainage rates. SSJD’s plan to provide retail electric service could raise rates for PG&E’s remaining customers; however, the CPUC concluded that the increase in rates would be small and not impair PG&E’s ability to provide adequate service at reasonable rates to its remaining customers (CPUC Resolutions E-3974 and E-4301). The SSJID plan would not cause an increase in retail electric customer rates within the SSJID service area. As proposed, SSJID’s plan would reduce customer rates by 15 percent compared to PG&E rates. If future conditions do not allow the District to maintain rates 15 percent below PG&E rates, SSJD could raise rates to offer a lower discount or to match PG&E rates without adversely affecting customer rates that would have otherwise been paid to PG&E. However, based on financial analysis prepared by Mintier Harnish and MBMC, SSJID’s plan is not expected to adversely affect electric rates.

The Mintier Harnish/MBMC Analysis accounted for PG&E CARE rates and spending within SSJID’s service area and estimated SSJID’s potential revenue accordingly. As calculated, the
Mintier Harnish/MBMC Analysis assumed SSJID’s plan to provide a 15 percent rate discount would provide an additional rate discount for CARE customers. SSJID has not provided any details on how it plans to provide a low-income rate discount program. It is unclear how SSJID would construct such a program, or ultimately set its rates and ensure current PG&E CARE customers pay rates 15 percent below those they currently pay under PG&E’s CARE program. Using averages could increase CARE rates for some customers who currently pay a rate lower than the CARE average, but lower it for those who pay more. Also, as part of its public benefits programs, it is unclear whether the 4 percent SSJID has committed to providing would be allocated toward low-income rate discounts, or if SSJID would treat low-income rate discounts similar to the way the Mintier Harnish/MBMC Analysis applied them to SSJID’s plan.

If SSJID entered into an agreement with MID, border area customers would not get to decide whether they want their service provider to be MID, and they would not have the ability to prevent a rate increase due to the change in service providers. In order to ensure that border area customer rates are not affected by SSJID’s plan, San Joaquin LAFCo should impose a condition of approval that ensures border area customers continue to receive PG&E service. San Joaquin LAFCo could require that SSJID serve border areas by agreement PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative).

**Potential Effects of SSJID’s Retail Electric Plan on SSJID’s Existing Services**

It is not expected that SSJID’s plan will result in negative impacts to the provision of existing services or maintenance of existing facilities; however, there is potential for SSJID to allocate funding it has used to enhance its irrigation system and services to pay in-lieu taxes and fees and to provide public benefits programs. Without this funding, SSJID customers may not be provided with more efficient or improved service. Based on the financial analysis prepared by Mintier Harnish and MBMC, it is unlikely that SSJID would not have enough funding to operate and maintain its existing and new services at an acceptable level.

**Potential Effect of SSJID’s Plan on Public Benefits Spending**

SSJID’s retail electric plan would result in less public benefit programs spending than what is estimated to be provided by PG&E. SSJID has committed to spending 4 percent of its gross retail electric revenue on public benefits programs. In 2015 PG&E will spend an estimated 4.5 percent ($4.63 million) of the revenue it generates from customers within SSJID’s service area on public benefit programs. If SSJID generated less revenue from its retail electric service, public benefits spending would decline. Likewise, if gross retail electric revenues were higher, public benefits spending would increase. San Joaquin LAFCo cannot condition SSJID public benefits and low-income programs spending. SSJID should match or exceed the funding provided by PG&E in order to limit impacts to customers. SSJID should allocate funding from its non-service based revenue sources to ensure it maintains public benefits and low-income programs funding
comparable to PG&E, so long as existing services and customer rates are not negatively impacted.

In addition, the SSJID retail electric plan could result in less public benefit programs spending that what is currently provided by PG&E in the border area if SSJID contracts with MID to serve the border areas. In order to ensure that border area customers continue to receive public benefits currently provided by PG&E, San Joaquin LAFCo could impose a condition of approval that ensures border area customers continue to receive PG&E service. San Joaquin LAFCo could require SSJID to serve border areas by agreement PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue providing public benefits programs.

**Potential Fiscal Impact of SSJID’s Plan on Other Agencies**

SSJID’s plan would impact the tax and fee revenues of the Federal and State governments (income taxes and vehicle license fees) and potentially impact San Joaquin County, the Cities of Escalon, Manteca, and Ripon, and other districts within and adjacent to the county. SSJID does not plan to pay in-lieu income taxes or vehicle license fees. SSJID has committed to maintaining the same amount of franchise fee revenue to the cities of Escalon, Manteca, and Ripon, and the same amount of franchise fee and property tax revenue to San Joaquin County for distribution to affected agencies. However, SSJID’s plan would impact property taxes used to pay voter approved debt service for school districts outside San Joaquin County. This loss will be passed on to property owners whose property tax payments will increase.

In order to ensure that the County, Cities, and other districts effected by SSJID’s plan continue receiving property taxes and franchise fees, San Joaquin LAFCo should impose a condition of approval on SSJID’s retail electric plan application that requires, as a cost of providing retail electric service, SSJID make payments in-lieu of franchise fees and property taxes subject to terms of agreements to be executed with the Cities of Escalon, Manteca, and Ripon and San Joaquin County to ensure the County, Cities and districts effected by SSJID’s plan do not lose property tax and franchise fee revenues as a result of SSJID’s retail electric plan. By imposing such a condition, San Joaquin LAFCo would ensure that these agencies continue receiving taxes and fees that SSJID would be authorized to do so. However, the method of payment SSJID uses to make these payments would be at the discretion of the District and could affect existing irrigation customer rates or services if SSJID chose to use Tri-Dam funds. Furthermore, the mechanism used to ensure payments are made is unknown at this time and would need to be included in any agreement.

LAFCo could condition SSJID to pay in-lieu fees sufficient to offset VLF paid by PG&E, assuming PG&E no longer registers the vehicles that served SSJID’s service area. Conditioning SSJID to offset any loss in VLF would add additional costs to SSJID’s retail electric operations.
Such a condition would be complex to calculate and recalculate and assess over time since the State changes the methodology it uses to calculate such fees. Ultimately, it is expected that there would be no impact on the financial feasibility of SSJID’s plan.

San Joaquin LAFCo could condition approval of SSJID’s plan to require that SSJID to pay in-lieu State and Federal income taxes that would otherwise be paid by PG&E. Conditioning SSJID to pay State and/or Federal income taxes would add additional costs to SSJID’s retail electric operations. San Joaquin LAFCo would need to develop a methodology that would calculate PG&E’s actual tax payments each year for retail electric facilities within SSJID’s service area. Once SSJID has acquired PG&E’s facilities it would be extremely difficult, if not impossible, for San Joaquin LAFCo to monitor SSJID’s compliance.

SSJID’s plan for border areas is not expected to cause significant tax or fee revenue reductions. However, in order to ensure that the County, Cities, and other districts effected by SSJID’s plan continue receiving property taxes and franchise fees, San Joaquin LAFCo should impose a condition of approval on SSJID’s retail electric plan application that requires SSJID serve border areas by agreement with PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue paying franchise fees and taxes for these areas.

See Chapter 5 of this MSR for detailed data, analysis, and findings for this determination.

**Determination 4: Status of, and Opportunities for, Shared Facilities**

SSJID shares facilities and services with several agencies that allow for more efficient operations and services to its customers. These shared facilities have allowed the District to efficiently maintain services and provide additional services to its customers including construction of renewable energy sources. SSJID should continue working with other agencies to share facilities, and explore opportunities to share additional facilities where it would improve system efficiencies and services, lower customer rates, and improve the environment.

SSJID should continue reviewing the potential to extend SCWSP facilities to Ripon, and work with SCWSP members to establish a long-term facility sharing agreement. Similarly, SSJID should continue to provide access to its canals and drainage facilities for stormwater from the cities of Escalon, Manteca, and Ripon as growth occurs, including areas of Manteca and Ripon that are outside the District SOI.

As a retail electric service provider, SSJID should pursue opportunities to share facilities with MID and PG&E to improve efficiencies, reduce duplicate facilities, and provide system redundancy.

SSJID, in coordination with the SCWSP members, should also continue to work with the City of Ripon to provide treated water to Ripon from the Nick C. Groote Water Treatment Plant. SSJID could more efficiently serve customers in Area-C (see Figure 2.3) compared to Central San
Joaquin Water Conservation District (CSJWCD). San Joaquin LAFCo should work with the two districts to resolve the overlapping boundaries in Area-C by removing it from CSJWCD’s service area.

SSJID could continue selling surplus raw water to agencies outside its boundaries to supplement their water supplies and meet demand. SSJID has a history of working with agencies outside its boundaries to more efficiently and effectively operate, provide services, and protect the environment. SSJID should continue to work with its existing partners and others to address service needs and improve operational efficiencies.

See Chapter 6 of this MSR for detailed data, analysis, and findings for this determination.

**Determination 5: Accountability for Community Service Needs, including Governmental Structure and Operational Efficiencies.**

**Government Structure**

SSJID is a member of four Joint Powers Authorities and an operating agreement (i.e., Tri-Dam Project agreement between SSJID and OID). These meet specific operational, management, and service needs of SSJID and its customers. As a member of these agencies, SSJID works with other public agencies to manage specific facilities (e.g., Tri-Dam Power Authority, Tri-Dam Project), operate more safety and efficiently (e.g., SDRMA, ACWA JPIA), and protect resources (SJTA). SSJID is obligated to perform under the respective membership agreements of each agency. For JPAs, SSJID is responsible, with its partner agencies that form the JPA, for any for any actions taken by the JPA or its members. It is expected that SSJID’s continued participation in these organizations will help the District maintain service levels and meet future customer needs.

See Chapter 7, Section 7.1 of this MSR for detailed data, analysis, and findings for this determination.

**Government Management and Accountability**

SSJID services and facilities are ultimately overseen by District customers who elect the SSJID Board of Directors. The Board operates under established governance protocols. SSJID is accountable to its customers, operates in a transparent manner, and provides sufficient opportunities for public input in its activities.

As a retail electric service provider it is expected that SSJID would improve accountability, transparency, and public involvement in the provision of retail electric service and setting rates. Unlike an investor-owned utility that is accountable to its investors, SSJID is governed by a Board of Directors accountable to voters within the district who would receive retail electric service from SSJID.

SSJID has a good track record of managing and operating its irrigation, water treatment, agricultural drainage, and electric generation facilities. The District maintains rules and policies
that provide direction for the management of District employees, property, and equipment. SSJID has historically operated, maintained, and improved its irrigation water and drainage systems to meet customer demand using its capital expenditures planning process. Based on past performance, it can be reasonably assumed that SSJID will continue to effectively manage and operate its irrigation, water treatment, and electric generation facilities.

SSJID’s retail electric plan is operationally feasible in that SSJID has management personnel with experience in operating an electrical distribution system of the size that SSJID has proposed, substantial applicable experience in the operation of its water distribution and treatment facilities, and a generally realistic staffing and resource plan. Based on an evaluation of SSJID’s plan, PA Consulting Group concluded that SSJID has the necessary resources and staffing levels to operate in a cost-efficient and professional manner.

As a public utility SSJID would not subject to the same service and emergency response requirements as an investor-owned utility (e.g., PG&E), nor would SSJID be subject to the same penalties for failures. However, based on SSJID’s proposed plan, it is reasonable to conclude that SSJID would meet the service level standards necessary to provide adequate retail electric service and address emergency situations, should they arise. SSJID’s customers would also have access to a claims process established by the California Government Code.

SSJID’s operation, maintenance, and financing process could be conducted in a more transparent and orderly manner. In order to more effectively plan near- and long-term facility improvements, especially with the addition of retail electric service, SSJID should prepare a long-range strategic plan (i.e., a Capital Improvements Plan) that identifies long-term capital improvements for facility maintenance and system projects and purchases or financing necessary to implement the plan. SSJID should prepare the plan through a formal public process and define how SSJID will ultimately serve areas within its SOI. The plan should also be prepared in coordination with an independent peer review engineer or auditor.

See Chapter 7, Section 7.2 of this MSR for detailed data, analysis, and findings for this determination.

**Optional Government Structures**

For irrigation water and drainage services, there are no functional reorganizations of existing agencies; formation of new or dissolution of existing districts; district merges or establishment of subsidiary districts; or other reorganizations that would improve operational efficiencies or services within or adjacent to SSJID’s boundaries and SOI.

Irrigation water and drainage service could be improved by approving SSJID’s annexation application for the 80-acre island, amending SSJID’s SOI to include the City of Manteca, maintaining SSJID as the planned service provider in Area-B (Figure 2-3), and detaching Area-C from CJWCD’s existing boundary and maintaining SSJID as the planned service provider (Figure 2-3). SSJID could also provide more efficient and cost effective service to Area-B and Area-C compared to another agency, because infrastructure could easily be extended from
SSJID’s existing system, SSJID has sufficient water resources to serve the areas, and SSJID’s finances could allow it to subsidize irrigation water costs, a savings that could be extended to customers.

For retail electric service, there are no formation of new or dissolution of existing districts; district merges or establishment of subsidiary districts; or other reorganizations that would improve operational efficiencies or services within or adjacent to SSJID’s boundaries and SOI.

Reorganization of SSJID to include retail electric service, as well as approval of SSJID’s application to annex the 80-acre island, could provide more efficient and cost effective retail electric service without impacting SSJID’s existing services or customers. While it is expected that services currently provided by PG&E and MID are adequate to meet existing and future demands, PA Consulting determined that SSJID could also provide service effectively and efficiently. SSJID’s could also provide service at lower rates compared to PG&E. Finally, SSJID could provide electric service in a more transparent and accountable manner compared to PG&E, because SSJID decision-makers and management staff would be accountable to voting customers. This alternative would also not significantly impact the service or finances of other agencies.

As an alternative to becoming a retail electric provider, SSJID could become a Community Choice Aggregator. As a CCA SSJID could provide an alternative government structure in which it would procure power for customers, but not provide the actual service. This alternative would not require any construction or severance or result in any environmental impacts. It would also not require SSJID to incur any debt. This alternative would not, however, result in electricity service being provided in a more transparent and accountable manner because PG&E, as an investor-owned utility, would remain the service provider. And, this alternative could further confuse an already complex system of electric service providers within SSJID’s territory because there would be three potential service providers (PG&E, SSJID, and MID) rather than two (SSJID and MID).

See Chapter 7, Section 7.3 of this MSR for detailed data, analysis, and findings for this determination.

**Determination 6: Disadvantaged Unincorporated Communities**

There is only one disadvantaged unincorporated community (i.e., French Camp CDP) adjacent to SSJID’s SOI. SSJID does not provide sewer, municipal and industrial water, or structure fire protection services to this area, and this MSR does not assess the provision of these services by SSJID or any other agencies. French Camp is within the City of Stockton’s SOI. The City of Stockton provides all three services and would be responsible for providing such services upon annexation of the area. San Joaquin LAFCo will, through Stockton’s next MSR, evaluate any service deficiencies in this area.

See Chapter 8 of this MSR for detailed data, analysis, and findings for this determination.
CHAPTER 1  INTRODUCTION

This combined SOI Plan and Municipal Service Review (MSR) has been prepared for the San Joaquin County Local Agency Formation Commission (LAFCo) in compliance with the 2000 Cortese-Knox-Hertzberg Act (CKH Act), which requires each LAFCo to prepare an MSR for each service provider with a Sphere of Influence (SOI). This MSR (Chapters 3 through 8) will be used by the San Joaquin LAFCo in considering the SSJID SOI amendment, as described in Chapter 2.

State law requires that the MSR make six written determinations. This MSR (Chapters 3 through 8) is organized in the following chapters that address each of those six required determinations, as well as San Joaquin LAFCo policies and procedures:

1. Introduction

SOI Plan

2. SOI Plan

Municipal Services Review

3. Growth and Population Projections for the Affected Area
4. Present and Planned Capacity of Public Facilities and Adequacy of Public Services, including Infrastructure Needs or Deficiencies
   4a. Water Supply, Treatment, and Delivery
   4b. Stormwater Capture and Conveyance
   4c. Electricity Generation, Supply, and Transmission
5. Financial Ability of Agencies to Provide Services
6. Status of, and Opportunities for, Shared Facilities
7. Accountability for Community Service Needs, including Governmental Structure and Operational Efficiencies
8. Disadvantaged Unincorporated Communities

1.1 LAFCo and the Sphere of Influence

The SOI Plan (Chapter 2) addresses the requirements of the CKH Act (Government Code 56000, et seq.). Per the CKH Act, the purpose of a SOI Plan is to:

* Promote orderly growth and urban development;
• Promote cooperative planning efforts among cities, the county, and special districts to address concerns regarding land use and development standards, premature conversion of agriculture and open space lands, efficient provision of services, and discouragement of urban sprawl;

• Serve as a master plan for future local government reorganization by providing long-range guidelines for efficient provision of public services; and

• Guide consideration of proposals and studies for changes of organization or reorganization.

To carry out State policy, LAFCo has the power to conduct studies, approve and disapprove proposals, modify proposed boundaries, and impose reasonable terms and conditions on approval of proposals. San Joaquin LAFCo has adopted policies and procedures for determining Spheres of Influence consistent with the CHK Act.

San Joaquin LAFCo policies state that LAFCo must adopt an SOI for all service districts in San Joaquin County and that all LAFCo actions must be consistent with the SOI. An SOI is defined in Section 56425 of the Government Code as “a plan for the probable physical boundary and service area of a local agency or municipality.” The SOI is the area within which LAFCo expects SSJID to provide services within a 30-year time frame. The CKH Act requires that an MSR be prepared prior to, or in conjunction with, the update of an SOI.

When an SOI is updated, an accompanying SOI Plan must be prepared that lays out: the present and planned land uses in the area; the present and probable need for public facilities and services in the area; the present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide; and the existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency. The SOI Plan also summarizes demographic projections for the area and shows the areas within the SOI that the agency expects to annex in the future.

San Joaquin LAFCo procedural guidelines for determining the SOI requires documentation of the District’s ability to meet the requirements of the CKH. The SOI Plan and the Municipal Service Review provide the basis for adopting the SSJID SOI.

1.2 District Boundary and Sphere of Influence

The existing SSJID service area covers about 72,200 acres (113 square miles) and includes almost all the land within the incorporated cities of Escalon, Manteca, Ripon, and parts of unincorporated San Joaquin County. Figure 1-1 shows the regional location of the District. Figure 1-2 shows the SSJID’s service area boundary, existing SOI, and proposed SOI. Figure 1-3 shows a close-up of the SOI expansion area.
Figure 1-1
Regional Location

Legend
- Sphere of Influence
- Sphere of Influence Expansion
- District Boundary

Source: South San Joaquin Irrigation District, March 2009
Back of Figure
Back of Figure
Figure 1-3
Proposed SOI Expansion Area

Legend
- District Boundary
- Existing Sphere of Influence
- Sphere of Influence Expansion
- City Limits

Source: South San Joaquin Irrigation District, January 2010; City of Manteca, January 2010
Back of figure
Generally, the existing District service area boundary can be described as follows:

- The southern boundary generally parallels the southern boundary of San Joaquin County just to the north side of the Stanislaus River from Austin Road at the southwest corner to Lee Road and McBride Road in the southeast corner.
- The eastern boundary follows Victory Road to its intersection with Kelly Road.
- The northern boundary is irregular, running west along Kelly Road to the intersection of French Camp Road and Jack Tone Road. From there the boundary follows French Camp Road northwest to a point west of Airport Way.
- The western boundary is a north-south line west of Airport Way running to the intersection of Airport Way and Ripon Road. From there, the boundary runs south along South Manteca Road to Trahern Road, then east to the Stanislaus River.

SSJID is also requesting that LAFCo approve its application to annex an 80-acre island within the District service area boundary. The 80-acre island is located north of the city of Manteca between Castle and Austin Roads on the west and east, respectively, and French Camp and Northland Roads on the north and south, respectively. The annexation of this 80-acre island would provide long-term surface water supplies to a parcel currently using groundwater for irrigation purposes.

The District’s existing SOI encompasses approximately 86,540 acres (135.2 square miles), of which about 14,340 acres (22.2 square miles) are outside the District’s existing service area boundary. The existing SOI generally follows the District boundary; however, on the south the SOI runs along the San Joaquin County border (i.e., Stanislaus River), and on the north the SOI includes a large area between the south fork of Little Johns Creek and Avena Drain. SSJID is proposing that LAFCo update its SOI in conjunction with this MSR.

The proposed SOI expands the District SOI to the west by about 2,220 acres, so it is coterminous with the Manteca city limits. The proposed SOI would total about 88,760 acres (138.7 square miles) and result in about 16,460 acres (25.7 square miles) remaining outside the District service area boundary.

SSJID annexed “out holdings” jointly with the Oakdale Irrigation District (OID) prior to the formation of LAFCos by the California Legislature in 1963. These out holdings, which are not within the SOI, encompass reservoirs that are used by the District for water storage and electricity generation. These areas annexed in 1948 and 1963 include: Old Melones Dam and Reservoir; the Tri-Dam project properties; Goodwin Dam; and the main canal. SSJID also annexed Woodward Reservoir which is located in Stanislaus County.
1.3 MSR Determinations

The focus of the MSR is the six written statements of determination regarding SSJID’s ability to provide services. Each section of the MSR begins with a detailed summary of information and data associated with services and operations, infrastructure and facilities, governance and management, and/or finances. The determinations bridge the gap between this information and data and the final conclusion about the status or condition of the service. In addition to coming to a conclusion about SSJID’s ability to provide service, some determinations include recommendations for improved service efficiencies. Some determinations also suggest potential conditions that San Joaquin LAFCo could place on the approval of SSJID’s plan to provide retail electric service to ensure the new service will not result in an adverse impact to existing customers and services.

Throughout this SOI Plan/MSR specific findings that support each of the six determinations are called out in text boxes. While the determinations provide the final conclusion for each required determination set forth in State law, the findings summarize and highlight key information from the data and analysis contained in the MSR. The following provides an example of the format used to identify MSR findings:

| MSR Finding 1 | The following format is used throughout this SOI Plan/MSR to identify and highlight findings that support the MSR determinations. Each finding is numbered consecutively to assist the reader keep track of and reference specific information. |

1.4 California Environmental Quality Act

Since the SOI is a “plan for the probable physical boundaries and service area of a local agency as determined by the Commission [LAFCo],” the SOI update is considered a “project” under the California Environmental Quality Act (CEQA) and, therefore, subject to environmental review. The environmental review will be considered by San Joaquin LAFCo to determine the potential significant environmental effects of the SOI Plan/MSR, as well as the District’s application to become a retail electric service provider, expansion of the SOI, and annexation of an 80-acre island.
CHAPTER 2 SPHERE OF INFLUENCE PLAN

This chapter discusses the South San Joaquin Irrigation District’s (SSJID) ability to serve existing and future residents within the SOI. While LAFCo encourages the participation and cooperation of an affected agency in preparing and adopting the SOI, LAFCo alone is responsible for adopting the SOI and is the sole authority as to the sufficiency of the documentation and the SOI Plan’s consistency with State law and LAFCo policy. In adopting the SOI for SSJID, LAFCo must consider and prepare a written statement of its determinations with respect to the following four factors as stated in Section 56425 (e) of the CKH Act:

- The present and planned land uses in the area, including agricultural and open-space lands;
- The present and probable need for public facilities and services in the area;
- The present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide; and
- The existence of any social or economic communities of interest in the area if the commission determines they are relevant to the agency.

In order to adopt SSJID’s SOI, the State requires LAFCo to conduct a review of the municipal services provided in the District and SOI. The standards, procedures, and policies for MSRs are contained in San Joaquin LAFCo’s policies and procedures. The SOI must be consistent with the determinations of the related MSR. San Joaquin LAFCo requires the SOI Plan to include maps and explanatory text that describe the probable boundary of the service area and the District’s sphere. For the purposes of this document, the SOI Plan relies on the determinations made in the MSR (i.e., Chapters 3 through 8).

SSJID is requesting San Joaquin LAFCo expand the District’s existing SOI in conjunction with the MSR. Detailed determinations as to the ability of the District to provide adequate services to existing and future residents within the SOI are contained in the Executive Summary of this MSR.

2.1 Present and Planned Land Uses

The existing SSJID service area covers about 72,200 acres (113 square miles) of essentially flat landscape dominated by agricultural and open space features interspersed with rural residential units in unincorporated San Joaquin County and suburban and urban residential, commercial, and industrial areas within the cities of Escalon, Ripon, and a majority of Manteca.
With the exception of the cities of Escalon, Manteca, and Ripon, SSJID service area can be characterized as rural, primarily agricultural with scattered one- or two-story buildings. SSJID was formed in 1909 for the purpose of providing irrigation services to an 111-square mile portion of southern San Joaquin County. Through a series of annexations over its 100-year history, it has grown to approximately 113 square miles. SSJID’s current service area boundary and Sphere of Influence (SOI) were adopted by LAFCo in 1991.

Figure 2-1 shows the land uses in the SSJID SOI as of June 2008 according to information compiled by the San Joaquin Assessor’s Office and San Joaquin County Community Development Department. As the figure shows, most of the District outside the incorporated cities is in agricultural uses. Agricultural uses primarily include orchards and vineyards with scattered irrigated row crops, livestock operations, and grazing lands. Rural residential uses and a few areas of commercial and agricultural-related industrial uses are scattered throughout the remaining unincorporated SOI. The three cities and part of the unincorporated community of French Camp can be characterized as low- to moderate-density residential (e.g., single-family housing along with some multi-family housing), low-intensity commercial, and limited industrial.

Land use within the District is governed by San Joaquin County and the cities of Escalon, Manteca, and Ripon. Outside the three incorporated cities, San Joaquin County maintains a General Plan and Development Title (i.e., Zoning Code) for the administration of planned land uses. Similarly, within the incorporated areas, each city maintains a general plan and zoning ordinance for the administration of planned land uses. Cities also plan future land uses adjacent to their city limits in unincorporated areas of the county. The City of Stockton’s General Plan also designates land uses within the District’s service area boundary and SOI.

For unincorporated areas of the District, the 1992 San Joaquin County General Plan policies provide for continued agricultural operations and supporting uses and low-intensity residential, commercial, and industrial development. Figure 2-2 shows the County’s General Plan Land Use Diagram for unincorporated areas within the SOI. The County designates the various rivers and riparian waterways that traverse the SOI as Resource Conservation with limited or no development allowed. Areas adjacent to cities are planned for rural-, low-, and very low-density residential, commercial, and industrial uses. The plan also includes planned land uses for a low-density unincorporated area (i.e., French Camp) in the northwest area of the SOI. Appendix A: City General Plan Diagrams includes the general plan land use diagrams for the cities within and adjacent to the District.
Figure 2-1
Existing Land Use

Legend
- County Boundary
- Sphere of Influence
- District Boundary

- Public/Quasi-Public
- Rural Residential
- Multi-Family
- Irrigated Row Crops
- Orchards and Vineyards
- Grazing
- Heavy Industrial
- Light Industrial
- Mining
- Agricultural Retail/Industrial

Source: San Joaquin County, June 2008
Back of Figure
Figure 2-2
1992 San Joaquin County General Plan

Legend
- County Boundary
- Sphere of Influence
- District Boundary
- City Limits
- General
- Limited
- Urban Reserve
- Resource Conservation
- Other
- Very Low Density
- Low Density
- Low and Medium Density
- Medium Density
- Medium-High Density
- High Density
- General Community
- Neighborhood
- Office
- Freeway Service
- Recreation
- Road
- Rural
- Limited
- Truck Terminal
- Public
- Mixed Use
- Airport/Multi-use
- Other

Source: San Joaquin County, June 2008
Back of Figure
2.2 Present and Probable Need for Public Facilities and Services

The determinations in this section are based on information included in Chapter 4 of the MSR. SSJID currently (2014) delivers irrigation water and provides associated drainage, sells treated drinking water and raw water wholesale, and provides recreation through agreement with Stanislaus County. SSJID generates wholesale electricity at hydroelectric projects at Woodward Reservoir and at the Sandbar Project on the Stanislaus River through its co-ownership of the Tri-Dam Power Authority, which is sold to PG&E, and at the three projects of the Tri-Dam Project on the Stanislaus River, which is sold to the City of Santa Clara, effective January 1, 2014. The Tri-Dam Power Authority is also a party to the agreement with the City of Santa Clara. When SSJID’s contract with PG&E expires in 2016, the District will sell all electricity to the City of Santa Clara under a contract that expires at the end of 2023. Separately from this SOI Plan/MSR, SSJID has applied to LAFCo for authorization to provide retail electric service.

SSJID’s existing and planned public facilities and services are designed to supply irrigation and related drainage and are adequate to meet existing and expected demands. As described in Chapter 4, Section 4a of the MSR, the District has an agreement to supply drinking water to Manteca, Lathrop, and Tracy, and the District’s facilities are adequate to meet these requirements. The District also has an agreement to supply drinking water to Escalon, but additional facilities are required, which would be addressed in Phase II of the South County Water Supply Program (SCWSP). The cost to develop these additional facilities is the responsibility of Escalon. Based on SSJID’s past coordination with other cities as part of the SCWSP, it can be expected that the District would assist the City of Escalon with its efforts to plan, finance, and construct needed improvements.

Future growth and development within SSJID’s service area and/or SOI may require improvements and upgrades to the District’s facilities, including electricity supply and distribution facilities. The District works with the cities and its customers to ensure adequate improvements are planned, funded, and developed to meet future needs. SSJID works with cities to meet future service demands based on existing long-term contracts. The District has existing contracts to provide drinking water to the cities of Escalon and Manteca (both expiring in 2029), raw water to Ripon (expiring in 2029), and to permit its facilities to be used for storm drainage by Escalon and Manteca (expiring in 2026). The agreements contain renewal provisions. It is expected that SSJID would work with the cities to plan financing and facility improvements to meet future needs. The District also provides limited storm drainage service to Ripon and is working with the City on a plan to provide drinking water.

SSJID plans to provide retail electric service to all areas within the existing District service area boundary. Under the District’s Plan to Provide Retail Electric Service, as evaluated in this MSR, existing and planned facilities and services would be adequate to meet existing and future electricity demands. The District plans to continue to market the electricity it generates on the
open market and purchase power to meet future demand. Chapter 4, Section 4c of the MSR describes how the District plans to meet electricity demands for areas within its service area boundary and in the SOI where the District anticipates it will provide retail electric service.

2.3 Present Capacity and Adequacy of Public Facilities and Services

The determinations in this section are based on information included in Chapter 4 of the MSR. SSJID’s existing (2014) infrastructure and services are adequate to meet the needs of the existing population within its service area boundary and/or SOI. Chapter 5 of the MSR includes determinations about the District’s ability to continue funding existing services and to finance necessary maintenance and service improvements to meet future demands within SSJID’s service area boundary and SOI.

**Water Service**

As described in Chapter 4, Section 4a of the MSR, the District’s water supply and delivery facilities are adequate to meet the agricultural irrigation and domestic water needs of those it serves. SSJID has long-term contracts with several cities within its boundaries to provide water to meet anticipated growth. Irrigation and water services to any annexed areas would be subject to the condition that existing and senior water customers receive priority for water deliveries in the event of a water shortage.

Prior to annexing and extending irrigation water service to areas within the SOI, the District would meet with the affected landowners to confirm their commitment to the terms of the annexation including payment of annexation costs and the costs of new facilities. Because of the District’s water supplies, senior water rights, and efforts to conserve water (e.g., pressurized irrigation system), it is expected that the District’s water supply is adequate to serve existing and future water demand within the SOI. In extremely dry years, as stated above, demand would be prioritized based on customer longevity and existing contracts. It should be noted that part of the District’s existing SOI overlaps with the Central San Joaquin Water Conservation District (CSJWCD) boundary (see Area C, Figure 2-3). The area currently (2014) receives water through individual wells. CSJWCD does not have plans to provide water service to this area.

**Drainage Service**

As described in Chapter 4, Section 4b of the MSR, drainage facilities maintained by the District adequately convey stormwater from areas within the district and SOI. The District works with property owners to extend drainage facilities that are used to capture and convey stormwater. Because areas within the District’s SOI are largely rural and not planned for urban development, it is not expected that annexations will cause significant additional demand for stormwater drainage facilities or service. SSJID also has long-term contracts with the Cities of Escalon and Manteca to provide stormwater drainage services to meet anticipated growth. The District’s contract with Ripon for storm drainage has expired, but the City continues to make limited use of
District facilities. SSJID plans to work with Ripon to negotiate terms for a new agreement for stormwater drainage service.

**Retail Electric Service**

SSJID conducted several studies evaluating its ability to provide retail electric service. Collectively, these studies are referenced as the District’s Plan to Provide Retail Electric Service. As described in Chapter 4, Section 4c of the accompanying MSR, the District’s planned infrastructure and services are adequate to meet the electricity needs of the existing and future population within its boundaries. SSJID’s planned retail electric distribution facilities that would be maintained by the District would be designed to provide electricity service to areas within the District service area boundary and along fringe areas, including areas to the west of the District’s boundary within the city of Manteca.

### 2.4 Social or Economic Communities of Interest

San Joaquin LAFCo’s adopted written policies, as amended in December 2012, include provisions to “encourage local agencies to use [municipal] service reviews to determine whether initiation of proceedings for changes of organization and reorganization, including spheres of influence, would be in order and in the best interests of the agency and the community it serves.” Accordingly, this section summarizes several factors that could affect social or economic communities within the district based on SSJID’s existing services and proposed retail electric service.

**Existing Services**

Residents and businesses within SSJID share social and economic interests with the adjacent agricultural areas and communities of Lathrop, Stockton, and Tracy, as well as several unincorporated subdivisions and other rural developments. Part of the District’s existing SOI overlaps with part of CSJWCD’s service area (see Area C, Figure 2-3). In addition, several special districts and county service areas operate within SSJID’s service area and SOI. These service providers are small (many only provide service to a single development) and do not duplicate or overlap any of the services provided by SSJID. One Municipal Advisory Council (MAC) is also located in the district; however, MACs do not provide service. They are an advisory body to the San Joaquin County Board of Supervisors. The District’s expansion and future water and drainage service activities within the SOI should not negatively impact the social and economic interests of any communities or service providers within the District.

SSJID has conducted several analyses to determine potential impacts to its water supplies and identify necessary improvements to its water system, including the Agricultural Water Management Plan (2012), the Water Balance Report (2009), Urban Water Management Plan (2011), and the On-Farm Water Conservation Program (2011). The District is also currently (2014) undertaking a study to assess the feasibility of improving the Division 9 pressurized
irrigation system to meet future demands and expanding pressurized irrigation systems in other divisions within the district. While SSJID has prepared plans to ensure its water supplies and associated infrastructure are sufficient to meet future demands, SSJID has not identified how it plans to fund the facilities and programs identified in its plans.

**Proposed Retail Electric Service**

If LAFCo approves SSJID’s retail electric application, there would be several benefits and impacts to social and economic communities within and outside SSJID’s service area.

**Accountability**

As described in Chapter 7 of the MSR, PG&E shareholders through the PG&E Board of Directors make business decisions for the utility. San Joaquin LAFCo does not have any responsibility for ensuring the provision of adequate and efficient services provided by PG&E or authority over PG&E boundary and service changes. PG&E customers are not involved in the decision-making process related to PG&E services or rate setting. The CPUC regulates and sets PG&E rates on a systemwide basis. Customers who want to have a voice in the provision of service or rate setting process must enter into a complex litigation-based “ratemaking” process at the CPUC in San Francisco.

The SSJID Board of Directors believe that retail electric customers would benefit from having access to locally-elected Board members who are responsible for making service decisions and setting rates. Electric service policies and practices would be decided by SSJID’s Directors who would answer to the voting residents within the District. As a public agency, SSJID is subject to the Brown Act and Public Records Act. Customers who would want to have a voice in decisions that set rates and policy could easily attend regular SSJID Board meetings and speak. If the SSJID Board did not meet expectations, customers may directly contact and/or provide comments to the Board in a public forum. Ultimately, Board members would answer to the public through the election process. It should be noted that each City Council within the district has adopted a resolution supporting, conditionally supporting, and/or endorsing SSJID’s plan to provide retail electricity.

**Multiple Service Providers**

As described in Chapter 4, Section 4c of the MSR, two organizations (PG&E and MID) already provide electric service within SSJID’s service area. San Joaquin LAFCo can authorize SSJID to provide retail electric service within its boundaries and SOI; however, this action would not resolve the existing overlapping service areas. SSJID’s plan would create a circumstance where two districts provide retail electric service to the same area, and another utility provides natural gas service. As a result, customers would have three utilities offering energy services.

While State laws governing LAFCos discourage the creation of situations where two districts provide service to the same area, retail electric service within SSJID’s service area is unique.
Special State legislation authorized MID to compete with PG&E to provide retail electric service within San Joaquin County, effectively allowing a special district outside of San Joaquin LAFCo’s authority to provide service within San Joaquin LAFCo’s jurisdictional boundary. San Joaquin LAFCo cannot consolidate MID’s service area into a more efficient, conventional boundary.

**Economic Effects**

Based on the financial analysis prepared by Mintier Harnish and MBMC, SSJID is expected to provide rates 15 percent lower than PG&E (Chapter 5). SSJID contends that its reduced rates would have a positive economic benefit throughout the district and that changing the provider of retail electricity from PG&E to SSJID could stimulate economic activity by offering reduced rates. It can be reasonably assumed that lower rates would provide some economic benefit to communities within SSJID’s service area and SOI as residents have more disposable income. Furthermore, as a public agency, SSJID is subject to public bid requirements, under which SSJID’s Board could make a policy decision to prioritize bids for local contractors, which would keep more resources local.

It should be noted that SSJID’s plan could increase the rates of PG&E customers outside the District’s service area. On December 18, 2009, the CPUC completed a review of SSJID’s plan and approved Resolution E-4301 finding that, SSJID’s proposal to provide retail electricity to PG&E customers could raise rates for PG&E's remaining customers; "the magnitude of the estimated increase, however, is small relative to PG&E’s current system average rates, and thus does not substantially impair PG&E’s ability to provide adequate service at reasonable rates within the remainder of its service territory." (CPUC Resolution E-4301). The CPUC “estimated that SSJID’s proposal could result in a 30-year net present value revenue loss to PG&E of $241 million and resultant higher rates of $0.00032 per kilowatt-hour (kWh), which is approximately 0.21 \% the system average rate.”

**Potential SSJID Service and Facility Enhancements**

If SSJID’s retail electric plan requires more funding than what SSJID has identified, there may be no funding available to make improvements and fund programs necessary to address recommended improvements and programs identified in SSJID’s water plans. However, the Mintier Harnish/MBMC Analysis indicates that SSJID’s retail electric plan is financially feasible and robust. According to the financial analysis prepared by Mintier Harnish and MBMC, it is likely that SSJID’s plan will provide the District with greater revenues resulting in higher reserves (Chapter 5). SSJID could use surplus reserves to invest in more efficient facilities for irrigation water, drainage, or retail electric service, or additional programs that enhance service delivery. Customers in turn could benefit from more reliable service and/or lower rates. SSJID has a history of investing in facility enhancements (e.g., Division 9 Project), and it is reasonable to assume the District would continue to pursue similar projects if surplus revenue is available.
While these are all benefits that SSJID could provide, the District has not committed to or identified in its budget using surplus revenues to enhance its system.

**Customer Indebtedness**

As described in Chapter 5 of the MSR, SSJID will incur substantial debt to purchase and make improvements to the retail electric distribution system. SSJID would need to incur $270.7 million in debt based on the valuation of the PG&E distribution system in the Market Expert Report prepared by PA Consulting Group and adjusted to reflect PG&E’s capital investments through 2013. SSJID will repay this debt through future fees for service (i.e., electric revenues), or through the use of non-operating revenues (surplus water and wholesale power sales). The types of debt that SSJID is proposing to use (i.e., Certificates of Participation) will not require voter approval. In this way SSJID’s debt is indirectly the responsibility of its customers, but customers will have no involvement in deciding whether they think the District should incur debt to finance the retail electric system.

Government agencies often issue debt to pay for ongoing expenses as well as major capital projects. Debt issuance is not a new process for SSJID. The District incurred $25 million in debt in 2008, and is set to repay this in 2019. The Mintier Harnish/MBMC Analysis prepared for SSJID’s plan includes an analysis of the debt financing SSJID will use to implement its plan, as well as the rates customers will pay and revenues SSJID will use, to pay this debt. Because SSJID proposes to provide rates lower than PG&E rates, and the Mintier Harnish/MBMC Analysis has found this to be feasible, it is unlikely that current or future SSJID customers would experience adverse effects from SSJID’s debt financing. Furthermore, the Mintier Harnish/MBMC Analysis found that SSJID would maintain a debt coverage ratio (i.e., cash available to service debt) above the minimum industry standard.

**Fiscal Impacts to Local Agencies**

As described in Chapter 5 of the MSR, SSJID has committed to paying franchise fees and property taxes to local government agencies within San Joaquin County that are estimated to exceed those currently (2012) paid by PG&E. PG&E currently pays an estimated $1,727,720 in franchise fees and property taxes for property, facilities, and services within the district. SSJID has committed (Resolution 12-13-E) to maintain the same amount of franchise fee revenue to the cities of Escalon, Manteca, and Ripon, and the same amount of property tax revenue to be paid to San Joaquin County for distribution to affected agencies.

SSJID proposes to spend 2.5 percent of its gross retail electric revenue for in-lieu payments to address potential property tax and franchise fees. According to the Mintier Harnish/MBMC Analysis, SSJID would pay about $2.1 in in-lieu taxes and fees in its first year of operations. This is over $300,000 more than PG&E is estimated to pay. SSJID assumes these payments will increase over time with inflation; the Mintier Harnish/MBMC Analysis assumed a 2 percent annual escalator.
However, it should be noted that SSJID is not obligated to make these payments and could decide not to in the future, except if required to do so by a San Joaquin LAFCo condition and through written agreement with the affected agencies, which the District has proposed to do in Resolution 12-13-E. Furthermore, SSJID’s plan would result in minor losses in property taxes used to pay voter-approved debt service for school district’s outside San Joaquin County. This loss will be passed on to property owners whose property tax payments will increase. SSJID’s plan may result in a loss of vehicle license fees, which are shared by the County and cities.

Finally, SSJID is not planning to pay in-lieu fees for vehicle license fees (VLF) paid by PG&E. Assuming PG&E sells the vehicles it uses to serve areas within SSJID, transfers them from San Joaquin County, or otherwise disposes of them, SSJID’s plan could result in a loss of $41,500 to the State, San Joaquin County, and the cities in the county. LAFCo could condition SSJID to pay in-lieu fees sufficient to offset VLF paid by PG&E, assuming PG&E no longer registers the vehicles that operated in SSJID’s service area. Ultimately, if SSJID were to pay in-lieu VLF based on the amount identified by Capital Matrix Consulting ($45,000), the effect on the financial feasibility of SSJID’s plan would likely be insignificant.

Public Benefits Programs

As described in Chapter 4, Section 4c, SSJID’s retail electric service plan would result in changes in energy efficiency and conservation programs offered to customers within the district. SSJID would not provide the same number of programs that PG&E currently provides, but there is a wide spectrum of programs SSJID could provide. SSJID would be required to conduct a needs assessment to define the number and types of programs offered by the district. Public benefit programs provided by SSJID may be more or less effective than those currently managed by PG&E; however, SSJID’s plan would result in a focused needs assessment that meets local customers’ needs.

SSJID’s plan would not provide the level of spending on public benefit programs compared to that currently provided by PG&E. SSJID has committed to spending 4 percent of its gross retail electric revenue on public benefits programs. According to Chapter 5 of the MSR, SSJID’s public benefits programs spending would be nearly $3.4 million in 2015 (Mintier Harnish/MBMC Analysis). In 2014 the SOI Plan/MSR estimates that PG&E will spend 4.5 percent ($4.63 million) of the revenue it generates from customers within SSJID’s service area on public benefit programs. However, SSJID would have sufficient funding from other sources (e.g., Cap-and-Trade allowances and/or wholesale power and surplus water supplies) and the legal authority to increase its public benefits and low-income programs spending to match PG&E expenditures if it chose to do so.

Fewer public benefits programs and less spending on such programs could impact the ability of customers to reduce their energy demand and keep their rates low.
Border Area Customer Impacts

Border area customers who would be served by MID currently get to choose whether they want to be served by PG&E or MID. If SSJID entered into an agreement with MID, border area customers would not get to decide whether they want their service provider to be MID, and they would not have the ability to prevent a rate increase due to the change in service providers. MID customers within San Joaquin County are not able to vote in MID elections. Likewise, Modesto LAFCo is not responsible for ensuring the provision of adequate and efficient services to areas outside Modesto County. Finally, San Joaquin LAFCo does not have the authority to evaluate and make decisions regarding MID’s services and boundaries within San Joaquin County.

SSJID’s plan would also affect border area customer rates as existing PG&E customers would be shifted to MID, and pay rates set by MID. As described in Chapter 5 of the MSR, it is expected that about half of residential customers would experience rate increases and half would experience lower rates. Non-residential customers would likely pay lower rates. Border area customers would also no longer have access to PG&E public purpose programs or CARE program rates. As described in Chapter 5, while MID does offer a low-income rate discount and energy efficiency, lighting, and special needs programs which border areas customers would have access to, MID does not offer the same number or type of programs offered by PG&E.

2.5 Existing and Projected Population

Chapter 3 of the MSR provides a detailed description of SSJID’s existing and projected population. In summary, the estimated 2010 population within the SOI was 100,468 (U.S. Census 2010). There has been limited growth in the district since 2010. The cities of Escalon, Manteca, and Ripon are expected to continue to grow at a historical growth rate of 2.4 percent per year, with little growth occurring in the unincorporated areas, resulting in a 2040 population of about 204,657 or 104,189 new residents (Census 2010; California DOF; San Joaquin Council of Governments, 2008).

2.6 Future District Annexations

Figure 2-3 defines the probable 30-year boundary of SSJID’s service area and its sphere horizons at the end of a 5- to 10-year period and 30-year time period. “Sphere Horizons” depict areas where the District expects its services will be needed, consistent with the MSR. The 10-year Sphere Horizon includes areas that the District expects to annex and provide services to at some point during the next 10 years. The 30-year Sphere Horizon includes areas where the District expects to ultimately provide services.

As shown on Figure 2-3 and Table 2-1, there are five areas that SSJID expects to annex over the next 30 years (i.e., Areas A, B, C, D, and E). The District has identified Areas “A” and “E” for inclusion in the 10-year Sphere Horizon (shown in yellow on Figure 2-3). The remaining areas are identified for inclusion in the District’s 30-year Sphere Horizon (shown in green on Figure 2-
3). It should be noted that SSJID has the authority to decide which services it provides to which areas of its district.

### Table 2-1: Future District Annexations

<table>
<thead>
<tr>
<th>SOI Area</th>
<th>Acres</th>
<th>General Location</th>
<th>Sphere Horizon 10-Year</th>
<th>Sphere Horizon 30-Year</th>
<th>Planned Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area A</td>
<td>80</td>
<td>Island</td>
<td>×</td>
<td>✓</td>
<td>✓   ✓</td>
</tr>
<tr>
<td>Area B</td>
<td>7,800</td>
<td>Northwest</td>
<td>×</td>
<td>✓</td>
<td>✓   ✓</td>
</tr>
<tr>
<td>Area C</td>
<td>850</td>
<td>Northeast</td>
<td>×</td>
<td>✓</td>
<td>✓   ✓</td>
</tr>
<tr>
<td>Area D</td>
<td>5,240</td>
<td>South</td>
<td>×</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Area E²</td>
<td>2,200</td>
<td>West</td>
<td>×</td>
<td>✓</td>
<td>✓   ✓</td>
</tr>
</tbody>
</table>

1 Would require San Joaquin LAFCo approval of SSJID’s retail electric service application.
2 Includes areas within the Manteca city limits currently outside SSJID’s SOI, but planned for inclusion in the SOI.

*Source: SSJID, 2011; Mintier Harnish, 2011.*

The information contained in this section of the MSR reflects SSJID’s currently (2014) anticipated services. Generally, the District’s current (2014) decision to not expand a service into an area of its SOI is based on expected customer demand and the cost to extend facilities or service. For example, SSJID does not plan to extend electricity service to Areas “B” or “C”. This is due to the rural nature of the area (i.e., low customer demand) and location of transmission circuits, which make it impractical and costly to extend facilities.

The following paragraphs provide for each area: a description of the size and location; Sphere Horizon; expected service and uses; and facility and service needs. The District anticipates that it will provide irrigation water, drainage, and retail electric service to all areas within its existing service area. Chapter 4 of the MSR provides details on SSJID’s ability to provide services to these areas.

**Area A - 80-acre Island**

Area-A is an 80-acre island, recently split into two 40-acre parcels, located in the northwestern part of the district. Area-A is within the 10-year Sphere Horizon. SSJID is requesting that LAFCo approve its application to annex this area into the District service area boundary. Upon annexation the District would provide irrigation water and drainage services to this area. If LAFCo approves the SSJID’s retail electric service application, the District would also provide retail electricity services to this area. The District expects that this area will remain in agricultural production.

The District does not expect that any major facilities would be required to serve Area-A. The District’s existing irrigation, drainage, and electricity facilities and water supplies are readily available and sufficient to serve Area-A without compromising existing service levels elsewhere in the District.
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Figure 2-3
10- and 30-year Timeframes and Anticipated Services

Area A
- Irrigation Water
- Drainage
- Retail Electric

Area B
- Irrigation Water
- Drainage

Area C
- Irrigation Water
- Drainage

Area D
- Retail Electric

Area E
- Drainage
- Retail Electric

Legend
- County Boundary
- City Limits
- Sphere of Influence
- District Boundary
- 10-year Sphere Horizon
- 30-year Sphere Horizon

Source: South San Joaquin Irrigation District, April 2011
Chapter 2, Sphere of Influence and SOI Plan

Back of Figure
Area B - 7,800-acre Area to the Northwest

Area-B is a 7,800-acre area on the northwest edge of the District. Area-B is within the 30-year Sphere Horizon. The District anticipates that it would ultimately provide irrigation and drainage service to this area. The District expects that this area would remain in agricultural production. The area receives water through individual wells and through natural streambeds that carry unused pass-through water from both SSJID and CSJWCD that ultimately drains to the San Joaquin River. In order to serve Area-B, the District would need to extend or construct irrigation and drainage lines and canals and impose conditions to allocate water supplies (e.g., extension of District facilities are the owner’s expense, the owner must follow District rules for water delivery and pay District fees, the District makes no assurances of water supply, and new customers are subject to reductions in the event of shortages in supply).

In 2008 the Stockton East Water District (SEWD) adopted a resolution (SEWD Resolution 07-08-08) and submitted an application to LAFCo for an SOI amendment and annexation to include Area-B within its service area and SOI. In its application to LAFCo, SEWD proposed to provide irrigation water service to the area through groundwater recharge and through existing natural watercourses. SEWD did not propose to extend conveyance facilities to serve the area with surface water. In its application SEWD stated its reasons for the reorganization, including: ensuring that lands receiving benefits from the SEWD operations are within its boundaries, and ensuring all property within San Joaquin County is represented by a water conservation district. LAFCo would not process the application until an MSR was prepared that evaluated SEWD’s ability to provide service. San Joaquin LAFCo prepared an MSR for SEWD on January 12, 2012. Since that time San Joaquin LAFCo has not processed an application to add Area-B to SEWD’s service area.

CSJWCD has also expressed an interest in providing water service to Area-B. CSJWCD abuts Area-B along its southern boundary. The South Little Johns Creek natural streambed and the Avena Drain could be used by CSJWCD to deliver water to Area-B. CSJWCD does not have plans to provide water service to Area-B.

The optional government structures discussion, Chapter 7 of the MSR, evaluates and compares the ability of SSJID, SEWD, and CSJWCD to provide services to Area-B.

Area C - 850-acre Area to the Northeast

Area-C is an 850-acre area on the northeastern edge of the District and is within the 30-year Sphere Horizon. The District anticipates that it would ultimately provide irrigation and drainage service to this area. The District expects that this area would remain in agricultural production. In order to serve Area-C, the District would need to extend or construct irrigation and drainage lines and canals, and impose conditions to allocate water supplies.

Area-C is also within the CSJWCD service area, resulting in an overlapping service area with SSJID’s existing SOI. CSJWCD does not currently (2014) provide any services to the area and it
does not have any plans to extend services to the area. The area receives water through individual wells. CSJWCD’s water distribution system supplies irrigation water to customers within its service area through natural streambeds and limited connecting canals. There are no natural streambeds that could readily be used to deliver water to Area-C. Due to the geography and hydrology of Area-C in relation to CSJWCD’s distribution system (i.e., natural streambeds), CSJWCD would need to construct and maintain distribution facilities to provide water service to Area-C. CSJWCD has no plans to provide water service to this area. In order for CSJWCD to provide necessary conveyance facilities to serve the area, significant improvements would be necessary, which would likely be paid for by property owners.

LAFCo does not have the authority to change these boundaries without a formal change of boundary request from both SSJID and CSJWCD or a petition for change of boundary from property owners in the affected area. The optional government structures discussion, Chapter 7 of the MSR, evaluates and compares the ability of SSJID and CSJWCD to provide service to Area-C.

**Area D - 5,240-acre Area to the South**

Area-D is a 5,240-acre area along the southern edge of the District between the District boundary and the Stanislaus River/San Joaquin County boundary. This area includes the southern edge of the City of Ripon and the City of Escalon wastewater treatment plant. Area “D” is within the 30-year Sphere Horizon. The District anticipates that it would ultimately provide retail electricity service to this area. The District expects that this area would remain in agricultural production or develop consistent with the City of Ripon General Plan. In order to serve Area-D, the District intends to acquire electric distribution facilities in this area from PG&E as part of its Plan to Provide Retail Electric Service.

**Area E 2,200-acre Area to the West**

Area-E is a 2,200-acre area located on the western edge of the District within the City of Manteca. The District currently provides limited drainage service to this area. The District anticipates that it would ultimately provide drainage and retail electricity service to this area. In conjunction with this SOI Plan/MSR, SSJID is requesting that LAFCo expand the District’s SOI to include Area-E. The District has no immediate plans to annex this area, but anticipates working with the City of Manteca to pursue annexation in the near term (i.e., during the next 10 years). The District expects that this area would develop consistent with the City of Manteca General Plan. In order to serve Area-E, the District would need to extend drainage lines and canals through agreements with the City of Manteca and extend and/or acquire from PG&E electric distribution facilities.

**Service to Annexed Areas**

SSJID is committed to continue working with LAFCo, the County, and property owners to annex all existing areas within its SOI outside the existing District boundaries in the long term (i.e., 30-
With the construction of necessary facilities, the District would be able to provide electricity, irrigation water, and drainage services. Infrastructure and services that would be provided with annexation would, in most cases, enhance those services currently available.

As annexations occur, the District would work with property owners to identify specific infrastructure improvements necessary to provide water, drainage, and, if approved by LAFCo, retail electric service, and to confirm their commitment to the terms of the annexation including payment of annexation costs and the costs of the new facilities. District annexation policy requires that the subject property owner pay for necessary irrigation facilities to serve annexed property.

The District’s current (2014) water supplies are adequate to serve the area identified for annexation without affecting its current irrigation and domestic water customers. In extremely dry years, if water supplies are inadequate to meet demand, newer territory added to the District is the first affected (i.e., reduced water supplies). If approved by LAFCo, SSJID would establish electric service policies requiring the District to extend electricity service to anyone who requests service within the District boundary, subject to standard terms and conditions. Because areas within the District’s SOI are largely rural and not planned for urban development, it is not expected that annexations would cause a significant demand for new electricity distribution facilities.

SSJID does not currently (2014) plan to provide all its services (i.e., irrigation water, agricultural drainage, and, if approved by San Joaquin LAFCo, retail electric) to all areas of its SOI. In some cases it may be infeasible or not in customers’ interest to extend an SSJID’s service to an area of its SOI. In other cases it may make sense for SSJID to become the service provider at some point in the future. Based on information in the MSR, SSJID’s planned services and facilities are expected to meet customer needs.
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CHAPTER 3 GROWTH AND POPULATION PROJECTIONS FOR THE AFFECTED AREA

This chapter discusses existing population within and growth projections for the South San Joaquin Irrigation District (SSJID) and its Sphere of Influence (SOI). Chapters 4, 5, 6, and 7 discuss the provision of municipal services to meet the demand for services identified in this chapter. Consistent with the requirements of the CKH Act, this chapter revisits the population and demographics and growth projections discussed in Chapter 2.

San Joaquin LAFCo Policies and Procedures: Growth and population projections for the affected area

The need for, and patterns of, service provision should be determined by existing and anticipated growth patterns and population projections. The municipal service review will evaluate whether projections for future growth and population patterns are integrated into an agency’s planning function. This analysis will be used to determine whether the sphere boundaries reflect expected growth boundaries. Consideration should be given to the impact on growth/land use patterns for adjacent areas, on mutual or regional social and economic interests, on open space and agricultural land, and on the government structure of the county. Growth and population projections should correspond to the sphere horizon and phasing plan depicted in the Sphere of Influence.

3.1 Population and Demographics

Table 3-1 summarizes the 2010 SSJID District and SOI population. As the table shows, 98.8 percent (99,268) of the population resides within the District service area. Areas outside the District, but within the District’s SOI, are lightly populated, accounting for only 1.2 percent (about 1,200) of the population. Most of the population in the SOI (88.1 percent or 88,525) resides in the cities of Escalon, Manteca, and Ripon.
### Table 3-1 2010 District and SOI Population

<table>
<thead>
<tr>
<th>Location</th>
<th>2010 Population</th>
<th>Percent of SOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escalon</td>
<td>7,132</td>
<td>7.1%</td>
</tr>
<tr>
<td>Manteca¹</td>
<td>67,096</td>
<td>66.8%</td>
</tr>
<tr>
<td>Ripon</td>
<td>14,297</td>
<td>14.2%</td>
</tr>
<tr>
<td>Unincorporated²</td>
<td>10,743</td>
<td>10.7%</td>
</tr>
<tr>
<td>District Boundary Subtotal</td>
<td>99,268</td>
<td>98.8%</td>
</tr>
<tr>
<td>Remaining SOI</td>
<td>1,200</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>2010 Total SOI</strong></td>
<td><strong>100,468</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

¹Includes areas within the Manteca city limits currently outside SSJID’s SOI, but planned for inclusion in the SOI.
²Based on estimated Census 2000 Block-Level population data. At the writing of this report 2010 Census Block-Level data is not available. Assumes little growth occurred in unincorporated areas of the District and SOI between 2000 and 2010.


### 3.2 Growth Projections

Appendix B: Historic and Projected Population and Employment provides a detailed description of San Joaquin County’s historic and projected population and employment growth developed as part of the San Joaquin County General Plan Update (2008). Historically (i.e., 1990 through 2005), the county had an average annual population growth rate of about 2.2 percent. During the period from 2000 through 2005, the cities of Escalon, Manteca, and Ripon (within the SSJID service area) had a combined average annual growth rate of about 2.8 percent (2.4 percent, 3.1 percent, and 3.0 percent, respectively). According to the San Joaquin Council of Governments (SJCOG), population growth for the cities of Escalon, Manteca, and Ripon are expected to occur at an average annual growth rate of about 2.4 percent. While the current recession has slowed growth throughout the State and nation, June 2011 California Department of Finance population projections show that in the near term San Joaquin County’s population will experience a slowdown, but then recover in the long term consistent with projections used in this MSR.

Table 3-2 shows projected population from 2010 through 2040 in five-year increments. Projected population is based on a historic (i.e., 1990 through 2005) average annual growth rate of 2.4 percent. As the table shows, by 2020 the District’s SOI population is expected to grow to 127,358. By 2040 the District’s SOI population is expected to grow to 204,657.
TABLE 3-2  EXISTING AND PROJECTED POPULATION (SSJID SOI)

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Population (2.4 Percent Annual Growth Rate)</th>
<th>Five-Year Increment of Net New Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>100,468</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>113,117</td>
<td>12,649</td>
</tr>
<tr>
<td>2020</td>
<td>127,358</td>
<td>14,241</td>
</tr>
<tr>
<td>2025</td>
<td>143,393</td>
<td>16,034</td>
</tr>
<tr>
<td>2030</td>
<td>161,446</td>
<td>18,053</td>
</tr>
<tr>
<td>2035</td>
<td>181,772</td>
<td>20,326</td>
</tr>
<tr>
<td>2040</td>
<td>204,657</td>
<td>22,885</td>
</tr>
</tbody>
</table>


**MSR Finding 1**  The estimated 2010 population within the SOI was 100,468. For the purposes of this report, we assume that the cities of Escalon, Manteca, and Ripon will continue to grow at their historical growth rate of 2.4 percent per year, with little growth occurring in the unincorporated areas of the district, resulting in a 2040 population of about 204,657.
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CHAPTER 4    PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS OR DEFICIENCIES

This chapter evaluates infrastructure needs and deficiencies in services provided by SSJID and other agencies within the SOI. Infrastructure needs and deficiencies refer to the status of existing and planned infrastructure and the relationship to the quality and levels of service that are, can, and need to be provided. The location, density, and quality of growth are dependent in part upon the availability and capacity of infrastructure and services. In reviewing a district agency’s SOI, LAFCo must determine that it is reasonably capable of providing needed services and basic infrastructure to serve projected growth within the SOI.

San Joaquin LAFCo Policies and Procedures: Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence.

Refers to the status of existing and planned public facilities and its relationship to the quality and levels of service that are, can, and need to be provided. Infrastructure needs and deficiencies can be evaluated in terms of supply, capacity, condition of facilities, and service quality with correlations to operational, capital improvement, and finance plans. Maps and explanatory text that clearly indicate the location of existing facilities and proposed facilities, including a plan for the timing and location of new or expanded facilities, need to be included. The identification of the anticipated service level needs to be tailored to the 5-10, and 30 year sphere horizons.

This chapter addresses the provision of the following public services provided by the SSJID and other agencies:

- 4a Water Supply, Treatment, and Delivery
- 4b Stormwater Capture and Conveyance
- 4c Electricity Generation, Supply, and Transmission
### 4a Water Supply, Treatment, and Delivery

#### 4a.1 Water Services and Customers

SSJID’s main water services include irrigation water, treated domestic water, and water transfers and exchanges. SSJID’s other incidental uses of water within its service area include watering roads for dust abatement, agricultural spraying, and stock watering. The volume of water used for these incidental purposes is small relative to other uses.

**Irrigation Water**

SSJID is the sole irrigation water purveyor within the District’s SOI. Irrigation water customers include farms and growers within the District service area. SSJID irrigation water comes from the Stanislaus River watershed and from groundwater wells located in the western part of the District. Irrigation water demand in the district currently (2013) averages approximately 230,000 AF of water and serves approximately 47,500 acres of agricultural land. Irrigation water accounts for about 80 to 90 percent of the total water supplied by the District. From 2000 to 2010 the District sold about 15,000 acre-feet of raw water per year, with dry year reductions, to SEWD. SSJID may sell this surplus untreated water to another agency in the future, subject to compliance with CEQA and establishment of a new agreement.

**MSR Finding 2** Irrigation water demand in the district currently (2013) averages approximately 230,000 AF of water, serves approximately 47,500 acres of agricultural land, and accounts for about 80 to 90 percent of the total water supplied by the District.

Part of the District’s existing SOI overlaps with part of the CSJWCD service area. CSJWCD is a California water conservation district that provides surface water to areas north of SSJID; however, it does not provide any services to the affected area, and it does not have any plans to extend services to the area (see Chapter 2, SOI Plan; Figure 2-3, Area-C).

**Domestic Water**

SSJID provides domestic water service as part of a cooperative effort known as the South County Water Supply Program (SCWSP), which includes the Nick C. DeGroot Water Treatment Plant and distribution system. SSJID provides treated drinking water service from the Nick C. DeGroot Water Treatment Plant to the cities of Manteca, Lathrop, and Tracy. The District sells untreated water to the City of Ripon, and is under contract to supply drinking water to the city of Escalon in the future. Domestic water accounts for about 10 percent of the total water supplied by the District.

**MSR Finding 3** SSJID, Manteca, Escalon, Lathrop, and Tracy are part of a cooperative effort known as the South County Water Supply Program (SCWSP), which includes the Nick C. DeGroot Water Treatment Plant and distribution system. As a result of the SCWSP, the cities rely on SSJID to provide them with treated domestic water. Aside from its agreements with the
cities, SSJID is not obligated to provide domestic water. SSJID operates the treatment plant and sells wholesale treated water to the cities. When the current SCWSP agreement ends in 2029, the cities will have the option to form a separate Joint Powers Agreement to operate the water treatment plant and enter into agreements with SSJID to purchase raw water for treatment. It is reasonable to assume that SSJID will continue to sell treated water, or in the long-term, raw water for treatment, to the cities participating in the SCWSP.

The District adopted an Urban Water Management Plan (UWMP) on September 13, 2011, for its domestic water service in accordance with the California Urban Water Management Planning Act. The UWMP must provide water supply planning for a 20-year planning period in 5-year increments, and identify and quantify adequate water supplies for existing and future demands during normal, dry, and drought years. The UWMP evaluates SSJID's urban water supplies for the period of 2011 to 2030. This is the first UWMP prepared by SSJID. It covers only treated water delivered by SSJID as part of the SCWSP.

The purpose, required contents, and process used to prepare and adopt a UWMP are specified in California Water Code Sections 10610–10656. The overall goal of the UWMP is to provide water suppliers with a framework for carrying out their long-term planning responsibilities, and for reporting their strategies to meet future water demand to both the State and the communities they serve. Since SSJID is a wholesale water supplier, the UWMP does not include several sections that are normally required for retail water suppliers. Wholesale suppliers are only required to address a limited number of demand management measures and do not need to include urban water use goals (targets). The cities to which SSJID sell water must prepare urban water management plans that describe their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands over a 20-year planning horizon considering normal, dry, and multiple dry years.

Table 4-1 shows the amount of water that is allotted annually to the cities of Manteca, Escalon, Lathrop, and Tracy as part of the SCWSP. As the table shows, 31,522 acre-feet of water is allotted to the cities as part of Phase I of the SCWSP. Upon completion of Phase II of the SCWSP, water allotments to the cities would increase to 43,090 acre-feet. Deliveries to Ripon would add an additional 4,695 acre-feet of treated water annually.
TABLE 4-1  SCWSP WATER ALLOTMENTS

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Phase I (Acre-Feet per Year)</th>
<th>Percent</th>
<th>Phase II (Acre-Feet Per Year)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escalon</td>
<td>2,015</td>
<td>6.4%</td>
<td>2,799</td>
<td>6.5%</td>
</tr>
<tr>
<td>Manteca</td>
<td>11,500</td>
<td>36.5%</td>
<td>18,500</td>
<td>42.9%</td>
</tr>
<tr>
<td>Lathrop</td>
<td>8,007</td>
<td>25.4%</td>
<td>11,791</td>
<td>27.4%</td>
</tr>
<tr>
<td>Tracy</td>
<td>10,000</td>
<td>31.7%</td>
<td>10,000</td>
<td>23.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31,522</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>43,090</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Note: Phase I contract extends water allotments until construction of Phase II. The construction of Phase II will be scheduled as necessary to meet the cities’ demands.

*Source: SSJID UWMP, Table 5-6, Davids Engineering, Inc. December 2012.*

**MSR Finding 4**  SSJID’s Urban Water Management Plan (UWMP) (September 13, 2011) covers treated water delivered by the district as part of the SCWSP. As a wholesale water supplier, SSJID’s UWMP is only required to address a limited number of demand management measures and does not include urban water use goals (targets). SSJID sells about 31,522 acre-feet of treated water to the cities of Manteca, Escalon, Lathrop, and Tracy as part of Phase I of the SCWSP. Projected Phase II of the SCWSP will increase treated water deliveries to the cities to just over 43,000 acre-feet per year. Cities are required to prepare their own urban water management plans that describe how they will supply water to their residents.

**Raw Water Transfers and Exchanges**

Voluntary transfers of water provide a source of funding for improvements to the SSJID distribution system. SSJID has participated in several water transfers in the past, and continues to seek opportunities for mutually beneficial transfer agreements with water users outside of the District. Parties to whom SSJID has transferred water include Stockton-East Water District (SEWD), VAMP, USBR, Central San Joaquin Water Conservation District (CSJWCD), San Luis-Delta Mendota Water Agency (SLDMWA), and South Delta Water Agency (SDWA).

In 1997 SSJID entered into a 10-year contract with SEWD to provide a maximum of 15,000 acre-feet annually (adjusted based on annual inflows to New Melones) of surface water primarily for municipal and industrial use by the City of Stockton and the Lincoln Village and Colonial Heights Maintenance Districts. Deliveries began in 2000 and ended in 2010. More recently (2013), SSJID sold 40,000 acre-feet of raw water to other agencies. SSJID expects to sell untreated water in the future, subject to compliance with CEQA and establishment of agreements.

**MSR Finding 5**  SSJID has a history of conducting water transfers during wet years, or when SSJID has surplus raw water available. SSJID transfers or sells surplus raw water to other water purveyors, which provides an additional source of revenue. While this source of revenue is
not consistent or reliable on an annual basis, on average it can be expected that SSJID will
generate revenue from the sale of water transfers. It can also be expected that as water demand
increases for agricultural irrigation from district annexations and for treated water from urban
growth, SSJID may not have as much surplus water available to sell.

4a.2 Existing Water Supply and Demand

SSJID derives its water supply from three sources: surface water diverted from the Stanislaus
River at Goodwin Dam; groundwater pumped by the District and by private land owners; and
irrigation return flows from the Oakdale Irrigation District (OID). Irrigation water demands are
also partly met by precipitation. According to the SSJID Water Balance Study (Davids
Engineering, 2009), total rainfall on agricultural land within the district boundaries varied from
30,000 to 123,000 acre-feet annually between 1994 and 2008.

SSJID requires a firm water supply to meet crop irrigation demand. The primary crops grown in
the area served by SSJID consist of almonds and other permanent crops that are typically high-
value crops that supply increasing regional, national, and international food demands. Other
primary crops include forage and feed crops to sustain beef cattle and dairy herds in surrounding
areas.

SSJID provides treated water as part of the SCWSP (i.e., Escalon, Lathrop, Manteca, and Tracy).
These Cities purchase SSJID’s water to meet their municipal and industrial water demands. All
of the cities have other water supplies in addition to the treated water they receive through
SCWSP. Each city has groundwater wells and some have access to other sources of surface
water. These supplies also serve as backup reserve in the case of a reduction in treated water
deliveries from SSJD. Groundwater is often used by the cities as a backup supply, since it is
available year round.

This section summarizes SSJID’s existing water supplies and future demands. Detailed analysis
and information on SSJID’s irrigation water supply and demand can be found in the District’s
Agricultural Water Management Plan (Davids Engineering, Inc., 2012) and the SSJID Water
Balance Study (Davids Engineering, Inc., 2009). Domestic water supply and demand analysis
and information can be found in the District’s Urban Water Management Plan (2011, Provost &
Prichard Consulting Group).

Surface Water Sources

SSJID’s surface water supply is obtained exclusively from the Stanislaus River. Most of SSJID’s
water rights are held jointly with the neighboring Oakdale Irrigation District (OID). SSJID and
OID (Districts) jointly hold pre-1914 water rights to divert 1,816.6 cubic feet per second (cfs)
from the Stanislaus River during the period of March 1 through October 31. The Districts are
entitled to divert equal shares of this water at Goodwin Dam downstream of Tulloch Reservoir.
The Districts’ pre-1914 direct diversion rights were adjudicated and confirmed by a court
judgment in 1929. The priority of the pre-1914 rights date back to 1853. SSJID separately owns storage rights at Woodward Reservoir under a combination of a State-issued license and pre-1914 rights. SSJID’s pre-1914 rights are used to supply water to the SCWSP.

The Districts originally received an appropriation right in 1918 for the storage and use of Stanislaus River water behind Melones Dam. Melones was constructed by the Districts and completed in 1926. Additional rights were later issued to the Districts for storage at Melones with priorities of 1922 and 1945. SSJID separately owns an appropriative right at Woodward Reservoir, with a priority of 1921. The Districts’ appropriation rights were expanded in 1952 upon the receipt of additional water rights for the storage and diversion of Stanislaus River water in Donnells Reservoir, Beardsley Reservoir, and Tulloch Reservoir. The three reservoirs were constructed as part of the Tri-Dam Project.

Table 4-2 shows the storage capacity of the various reservoirs and the dates of the licenses issued to the Districts. All of the water rights listed are owned jointly by the Districts except for Woodward Reservoir, which is owned by SSJID alone.

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Maximum Storage</th>
<th>Water Right Priority Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melones (Old)</td>
<td>131,949</td>
<td>1918, 1922, 1945</td>
</tr>
<tr>
<td>Tri-Dam Project</td>
<td>242,500</td>
<td>1927, 1944, 1945, 1948</td>
</tr>
<tr>
<td>Woodward (SSJID)</td>
<td>36,000</td>
<td>1921</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>410,949</strong></td>
<td></td>
</tr>
</tbody>
</table>

1All of the above licenses are jointly owned by SSJID and OID, except for Woodward, which is solely owned by SSJID.

Source: SSJID, April 2009.

In 1972, at the time the Bureau of Reclamation (USBR) was planning construction of the New Melones Dam and Reservoir, the USBR and the Districts executed an operational agreement for the delivery of water to the Districts in accordance with their rights (the 1972 Stipulation). The 1972 Stipulation provided that the Districts were entitled to the first 654,000 acre-feet of annual inflow into New Melones Reservoir. With completion of the New Melones Reservoir in 1978, the Districts’ existing Melones Dam was submerged.

A modification of the 1972 Stipulation signed in 1988 (1988 Agreement) resulted in the Districts relinquishing their rights to 54,000 acre-feet of Stanislaus River water and the USBR agreeing to make available to SSJID and OID the first 600,000 acre-feet of inflow into the New Melones Reservoir. In years when New Melones inflow is less than 600,000 acre-feet, the 1988 Agreement provides that the USBR will make available to the Districts all New Melones inflow, plus an additional amount from storage, which varies with inflow. SSJID is entitled to half of these flows (i.e., 300,000 acre-feet).
Additionally, the difference between the quantity of water available to the Districts under the 1988 Agreement, and the amount of water delivered to the Districts at Goodwin Dam in a single water year, may be stored by the Districts in New Melones Reservoir, up to a cumulative amount of 200,000 acre-feet. The two agreements recognized and protected the Districts’ senior water rights on the Stanislaus River, as those rights might be affected by the USBR operation of the New Melones Reservoir. All of the Districts’ rights are senior to USBR’s right to store Stanislaus River water in New Melones Reservoir.

SSJID’s diversions (in acre-feet) from Goodwin, shown in Figure 4-1 below, are monitored by a measuring station, which is regularly calibrated. As the graphic shows, since 1994 water diversions have fluctuated from year to year due to varying amounts of rainfall and melting snowpack, which supply the water. According to the SSJID Water Balance Study (Davids Engineering, 2009), the District’s supply has varied from about 205,000 to 268,000 acre-feet between 1994 and 2008. As the dashed trend line shows, average water diversions have increased slightly from just under 230,000 acre-feet/year to about 240,000 acre-feet/year. The difference between these measurements in Figure 4-1 and the Water Balance Study is due to the location used to take the measurements.

**Figure 4-1 Goodwin Dam Water Diversions to SSJID (Acre-Feet, Rounded)**

![Figure 4-1 Goodwin Dam Water Diversions to SSJID (Acre-Feet, Rounded)](image)

*Source: Tri-Dam, 2013*

According to the SSJID Water Balance Study (by David’s Engineering, 2009), there is appreciable uncertainty in SSJID’s outflow measurements, and the overall level of confidence in the water balance is lower than desired, although adequate for making initial performance
assessments. Water balance is the amount of water delivered to SSJID customers after accounting for various factors, such as evaporation, leakage, and seepage. Davids Engineering recommended that certainty be increased by improving outflow measurements and conducting regular, independent validation of inflow measurements. Specifically, the Study made four recommendations to improve water balance:

- Further enhance ongoing efforts to expand and improve flow measurement;
- Differentiate between District lateral and farm performance and conduct on-farm efficiency assessments with cooperating landowners;
- Work toward providing real time flow measurements to system operators; and
- Continue to enhance centralized data storage and management.

**MSR Finding 6** SSJID holds adjudicated, pre-1914, surface water rights, which have seniority dating back to the early 1850s. It is reasonable to assume that SSJID’s water supply is very secure because its water rights are all senior in priority to those held by the United States for its New Melones Reservoir project. SSJID can withdraw a maximum of 300,000 acre-feet of water per year from the Stanislaus River by agreement with the USBR. In years when New Melones inflow is less than 600,000 acre-feet, the District shares with OID all New Melones inflow, plus an additional amount from storage. On average, surface water diversions from Goodwin Dam have risen since 1994 from nearly 230,000 acre-feet to about 240,000 acre-feet in 2013. While SSJID’s annual surface water diversions fluctuate significantly from year to year, SSJID’s average surface water diversions are a reliable source to meet water demand. As recommended by the SSJID Water Balance Study (Davids Engineering, 2009), SSJID should take steps to improve its monitoring and operations practices to ensure water supplies are delivered to customers as efficiently as possible.

**Groundwater Sources**

The Eastern San Joaquin Sub-Basin underlies SSJID, which includes much of eastern and central San Joaquin County. Hydrology in the basin generally pushes water from the Stanislaus River along the southern boundary of the District to the north. The pumping of groundwater from areas of San Joaquin County to the north of the District is beneficially impacted by surface water deliveries within SSJID’s SOI. The District pumps groundwater in the western part of the District. Most pumped groundwater is used to supplement surface water deliveries to farms during dry years; however, on average in both dry and wet years, SSJID provides a net recharge to the groundwater basin (see discussion below).

Figure 4-2 shows the locations of District groundwater pumping facilities. In addition to the District’s groundwater pumps, all rural areas of the District pump groundwater for domestic drinking purposes. The cities of Lathrop, Manteca, Ripon, and Escalon also use groundwater as part of their domestic drinking water supply.
According to SSJID’s AWMP, between 1994 and 2008 SSJID and growers within the SSJID service area pumped an average of 39,652 acre-feet of groundwater, most of which was pumped by growers with their own wells. In wet years groundwater pumping averaged 30,025 acre-feet; in dry years pumping increased to an average of 48,075 acre-feet, most by growers with their own wells.
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Figure 4-2
District Wells

Legend
- County Boundary
- Sphere of Influence
- District Boundary
- CityLimits

Source: South San Joaquin Irrigation District, December 2008
Back of Figure
Groundwater Overdraft

Groundwater overdraft has been a growing problem throughout SSJID’s service area and in San Joaquin County. Groundwater level measurements over the last 40 years (prior to 2008) have indicated continuous declines. Decreases have averaged over 1.5 feet per year, and groundwater levels have dropped over 100 feet in some areas during the 40-year period. Continual overdraft has reduced storage in the basin by as much as 2 million acre-feet, resulting in several surface depressions above the groundwater table.

Groundwater is relatively shallow (i.e., less than 20 feet below ground level) in the central portion of San Joaquin County, and as shallow as two feet within SSJID’s SOI. Depths to groundwater generally increase to over 100 feet towards the groundwater depressions and toward the Sierra Nevada and Diablo Mountain ranges. San Joaquin County has observed a continuing depressed water table in the upper aquifer system in areas around the District, and the County has identified critical overdraft conditions in the northeastern part of San Joaquin County. Historically, the County has observed overdraft areas east of the city of Stockton and north of the District.

Groundwater levels within the District are monitored on an annual basis by the San Joaquin County Flood Control and Conservation District (SJCFCCD). In Spring 2010 SJCFCCD reported on 44 wells within the District showing a -0.2 foot net change in groundwater levels. Of the 44 reported wells, 26 showed decreases in groundwater levels, 14 showed increases in levels, and 4 wells showed no change. Increases in groundwater levels were concentrated in the western portions of the District.

MSR Finding 7 SSJID, rural water users, and the cities of Lathrop, Manteca, Ripon, and Escalon pump groundwater from the underlying sub-basin. SSJID and growers with their own wells pump groundwater each year, but significantly more groundwater is pumped by growers with their own wells during dry years. As a result of groundwater pumping by property owners, cities, and water providers within and outside the district, groundwater levels have decreased an average of 1.5 feet per year, and over 100 feet in some areas, over the past 40 years in eastern San Joaquin County, resulting in about 2 million acre-feet of lost groundwater basin storage capacity and depressions in the groundwater table. Water well testing in the district in 2010 showed a -0.2 foot net change in groundwater levels. While monitoring showed an overall decrease, groundwater levels increased in the western parts of the district.

Reducing Groundwater Overdraft

Throughout the Central Valley the use of surface water and groundwater in conjunctive use efforts has reduced groundwater overdraft. Conjunctive use is the coordinated use of groundwater and surface water in order to minimize undesirable physical, environmental, and economic impacts, and to optimize the water demand/supply balance. In addition, efforts led by the County and SSJID to conserve and use recharge basins to facilitate groundwater recharge have been effective management alternatives to reduce overdraft. Finally, growers in rural areas
within the District who do not take surface water and pump groundwater for irrigation are charged a groundwater recharge fee.

SSJID on average in both dry and wet years provides a net recharge to the groundwater basin. Within SSJID’s SOI flood irrigation helps maintain groundwater levels through recharge. Irrigation water from SSJID serves as a source of recharge to the sub-basin, including deep percolation of applied surface water and seepage from District canals. This recharge provides regional as well as local benefits to groundwater pumping. SSJID is also a member agency of the Northeastern San Joaquin County Groundwater Banking Authority (SJCGBA). SJCGBA collaboratively manages the groundwater basin for existing and future uses through the Groundwater Management Plan for the Eastern San Joaquin Subbasin.

Results from a water balance study prepared for the District by Davids Engineering, Inc., as reported in SSJID’s 2012 Agricultural Water Management Plan, showed that the District’s supply of surface water in canals and reservoirs annually recharges the groundwater in excess of 50,000 acre-feet. When combined with drain seepage and deep percolation, SSJID contributes a total recharge of about 97,000 acre-feet per year. Total recharge was found to be greater in dry years due to longer irrigation seasons (i.e., increased number of days during which seepage in the distribution and drainage systems occurs) and increased crop irrigation requirements in dry years.

MSR Finding 8  SSJID’s irrigation water service facilities and practices result in groundwater recharge of about 97,000 acre-feet per year. Based on average recharge rates compared to average groundwater pumping within SSJID, the AWMP found that SSJID activities result in a net recharge to the groundwater basin of about 57,300 acre-feet per year. Despite SSJID’s contribution to recharging the groundwater basin, pumping from property owners and cities within and outside the district continues to deplete groundwater sources. SSJID undertakes water conservation and recharge programs and activities to facilitate groundwater recharge and reduce overdraft. SSJID charges a recharge fee to water users within the district who pump groundwater.

Other Water Sources

In addition to Stanislaus River water and groundwater supplies, the District accepts municipal and industrial effluent and tailwater from irrigators who do not have access to a drain. SSJID captures boundary outflows from OID and individual irrigators. Based on the water balance analysis in the AWMP, effluent and tailwater inflows are approximately 15,000 acre-feet per year.

Future Water Demand

SSJID forecasts for future water demand are based on the type of water that would be needed. The District bases its assumptions for irrigation water demand on the parcel size, crop type, and past farming practices. For wholesale treated water the District bases its assumed demand on the
Nick C. DeGroot Water Treatment Plant capacity and its water supply contracts the cities. Cities within the District are responsible for supplying water to their residents, which is currently partially met by the District’s water supplies.

The City of Ripon is currently (2014) negotiating with SSJID (and the other cities in the SCWSP) to receive treated water in lieu of raw water it receives under its current contract with the District and to accelerate the annual delivery schedule. Ripon would be able to receive up to 4,695 acre-feet of treated water annually under its proposed contract with the District. The District would also use surplus treatment plan capacity not used by another city to provide Ripon with drinking water, presumably Lathrop.

Per the District’s Rules and Regulations, growers are required to notify the District of their planned water needs between January 1 and June 1 of each year they plan to irrigate so that SSJID can prepare a crop report and update water usage records.

Water supplies to SSJID can be irregular. Seasonal snowpack in the Sierras, which is the source of the District’s water, can fluctuate from average and above average water yields to extended periods of drought. For example, the driest year in the District’s history occurred in 1976-1977 with runoff of only 129,300 acre-feet. The second driest was 1923-24, when only 261,100 acre-feet of runoff from the Stanislaus River was available. The average annual runoff in the watershed exceeds one million acre-feet. This fluctuating supply of surface water has, at times, limited the amount of water available to the District and its customers.

Demand for irrigation water is likely to increase through 2038 as additional farmland is annexed into SSJID’s service area. Irrigation water demand may also increase to serve parcels currently using groundwater that convert to surface water because of salinity, energy costs, or improvements in delivery of surface water for drip and sprinkler irrigation. Domestic water demand is expected to increase substantially from its current level of 23 MGD to about 60 MGD, an increase of about 38 percent, through 2038. Expected water demand within the District and SOI for both irrigation and domestic water is expected to average about 270,000 acre-feet/year in 2038. This is 30,000 acre-feet less than the District’s maximum supply (300,000 acre-feet/year) under the 1988 Agreement with the USBR. According to SSJID’s AWMP, it is estimated that SSJID is expected to receive its full supply in 79 out of 100 years and is expected to receive at least 249,000 acre-feet in 95 out of 100 years. The minimum supply SSJID is expected to receive in any year is approximately 190,000 acre-feet.

When available, SSJID is also able to use OID tailwater outflows into the district to meet some water irrigation water demands. This reduces its demand for water from SSJID’s surface water diversions. However, OID continues to become more efficient with its irrigation water delivery system, which has reduced outflows into SSJID. As OID continues to become more efficient, it can be expected that SSJID will become more reliant on its surface water diversions from the Stanislaus River.
MSR Finding 9 While it is anticipated that SSJID will have sufficient water to meet future demands, SSJID may not have sufficient surface water supplies in all years to meet anticipated irrigation and domestic water demands which is expected to total about 270,000 acre-feet/year in 2038. SSJID’s water rights allow for maximum diversions from the Stanislaus River of 300,000 acre-feet/year. While the AWMP reported that SSJID could expect to receive its full supply in 79 out of 100 years and receive at least 249,000 acre-feet in 95 out of 100 years, SSJID’s diversions from Goodwin Dam between 1994 and 2003 have only averaged between 230,000 and 240,000 acre-feet/year. When SSJID does not receive sufficient surface water supplies in dry years, it will rely on groundwater pumping and/or reduced deliveries to customers who have been receiving water from the district for the shortest period of time. It is reasonable to expect, however, that the District’s current water rights, anticipated diversions, and planned conservation measures are adequate to meet existing and projected demand within the SOI.

Water Supply Shortage Allocations

SSJID recognizes that there may be times when available surface water supplies are insufficient to meet agricultural water demands. In response, the SSJID Board adopted a set of special rules in 1991 to be implemented in case of a water supply shortage or emergency. The rules are intended to maintain equitable service in the event of a water shortage. The special rules are not permanent and may vary in specific provisions over time based on Board policies.

The surface water shortage contingency actions are summarized in eight measures that can be implemented by SSJID in the event of a shortage while still fulfilling its obligation to manage and deliver water in a reasonable and beneficial manner:

- Reduce the maximum water surface elevation of Woodward Reservoir to minimize surface evaporation
- Extend the start date of the irrigation season
- Implement a variable water delivery rotation schedule
- Implement maximum time limits for flood irrigation
- Implement irrigation quantity limits for pressurized systems
- Implement alternative supply sources (e.g., lease private pumps, use District wells, or possibly drill additional wells)
- Allow for inter-parcel transfers/fallowing with a cut-off date for transfers.
- Enforce Tier 2 service agreement provisions.

SSJID has also developed several contingency plans to provide treated water to the cities through the SCWSP in the case of a water shortage, including:

- Voluntary reductions
- Inter-city transfers
• Private well leasing
• Agricultural water conservation
• Additional groundwater pumping

If water delivery cannot be met without reducing demand, SSJID would reduce irrigation deliveries by implementing these contingency plans, and ration water to the cities using the same reduction percentage as would be applied to its agricultural customers. This policy is included in the agreements between SSJID and each city. In addition, each city has its own contingency plans for dealing with water delivery reductions, including groundwater, water transfers, stored water, water conservation measures, water use prohibitions, and recycled water.

**MSR Finding 10**
In wet years SSJID will have sufficient surface water supplies to meet current and projected irrigation and domestic water demand; however, in dry years SSJID may need to rely on groundwater sources to meet part of its demand. In extremely dry years or periods of prolonged drought, some SSJID irrigation water or domestic water customers may receive reduced deliveries. SSJID maintains sufficient contingency plans and measures for irrigation water and domestic water in the event of an extreme circumstance (e.g., drought) that limits or restricts the District’s ability to meet demand.

**Potential Impacts to Water Supplies**
Impacts that could affect SSJID’s sources of water include periodic or prolonged droughts, changes to SSJID’s water rights, or increased saltwater intrusion in the groundwater basin.

**Potential Climate Change Impacts**
Impacts that could affect SSJID’s source of water include reduced snow pack and river flows due to climate change, periodic or prolonged droughts, or increased saltwater intrusion in the groundwater basin. According to the update to the California Climate Adaptation Strategy, *Safeguarding California: Reducing Risk* (Draft December 2014, California Natural Resources Agency), the major impacts of climate change on California’s water sector may be changes in the timing, form, and amount of precipitation, changed runoff patterns, increases in the frequency and severity of extreme precipitation events (floods and droughts), and sea level rise. The following impacts are excerpted from *Safeguarding California: Reducing Risk*.

**Snowpack and Precipitation**. California’s snowpack is predicted to decrease by at least 25 percent by 2050 as more precipitation falls as rain instead of snow and the remaining snowpack melts and runs off earlier in the year. While flows may be higher in winter, water levels in waterways and reservoirs may be lower in spring and summer; water supply for a variety of uses, including hydropower and energy generation, agriculture, recreation, and environmental uses will likely be reduced during the times of the year when it is most needed. The State’s plan notes that storage, whether surface storage or groundwater storage, can help save water when flows are
SSJID’s water supplies could be impacted in the future by the effects of climate change. SSJID’s Agricultural Water Management Plan and an Urban Water Management Plan, and the District’s other water conservation efforts illustrate the District’s commitment to carefully managing its water. Many of the strategies identified by the California Department of Water Resources to mitigate climate change impacts on water supplies are already being implemented by SSJID in some form to meet local and regional water management objectives. It is expected that these programs will continue to serve the District well if climate change impacts occur. SSJID should monitor climactic changes and their impacts on future water supplies and
plan and invest in water conservation projects and programs to secure long-term water supplies, and reduce water demand and reliance on groundwater sources.

**Potential Impacts to Water Rights**

For the past 25 years the Water Resources Control Board has conducted hearings about water rights holders in watersheds that flow into the Delta. These hearings have focused on the development and implementation of water quality control plans for the San Francisco, Sacramento, and San Joaquin areas. While it is not possible to predict the outcome of these hearings, the outcome could have an impact upon SSJID’s water rights and the Tri-Dam Project.

**MSR Finding 13** According to SSJID, regulatory trends are threatening the rights of many water districts. SSJID’s ability to meet future water demand could be affected by changes to SSJID’s water rights; however, it is too speculative to predict if or when these circumstances would occur. SSJID participates with other water purveyors in the San Joaquin Tributaries Authority (SJTA) which defends members’ water rights by sharing costs to participate in and defend their water rights at proceedings before the State Water Resources Control Board.

**4a.3 Water Quality**

This section summarizes SSJID’s surface and groundwater quality. Detailed analysis and information on SSJID’s water quality can be found in the District’s Agricultural Water Management Plan (2012, Davids Engineering, Inc.) and 2011 Urban Water Management Plan (2011, Provost & Prichard Consulting Group).

**Surface Water**

According to its AWMP, SSJID historically performed water quality monitoring in-house. As a result of new State regulations, surface water monitoring is conducted for SSJID in compliance with the Central Valley Regional Water Quality Control Board’s Irrigated Lands Program through membership in the San Joaquin County and Delta Water Quality Coalition, which the District joined in March 2011. In addition, the District monitors for aquatic pesticides as required by the Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for the Discharge of Aquatic Pesticide for Aquatic Weed Control in Waters of the United States. There are no known surface water pollution issues in the District. Irrigation water is released from the District’s drainage system and canals into streams and rivers.

According to the SSJID’s AWMP, increased erosion and turbidity due to climate change would likely not significantly affect the water quality of the Stanislaus River for agricultural irrigation purposes. Increased water temperature could create additional challenges to SSJID in controlling aquatic plants in its distribution system to maintain capacity, to the extent that the increase is great enough to result in substantially increased plant growth.

**MSR Finding 14** SSJID monitors surface water quality as required by the Statewide General National Pollutant Discharge Elimination System (NPDES). The District performs surface water
monitoring in compliance with the Central Valley Regional Water Quality Control Board’s Irrigated Lands Program through membership in the San Joaquin County and Delta Water Quality Coalition. There are no known surface water pollution issues in the District. Increased turbidity and algae growth as a result of climate change, if substantial, could pose challenges to filtering SSJID canal water for micro-irrigation.

### Groundwater

Groundwater in the Eastern San Joaquin sub-basin water includes calcium-magnesium bicarbonate or calcium-sodium bicarbonate. Water contamination in the sub-basin includes high concentrations of chlorides, salinity intrusion, and some nitrate and arsenic contamination. Large parts of the sub-basin along the San Joaquin River contain chlorides, resulting from salinity intrusion from the west. Declining water levels and increasing salinity intrusion are major concerns in the Eastern San Joaquin sub-basin. In the western part of the District, SSJID pumps saline groundwater and then mixes it with surface water to reduce the effects of the saline on irrigated agriculture.

According to SSJID’s AWMP, the District monitors electrical conductivity for its 28 production wells using permanently installed sensors. All information is available real-time through the telemetry system. In addition, annual monitoring of groundwater quality is performed in 26 wells throughout San Joaquin County, including SSJID, by the San Joaquin County Flood Control and Water Conservation District (SJCFCWD). Parameters measured include total dissolved solids (TDS), turbidity, chloride, and electrical conductivity (EC). SJCFCWD produces semi-annual groundwater reports and is in the process of developing a web-based interactive tool to make historical groundwater information readily available to the public. Groundwater pumped for irrigation in SSJID is generally of good quality.

In order to stop the intrusion of saltwater into the sub-basin, the District participates in groundwater recharge efforts. On average, the District contributes about 97,000 AF of recharge annually to the sub-basin underlying the District.

**MSR Finding 15** Groundwater contaminants in the underlying sub-basin include high concentrations of chlorides, salinity intrusion, and some nitrate and arsenic contamination. SSJID maintains a pump monitoring system that measures the quantities and salinity concentrations of pumped groundwater. The District pumps saline groundwater and mixes it with surface water to reduce the effects of saline on irrigated agriculture. The District also participates in groundwater recharge efforts to reduce saltwater intrusion. Groundwater pumped for irrigation in SSJID is generally of good quality.

### 4a.4 Water Distribution System

The SSJID water system includes a water supply and distribution network and a water drainage network. A network of 38 miles of concrete-lined channels and 312 miles of pipelines distribute water to individual parcels of land. The network also collects excess water and transports it to the
Stanislaus and San Joaquin Rivers. Figures 4-3, 4-4, and 4-5 show District reservoirs and dams, water canals, and water pipelines.

This section summarizes SSJID’s existing water distribution systems. Detailed information on SSJID’s existing and planned irrigation water system can be found in the Districts’ Agricultural Water Management Plan (2012, Davids Engineering, Inc.). Domestic water treatment and distribution facilities information can be found in the District’s Urban Water Management Plan (2011, Provost & Prichard Consulting Group).

**Surface Water Storage**

Surface water is stored in reservoirs behind Tulloch, New Melones, Beardsley, Goodwin, Donnells, and Woodward Dams. Beardsley, Donnells, and Tulloch Reservoirs make up what is known as the Tri-Dam Project.

**New Melones Lake**

New Melones Lake is the fifth largest reservoir in California and the most recent major dam developed as part of the Central Valley Project. The dam submerged the Districts’ Melones Dam facilities. New Melones has a capacity of 2.4 million acre-feet.

**Goodwin Dam**

Goodwin Dam, completed in 1913, was constructed jointly by OID and SSJID, with equal shares of water allocated to the two districts. By the Goodwin Agreement (March 23, 1990) SEWD acquired a one-third interest in Goodwin Dam. The dam has an estimated capacity of 502 acre-feet of water. SSJID and OID own pre-1914 water rights connected with the dam. The Goodwin Dam operates as a diversion facility for OID, SSJID, and SEWD. Each district receives water from the dam by gravity. SSJID’s water rights provide for direct diversion or re-diversion from storage at Goodwin.
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Figure 4-3
Tri-Dam Facilities

Legend
- County Boundary
- Sphere of Influence
- District Boundary

Source: San Joaquin County, June 2008
Chapter 4, Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs or Deficiencies

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Figure 4-4
District Canals

Legend
- County Boundary
- Earthen
- Sphere of Influence
- Concrete
- District Boundary
- City Limits

Source: South San Joaquin Irrigation District, December 2008
Back of Figure
Figure 4-5
District Pipelines

Source: South San Joaquin Irrigation District, December 2008
Back of Figure
**Tri-Dam Project**

The Tri-Dam Project is a joint venture (partnership) between SSJID and OID. Together they developed, operate, and maintain the Beardsley, Donnells, and Tulloch projects, including dams, tunnels, penstocks, power houses, communications systems, and offices. Donnells and Beardsley Dams, reservoirs, power houses, and appurtenant facilities are located on the Middle Fork of the Stanislaus River in Tuolumne County. Tulloch Dam, reservoir, power house, and appurtenant facilities are located on the main stem of the Stanislaus River below New Melones Dam and reach into both Calaveras and Tuolumne Counties. In 2006 the Federal Energy Regulatory Commission issued new 40-year licenses for the Donnells, Beardsley, and Tulloch projects. In 2007 the three dams were inspected and found to be well-maintained with no significant safety concerns. Table 4-3 shows the storage of the Tri-Dam reservoirs and the dates of the licenses issued to the Districts.

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Maximum Storage (ACRE-FOOT)</th>
<th>Maximum Withdrawal (ACRE-FOOT)</th>
<th>Water Right License Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beardsley</td>
<td>98,000</td>
<td>76,900</td>
<td>1927, 1945</td>
</tr>
<tr>
<td>Donnells</td>
<td>64,500</td>
<td>59,000</td>
<td>1927, 1948</td>
</tr>
<tr>
<td>Tulloch</td>
<td>80,000</td>
<td>63,000</td>
<td>1944</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>242,500</strong></td>
<td><strong>198,900</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Includes both SSJID & OID.
Source: SSJID, April 2009.*

**Woodward Reservoir**

SSJID diverts water from Goodwin Dam through a canal system to Woodward Reservoir (see Water Distribution System section below). Woodward Reservoir has a maximum storage capacity of 36,000 AF. Water is released from Woodward Reservoir for irrigation and to the SCWSP.

**Water Delivery System**

The headworks of the SSJID water system are owned jointly with OID. The headworks consist of Donnells, Beardsley, and Tulloch Reservoirs and Goodwin Dam. A major canal known as the Joint Supply Canal conveys water from Goodwin to a point near Knights Ferry where the water is delivered separately to the two districts. The Canal is 72 percent-owned by SSJID and 28 percent-owned by OID. The Joint Supply Canal is 3.5 miles long, with 1.1 miles of tunnels and 2.4 miles of canal. The District’s Main Supply Canal connects to the Joint Supply Canal and transports water from the terminus of the Joint Supply Canal to Woodward Reservoir. The Main Supply Canal is 9.2 miles long, with 0.8 miles of tunnels, 2.7 miles of lined canal, and 5.7 miles of canal either unlined or through rock. The Main Supply Canal has capacity of 908.3 cfs.
Woodward Reservoir releases water into the District’s Main Distribution Canal (MDC). The MDC is an 18.3-mile, predominately earthen channel through which SSJID’s irrigation water is supplied. About 6.3 miles of this canal are outside District boundaries and 12 miles are within the District. Automated turnout facilities regulate the flow of water from the MDC to a network of irrigation laterals. The laterals are either concrete-lined open channels or buried pipelines.

**Water and Drainage Canals and Pipelines.** The District has about 38 miles of open channel and about 312 miles of pipeline, for a total delivery network of 350 miles. Drainage facilities within SSJID include about 10 miles of pipeline and about 70 miles of open ditch. The French Camp Outlet Canal is the main collector for the District.

**Drainage/Irrigation Wells.** SSJID owns and operates 31 irrigation wells. SSJID’s groundwater wells have a combined pumping capacity of about 124 cfs. The District has installed electronic controllers that allow all 28 groundwater pumps owned by the District to be operated from a central control room. These devices allow the District to measure volume and salinity of groundwater. They also allow the District to operate the groundwater pumps more efficiently to take advantage of time-of-use energy pricing for electricity.

**Pressurized Irrigation System.** SSJID maintains pressurized water system facilities (the Division 9 project) for part of the district that has experienced groundwater salinity issues. In response, farmers had been moving away from using well water, to using higher quality surface water from the District’s pipes and canals. The Division 9 Project is a 10-mile-long pressurized system that delivers water to the area west of Ripon and south of Woodward Avenue to the Stanislaus River along the Lateral U and Lateral V Lines. This project provides growers with pressurized surface water to mist, sprinkle, and drip irrigate their fields. This pressurized line serves approximately 4,000 acres. Customers that connect to the Division 9 project pay an additional charge for irrigation water compared to canal rates (see Chapter 5). The additional charge offsets the District’s electric utility costs to pressurize the water.

**Domestic Water System**

The District’s domestic water system consists of an intake facility at Woodward Reservoir, a 40 MGD membrane filtration water treatment plant (i.e., Nick C. DeGroot Water Treatment Plant) just west of Woodward Reservoir, and over 40 miles of pipe and a 35-mile concrete-lined steel supply pipeline to supply Manteca, Lathrop, and Tracy. From 2006, the first full year of operation, to 2010 the Water Treatment Plant delivered a combined average of 18,533 acre-feet annually.

**Planned Treatment and Distribution Improvements**

The District has adopted plans for the annual maintenance and capital improvement of its irrigation system. SSJID has identified, in its Five-Year Capital Expenditures Plan (September 24, 2013), maintenance projects and system enhancements that will ensure SSJID’s water systems continue to operate and function at an optimal level (Appendix C: SSJID Five-Year...
Capital Expenditures Plan). SSJID annually reviews and updates its Five-year Capital Expenditures Plan. For each project, the plan identifies the location, specific type of improvement, justification for the improvement, and funding source, and the agency responsible for performing the project work. In total the Plan identifies project costs of about $33.5 million over five years (includes irrigation system, shop, and water treatment plan improvements); however, SSJID is only directly responsible for funding about $14 million of those costs. The remaining $19.5 million would be the responsibility of property-owners or developers, cities within the district, partner irrigation districts, or specific rate payer fees (e.g., SBx7-7 rates).

Typical maintenance and improvements include: clearing open ditches of sand and weeds, and relining them as necessary; and replacing existing cast-in-place pipelines with rubber-gasketed reinforced concrete pipe. Many irrigation system improvements occur when new development projects require the relocation or replacement of SSJID laterals and drains, and these improvements are often made at little or no cost to the District. Specific irrigation system improvements identified in the Plan are based on SSJID staff evaluations of the condition of the system and facilities and expected improvements needed to serve newly developed areas. Capital improvements for the Water Treatment Plant were based on assumed growth in demand for treated water (see below). SSJID’s irrigation system improvement plans are likely to change once the District completes its current (2013) study on expanding its pressurization irrigation system.

**SCWSP Phase II.** When the District constructs Phase II of the SCWSP to add capacity to the Nick C. DeGroot Water Treatment Plant, it will be able to supply treated water to Escalon. The timing of construction of Phase II depends on increased demand from the cities. Phase II is expected to increase the total annual output of the SCWSP to about 43,000 acre-feet of water, not including possible delivery of treated water to Ripon. This is expected to reduce annual groundwater pumping from the underlying basin by about 30,000 acre-feet.

To serve Escalon, the SCWSP pipeline would be extended south from Dodds Road, along Escalon-Bellota Road, west along Lone Tree Road, and south along Brennan Road to Escalon’s water system at the intersection of Brennan Road and Highway 120.

**MSR Finding 16** SSJID’s Five-Year Capital Expenditures Plan recognizes that increase in demand for treated water will require sufficient available funds to make needed improvements over the next five years. The Plan, “…warns us [SSJID] to manage the plant’s capital replacement fund with the intention of having those funds in place when they are needed.” Because Water Treatment Plant improvements are funded by the cities participating in the SCWSP, it is reasonable to assume that SSJID will continue maintaining the Water Treatment Plant in a manner that provides adequate, and in some cases enhanced, treated water service.

**Pressurized Irrigation Water System Expansion.** SSJID’s water demand projections for the Division 9 project indicate that demand will eventually exceed distribution capacity. As a result, in November 2013 SSJID entered into a contract with Stantec Consulting Services, Inc. to
prepare the first phase of a comprehensive scientific and economic study of the reengineering of the existing irrigation system to provide pressurized service throughout the District. Based on findings from the study, SSJID has indicated that it will weigh the costs and benefits associated with improving its irrigation system to provide pressurized system throughout the District compared to those associated with continued use of the existing gravity system. Figure 4-6 shows the District’s irrigation divisions that will be evaluated as part of the study.

**FIGURE 4-6  SSJID IRRIGATION DIVISIONS**

SSJID expects that the results of the study, when they become available, will require an update to its Five-year Capital Expenditures Plan. Some repair and replacement projects may be unnecessary if the study results in the expansion of the pressurized system. As a result, SSJID projects previously planned for the 2013-2014 construction season will be deferred to the following season when the findings from the study will allow the District to determine which projects will still be needed and which should be deferred to future years.

**MSR Finding 17**  SSJID is undertaking a study to identify improvements to the Division 9 project to meet anticipated demand and to evaluate the feasibility of expanding pressurized irrigation systems to other parts of the district. Based on findings from the study, SSJID will update its Five-Year Capital Expenditures Plan to prioritize improvements and identify new
projects. It is not known whether the results of this study will require additional funding beyond what has already been anticipated by the District; however, it is reasonable to expect that SSJID’s infrastructure planning process will prioritize and fund maintenance and capital projects in order to continue providing adequate, and in some cases enhanced, pressurized irrigation water service.

**Supply Treated Water to Ripon.** As described above, the City of Ripon has been working with SSJID (and the other cities currently under contract to SSJID) to receive treated water in lieu of raw water. In order to deliver treated water to Ripon, an additional pipeline is required to transport water from the District’s existing pipeline to Ripon’s water system. The City of Ripon would be responsible for any capital costs associated with extending this pipeline and connecting to the treatment facility. Alignment of this pipeline would likely follow Jack Tone Road from the intersection of French Camp, Lone Tree, and Jack Tone Roads, southerly along Jack Tone Road, and east on River Road to interconnect with Ripon’s water system facilities at Mistlin Park. Ripon’s addition to the SCWSP system would increase in the potential annual output of Phases I and II of the SCWSP.

**Supply Irrigation Water to 80-Acre Annexation Area.** The 80-acre annexation area can be readily irrigated by SSJID’s adjacent irrigation system facilities. SSJID’s water distribution system (Lateral Q) runs in a generally northwesterly direction and transects a portion of the property. The property owners plan to install a sprinkler sump to take delivery of irrigation water from the lateral. The property can also be irrigated from the portion the SSJID system (Lateral Qk) that is adjacent to the parcel’s northerly boundary. The increase in water used by the 80-acre annexation area is within existing and future SSJID water entitlements and facility capacities.

**SBx7-7 Water Measurement Program.** SBx7-7 (Steinberg, 2009) requires water purveyors to develop a water measurement program by 2015. The District is currently (2013) working with an engineering firm to implement a measurement program, which will include 111 Doppler and 282 magnetic meters. To comply with the SBx7-7 volumetric pricing requirements, SSJID adopted a new, $3.00 per acre-foot charge in addition to its existing charges, which will be implemented in 2014 (see Chapter 5).

**MSR Finding 18** SSJID has conducted several analyses to determine potential impacts to its water supplies and necessary improvements to its water system. SSJID’s Five-Year Capital Expenditures Plan identifies ongoing system improvements to maintain and enhance its irrigation water and water treatment facilities. In addition, SSJID has several major capital improvement projects planned or underway to improve system efficiencies, conserve water, and deliver water to new customers, including: the Phase II of the South County Water Supply Project; expansion of the pressurized agricultural water delivery system; treated water delivery to Ripon; irrigation water delivery to the 80-acre annexation area; and the SBx7-7 Water Measurement Program. While SSJID’s Five-Year Capital Expenditures Plan may change to reflect findings from its pressurized irrigation system study, it is reasonable to assume that the District’s improvements will ensure it continues providing adequate irrigation water and treated water service to its...
customers. SSJID has not identified any system improvements for the expansion of its irrigation water system beyond its existing boundaries.

**MSR Finding 19** While SSJID has prepared plans to ensure its water supplies and associated infrastructure are sufficient to meet future demands, SSJID has not conducted detailed financial studies to determine how it will carry out implementation of the Agricultural Water Management Plan (2012), Water Balance Report (2009), and Urban Water Management Plan (2011). For water conservation programs, it appears that SSJID is not planning to provide future funding. SSJID should conduct a financial analysis of the Agricultural Water Management Plan (Davids Engineering, Inc. 2012), Water Balance Report (Davids Engineering, Inc. 2009) and Urban Water Management Plan (2011), and prepare a comprehensive, near- to mid-term Capital Improvement Plan to carry out identified improvements.

### 4a.5 Water Reuse and Conservation Measures

**Irrigation Water Conservation**


The Water Conservation Bill of 2009 (SBx7-7) amended the California Water Code (CWC) Division 6 with regards to agricultural and urban water management by adding Part 2.55 (commencing with §10608) and replacing Part 2.8 (commencing with §10800). In particular, SBx7-7 requires all agricultural water suppliers to prepare and adopt an AWMP as set forth in the bill on or before December 31, 2012. The plan must be updated by December 31, 2015, and then every five years thereafter (§10820 (a)). Additionally, the Statute requires suppliers to implement certain efficient water management practices (EWMPs).

In 2012 SSJID prepared and adopted its AWMP. According to SSJID’s AWMP, State law (SBx7-7) lists sixteen efficient water management practices, two of which are “critical” or mandatory. The remaining 14 “conditional” efficient water management practices are to be implemented if technically feasible and locally cost-effective.

SSJID committed in 2011 to invest in on-farm agricultural efficiency programs for a three-year period to conserve water and reduce groundwater reliance and energy consumption. The District invested approximately $1.5 million in 2011, and lesser amounts in 2012 ($833,661) and 2013 as demand decreased. It has extended the program into 2014. The District has increased the level of investment in irrigation system maintenance by over 300 percent in the past two years and developed the Division 9 Project, a state-of-the-art automated pressurized irrigation delivery system that covers approximately 10 percent of the cropland in the service area. SSJID is
currently studying the feasibility of expanding pressurized irrigation systems to other parts of the district.

Notable water delivery efficiency and water conservation actions SSJID has initiated or completed over the last ten years, according to the AWMP, include:

- Development and implementation of the System Improvements for Distribution Efficiency (SIDE) project in 2003, resulting in increased flexibility for system operations and deliveries in the surrounding area;
- Development of a 15-year water balance for 1994 to 2008 in 2009, providing a benchmark of recent historical water use within the District to allow for assessment of current water management and planning, and evaluation of future improvements;
- Preparation of a Joint Canal hazard study and completion of tunnel improvements on the Joint Canal and Upper Main Supply Canal between 2005 and 2010;
- Development and implementation of a Flow Measurement Plan in 2010, including phased measurement improvements at boundary outflows, delivery measurement accuracy assessment, and pilot testing of delivery measurement alternatives;
- Acceleration of capital improvement projects from 2008 through 2010 to create local jobs and take advantage of reduced construction costs;
- Installation and implementation of TruePoint water ordering software in 2009 to improve accounting of individual customer deliveries and support volumetric water charges;
- In 2011 the District licensed its own Federal Communications Commission (FCC) frequency and built eight (8) microwave towers to support enhancement of its Supervisory Control and Data Acquisition (SCADA) system.
- Development and implementation of SSJID’s On-Farm Water Conservation Program in 2011, providing direct incentives to SSJID irrigators to use available surface water supplies while implementing water conservation practices.

A primary purpose of the AWMP is to identify water conservation and efficiency measures that SSJID can feasibly undertake to further reduce irrigation water demand. The AWMP found that SSJID is currently implementing the two critical efficient water management practices. Of the 14 conditional efficient water management practices, SSJID is implementing all of those that are technically feasible (12 out of 14) at locally cost-effective levels and will continue to evaluate and implement additional actions that most effectively support SSJID’s water management objectives. Based on the analysis of SSJID in the AWMP, Davids Engineering, Inc. concluded that:

“Development of this AWMP has provided SSJID with an opportunity to evaluate and describe its ongoing water management activities and to evaluate how these actions
support the District’s water management objectives, described above, as well as water use efficiency improvements from the State’s perspective. As demonstrated in the Plan, SSJID is a local leader in water management and is committed to the ongoing evaluation and implementation of water management practices that meet water management objectives. In the future, SSJID will continue efforts to effectively manage available surface water and groundwater supplies.”

**Domestic Water Conservation**

The Urban Water Management Planning Act (Act) became part of the California Water Code in 1983. The Act requires that every urban water supplier that provides water for more than 3,000 customers, or supplies more than 3,000 acre-feet (AF) of treated water annually, prepare and adopt an UWMP, and update it every five years. A UWMP is required for a water supplier to be eligible for State grants, loans, and special drought assistance administered by the Department of Water Resources (DWR).

In 2011 SSJID prepared and adopted its UWMP. The UWMP includes a water use reduction plan, identifies recycled water opportunities, evaluates water supply reliability (i.e., shortage contingency planning and drought planning), and sets forth several demand management measures.

SSJID plays only a limited role in urban water conservation efforts, as these are primarily managed and implemented by each city to which it supplies water. However, SSJID does assist with educational programs at local schools on water management and water conservation. According to the UWMP, SSJID plans to maintain and expand this school education program in the future. SSJID has also encouraged its clients to develop strong water conservation programs.

The UWMP includes several Demand Management Measures (DMM) that describe mechanisms a water supplier implements to conserve water. The California Department of Water Resources lists 13 DMMs that are relevant to a retail water supplier; however, only five are applicable to or are required to be addressed by wholesale domestic water suppliers like SSJID:

- System Water Audits, Leak Detection, and Repair
- Metering
- Wholesale Agency Programs
- Conservation Pricing
- Water Conservation Coordinator

According to SSJID’s Urban Water Management Plan (2011), SSJID began implementing these measures as early as 2005. In most cases SSJID continues to carry out these and other measures that increase domestic water conservation.
SSJID has a history of initiating and implementing water management actions that meet its overall water management objectives and result in water conservation and efficiency. SSJID has adopted an Agricultural Water Management Plan and an Urban Water Management Plan, which identify water conservation measures SSJID will continue implementing over time. SSJID staff regularly attends water management conferences and evaluates technological advances in the context of SSJID’s water management objectives and regional setting. It is expected that SSJID will continue to implement water management measures and explore new opportunities to improve water management that provides additional conservation and efficiency improvements.

**4b STORMWATER CAPTURE AND CONVEYANCE**

**4b.1 Drainage Services and Customers**

Areas within the SSJID SOI depend on the District’s canals and drainage pipelines and nearby creeks and rivers to collect and convey stormwater runoff. SSJID is responsible for collecting agricultural stormwater within its service area, while cities and developed unincorporated areas are responsible for collecting, storing, and conveying urban stormwater.

The District has agreements with Manteca and Escalon to permit them to use District facilities to convey their urban runoff. These agreements run through 2026 and 2028, respectively, and include renewal provisions. The District had an agreement with the City of Ripon, but that agreement expired and a new agreement has not yet been executed.

The County of San Joaquin also uses parts of the District’s irrigation system for road drainage. The State of California (Caltrans), Union Pacific Railroad, Sharpe Army Depot, and some private lands also use parts of the District’s facilities for drainage. The District has agreements with Sharpe Army Depot, Caltrans, and Union Pacific allowing them to use the District’s system of irrigation and drainage facilities to convey runoff and for maintenance of the facilities. These agreements include fees for facility. As development occurs in unincorporated areas, it is the responsibility of a property-owner or real estate developer to ensure sufficient drainage facilities are installed to collect, store, and/or transport stormwater. San Joaquin County maintains regulatory authority to require and permit these facilities.

The District has previously entered into agreements that allow use of its facilities for stormwater drainage (from non-agricultural lands) outside the District's boundaries in the City of Manteca. In conjunction with this SOI Plan/MSR, the San Joaquin LAFCo may remedy this situation by adding the affected area to SSJID SOI. It is not expected that this SOI amendment would affect any other agency. As shown on Figure 4-7, areas permitted to access District drainage facilities outside the District service area include areas to the north of the District, areas east of the City of
Manteca, areas between the District and the county’s southern boundary, and areas to the east of the District.

**MSR Finding 21** SSJID’s water conveyance facilities are used by SSJID’s agricultural customers, the cities within the district, and a variety of agencies, organizations, and other property owners. While cities use SSJID’s facilities, ultimately they are responsible for providing their residents with adequate stormwater service. SSJID has agreements with several cities, agencies, and organizations for the long-term use of District facilities for conveyance of their stormwater; however, others do not. SSJID should work with the City of Ripon to execute a long-term drainage agreement to ensure the city has sufficient stormwater conveyance capacity. Approval of this SOI Plan/MSR will resolve an out-of-area service issue created when SSJID began providing stormwater drainage service to the City of Manteca for areas beyond SSJID’s service area. San Joaquin LAFCo should address this issue when acting on the SOI Plan/MSR to address this issue.

### 4b.2 Drainage System

SSJID maintains a network of 350 miles of pipelines and canals that collect and convey agricultural tail water and stormwater. The District’s facilities have varying capacities. Stormwater runoff is discharged into some District facilities in winter months when SSJID is not using its facilities to carry irrigation water. Figure 4-7 shows the District’s drainage facilities.

The District conducts routine maintenance of its facilities, including: inspections; clearing trash, debris, and other obstructions; plastering pipelines; patching canals and access roads; and controlling weeds. The District’s system of irrigation and drainage facilities have adequate capacity to collect and convey stormwater drainage safely during a 100-year storm event.
Terminal drainage to the San Joaquin River.

Figure 4-7
Drainage Facilities

Source: South San Joaquin Irrigation District, December 2008
Back of Figure
Urban Stormwater Conveyance

The District conveys stormwater from the cities of Escalon, Manteca, and Ripon using its system of irrigation and drainage facilities. The District’s irrigation laterals and some drain facilities used during the irrigation season for irrigation and related drainage are also used in parts of Escalon, Manteca, and Ripon for storm drainage, primarily during the winter season.

The District allows urban stormwater discharges into its facilities as long as discharges do not exceed the safe capacity of the facilities. If stormwater exceeds available safe capacity, it is retained by the city or customer in storage basins until such time as there is available capacity to safely receive the discharge. The District is not responsible for ensuring that its facilities have adequate capacity to capture and convey urban stormwater, but the District works with cities to connect their stormwater facilities to District canals. Ultimately, the cities are responsible for providing adequate stormwater drainage capture, conveyance, and storage facilities within their respective city limits. The cities are responsible for maintaining detention basins and telemetry controls and for complying with applicable water quality laws and regulations, including permitting.

The District works with cities and others who use the District’s drainage facilities to transport stormwater drainage to ensure their discharges do not adversely affect the District's normal use of its facilities. The District has the option to limit such discharges into its drainage facilities; however, it is not ordinarily necessary for the District to actively meter or directly control discharges.

**MSR Finding 22** The District’s facilities, in combination with on-site detention facilities, are adequately sized and maintained to meet current agricultural drainage demands during a 100-year storm event. Cities and other urban uses are responsible for providing adequate stormwater capture, storage, and conveyance. The District’s facilities have varying capacities and the District works with users of the facilities to ensure their discharges do not interfere with the District's primary use of its canals and pipelines for water distribution. In some cases SSJID limits urban discharges to ensure its facilities can convey agricultural stormwater. Cities are responsible for holding water until additional capacity becomes available.

4b.3 Anticipated Demand

As the District annexes additional lands, it requires property owners to extend water distribution facilities (e.g., pipes and canals) as necessary to provide service, which would also be used to capture and convey stormwater. Because areas within the District’s SOI, but outside its service area, are largely rural and not planned for urban development, it is not expected that annexations will cause a significant demand for additional stormwater drainage facilities or service.
New stormwater connections are limited to land within the District’s boundaries, are subject to an agreement with the County of San Joaquin or with one of the cities within the District, and are subject to additional conditions, including:

- payment for development of conveyance facilities or maintenance and improvements;
- provisions to preserve and protect the priority of existing users; and
- installation of detention basins with filtration and provisions to protect water quality and to otherwise comply with applicable law.

Because SSJID’s water canals and pipelines also capture and convey stormwater, it is expected that expansion of and improvements to the irrigation water system will also provide additional capacity for stormwater conveyance. SSJID has identified, in its Five-Year Capital Expenditures Plan (September 24, 2013), a specific set of maintenance projects and system enhancements that will ensure SSJID’s water and drainage systems continue to operate and function at an optimal level. As described in Chapter 7, SSJID annually reviews and updates its Five-year Capital Expenditures Plan.

Cites have addressed capacity limitations for many years by requiring new development to install stormwater detention basins that hold water until capacity exists in the system. If additional drainage capacity is needed, cities have the option to work with the District to add capacity by upsizing facilities. Where facility capacity issues are due to aging or undersized culverts underneath road crossings, SSJID has helped pay the cost to install or upgrade facilities.

**MSR Finding 23**  
SSJID’s irrigation and drainage facilities are sufficient to meet anticipated agricultural drainage demands. As annexations occur, expansion of water distribution facilities will provide access and a capacity to meet new drainage demands. SSJID’s facilities may also be expanded to meet new urban runoff demands from cities and other users as growth occurs; however, the user would be responsible for paying to upgrade facilities.

**Potential Climate Impacts on Stormwater Conveyance**  
According to the update to the California Climate Adaptation Strategy, *Safeguarding California: Reducing Risk* (Draft December 2014, California Natural Resources Agency), the major impacts of climate change on stormwater conveyance include potential increases in the frequency and severity of extreme precipitation events (floods). The following summary of impacts is excerpted from *Safeguarding California: Reducing Risk.*

**Flooding.** With climate change, extreme rainfall events are expected to increase in frequency and magnitude. A warmer atmosphere contains more water vapor and more moisture is available to form precipitation in extreme events and to provide additional energy to further intensify such events. More frequent and more severe floods are projected throughout California. Flooding can lead to a variety of public health concerns, including water quality impacts, safety issues, property damage, mold in damp buildings, displacement, and post-disaster mental health issues.
SSJID’s canals and drainage facilities could experience greater flows of agricultural drainage and urban runoff. In cases of extreme precipitation events (i.e., greater intensity and duration), it is possible that SSJID’s conveyance facilities could run out of capacity and cause localized flooding resulting in property and crop damage, and pose health and safety hazards. However, it cannot be determined at this time if or when such an event would occur or whether SSJID’s facilities would not be able to convey the runoff. SSJID could evaluate the ability of its stormwater facilities to capture and convey stormwater in the event of an extreme weather event (e.g., a 200-year or 500-year flood) and make facility improvements, as necessary, to accommodate higher stormwater flows.

**MSR Finding 24**  SSJID’s canals and drainage facilities could experience greater flows of agricultural drainage and urban runoff. In cases of extreme precipitation events (i.e., greater intensity and duration), it is possible that SSJID’s conveyance facilities could run out of capacity and cause localized flooding resulting in property and crop damage, and pose health and safety hazards. However, it cannot be determined at this time if or when such an event would occur or whether SSJID’s facilities would not be able to convey the runoff. SSJID could evaluate the ability of its stormwater facilities to capture and convey stormwater in the event of an extreme weather event (e.g., a 200-year or 500-year flood) and make facility improvements, as necessary, to accommodate higher stormwater flows.

**4b.4 Water Quality**

The District’s drainage facilities are in compliance with all Federal, State, regional, county, and other water quality laws and regulations. The District does not assume responsibility for the quality of any city's or other user’s stormwater. Cities and other users are required to comply with applicable water quality laws and regulations, including the National Pollution Discharge Elimination System (NPDES) for Stormwater Program pursuant to the Clean Water Act. Cities and other users are responsible for complying with the NPDES permitting and other requirements for water pollution prevention or stormwater management, including the use of best management practices to reduce or prevent the discharge of pollutants into District conveyance facilities.

The District’s drainage facilities are designed to carry irrigation runoff during the irrigation season (i.e., spring and summer). Historically, the District’s facilities were widely used for all types of drainage; however, more recent regulations prohibit drainage activities from certain sources (e.g., dairy runoff). As described above, the District offers economic incentives for growers to develop retention ponds, install drip-irrigation, and/or use laser level grading on their agricultural properties to limit agricultural runoff into drainage facilities.

**MSR Finding 25**  SSJID’s drainage facilities comply with all Federal, State, regional, county, and other water quality laws and regulations. The District offers economic incentives to farmers to develop retention ponds, install drip-irrigation, and/or use laser level grading on their agricultural properties to limit agricultural runoff into drainage facilities. Cities are responsible for ensuring urban runoff conveyed in District facilities meet water quality standards.
**4c Electricity Generation, Supply, and Transmission**

SSJID, MID, and PG&E currently (2013) provide for electricity generation, supply, or distribution within SSJID’s SOI. SSJID generates electricity only to meet its own internal demand and for wholesale sale, while PG&E and MID provide retail electricity services within SSJID’s service area and SOI. SSJID is petitioning LAFCo for a change of organization to provide retail electric service pursuant to Government Code 56654. This SOI Plan/MSR includes an evaluation of the District’s ability to provide retail electricity.

SSJID has prepared studies that assess its ability to provide retail electric service. Much of the information used to describe the District’s ability to provide retail electricity in this MSR comes from the District’s applications to LAFCo to provide retail electricity (2009 and the 2010 Supplement) and related EIRs (2006 and 2011), engineering reports prepared by Siemens International, Inc. (Siemens) on behalf of SSJID, and findings made by the CPUC. Information and analysis (e.g., long-term power/energy demand projections, facilities improvements, and budget projections) were developed specifically for the MSR by District staff and Siemens. Collectively, these studies and analysis are referenced in this MSR as the District’s Plan to Provide Retail Electric Service.

**4c.1 SSJID Electricity Generation and Service History**

In the 1950s SSJID joined OID to develop the Tri-Dam project, a series of three dams and hydro-electric generation plants on the Stanislaus River. By the mid-1980s SSJID was at least 50 percent owner in approximately 128 megawatts (MW) of installed generation capacity.

Under an agreement that expired December 31, 2004, OID and SSJID sold wholesale electricity at cost to PG&E. On January 1, 2005, OID and SSJID entered into a new five-year agreement to sell electricity to PG&E at market rates. That contract with PG&E was terminated at the end of 2008. Beginning in January 2009, SSJID and OID entered into an agreement to sell electricity to Shell Energy North America until December 31, 2013. Since January 1, 2014, SSJID and OID have been selling electricity to the City of Santa Clara as part of a 10-year agreement.

In 2005 SSJID began studying the feasibility of purchasing PG&E’s electric distribution system and providing retail electric service within its service area. SSJID prepared a Plan to Provide Retail Electric Service, which presents the District’s administrative, technical, financial, and operational capabilities to reliably and cost-effectively provide retail electric service. The District then submitted an application to San Joaquin LAFCo to expand its services to add the provision of retail electric service to customers within its service area. Pursuant to Government Code section 56131 San Joaquin LAFCo submitted SSJID’s application to the CPUC to determine if the District’s proposed service would substantially impair the ability of PG&E to provide...
adequate service at reasonable rates within the remainder of its service area. LAFCo requested and, on April 13, 2006, received a CPUC resolution (CPUC Resolution E-3974) finding that:

“It is possible that the proposal by the South San Joaquin Irrigation District (SSJID) to provide retail electrical service to approximately 40,000 existing Pacific Gas and Electric Company (PG&E) customers will raise rates for PG&E’s remaining customers; the magnitude of any estimated increase, however, is small relative to PG&E's current system average rates, and thus does not substantially impair PG&E's ability to provide adequate service at reasonable rates within the remainder of its service territory.”

The CPUC’s action was confirmed in a letter to LAFCo dated April 19, 2006. LAFCo staff then reviewed the District’s application and found that it was complete and addressed all of the requirements of State law. As lead agency San Joaquin County prepared and certified a corresponding environmental impact report (EIR; PA-0500291) in June 2006 in compliance with the California Environmental Quality Act (CEQA). LAFCo denied the District’s application on grounds that LAFCo had insufficient information to make a decision.

In September 2009 SSJID filed a new application with LAFCo to provide retail electric service. LAFCo referred the application to the CPUC, which, on December 18, 2009, completed a review of the District’s proposal. The CPUC unanimously approved a resolution (CPUC Resolution E-4301) finding that:

“SSJID’s proposal to provide retail electrical service to existing PG&E customers could raise rates for PG&E’s remaining customers; the magnitude of the estimated increase, however, is small relative to PG&E’s current system average rates, and thus does not substantially impair PG&E’s ability to provide adequate service at reasonable rates within the remainder of its service territory.”

In 2009 LAFCo retained PA Consulting Group, Inc. (PA) to appraise the market value of PG&E’s distribution assets that SSJID proposed to acquire; review and comment on each of the appraisal reports from SSJID and PG&E; and review and assess the viability of SSJID’s retail electric business plan. PA’s Market Expert Report was released on May 21, 2010. Subsequent to the release of the PA Report, the District prepared a Supplement to its Application providing further analysis.

On February 23, 2011, a revised version of the PA Report was released that took into consideration the Districts’ Application Supplement, as well as comments from SSJID and PG&E. Based on the findings in the February 23, 2011, PA Report, the SSJID Board of Directors adopted Resolution No 11-03E, which reaffirmed the District’s commitment to provide retail
electric service at rates 15 percent below PG&E rates and authorized the District to make
financial commitments consistent with the revised PA Report findings.

SSJID noted in its Supplement that it accepted the PA Report’s conclusions of value and
wholesale power costs to demonstrate to San Joaquin LAFCo that, “it [SSJID] has sufficient
revenues to operate the Project, including the ability to provide retail electric service at a 15
percent discount.” However, the District also stated that it was not confirming its agreement with
PA’s conclusions for any other proceeding, and that it would reserve the right to contest PA’s
conclusions in the future.

In 2012 SSJID’s attorneys retained MRW to prepare a financial model and analysis for SSJID’s
retail electric plan. The analysis updated the Market Expert Report prepared by PA Consulting
Group and addressed many of the issues raised in comment letters on the November 21, 2011,
Draft SOI Plan/MSR. In Fall 2013 SSJID provided to Mintier Harnish the financial model and
results of MRW’s analysis in a report titled The South San Joaquin Irrigation District Retail
Electric Financial Analysis (September 19, 2013). These are collectively referred to in this SOI
Plan/MSR as the “Mintier Harnish/MBMC Analysis” (Appendix D: Mintier Harnish/MBMC
Analysis).

In a letter to Mintier Harnish on December 20, 2013, SSJID stated its preference for the SOI
Plan/MSR to rely on an MRW analysis prepared in September 2013, in SSJID’s opinion, the it
was a more current and thorough analysis of SSJID’s plan. SSJID authorized Mintier Harnish to
select, retain, and direct an independent peer reviewer to confirm the accuracy of the MRW
analysis and its reasonableness for use in the SOI Plan/MSR. SSJID made its staff available to
provide information related to the MRW analysis, but did not participate in the selection of a
peer reviewer or peer review process. SSJID confirmed this direction in its December 20, 2013,
letter to Mintier Harnish.

On October 2, 2013, Mintier Harnish retained the services of Michael Bell Management
Consulting (MBMC) to conduct an independent peer review of both the PA Reports and the
MRW analysis, as well as the issues raised to date in public comments on the November 2011
Draft SOI Plan/MSR. MBMC reviewed the PA Reports, MRW analysis, and related documents.
At the request of Mintier Harnish and MBMC, MRW conducted additional analysis. MBMC
then prepared a Peer Review Report (Appendix E: MBMC Peer Review Report) that analyzed
and opined on the key assumptions and conclusions made in the MRW analysis of the financial
feasibility of SSJID's retail electric plan, as well as additional analysis.

Chapter 5 of this SOI Plan/MSR includes a detailed summary and analysis of the financial
feasibility of SSJID’s plan, including an evaluation and comparison of the PA Analysis and
MRW analysis, and a summary of conclusions from the MBMC Peer Review Report.
4c.2 Electricity Service Providers

Pacific Gas & Electric Company (PG&E)

PG&E, a subsidiary of the PG&E Corporation, provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield to near the Oregon border. PG&E is an electrical corporation regulated by the CPUC. As a retail electricity service provider, PG&E is obligated to extend its facilities and services to new customers upon request. Extension costs in excess of the Line Extension Allowance are paid for by the customer.

Modesto Irrigation District (MID)

MID is an irrigation district located in northern Stanislaus County, just south of SSJID. MID provides retail electric, irrigation, and treated surface water services. MID’s electric service area includes the greater Modesto area (north of the Tuolumne River, Waterford, Salida, Mountain House (Northwest of Tracy) and parts of Ripon, Escalon, Oakdale, and Riverbank. MID is authorized by Public Utilities Code Section 9610 to provide retail electricity service to parts of San Joaquin County. However, Section 9610 restricts MID from providing retail electricity transmission or distribution service to other areas served by PG&E.

On August 15, 1940, MID entered into an agreement (known as the Purchase of Properties Agreement) with PG&E to define MID’s service area within San Joaquin County. On July 23, 1997, the CPUC reconfirmed the areas where PG&E and MID are authorized to compete to provide retail electricity in The Asset Sale Agreement By and Between PG&E and MID (July 23, 1997; PUC App. Num. 97-07-030). This area is codified in Public Utilities Code Section 9610 by the State Legislature.

MID is obligated by its policies to extend its facilities and services to new customers upon request. Extensions are typically paid for by the customer. Pursuant to Public Utilities Code Section 9610, MID is obligated to provide retail electric service to some areas within SSJID’s service area and SOI. MID’s policy for serving this area is reflected in MID’s Electric Service Rules, including its “Extension of Facilities” and “Service Connections & Facilities on Customer's Premises” policies (Rules 15 and 16 of MID’s Electric Service Rules). MID’s Electric Service Rules and Regulations were adopted by its Board of Directors on September 30, 1980, and have been revised from time to time since that date by Board action. Rules 15 and 16 were last modified on April 1, 2013.

South San Joaquin Irrigation District (SSJID)

SSJID generates and sells wholesale electricity. SSJID does not currently (2013) provide retail electric service. In a separate application to LAFCo, SSJID is proposing to provide retail electric service throughout its service area. In its application, SSJID proposes to: acquire PG&E electricity distribution facilities; separate the facilities from remaining PG&E facilities outside the district and replace PG&E as the primary retail electricity service provider within the district.
As an irrigation district, SSJID is authorized by Division 11 of the Water Code, specifically Sections 22115 and 22120, to provide retail electricity service within and outside its boundaries. This includes actions to acquire, operate, lease, and control facilities for the generation, transmission, distribution, sale, and lease of electricity. Public Utilities Code Section 224.3 includes irrigation districts within the definition of a “Local Publicly-Owned Electric Utility. California Public Utilities Code Chapter 2.3 of Part 1 of Division 1, enacted as part of AB 1890 in 1996, establishes requirements for a local publicly-owned electrical utility to provide low-income and energy efficiency programs in compliance with renewable energy portfolio requirements. Irrigation districts that provide retail electricity service are not subject to regulation by the CPUC; however, the CPUC does have limited authority to monitor publicly-owned utilities for compliance with G.O. 95 overhead construction rules.

Provision of electric service is a “latent power” of SSJID. This means the District is authorized by State law, but is not currently providing retail electricity service. Subject to LAFCo approval of SSJID’s request, and any conditions imposed by LAFCo in accordance with applicable law, SSJID plans to provide retail electric service within its service area.

4c.3 Electricity Service Areas and Customers

PG&E provides retail electricity service to about 38,000 customers within the District and SOI. MID provides retail electricity service to about 2,000 customers in parts of Ripon, Escalon, in isolated rural areas within the District, and within the District’s SOI. Currently (2013) SSJID does not provide retail electricity service.

Existing Service Areas

Figure 4-8 shows areas in southeastern San Joaquin County where PG&E is exclusively authorized to provide retail electricity service and where PG&E and MID compete to provide service. As the figure shows, PG&E is authorized exclusively to serve areas within the northwestern part of the District and SOI. PG&E’s service area extends into areas northwest and west of the District in San Joaquin County. PG&E and MID are both authorized to provide service within the southern and eastern parts of the District, referred to as the competition zone. The competition zone extends into areas to the north and east of the District in San Joaquin County.
Back of Figure
MID’s adopted policies establish a specific area that MID focuses its resources on to cover the cost of extending its distribution lines (Figure 4-9). This area is included in Appendix C of MID’s Electric Service Rules. MID’s Electric Service Rules and Regulations were adopted by its Board of Directors on September 30, 1980, and have been revised from time to time since that date by Board action (http://mid.org/services/tariffs/default.htm). The MID Board of Directors adopted Appendices A, B, and C on December 4, 1990, July 1, 2001, and January 1, 2003, respectively. Appendices A and B were last modified April 1, 2013. Appendix C was last modified effective January 1, 2007. The Routine Expansion Area represents the area which, in the opinion of MID, contains sufficient electrical load or anticipated electrical load growth to economically justify extensions of MID’s distribution facilities along public rights-of-way without cost to the applicant. As Figure 4-9 shows, the Routine Expansion Area only covers the southern edge of SSJID’s service area and SOI around the city of Ripon. It does not extend north to Escalon or Manteca, nor does it cover unincorporated areas between the cities.

**Figure 4-9** MID Routine Expansion Area

Figure 4-10 shows areas currently (2013) served by PG&E and MID. As the figure shows, PG&E provides retail electricity service for most of southeastern San Joaquin County. MID serves customers in Ripon and Escalon and other isolated customers along its electric distribution facilities, which generally extend from Ripon to Escalon and along Murphy Road.

**MSR Finding 27** PG&E and MID service areas represent an unconventional service area within San Joaquin LAFCo’s jurisdiction. This situation has already resulted in overlapping...
boundaries and service providers. Because State legislation authorized MID to provide retail electricity in San Joaquin County, San Joaquin LAFCo has no authority to consolidate MID’s service area into a more efficient, logical boundary. Furthermore, if MID was barred from providing retail electric service in San Joaquin County, its distribution lines would need to be separated from San Joaquin County and MID would need to be compensated for its electricity distribution facilities. While MID is authorized to serve within San Joaquin County, it has established a Routine Expansion Area that defines limited areas along the southern edge of SSJID’s service area and SOI where it would consider expanding services to new customers. It is not expected that MID will compete with PG&E or SSJID to provide retail electric service in much of southern San Joaquin County where it is authorized to serve beyond the areas it has identified in its routine expansion area. If a new customer requested to be served beyond the routine expansion area, it would likely be too costly to extend transmission lines and facilities.
Back of Figure
Proposed Service Areas and Customers

If SSJID’s request to provide retail electric service is approved by LAFCo, PG&E’s system would either be purchased by SSJID at a negotiated price or acquired by SSJID through eminent domain. SSJID would assume PG&E’s obligation to provide retail electric service to all existing and new customers within SSJID’s service area. PG&E would request that the CPUC relieve PG&E of its responsibility to provide service within SSJID’s service area.

San Joaquin LAFCo authorization to allow SSJID to provide retail electric service within its boundaries and SOI would not resolve the existing overlapping service areas created by the competition zone. SSJID would replace PG&E and the overlapping service area with MID would remain.

Figure 4-11 shows areas where SSJID would exclusively provide retail electricity service; areas where SSJID and MID would compete; areas where MID and PG&E would compete; and areas where PG&E would exclusively serve. As the figure shows, SSJID’s exclusive service area would include areas within the northwestern part of SSJID’s service area. SSJID and MID would both be authorized to provide service within MID’s competition zone, which is located within the southern and eastern parts of SSJID’s service area. PG&E would continue to exclusively provide retail electricity to the north and west of SSJID’s service area, including areas within the District's SOI. Finally, PG&E and MID would both be authorized to provide service within the competition zone to the north and east of SSJID’s service area.

While State laws governing LAFCos discourage the creation of situations where two districts provide service to the same area, retail electric service within SSJID’s service area is unique. State legislation authorized MID to compete with PG&E to provide retail electric service within San Joaquin County, effectively allowing a special district outside of San Joaquin LAFCo’s authority to provide service within San Joaquin LAFCo’s jurisdictional boundary. San Joaquin LAFCo cannot consolidate MID’s service area into a more efficient, conventional boundary.

**MSR Finding 28**

SSJID is petitioning LAFCo for a change of organization to provide retail electric service pursuant to Government Code Section 56654. SSJID is proposing to provide retail electric service within its boundary by acquiring PG&E electric distribution facilities, separating the facilities from remaining PG&E facilities outside the District, and replacing PG&E as the primary electric service provider within the District. MID’s authorized service area (e.g., the competition zone) represents an unconventional service area within San Joaquin LAFCo’s jurisdiction (e.g., overlapping service providers). Because State legislation authorizes MID to serve areas within San Joaquin County, San Joaquin LAFCo cannot consolidate MID’s service area into a more efficient, conventional boundary. As a result SSJID’s plan would increase the number of retail electric service providers within SSJID’s service area and SOI to include: 1) SSJID serves exclusively, 2) SSJID and MID compete; 2) PG&E and MID compete; and 4) PG&E serves exclusively. Authorizing SSJID to provide retail electric service would increase the number of overlapping service areas from one (PG&E/MID) to two (PG&E/MID and SSJID/MID).
Figure 4-12 shows areas where SSJID would provide retail electric service within its boundaries. It also shows areas where SSJID would own electrical distribution facilities outside its boundaries, but plans to contract with MID or PG&E for service. As the figure shows, SSJID would provide retail electricity service to customers within SSJID’s service area. MID would continue to provide retail electricity service within SSJID’s service area and SOI to its existing customers. PG&E would continue providing retail electricity service to its remaining customers outside the SSJID’s service area, but within the District’s SOI and beyond.

**MSR Finding 29**

As a retail electric provider, SSJID would eliminate PG&E as a service provider within the District. MID is authorized by State law to provide electricity within the District, and is expected to continue to serve its existing customers and compete to provide retail electric service. It is not expected that MID would change its existing policies in response to a LAFCo decision authorizing the SSJID to provide retail electric service. MID’s policies provide for serving customers throughout its electric service area, which includes portions of SSJID’s SOI. SSJID would compete with MID for customers within its service area. However, as indicated above, MID has adopted a policy to limit the active expansion of its electricity services to areas along the southern edge of San Joaquin County (i.e., the routine expansion area). Based on MID’s routine expansion area and adopted policies, it is not expected that competition between SSJID or MID would impact SSJID’s ability to provide service. If SSJID is able to provide rates lower than MID, it is unlikely that MID would be able to successfully compete with SSJID.
Figure 4-11
Proposed Service Areas

Legend
- County Boundary
- Sphere of Influence
- District Boundary
- City Limits

SSJID Exclusive Service Area
SSJID and MID Competition Zone
PG&E and MID Competition Zone
PG&E and MID Competition Zone/Border Area
PG&E Exclusive Service Area

Source: South San Joaquin Irrigation District, January 2010
Back of Figure
*The" border area" may be a contract area or SSJID may have to implement the Border Area Service Plan, which would require SSJID to build improvements so that PG&E can continue to serve this area.
Back of Figure
4c.4 Border Area Service

Should LAFCo approve SSJID’s application to provide retail electric service, SSJID would acquire electricity distribution facilities in areas immediately adjacent to the district (i.e., the border areas). These facilities would extend to customers outside SSJID's service area, but within the PG&E/MID competition zone. This is necessary to maintain service continuity to PG&E’s and SSJID’s customers. A common utility practice to address the provision of services along utility borders is through inter-utility wholesale distribution and metering service agreements. However, if such agreements cannot be established, additional facilities must be built in order for utilities on either side of the border to continue providing service.

In order to address the issue of border area service, SSJID will need to pursue one of four scenarios:

**Scenario 1: Contract Solely with PG&E**

SSJID could establish a wholesale metered agreement with PG&E. Under such an agreement, SSJID would install its own circuits extending into PG&E’s service area at the SSJID/PG&E territory boundary, and PG&E would retain responsibility for serving and billing customers on these circuits within its remaining service area. This approach would reduce the amount of construction required to maintain reliable service to customers near the border.

In its comments on the SOI Plan/MSR (Manatt, January 17, 2012), PG&E indicated it will not enter into an agreement with SSJID. PG&E has entered into such wholesale distribution service agreements in the past, and currently has such an arrangement with MID for service in the vicinity of Mountain House in southwestern San Joaquin County. It is uncertain whether PG&E would ultimately enter into such an agreement with SSJID.

**Scenario 2: Contract with MID and PG&E**

SSJID could establish wholesale distribution and metering agreements with MID and PG&E to serve border area customers. If MID agrees to serve these border areas, MID would provide retail electric service to areas it is authorized to serve (i.e., the competition zone) and replace PG&E as service provider for about 1,500 customers. SSJID would contract with PG&E to serve remaining customers outside the competition zone. This approach would reduce the amount of construction required to maintain reliable service to customers near the border. It is uncertain whether PG&E would enter into a wholesale distribution and metering agreement with SSJID to serve border areas.

In 2011 MID updated a 2006 feasibility study that analyzed its ability to serve areas adjacent to SSJID’s service area. MID found that it would be feasible to provide service to these areas, subject to specific terms and conditions. However, MID will not make a commitment to provide service to SSJID until such time as an agreement could be developed between MID and SSJID.
MID indicated in a letter dated December 11, 2011, that MID staff would work with SSJID to develop an agreement for consideration by the MID Board, contingent upon SSJID receiving the authorizations necessary to provide retail electricity service (i.e., LAFCO approval of the SOI Plan/MSR and change of organization to provide retail electric service). It is uncertain whether MID would ultimately agree to enter into a wholesale distribution and metering service agreement with SSJID to serve border areas.

**Scenario 3: Contract Solely with MID and Construct Underbuilds**

If SSJID cannot implement a service agreement with PG&E, but is able to establish an agreement with MID, MID would provide service to border area customers for areas it is authorized to serve. SSJID would construct additional facilities to maintain service continuity to areas outside MID’s authorized service area. PG&E would continue to serve these areas. As described above, it is uncertain whether MID would ultimately agree to enter into a wholesale distribution and metering service agreement with SSJID to serve border areas.

**Scenario 4: Construct Underbuilds for all Border Areas**

If SSJID cannot implement service agreements with PG&E or MID, the District would need to construct additional facilities outside its boundaries in order for areas adjacent to the District to continue to receive service. PG&E and MID would continue to serve these areas. Siemens, on behalf of SSJID, prepared a border area alternative that details and costs out this scenario.

**MSR Finding 30**

SSJID’s retail electric plan would require SSJID to acquire facilities outside its service area to maintain service continuity. SSJID has proposed, as its preferred option, to enter into an agreement with MID to serve customers within the border area and construct additional facilities to serve remaining PG&E customers. However, while MID has studied and found it feasible to serve these areas, and has agreed to work with SSJID on this issue in the future, MID has not made any formal commitment to enter into a wholesale metering agreement with SSJID or to serve border area customers. Therefore, it is uncertain whether MID would agree to serve border areas, and is speculative to assume they would do so. If SSJID is unable to implement a service agreement with either PG&E or MID, border areas customers would experience limited service disruptions as the systems are separated and SSJID installs new facilities so that PG&E and/or MID can continue serving their customers. Based on SSJID’s plan to provide retail electric service and the border area alternative prepared by Siemens, SSJID’s plan would ensure that border areas continue to receive service.

Neither acquisition of PG&E’s existing distribution facilities by SSJID nor the transfer of the border-area facilities following their acquisition by SSJID to MID would necessarily compel PG&E’s existing customers in border areas to receive service from MID. PG&E would remain legally obligated to provide service in border areas unless and until the CPUC relieved PG&E of its legal obligation to serve these areas.

Upon SSJID’s acquisition of PG&E’s facilities, PG&E could find it uneconomical to serve border area customers. PG&E could request that the CPUC authorize it to discontinue service
and be relieved of its legal obligation to serve in these areas either by filing a formal application or advice letter seeking such relief. Border area customers would receive notice of PG&E’s application or advice letter, in accordance with CPUC requirements, and would have an opportunity to comment. If PG&E does not request to be relieved of its obligation to serve, it is not clear what notice or other process would advise border-area customers of PG&E’s continuing obligation to provide service in accordance with PG&E’s rules. It is possible that no notice would be given to border area customers.

**MSR Finding 31**

PG&E will continue to be responsible for providing service to border area customers if SSJID enters into a service agreement with MID, until PG&E requests to discontinue its service and the CPUC relieves it of its obligation. If PG&E does not request to be relieved of its obligation, it is not clear what notice or other process would advise border-area customers of PG&E’s continuing obligation to provide service. San Joaquin LAFCo legal counsel opined that San Joaquin LAFCo could condition approval of SSJID’s plan to require SSJID to implement the Border Area Alternative.

In order to ensure that border area customers continue to receive service, San Joaquin LAFCo could require SSJID to serve border areas by agreement with PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue providing service.

### 4c.5 Power Generation and Supply

#### Existing Power Generation and Supply

**SSJID Sources and Generation**

SSJID currently (2013) receives retail electric service for its facilities from PG&E and MID. SSJID owns hydroelectric generation facilities in the Stanislaus River watershed and solar generation facilities within the District. Hydroelectric generation facilities owned by SSJID include the Tri-Dam project, Tri-Dam Power Authority, owner of the Sand Bar project, and Woodward Reservoir. Solar power is generated at the Robert O. Schulz Solar Farm, and offsets electricity costs for the Nick C. DeGroot Water Treatment Plant.

Most of the electricity generated by SSJID is produced by hydroelectric generation. Hydroelectricity is the production of electricity through use of the gravitational force of falling or flowing water. It is the most widely used form of renewable energy. Hydroelectric generators produce no carbon emissions.

SSJID and OID are joint owners of the Tri-Dam Project and Tri-Dam Power Authority hydroelectric generation facilities that produce electricity that is sold wholesale. Electricity generated by the Tri-Dam Power Authority at the Sand Bar generation facility is currently sold to PG&E. SSJID owns 8 MW of “qualifying renewable” small hydro-electric assets, the output of
which is sold to TID under a long-term contract. The Tri-Dam Project has agreed to sell all electricity to the City of Santa Clara starting January 1, 2014. The Tri-Power Authority is also a party to the agreement and has agreed to sell all electricity to the City of Santa Clara effective June 1, 2016. The contract with the City of Santa Clara expires at the end of 2023.

The Robert O. Schulz Solar Farm consists of 6,720 photovoltaic panels located next to the District’s Nick C. DeGroot Water Treatment Plant. The solar farm produces about 3,000 MWHrs per year. Electricity generated by the Solar Farm is used to power the Water Treatment Plant, reducing the annual cost for electricity. Under SSJID’s plan to provide retail electric service, the District’s solar generation would not be used to provide retail electricity to customers.

Table 4-4 shows electric generation facilities that SSJID owns or is part-owner of, the average annual energy generation by each facility, and the District’s ownership share of the energy generated. As the table shows, the power plants have combined capacity to generate nearly 130 MW of power. On average, they produce about 623,000 MWH of energy, of which SSJID has the rights to 323,000 MWH.

<table>
<thead>
<tr>
<th>Generation Facility</th>
<th>Power Generation Capacity (MW)</th>
<th>Average Annual Energy Generation (MWH)</th>
<th>SSJID Average Annual Energy Ownership (MWH)</th>
</tr>
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<tbody>
<tr>
<td>Tri-Dam Project</td>
<td>102</td>
<td>486,000</td>
<td>243,000</td>
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<tr>
<td>Sand Bar Project</td>
<td>18</td>
<td>114,000</td>
<td>57,000</td>
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<td>Woodward Reservoir</td>
<td>8</td>
<td>20,000</td>
<td>20,000</td>
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<td>Robert O. Schulz Solar Farm</td>
<td>1.4</td>
<td>3,000</td>
<td>3,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>129.4</strong></td>
<td><strong>623,000</strong></td>
<td><strong>323,000</strong></td>
</tr>
</tbody>
</table>

Source: SSJID, 2008

**PG&E Electricity Sources and Generation**

PG&E generates and purchases electricity from a variety of sources throughout the western United States and Canada, including: hydroelectric; fossil fuels (coal and natural gas); solar; and nuclear. As of 2011 PG&E’s hydroelectric generation facilities (3,896 MW) include 68 powerhouses that use 16 river basins and 100 reservoirs. PG&E’s Diablo Canyon nuclear facility has a capacity of about 2,190 MW. PG&E contracts for solar facilities in the Mojave Desert and the Central Coast with an output of about 500 MW, and has an option to expand output an additional 400 MW. PG&E also purchases power from out-of-state generators and over 400 electricity generation plants that are owned by independent power producers like SSJID. PG&E owns about 33 percent of the electricity generation necessary to meet all its customer demands. PG&E purchases the remaining power on the open market or through contracts with electricity
generators. A small fraction of the electricity described above is used to provide energy to electric customers within SSJID’s service area.

**MID Electricity Sources and Generation**

MID generates electricity from a variety of sources including natural gas and hydroelectric facilities. MID owns hydroelectricity generated at the Don Pedro Powerhouse (63 MW), Stone Drop Mini-Hydro (0.230 MW), and New Hogan Powerhouse (3.15 MW). Other electricity used by MID is generated at Woodland Generation Stations (132.4 MW), McClure Generation Station (112 MW), and Ripon Generation Station (95 MW). MID also purchases power on the open market. Of MID’s 2,786 GWh of sales in 2009, 532 GWh were from its own generation and the balance of 2,334 GWh was purchased.

**SSJID’s Planned Generation and Supply**

Should LAFCo approve SSJID’s application to provide retail electric services, SSJID would use a wholesale power supply portfolio consistent with California requirements. SSJID would be required to operate in compliance with applicable resource adequacy standards. SSJID would obtain renewable energy supplies through transactions in wholesale markets and contract agreements with generators. SSJID’s purchased electricity would be required to meet Renewable Portfolio Standard (“RPS”) requirements. New power purchase agreements established by SSJID would likely involve new short- and long-term contracts, spot market purchases, transactions for renewable energy attributes, and potential purchase of customer-owned generation (e.g., solar or wind).

SSJID electric transmission service would be secured through the California Independent System Operator (CAISO) and the Sacramento Municipal Utility District (SMUD)/Western Area Power Administration (WAPA) control areas. SSJID would participate in the Western Electrical Coordinating Council (WECC) and North American Electrical Reliability Corporation (NERC) to assure coordinated system planning and compliance.

**MSR Finding 32**

Should LAFCo approve SSJID providing retail electricity service, the District would use a wholesale power supply portfolio consistent with California requirements. SSJID would be required to comply with resource adequacy standards and renewable energy supply standards. SSJID would procure electricity to serve its customers through contract agreements with generators in the deregulated marketplace. Given SSJID’s history and experience in the wholesale power markets, it is reasonable to expect that SSJID would secure sufficient power to meet customer demands.

**Renewable Portfolio Standards**

Providers of retail electricity in California are required to meet Renewable Portfolio Standards (RPS), as defined by the California Energy Commission, in order to increase the percentage of renewable energy used in the state. In April 2011 Senate Bill 2 of the 1st Extraordinary Session (SB X1-2) was signed into law (Public Utilities Code, §399.11, §399.30). SB X1-2, requires all
retail sellers of retail electricity in California, including publicly-owned utilities, to meet a 33 percent RPS by December 31, 2020. SB X1-2 also established RPSs for interim years, including: an average of 20 percent from 2011 through 2013, a minimum of 20 percent thereafter through 2016, and a minimum of 25 percent by December 31, 2016. This codified the requirement to achieve 33 percent RPS statewide by the end of 2020, a key element of the 2008 AB 32 Scoping Plan.

**MSR Finding 33** Since PG&E and SSJID would both be subject to the same renewable energy requirements, there would be no overall change in reliance on renewable resources as a result of a change in retail electric service provider. SSJID would likely comply with the renewable energy requirements using wholesale power supply contracts with generators and could also purchase Renewable Energy Credits (RECs) to meet a portion of its obligation. It would have the option of using its own hydroelectric generation, depending on its availability and economic circumstances; however, SSJID currently has no plans of using these resources. In light of its new 10-year agreement with the City of Santa Clara, effective January 1, 2014, the District could consider using its hydro resources to meet its load requirements when the agreement expires.

**SSJID’s Ability to Meet Power and Energy Demand**

When addressing electricity demand, it is important to understand the difference between units of power (e.g., kilowatt) and units of energy (e.g., kilowatt-hour). Power is the capacity of infrastructure to generate or distribute electricity. Energy is the amount of electricity demanded by customers in any given time period. Most simply, power over time equals energy. A simple analogy of this difference is described below:

Imagine two garden hoses with different sized nozzles (i.e., power capacity of electricity infrastructure) are being used to fill two pools (i.e., energy demand of customers). The rate at which water comes out of each hose would determine how long it would take to fill each pool. Over the same period of time, the hose that releases water slowly would only be able to fill a small pool, or meet a small energy demand. The hose with greater flow, or power capacity, would fill a much larger pool, or meet a larger energy demand.

Table 4-5 summarizes energy (MWh) demand within SSJID’s service area and border areas based on PG&E’s projections provided to the CPUC in 2009 and new projections prepared by MRW as part of its financial analysis. In a letter addressed to San Joaquin LAFCo dated January 24, 2013, PG&E stated that customer loads have diminished since 2009. Since that time PG&E has not provided any updated load projections.
Projected electricity demand is based on current per capita electricity consumption. Future energy demand per capita would likely be lower as more existing and new customers use energy conservation tools (e.g., home/business energy management systems) and install local on-site electricity generation technologies (e.g., solar, wind, geothermal, methane digestion). In addition, unknown technological advances in energy conservation and generation would likely occur over the next 30 years, further reducing overall energy demand within the District and SOI. The share of energy demand that is met by electricity could, however, increase if notable progress is made in the electrification of the transportation sector. The net effect on per capita electricity consumption is difficult to predict at this time.

For an electric utility company, peak demand is typically defined as a single half hour or hourly period with the highest rate of customer electricity consumption. Peak load periods in the SSJID service area coincide with high temperatures in the San Joaquin Valley and related air conditioner use. The San Joaquin Valley load substantially contributes to the summer peak demand for electricity relative to PG&E’s system average. This means that with SSJID’s proposed electric plan, the need for PG&E to provide future generation capacity for summer peak loads would be reduced in areas served by facilities acquired by SSJID. SSJID would assume this responsibility for serving the peak demand in its service area.

Table 4-6 summarizes electricity power demand (MW) projections across all customer classes by substation based on projected growth through 2040. The table focuses on peak power demand,
because this represents the maximum load the system would need to accommodate to meet customer needs during period of high energy use. The table covers power demand for areas within SSJID’s service area and in areas served by SSJID facilities outside the District service area. As the table shows, it is estimated that 2010 peak power demand requires about 172.2 MW of capacity. Based on projected growth described in Chapter 3, it is estimated that electricity demand would require 432.1 MW of capacity by 2040.

<table>
<thead>
<tr>
<th>Year</th>
<th>Manteca (MW)</th>
<th>Ripon (MW)</th>
<th>Jack Tone(^3)</th>
<th>MID Clough(^4)</th>
<th>MID Stockton(^4)</th>
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<td>58.9</td>
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<td>432.1</td>
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</table>

\(^1\)Based on the SSJID separated system assumed to be in place by 2012. Demand values prior to 2012 are indicative.  
\(^2\)Coincident demand measured at the substation and includes distribution losses.  
\(^3\)Jack Tone is a new substation that would be developed by SSJID.  
\(^4\)Includes MID load at Clough and Stockton substations to assess transformer loading.  


**Ability to Meet Power and Energy Demands**

Should LAFCo approve SSJID’s plan to provide retail electric service, PG&E would no longer need to generate or purchase power to serve customers within SSJID’s service area. SSJID would assume that responsibility. SSJID plans to supply electricity by purchasing electricity on the open market and through contracts with electricity generators.

SSJID’s control of its renewable power supply could be used to meet retail electricity demand by using it to directly serve customers; however, the District’s Plan to Provide Retail Electric Service does not identify the electricity it generates as a source and SSJID has no current plans to use those resources to directly serve load within the District. Based on SSJID’s new agreement with City of Santa Clara, effective January 1, 2014, the District could consider using its hydro resources to meet its load requirements when the agreement expires after its 10-year term. To do so would likely require the consent of the OID as a Tri-Dam co-owner. If SSJID was to use Tri-Dam hydro power to serve load, the District’s anticipated revenue would be reduced; however, the District’s projected cost to purchase wholesale power would also be reduced.
**MSR Finding 34**  It is expected that power demand within SSJID’s service area would increase to 432.1 MW of electricity by 2040. According to Siemens’ Energy, Inc. SSJID’s planned system would have the capacity to distribute 507 MW. SSJID is planning to meet energy demands through the purchase of electricity. SSJID could, at some point in the future, supply some of its demand using power generated at its hydro-electric facilities. However, at this time the District has no plans to do so. Because SSJID plans to provide electric service at customer rates that will be lower than PG&E’s rates, customers served by SSJID may consume more electricity because of SSJID’s lower rates. Absent final rate forecasts for SSJID customers, this analysis does not quantify whether the change in retail electric service provider would cause customers to consume more electricity because of lower rates. Without knowing the specifics of the amount and the timing of the rate reductions and how the rate design for specific customers will differ from PG&E’s current and prospective rate designs, it is speculative to estimate the magnitude of any change.

**MSR Finding 35**  Due to the complexity of the relationships between utility programs and demand, the lack of detail available about energy efficiency and demand response programs, and the limited effect the utility may have on demand, it would be speculative to conclude that SSJID’s proposed retail electric service plan would result in higher peak loads or changes in the relationship of peak to base period usage. SSJID’s plan includes programs to manage peak and base period demands so that SSJID’s customers could avoid inefficient, wasteful, or unnecessary consumption of energy. Therefore, the proposed retail electric service plan would not have an adverse effect on peak and base period demands because of inefficient, wasteful, or unnecessary consumption of energy. It is expected that SSJID has the planned system capacity and ability to purchase electricity on the open market to meet existing and future peak energy demand within its boundaries.

**Potential Climate Impacts on Energy Supplies and Transmission**

According to the update to the California Climate Adaptation Strategy, *Safeguarding California: Reducing Risk* (Draft December 2013, California Natural Resources Agency), climate change could impact SSJID’s power generation and electricity system. Impacts identified in the report include those associated with less snowpack, extreme weather events (storms, droughts), sea level rise, heat waves, and heat waves. These impacts in turn, could affect the provision of service and demand for electricity. For example, electricity demand increases with rising temperatures, while the energy system becomes less efficient. Less snowpack means less hydropower during the peak demand period. Extreme events and sea level rise expose parts of the energy systems to greater risk of damage and outages. The following impacts are excerpted from *Safeguarding California: Reducing Risk*.

**Hydropower.** Climate change could negatively impact the supply of renewable energy resources, especially water for hydroelectric power. Mountain snowpack is essential to provide a steady flow of snowmelt water to hydroelectric reservoirs. Higher temperatures will mean that more precipitation falls as rain instead of snow, with remaining snowpack melting and running off earlier in the year. In the summer, when air conditioning demand and peak electrical loads are
the highest, there would be less water in storage to be used to generate hydroelectric electricity. Potential reductions in annual precipitation would also reduce the total amount of electricity generated from hydropower units, and alternative generation would need to be procured, likely at a higher cost. SSJID’s hydroelectric generation facilities, and the revenue the District receives from them, could be adversely affected if there is less water available and lower capacity to generate hydroelectric power.

**Lower Power Efficiency.** Power plants that generate electricity are vulnerable to higher temperatures that are expected to occur as a result of climate change. Higher temperatures decrease the capacity of thermal power plants to generate electricity. Power plant cooling is less efficient at higher ambient temperatures, which reduces overall efficiency and the net amount of energy generated. The efficiency of SSJID’s hydroelectric generation facilities (i.e., Tri-Dam Project, Sand Bar Project, Woodward Reservoir) could be impacted by future increases in temperatures. PG&E’s hydroelectric and other electric generation facilities (e.g., gas-fired power plants) would be similarly impacted.

| MSR Finding 36 | SSJID and PG&E would be similarly affected by reduced hydroelectric power generation resulting from less snowpack and higher temperatures. For SSJID this would reduce revenue from the wholesale of electricity and impact irrigation water customers who currently pay lower rates. For PG&E, this would reduce its ability to meet customer loads through its own generation, requiring it to purchase more power on the open market. For both utilities customer electricity rates could rise to meet the additional cost of power. SSJID should evaluate the vulnerability of its hydropower systems to climate change and explore adaptation options. |

**Transmission Infrastructure.** Transmission and distribution infrastructure is vulnerable both to increased temperatures and to increased risk of flooding and wildfire. Higher temperatures cause a reduction in transformer and substation capability, an increase in transmission and distribution line losses, and a decrease in the capacity of a fully loaded transmission line. Wildfires near large transmission lines are also expected to increase dramatically in parts of California by the end of the century. A power line disabled by a fire can take days or weeks to repair and alternate power may need to be procured from other places.

| MSR Finding 37 | PG&E’s and SSJID’s transmission efficiencies would be reduced by higher temperatures, which could result in both higher line losses and, in turn, higher capacity costs. Additional facilities may be required to overcome reduced efficiencies. Retail electric customers could experience higher electricity rates to fund additional infrastructure and facilities. |

**Energy Demand.** Increasingly hot and longer summers are likely to increase demand for air conditioning, while warmer winters will decrease demand for heating (mostly for natural gas). Overall demand for electricity will increase with more frequent operation of existing air conditioners. For example, high temperatures could increase statewide peak demand by up to 1.6 Gigawatts (equivalent to two large power plants) in the next ten years. This peak demand will
occur at the hottest time of day when thermal power plants may not be able to deliver at full capacity.

**MSR Finding 38** SSJID and PG&E would be similarly affected by increases in energy demand resulting from higher temperatures. For SSJID this would be particularly acute as it is located in an area that is expected to experience significant temperature increases. For both utilities customer electricity rates could rise to meet the additional cost of power. PG&E provides demand response programs which are intended lower demand during periods of high energy use. SSJID proposes to provide demand response as part of its plan’s public benefits programs. It is expected that SSJID’s public benefits programs will also promote energy efficiency, further reducing demand.

### 4c.6 Electric System Facilities

SSJID, PG&E, and MID own and maintain electricity-related systems and services within SSJID’s SOI. SSJID electric distribution facilities are limited to its Robert O. Schulz facility, which transmits power directly to the Nick C. DeGroot Water Treatment Plant. PG&E and MID own and maintain all other transmission and distribution facilities that provide retail electricity service within the SOI. All facilities for the transmission and distribution of electricity from SSJID’s electrical generation facilities are owned and maintained by PG&E.

**Existing Facilities**

Table 4-7 and Figure 4-13 show existing (2010) PG&E and MID transmission and distribution facilities for areas within the District. The inventory of electric facilities was prepared by Siemens on behalf of SSJID. It is based on field surveys of PG&E’s facilities and input from MID. The PA Report found that SSJID’s inventory is accurate and complete.
### TABLE 4-7  EXISTING ELECTRICITY DELIVERY SYSTEM (2010)

#### Delivery System Facilities

<table>
<thead>
<tr>
<th>Substations Serving SSJID-area (MW Capacity)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manteca</td>
<td>88</td>
</tr>
<tr>
<td>Ripon</td>
<td>28</td>
</tr>
<tr>
<td>Jack Tone</td>
<td>0</td>
</tr>
<tr>
<td>MID Clough</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>161</strong></td>
</tr>
</tbody>
</table>

#### Lines and Cables

<table>
<thead>
<tr>
<th>Lines and Cables</th>
<th>Within SSJID</th>
<th>Adjacent to SSJID</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead Lines (Miles)</td>
<td>448</td>
<td>89</td>
<td>536</td>
</tr>
<tr>
<td>Underground Cables (Miles)</td>
<td>207</td>
<td>2</td>
<td>210</td>
</tr>
<tr>
<td><strong>Total (Miles)</strong></td>
<td><strong>655</strong></td>
<td><strong>91</strong></td>
<td><strong>746</strong></td>
</tr>
</tbody>
</table>

#### Transformer Capacity

<table>
<thead>
<tr>
<th>Transformer Capacity</th>
<th>Total (kVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole Mounted Transformers (kVA)</td>
<td>171,049</td>
</tr>
<tr>
<td>Pad Mounted Transformers/Subsurface Transformers (kVA)</td>
<td>272,848</td>
</tr>
<tr>
<td><strong>Total (kVA)</strong></td>
<td><strong>443,897</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Transformers</th>
<th>Total (kVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole Mounted Transformers (units)</td>
<td>4,305</td>
</tr>
<tr>
<td>Pad Mounted Transformers/Subsurface Transformers (units)</td>
<td>2,451</td>
</tr>
<tr>
<td><strong>Total (units)</strong></td>
<td><strong>6,756</strong></td>
</tr>
</tbody>
</table>

1The Power Factor at the substations is close to unity (0.999).


Most of the facilities identified within the District are owned and operated by PG&E. MID facilities serve limited areas. PG&E primarily serves customers within the District from its Manteca Substation, with additional service from its Ripon, Riverbank, Avena, and Vierra substations. MID primarily serves customers within the District from its Clough Substation in Escalon and its Stockton Substation in Ripon. There are several areas between Ripon and Escalon where MID and PG&E share space for their distribution systems on joint poles (i.e., underbuilds), especially in Escalon along Clough Road and on McHenry Avenue. In most instances MID constructed the facilities and PG&E acquired pole space (i.e., MID occupies the upper level). Customers along these shared lines have a choice to be served by PG&E or MID.

Within SSJID’s service area and SOI, MID owns about two substations; 25 miles of 69 kV overhead transmission facilities and 30 miles of 17kV distribution facilities, much of it underbuilt on its own transmission lines; and about two miles of underground 17kV distribution facilities, mostly within Ripon. Most of MID’s facilities have been constructed within the last 10-12 years and are in very good condition. MID’s average load per customer (i.e., the amount of power used by each customer) is more than double that of PG&E’s, which indicates that MID has primarily extended service to customers that use high amounts of energy.
Figure 4-13
Transmission and Distribution Facilities

Legend
- Sphere of Influence
- County Limit
- District Boundary
- City Limits
- Electricity Transmission/Distribution Lines
- MID Customers

Draft Date: January 2010
Source: South San Joaquin Irrigation District, January 2010

Source: Siemens International, Inc; February 2010
Back of Figure
Duplicate, Obsolete, or other Electricity Infrastructure Issues

According to the Siemens facilities inventory, there are duplicate and obsolete facilities within SSJID’s service area, primarily as a result of PG&E and MID competing to provide electric service. These mostly occur in southern areas of the SSJID’s service area and SOI around Ripon and Escalon. The following are examples of types of duplicate facilities and infrastructure deficiencies:

- Parallel duplicate facilities occur along Jack Tone Road, Murphy Road, and River Road where MID has a line on one side and PG&E lines on the other side.
- Idled facilities occur in limited locations within SSJID’s service area where a former customer is no longer using a facility.
- Primitive risers and primitive poles occur in limited locations within SSJID’s service area, including near River Road.

The Siemens reports also list another type of facility, commonly known as an “underbuild”. Underbuilds are not considered duplicate facilities in this report.

Existing System Reliability

The California Public Utilities Commission (CPUC) measures electric system reliability by determining the average system interruptions to end-use customers. These computations include transmission, substation, and distribution outages, but exclude planned outages. SSJID is located in PG&E’s Stockton Division electric service area. The CPUC’s reliability indices for the PG&E Stockton Division as well as PG&E’s entire system are reported in PG&E’s 2012 Annual Electric Reliability Report. Per CPUC guidelines, PG&E’s calculations exclude major events caused by “earthquake, fire, or storms of sufficient intensity to give rise to a state of emergency being declared by the government” or “any other disaster . . . that affects more than 15% of the system facilities or 10% of the utility’s customers, whichever is less for each event.”

The CPUC uses four categories to measure reliability:

- System Average Interruption Duration Index (SAIDI) – minutes of sustained outages per customer per year (defined as outages lasting five minutes or more);
- System Average Interruption Frequency Index (SAIFI) – number of sustained outages per customer per year (defined as outages lasting five minutes or more); and
- Momentary Average Interruption Frequency Index (MAIFI) – number of momentary outages per customer per year (defined as outages lasting less than five minutes).
- Customer Average Interruption Duration Index (CAIDI) – average outage duration that any given customer experienced, or average restoration time.
Table 4-8 provides a summary of the PG&E Stockton Division’s reliability. The table includes definitions for the reliability standards referenced here. As the table shows, system reliability has improved recently (2012), but between 2007 and 2011 reliability decreased notably from 183.6 to 471.9 (SAIDI—the number of outages lasting five minutes or more). Between 2007 and 2011 PG&E Stockton Division SAIFI and MAIFI generally improved, but the 2011 SAIFI and the 2012 MAIFI were higher than in previous years and were even higher than their respective 2007 values. The average outage duration that any given customer experienced (CAIDI) increased from 2007 to 2011, but improved significantly in 2012.

<table>
<thead>
<tr>
<th>Year</th>
<th>SAIDI</th>
<th>SAIFI</th>
<th>MAIFI</th>
<th>CAIDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>183.6</td>
<td>1.636</td>
<td>1.827</td>
<td>112.2</td>
</tr>
<tr>
<td>2008</td>
<td>167.8</td>
<td>1.155</td>
<td>1.800</td>
<td>145.2</td>
</tr>
<tr>
<td>2009</td>
<td>255.5</td>
<td>1.469</td>
<td>2.935</td>
<td>173.9</td>
</tr>
<tr>
<td>2010</td>
<td>283.6</td>
<td>1.395</td>
<td>1.488</td>
<td>203.3</td>
</tr>
<tr>
<td>2011</td>
<td>471.9</td>
<td>1.754</td>
<td>1.188</td>
<td>269.9</td>
</tr>
<tr>
<td>2012</td>
<td>163.0</td>
<td>1.156</td>
<td>2.099</td>
<td>141.0</td>
</tr>
<tr>
<td>Avg</td>
<td>254.2</td>
<td>1.428</td>
<td>1.890</td>
<td>174.3</td>
</tr>
</tbody>
</table>


**MSR Finding 39**  Reliability rates over the past six years under PG&E service have fluctuated within the reporting area that includes SSJID’s service area. In particular, the average power outage duration that any customer experienced increased between 2007 and 2011; however, most categories of reliability improved dramatically in 2012. Based on recent performance, it is reasonable to assume that PG&E provides a sufficient level of system reliability.

**Planned Facility Improvements**

Should LAFCo approve SSJID’s application to provide retail electric service, the District would carry out its Plan to Provide Retail Electricity, including purchasing or obtaining through eminent domain PG&E facilities located within SSJID’s service area, severing them from PG&E’s existing system, and improving them to ensure PG&E and SSJID can continue providing service. Because SSJID boundaries do not conform precisely to the natural distribution “open points” of PG&E and MID electric distribution circuits, SSJID would acquire facilities outside SSJID’s service area and construct duplicate facilities to maintain safe and reliable service among PG&E and SSJID customers.
Planned Improvements

Should LAFCo approve SSJID becoming a retail electric service provider, SSJID would use existing PG&E facilities to provide service. As part of its plan to provide retail electricity, SSJID conducted engineering studies that show how its facilities would provide necessary retail electricity service to customers within its service area, while maintaining reliable service to remaining PG&E and MID customers.

SSJID plans to construct certain new facilities that are necessary to physically and operationally separate from PG&E and MID. For example, there may be an electricity line that has an electrical transformer located 100 yards beyond the District boundary. In order for the District to effectively separate the electricity system from PG&E, it would need to sever the system at the transformer. Therefore, the District would need to acquire and operate the line outside its service area up to the transformer where the two systems would be separated. Most situations where this will occur are in agricultural areas with little existing or planned development; however, there are areas where concentrations of customers would be affected (e.g., Ripon). As described above, SSJID plans to establish agreements with MID or PG&E to serve these areas. If an agreement cannot be reached, SSJID would need to construct additional and duplicate facilities in order for PG&E or MID to continue to serve their customers. SSJID plans to construct all proposed electrical facilities necessary to assure that remaining PG&E customers can be effectively served.

The separation of SSJID facilities from PG&E facilities would occur largely on two levels: 1) substation; and 2) network. For substations, SSJID would construct a new substation (Jack Tone substation) and expand the Manteca and Ripon substations and the MID Clough substation. Additional substation investments would include new feeders and transformers. Network investments would include new sections of a 17 kV feeder, reconductoring of existing sections, new switches and risers, and an upgrade to 17 kV at the 12 kV system at French Camp and the 4kV system at Wagner Road. Most of these new electric distribution system components would be built along city streets and county roads. A detailed summary of construction necessary to separate SSJID and PG&E facilities is included in the District’s Plan to Provide Retail Electric Service and in Distribution Network Inventory and Severance Issues Report, Final (Siemens Energy, Inc., February, 2010).

**MSR Finding 40** SSJID’s plan will require significant facility improvements in order to sever PG&E facilities from the PG&E system. SSJID has conducted numerous facility inventories, engineering studies, and severance and improvement plans, and has determined that it has the ability to undertake such improvements. Ultimately, as part of a separate application San Joaquin LAFCo will determine whether SSJID has the capacity to carry out the improvements identified in its retail electric plan.
**Future System Reliability**

SSJID’s application states that system improvements required to separate from PG&E’s system will improve the electricity network flexibility to transfer load between feeders and between substations during outages, and improve system reliability for System Average Interruption Duration Index ("SAIDI"), Short-Term Average Failure Intensity ("SAFI") and Customer Average Interruption Frequency Index ("CAIFI").

The District plans to design new facilities to maintain the reliability of service to customers within the district by replacing a substantial number of older substandard (undersized, leaning, stubbed, and broken) poles and crossarms; replacing miles of undersized insulators and conductors; upgrading several miles of 4kV conductors to 17 kV (for greater carrying capacity); and installing new substation transformers and feeders to improve carrying capacity and voltage support. SSJID contends that new construction would provide remaining PG&E customers and new SSJID customers a similar or better quality of service compared to current service levels provided by PG&E; however, this has not been independently confirmed.

It is important for an electricity distribution system to be able to transfer load between substations with relative ease. An accepted industry standard is a minimum 10MW of transfer capability. SSJID’s transfer capability for the Ripon, Manteca, and Jack Tone substations would be in excess of 20MW. A total of 21 MW could be transferred from the Manteca substation to the Jack Tone substation, 35 MW could be transferred from the Jack Tone substation to the Manteca substation, and 21 MW could be transferred from the Ripon substation to the Jack Tone substation. Based on these findings, after separating from PG&E, SSJID’s system would have a higher load transfer capability and lower thermal loads than the existing (2010) system, because SSJID would have greater transformer capacity and increased distribution conductor-carrying capacity (i.e., larger wires). This would allow for increased flexibility and reliability of service.

**MSR Finding 41** Accurately forecasting the reliability of SSJID’s proposed retail electric system for the purpose of comparing it to PG&E is not possible because SSJID has yet to provide service and address issues that would establish its reliability rating. However, based on SSJID’s proposed system improvements and planned operations, it can be reasonably assumed that SSJID would be able to maintain a similar level of system reliability similar to that currently provided by PG&E.

**Duplicate Facilities and Underbuilds**

Should LAFCo approve SSJID’s application to provide retail electric service, it would address several existing duplicated or obsolete facilities and other issues with infrastructure described above. However, the District’s plan would also result in new duplicated facilities. In addition, “underbuilds” (e.g., two sets of lines on the same pole) would be installed, which include construction of two circuits where normally there would be one. These additional facilities are necessary to ensure continuity of service among SSJID, MID, and PG&E customers both within and outside the District service area.
To preserve existing service to PG&E customers served by the Riverbank Substation outside of the SSJID service area, east of Escalon and south of Highway 120, a new under-build would be constructed along Victory Road, with the existing line providing continued service to PG&E’s customers outside the District’s boundaries. The 1.63 miles of new under-built facilities would be installed along South Victory Road between Highway 120 and River Road to provide service to SSJID’s customers inside the District’s boundaries. In another example, along French Camp Road near the northwestern boundary of the SSJID service area, existing 45-foot wood poles would be removed and replaced with taller 60-foot wood poles with sufficient additional space for both PG&E and SSJID distribution lines and related facilities. These joint-use poles would allow PG&E to serve customers within its service area on the north side of the road from a PG&E-owned circuit, and SSJID to serve its customers within its service area along the south side of the road from a separately-owned circuit installed on the same poles.

**MSR Finding 42** While SSJID has indicated that its plan to provide retail electricity will resolve several existing duplicate or obsolete facilities and other issues with PG&E’s electricity transmission facilities, it would also result in new duplicate facilities and underbuilds. These additional facilities would be necessary to ensure continuity of service among SSJID, MID, and PG&E customers both within and outside the District service area.

**Potential Border Area Improvements**

If SSJID cannot establish an agreement with PG&E and/or MID to serve areas outside its boundaries, SSJID would install additional duplicate distribution lines and related facilities on joint poles along its border to permit PG&E to serve customers within its remaining service area, and SSJID to serve the customers within its service area.

SSJID retained Siemens to prepare a “boundary area alternative plan” to maintain service continuity in the border areas. The construction to serve border areas would add 32.1 miles of modifications to the proposed project, involve the removal of up to 805 existing poles, and installation of up to the same number of taller replacement poles where necessary for SSJID and PG&E to share space for the distribution system.

**MSR Finding 43** SSJID’s plan will likely result in the need to construct additional facilities, including more duplicate facilities, if SSJID implements the border area alternative. Siemens, on behalf of SSJID, has prepared a plan identifying options for how SSJID could construct these additional facilities if needed. Based on findings from the Siemens plan, it is not expected that implementation of one or more of these options would undermine the feasibility of SSJID’s plan. An agreement with PG&E would avoid this construction by interfacing new facilities with existing metering points.

**Planned Operation and Maintenance**

Line work on the SSJID distribution system would involve routine maintenance by SSJID staff and contract crews. SSJID expects that its electric system maintenance staff would include three line crews, each with four craftsmen (i.e., foreman, two journeymen, and an apprentice/ground-
These crews would perform conventional underground and/or overhead maintenance work in a manner similar to that currently performed by other utility providers. SSJID plans to hire qualified personnel, such as former PG&E personnel, and advertise locally for qualified line workers. SSJID has stated that it would be willing to hire some PG&E craftsmen and office staff currently assigned to the Escalon, Manteca, and Ripon areas. For emergency operations, the District would maintain cooperative agreements with other service providers.

Vegetation management would be necessary to protect SSJID electricity distribution facilities from overgrowth. SSJID plans to add additional crews as necessary to carry out maintenance, similar to services carried out by other utility providers. SSJID could develop and implement right-of-way maintenance plans to manage vegetation around SSJID facilities consistent with applicable mitigation measures set forth in the EIR for the retail electric project.

**Future-year Facility Needs**

As population increases within the District and SOI, demand for electricity services would require the extension of lines to new development and expansion of electricity distribution facilities and substations. As stated above, SSJID would be obligated to extend its facilities and services to new customers upon request. Typically, extensions would be paid for by the customer. As electricity demand grows, SSJID would expand its substations and feeders to ensure adequate loads are available.

As part of its plan to provide retail electric service, SSJID conducted an analysis of substation capacity and expansion needs based on projected population growth through 2040. To estimate where and when new facilities would be needed, the District analyzed where and when development would likely occur based on adopted city SOIs and city and county general plans. The following provides a summary of expected improvements by substation:

- **Manteca Substation.** SSJID would install a new transformer and two new feeders at the Manteca substation when the District begins providing retail electricity service. Based on projected demand, the Manteca substation would require an additional new transformer and three feeders each in 2019, 2026, 2032, and 2037. However, the Manteca substation is already very large. Rather than expanding the substation, SSJID plans to add these transformers to the Jack Tone substation and build a new substation south of Manteca. Where and when the improvements occur depends on where a majority of growth occurs within the city of Manteca. If more growth occurs to the east or northeast, it favors the Jack Tone substation. If growth occurs to the south, it favors a new substation. Based on expected growth south of Manteca, transformers installed after 2026 would likely be needed as part of a new substation south of Manteca, because the amount of projected growth would probably be too far from the Manteca and Jack Tone substations to meet demand. A new substation would have two advantages: 1) limit the size of the Manteca substation; and 2) limit the over-extension of feeders from the Manteca substation.
• **Ripon Substation.** SSJID would install a second transformer and a new feeder at the Ripon substation shortly after the District begins providing retail electricity service. The Ripon substation has sufficient capacity to take some long-term demand that is expected along SR 99 between Ripon and Manteca. Based on projected demand, the Ripon substation would require two new feeders around 2024 and a new transformer and two additional feeders around 2037.

• **Jack Tone Substation.** The new Jack Tone substation would initially have two transformers and three feeders. This substation would take the load in the eastern and southeastern parts of the city of Manteca. Based on projected demand, the Jack Tone substation would require two new feeders around 2018 and a new transformer and two feeders around 2039. As indicated above in the Manteca substation summary, the new transformer and three feeders that would be necessary at the Manteca substation around 2019 would be installed at the Jack Tone substation.

• **New Substation (South of Manteca).** It is expected that a new substation would be necessary to meet expected demand south of the city of Manteca. As indicated above in the Manteca substation summary, the new transformers and feeders that would be necessary at the Manteca substation after 2026 would be installed at the new substation.

• **Clough Substation.** The Clough substation is owned and maintained by MID. However, in order to meet existing and expected demand within the District and SOI, SSJID plans to install a new transformer and three feeders when SSJID begins providing electric service, and a new transformer and two new feeders would be needed around 2033.

• **Riverbank Substation.** To preserve service to PG&E customers served by Riverbank Substation outside of the SSJID service area, east of Escalon and south of Highway 120, a new underbuild would be constructed along Victory Road, with the existing line providing continued service to PG&E’s customers outside the District’s boundaries. The 1.63 miles of new underbuild facilities would be installed along South Victory Road between Highway 120 and River Road to provide service to SSJID’s customers inside the District’s boundaries.

In addition to serving anticipated demand within the district, SSJID would evaluate the feasibility of providing electrical service within the SOI when it seeks authority to serve those areas. However, at this time SSJID does not plan to expand its retail electric service beyond its existing service area.

### 4c.7 Energy Efficiency and Conservation

Should LAFCo approve SSJID becoming a retail electric service provider, SSJID proposes to manage local demand to minimize excessive charges associated with transmission services and procuring peak power supplies and to provide conservation and efficiency programs. The District
would be required to provide Public Purpose Programs pursuant to the Public Utilities Code Sections 381, 382, 385, and 9503, which require both investor- and publicly-owned utilities to collect and spend a specific amount of revenues on alternative and renewable generation resources, energy management programs, or low-income support programs.

California's 1996 electric industry restructuring legislation (AB 1890) directed the state’s three major investor-owned utilities (Southern California Edison, PG&E, and San Diego Gas & Electric) to collect a "public goods charge" (PGC) on ratepayer electricity use from 1998 through 2001 to create public benefits funds for renewable energy, energy efficiency, and research, development & demonstration (RD&D). Subsequent legislation in 2000 extended the programs for 10 years from 2002 to 2012.

The California legislature did not pass legislation in 2011 to authorize the CPUC to collect PGC in 2012 or later years; however, the California Public Utilities Commission (CPUC) stated in Decision 11-12-035 that even though their authority to collect funds under Public Utilities Code 399.8 expired, the CPUC still has authority to collect funds through a PGC from Public Utilities Code 381, which has no expiration. The same decision created a new fund, the Electric Program Investment Charge Fund (EPICF). Senate Bill 1018 of 2012 later provided the statutory authority for the EPICF. The portion of the PGC used to support energy efficiency is not accounted for in the new EPICF.

Pursuant to these requirements, and because SSJID has never provided public benefits programs as a retail electric provider, the District would also be required to perform a needs assessment for public benefits, demand management, and low-income programs. This assessment would consider:

- Cost-effective demand-side management services to promote energy efficiency and energy conservation;
- New investment in renewable energy resources and technologies consistent with existing statutes and regulations which promote those resources and technologies;
- Research, development, and demonstration programs for the public interest to advance science or technology which is not adequately provided by competitive and regulated markets; and
- Services provided for low-income electricity customers, including, but not limited to, energy efficiency services, education, weatherization, and rate discounts.

SSJID would be required to hold one or more public meetings to review the findings of the needs assessment. Following the public meetings, SSJID would determine the amount of total funds to be allocated to low-income programs, including, but not limited to, targeted energy efficiency services, education, weatherization, and rate discounts. In making its decision on the need for the program, SSJID would have to consider the following:
• The number and income level of low-income customers that reside in the SSJID service area;
• The availability of home weatherization services to low-income customers in the SSJID service area;
• The availability of in-home energy efficiency education in the SSJID service area; and
• Other factors that may indicate a need for low-income services in the SSJID service area.

Based on the findings from the meeting, SSJID must promptly implement or expand its public benefit programs, and work with existing weatherization providers to implement energy efficiency, education, and weatherization programs. The SSJID application states that:

Prior to commencing service, the District would perform the evaluation described in Section 385-386 of the California Public Utilities Code and adopt specific programs and adjust the allocation of funding as necessary in accordance with those sections.

As a local retail electricity provider, SSJID plans to manage local energy demand (e.g., conservation efforts and automated metering) to minimize excessive charges associated with transmission services and procuring power supplies. SSJID also plans to implement conservation measures as a way to conserve its resources and avoid unnecessary infrastructure expenses. SSJID would be required to ensure access to feasible energy efficiency and conservation measures through its proposed public purpose programs and to comply with State-level public purpose requirements that apply to all publicly-owned utilities. SSJID would also be required to develop a plan to comply with the AB 2021 goals to prepare a plan that identifies public benefit program needs and programs to improve energy efficiency and conservation.

Energy efficiency and the programs and spending that support it are especially important to customers within SSJID’s service area. SSJID has estimated that non-subsidized residential electric customers within its boundaries use about 8,300 kWh of electricity per month, which is 32 percent higher than PG&E’s systemwide average demand (6,275 kWh). This is especially true for lower-income households. Public benefit programs that improve energy efficiency also enhance demand response programs by reducing peak energy demand.

**Demand Management**

Demand management, also known as demand side management or demand response, is the reduction of customer demand through educational programs, incentives, or direct load management. The goal of demand management is to get customers to use less energy during peak hours, or to move the time of energy use to off-peak times such as nighttime and weekends.

PG&E currently (2013) offers programs for customers to reduce their peak and base period demands for electricity. PG&E’s demand response programs encourage commercial and industrial customers to participate both through tariff rates (e.g., Schedule E-BIP – Base
Interruptible Program) and through directly managed load interruption programs. PG&E runs an air conditioning cycling program for residential and small commercial customers. PG&E is also implementing peak day pricing (PDP) to encourage reduced demand from all customers on the twelve days per year with the highest expected total system load. Finally, PG&E allows third-party aggregators to pool customers so that those customers can qualify for certain incentives from PG&E.

SSJID has provided demand response programs in the past, even though it isn’t a retail electric provider. Working through BPL Global, SSJID installed a demand response demonstration project on 1,700 residential air conditioning units in the District. SSJID approved the program to demonstrate consumer acceptance of and the District’s ability to use demand response as a means to help BPL Global meet its reserve requirements required by the California Independent System Operator (CAISO), which controls the regional electricity transmission system. SSJID has also installed 28 electronic controllers on its deep well groundwater pumps in order to operate the pumps on more energy-efficient cycles.

SSJID would be subject to the requirements of Article 8, Chapter 2.3, Part 1, Division 1, of the California Public Utilities Code addressing Publicly Owned Utilities (commencing with Section 385). Should LAFCo approve SSJID’s application to provide retail electric service, SSJID would be required to provide demand response programs and incentives as part of a package of public benefit programs. SSJID proposes to establish agreements and voluntary programs allowing SSJID to order electrical load curtailment of larger agricultural or commercial customers. Measures related to reducing peak demand include implementing, if feasible, an interruptible load program for agricultural customers and improved rate design and automated metering infrastructure. SSJID’s total load curtailment capability is forecast by SSJID to be 4 MW. This represents the capability of reducing the peak load by approximately 2.5 percent.

**MSR Finding 44**

It is difficult to compare PG&E’s demand response programs with those proposed by SSJID. Certain data on the effectiveness of PG&E’s programs is public, but public data is not available at a sufficiently detailed level to determine the baseline success of the programs for customers in the SSJID service area. Likewise, accurately forecasting the effectiveness of SSJID’s proposals is not possible due to their preliminary nature. Without more specifics about the nature of and participation rates in PG&E’s interruptible and demand response programs in the SSJID service area, no conclusion can be drawn as to whether demand response programs of the proposed retail electric service plan would result in better response to peak demand situations.

**Public Benefit Programs**

PG&E administers public benefit programs with oversight by the CPUC. The CPUC establishes policies and guidelines, sets program goals, and approves spending levels for PG&E public benefit programs. PG&E and third-party contractors implement the programs. A share of public benefits funding is designated to go to non-utility organizations to offer programs that supplement and complement PG&E’s programs. PG&E is required to collect and spend a
specific amount of its revenues on alternative and renewable generation resources, energy management programs, such as energy efficiency and demand response, and low-income support programs.

PG&E funds some of its public purpose programs through resource procurement budgets and recovers its costs through customer rates, which are approved by the CPUC. PG&E also used to collect a Public Goods Charge (PGC) on customer utility bills to fund utility energy efficiency programs.

According to filings with the CPUC, PG&E makes available dozens of Public Purpose Programs to a range of customers, as well as to organizations involved in increasing energy efficiency. Programs fall into five major categories including Energy Efficiency Procurement, Low Income Energy Efficiency, Self Generation Incentives, California Solar Initiative, and Family Electric Rate Assistance. For Energy Efficiency Procurement programs alone, PG&E offers over 70 specific programs. A list of PG&E’s Public Purpose Programs can be found in PG&E’s Advice Letter 3356-G-A/4176-E-A dated April 23, 2013.

SSJID would provide, as part of its proposed plan for retail electric service, a service planning group to ensure customers’ new business and energy efficiency needs. However, SSJID has indicated it may initially work with MID to administer its public benefit programs to ensure implementation of important efficiency and renewable investments consistent with those of MID.

SSJID would be subject to the requirements of Article 8, Chapter 2.3, Part 1, Division 1, of the California Public Utilities Code addressing Publicly Owned Utilities (commencing with Section 385). Public Utilities Code Section 385 requires that each local publicly owned electric utility collect funds for public benefits programs by establishing a nonbypassable, usage based charge on local distribution service of not less than the lowest expenditure level of the three largest electrical corporations in California on a percent of revenue basis. Because SSJID would be required to provide public benefits program funding through a usage based charge to customers, it would not require a Prop 26 election. Furthermore, since the legislature granted SSJID the power to invest in public benefits programs, using District funds in such a manner would be deemed a furtherance of the public purpose of the District and not a gift of public funds.

Table 4-9 lists the types of programs that SSJID would consider offering. The specific programs would be adopted by the SSJID Board of Directors following a review of the appropriateness, cost effectiveness, and other implications. Pursuant to Section 9505 of the Public Utilities Code, SSJID will be required to report on its expenditures and programs to the California Energy Commission. These reporting requirements are similar to the CPUC’s Evaluation, Measurement and Verification (EM&V) process for PG&E’s programs.
### TABLE 4-9  SSJID’S POTENTIAL PUBLIC PURPOSE PROGRAMS (2009)

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Anticipated Types of Programs</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Energy Audits</td>
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<tr>
<td></td>
<td>Rebates for installation of energy efficiency measures and solar</td>
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<tr>
<td></td>
<td>Refrigerator recycling program</td>
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<tr>
<td>Residential</td>
<td>CFL (compact fluorescent light bulb) rebate</td>
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<tr>
<td></td>
<td>New Construction Rebate</td>
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<tr>
<td></td>
<td>Energy Savings Kits for school children</td>
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<tr>
<td></td>
<td>Education Specialist for outreach to schools and community groups</td>
</tr>
<tr>
<td>Low Income / Customer Discounts</td>
<td>Weatherization: for low-income qualified customers</td>
</tr>
<tr>
<td></td>
<td>Levelized bill payment plans – allows a customer to pay the same amount each month</td>
</tr>
<tr>
<td></td>
<td>Rate Discount</td>
</tr>
<tr>
<td>Commercial</td>
<td>Meter Manager</td>
</tr>
<tr>
<td></td>
<td>Online Energy Management Tool</td>
</tr>
<tr>
<td></td>
<td>Custom Rebates and technical support for investment in energy efficiency equipment</td>
</tr>
<tr>
<td></td>
<td>Refrigeration and lighting Rebates</td>
</tr>
<tr>
<td></td>
<td>Regional partnership with cities, housing agencies, and other entities with an interest in building efficiency and clean energy generation.</td>
</tr>
</tbody>
</table>

*Source: SSJID, 2009*

**MSR Finding 45**  SSJID’s retail electric service plan would result in changes in energy efficiency and conservation programs, and the programs SSJID ultimately provides cannot be verified until SSJID conducts the required needs assessments. Likewise, data on the effectiveness of PG&E’s programs is public but not available at a level of detail sufficient to analyze benefits to customers within SSJID’s service area. Public benefit programs provided by SSJID may be more or less effective than those currently managed by PG&E; however, SSJID’s plan would result in a focused needs assessment and outreach to customers within its boundaries regarding the public benefits program needs of low-income customers. Therefore, it can be reasonably expected that SSJID’s public benefits programs will provide a range of options to meet local customers’ needs.

**Low-income Rate Discounts**

PG&E is subject to Section 739.1 of the California Public Utilities Code, which requires that electric rates be discounted by at least 20 percent for households with incomes up to 200 percent of Federal poverty guideline levels via the California Alternative Rates for Energy (CARE) program. The law limits the CPUC’s ability to increase CARE program rates. As a result, according to PG&E, “the CARE Tier 1 and 2 rates to low income customers have been frozen for
nearly two decades, resulting in a 43 percent inflation-adjusted decrease in the cost of electricity to CARE customers since 1991.” PG&E’s current electric rates for CARE customers in San Joaquin County range from 37 percent to 60 percent below standard residential rates. This is far above the mandated 20 percent. According to PG&E, “the current residential electric rate structure is currently unsustainable, and in coming years will get even more unsustainable without fundamental remedial reform.”

As a result of these high rates for CARE customers, both PG&E and the CPUC have agreed in recent years to reduce the subsidy provided to CARE customers. AB 327 (Perea, 2013) partially addresses these concerns by setting new provisions for CARE rates and program eligibility. The legislation requires the CPUC to reduce PG&E’s CARE discount over time to between 30 percent and 35 percent. The legislation also allows PG&E to require proof of income eligibility for CARE participants whose usage exceeds 400 percent of baseline in any billing period and to condition continued CARE eligibility on participation in PG&E’s low-income energy efficiency program. Finally, it allows PG&E to remove from the CARE program any customer whose usage continues to exceed 600 percent of baseline after participation in the low-income energy efficiency program.

As a public utility SSJID is not required to provide CARE program rates; however, SSJID would be subject to the requirements of Article 8, Chapter 2.3, Part 1, Division 1, of the California Public Utilities Code addressing Publicly Owned Utilities (commencing with Section 385). Furthermore, in its original application to provide retail electric service, SSJID indicated it plans to use the same rate design structure that is currently being used by PG&E for customers within SSJID’s service area.

SSJID will provide retail electric service at rates 15 percent lower than PG&E rates...SSJID plans on using the same rate design structure that is currently being used by PG&E for customers within SSJID’s service territory.

The District also indicated it would provide the same primary level of services to all customer classes (residential, commercial, industrial, and agriculture) currently being provided by PG&E, including low-income assistance. Finally, SSJID committed to provide electricity at rates 15 percent below PG&E rates. Because PG&E’s rates include CARE program rate discounts and because SSJID committed to match PG&E rate structures and low-income assistance, SSJID would need to provide a program similar to the CARE program and provide an additional 15 percent rate reduction to low-income customers in order to fulfill its objectives.

As described in Chapter 5, Section 5.5, the Mintier Harnish/MBMC Analysis accounted for CARE rates as part of SSJID’s residential revenues, and it appears that SSJID can provide retail electricity, while providing a CARE rate discount similar to PG&E. However, SSJID has not provided any details on how it plans to provide a low-income rate discount program. It is unclear how SSJID would construct such a program, or ultimately set its rates and ensure current PG&E CARE customer pay rates similar to those they currently pay under PG&E’s CARE program.
Furthermore, it is not entirely clear whether SSJID intends to match PG&E CARE rate discounts through its public benefits programs, or separately as a program within its basic rate structure.

**MSR Finding 46** While SSJID’s retail electric service plan is feasible, it is unclear based on SSJID’s application how the District plans to provide a low-income rate discount. It is also unclear how much of SSJID’s proposed funding for public purpose programs would need to be allocated toward low-income customers, including low-income rate discounts. In order to ensure CARE customers’ rates are maintained and SSJID should provide a low-income rate discount program as part of its basic rate structure that matches the rates paid by PG&E CARE program customers.
CHAPTER 5  FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

The financial ability of SSJID to provide services is determined by the available financial resources and the management practices of the District. Special districts, like SSJID, rely primarily upon property tax, special assessments, fees for service, and development mitigation fees. Unlike cities and counties, which exercise broad powers of taxation (e.g., property tax, sales and use tax, vehicle license fees, utility user fees, transient occupancy tax), districts are limited to revenue sources authorized by the State Legislature. Although districts are autonomous units of local government with sovereignty over internal fiscal issues, the type of revenue sources they may use are relatively limited.

San Joaquin LAFCo Policies and Procedures: Financial ability of agencies to provide service

A community’s public service needs should be viewed in light of the resources available to fund the services. The MSR will need to evaluate factors that affect the financing of necessary improvements and whether agencies are capitalizing on financing opportunities and collaborative strategies to deal with financial constraints.

This chapter of the MSR describes SSJID funding mechanisms and budget projections for the provision of current and expanded services and infrastructure within the District service area and SOI. It also focuses on the long-term financial implications of the District’s plan to provide retail electric service. Government Code §56430(a)(3) requires San Joaquin LAFCo to review whether SSJID has the financial ability to provide its existing and planned future services.

5.1 Existing and Projected Revenue

This section presents and analyzes SSJID's existing budget and projects SSJID's future costs and revenues for its existing services. This section is intended to determine the existing and future financial feasibility of SSJID's services if San Joaquin LAFCo does not approve SSJID's plan to provide retail electric service.

Existing and Projected Budget without Retail Electric Service

When reviewing SSJID’s budget projections, there are two considerations important to determine feasibility and prudent budgeting/operation practices. The first is the number of days of cash-on-hand. In the simplest terms cash-on-hand represents the number of consecutive days the District could pay operating expenses without receiving any additional revenues. According to Moody’s rating methodology, a public power utility should have at least 125 days of cash-on-hand to qualify for a AAA (highest) or AA (next highest) credit rating. PA Consultants indicated that
SSJID’s plan should maintain minimum 120 to 150 days cash-on-hand. Likewise, MRW used a 120-day minimum.

The second consideration is debt service coverage ratio. Debt service coverage ratio, also known as "debt coverage ratio," is the ratio of net revenue available for debt servicing to interest, principal, and lease payments. The higher this ratio is, the easier it is to obtain a loan and get lower interest rates. For the purposes of financial planning, public agencies frequently maintain a minimum 110 to 120 percent debt service coverage ratio. This is an industry standard that is generally regarded by lenders and financial professionals as an acceptable margin of safety for a borrower’s ability to repay debt. The Mintier Harnish/MBMC Analysis used a minimum debt service coverage ratio of 125 percent.

In practice SSJID does and plans to operate under a single financial system. Because of this the MSR evaluates the District’s finances as a consolidated whole. Table 5-1 provides a summary of the District’s consolidated budget from 2015 through 2040. For the purposes of the MSR, Table 5-1 focuses on SSJID’s revenues and expenses, cash flow, and debt service coverage. In the near-term, the table shows yearly projections. Longer-term projections are provided in five-year increments. A detailed version of the consolidated budget by year and service line can be found in Appendix F: SSJID Consolidated Budget Scenarios.

SSJID used conservative assumptions in its financial projections. For example, the District assumed 4.5 percent annual increase in cost of living adjustments for employee wages. This is the highest possible rate allowed under SSJID’s labor contracts.

As Table 5-1 shows, revenue and expenses are consistent throughout the projection period, and result in positive net income to the District in all years. Cash flow and reserve balances are projected to be strong, resulting in a continuing rise in the District’s number of days of cash-on-hand. In all years SSJID maintains over 1,000 days cash-on-hand, well over the minimum standard of 125 days.

SSJID’s debt service coverage is strong throughout the term of SSJID’s existing bonds. SSJID maintains a debt coverage ratio well over the minimum standard of 125 percent in all years the district has debt. As the table shows, in 2020 SSJID’s debt service payments stop. This is because SSJID will complete payments on $25 million of debt financing it incurred in 2008 (Series 2008 A Certificates of Participation) and no future borrowing is planned unless SSJID’s retail electric plan is approved by LAFCo. The Financial Standing analysis of this section provides a detailed discussion of SSJID’s current debt service. However, SSJID could issue bonds at any point in the future, which would change its debt service coverage ratio.
### Table 5-1  SSJID Existing and Projected Budget Without Retail Electric Service

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<td><strong>Revenue and Expenses ($ millions)</strong></td>
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<td></td>
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<td>Operating Revenues</td>
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<td>$13.5</td>
<td>$13.9</td>
<td>$14.4</td>
<td>$14.9</td>
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<td>$25.3</td>
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<td>$27.8</td>
<td>$28.7</td>
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<td>$39.9</td>
<td>$47.4</td>
<td>$56.6</td>
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<td>Non-Operating Revenue</td>
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<td>$34.5</td>
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<td>$11.9</td>
<td>$15.4</td>
<td>$19.4</td>
<td>$22.8</td>
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<td><strong>Cash Flow ($ millions)</strong></td>
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<td>Net Cash Flow</td>
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<td>Ending Cash Balance</td>
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<tr>
<td><strong>Debt Service Coverage ($ millions)</strong></td>
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<td>Total Revenue</td>
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<tr>
<td>Debt service Coverage Ratio</td>
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<td>460%</td>
<td>509%</td>
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</table>

1 A detailed version of the consolidated budget by year and service line can be found in Appendix F: SSJID Consolidated Budget Scenarios.

Source: SSJID, 2014; South San Joaquin Irrigation District Retail Electric Financial Analysis
Notably, after 2024 net income begins to gradually fall. According to SSJID, this occurs because the District assumes it will keep rates for irrigation service lower than the cost of operations (i.e., the District will continue subsidizing irrigation rates). As a result, operating revenues will not keep up with SSJID’s projected growth in expenses. This is feasible because cash flow remains positive and reserves continue growing throughout the 30-year projection period. Because this rate assumption is feasible during the 30-year projection period, SSJID would not be compelled to change its policy to subsidize irrigation rates until sometime after 2040. The District could adopt higher irrigation rates at some point in the future to better reflect expenses.

SSJID’s budget projects significant growth in its reserves; much more than is needed to continue an ordinary level of investment in capital replacements. Recent growth in SSJID’s reserves is due in part to revenues it receives from the sale of wholesale power and surplus water; revenue streams that are expected to continue in the future. The Historic and Projected Water and Power analysis of this section provides a detailed discussion of SSJID’s revenue from surplus water and power generation sales. At a certain point growth in SSJID’s reserves would indicate that its overall revenues are exceeding its cost of service. As a result, SSJID would need to use this money to cover projects that result in improved service to its customers or lower rates to more closely match the cost of service while maintaining prudent reserves.

For example, given its high ending cash balance (i.e., reserves), the District could further subsidize irrigation customer rates, using its reserves and non-operating revenue (i.e., surplus water and wholesale power sales) rather than increasing rates. SSJID is also currently reviewing the feasibility of expanding pressurized irrigation systems to other areas of the SSJID’s service area. Operating and maintaining these systems does cost more and irrigators using these systems use less water resulting in lower revenues. SSJID could use its reserves and non-operating revenues to expand and maintain a pressurized irrigation system, while not significantly increasing customer rates. There are other projects and programs SSJID could pursue to keep rates low and enhance service. Ultimately, the SSJID Board of Directors will decide how the District invests its reserves.

**MSR Finding 47**

SSJID is financially sound and is projecting to have adequate revenues to provide the services that it is currently authorized to provide (i.e., irrigation, water, drainage). An independent evaluation of SSJID by Mintier Harnish and MBMC projects it will maintain cash-on-hand and a debt service coverage ratio well above the minimum standards. Continued growth in SSJID’s reserves may become excessive at some point in the future unless the District reevaluates its rates or continues to invest in facility improvements and programs that enhance customers’ services.

**Financial Standing**

The Standard & Poors Ratings Services gave the District an AA rating in its Revenue Certificates of Participation issued in August 2008. The District has historically operated debt free; however, in 2008 the District incurred $25 million in debt financing (Series 2008A
Certificates of Participation), secured by its ongoing revenues, to provide long-term, fixed-rate, and low-cost funds to pay for the following capital projects:

- two solar projects totaling 1.375 MW;
- the District’s share of the cost to construct a third generation unit at the Tulloch hydro-electric generating facility and one major irrigation improvement project; and
- Improvements to the District’s irrigation system to develop the Division 9 project.

The Tulloch project improvement costs are paid from Tri-Dam Project revenue and reserves. There is no specific revenue or funding sources used for repayment of debt incurred to pay for the solar projects and Division 9. The District uses its consolidated revenues for repayment of the 2012A bonds to fund these projects.

Table 5-2 shows the debt service (principal and interest payment) the District is responsible for, based on its existing $25 million debt financing. The first part of the table includes the assumptions that were used to calculate the amount of money the District has available to cover its debt service. These assumptions are based on the formula for debt service coverage prescribed by the Installment Purchase Agreement which governs the District’s existing Series 2008A Certificates of Participation. The table includes an estimate of the District’s net revenue, which is the difference between total revenues and operating and maintenance costs as defined in the Installment Purchase Agreement. Finally, the table shows the District’s debt service coverage ratio. SSJID’s Series 2008A Certificates of Participation have a specific definition for net revenue and operating, and maintenance costs for the purpose of debt service coverage requirements. They differ from the net income and net cash flow reported in SSJID’s consolidated budget revenue and expenses and cash flow lines.

As the table shows, the District is paying about $2.65 million per year on the principal and interest of its existing $25 million debt financing. Based on the District’s revenues and debt service, it is estimated that it will be well above the minimum standard in all years. The District will fulfill its obligation to repay its $25 million debt financing in 2019, at which point it would no longer need to maintain a debt service coverage ratio. A detailed version of the debt service by year can be found in Appendix F: SSJID Consolidated Budget Scenarios.
### Table 5-2  SSJID Debt Service Coverage

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2017</th>
<th>2019</th>
<th>2021¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2008A Installment Purchase Agreement Assumptions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Revenue</td>
<td>22,735,748</td>
<td>31,109,817</td>
<td>34,611,169</td>
<td>-</td>
</tr>
<tr>
<td>Operating and Maintenance Costs</td>
<td>17,632,728</td>
<td>18,919,140</td>
<td>20,325,300</td>
<td>-</td>
</tr>
<tr>
<td>Net Revenues</td>
<td>5,103,000</td>
<td>12,190,677</td>
<td>14,285,868</td>
<td>-</td>
</tr>
<tr>
<td><strong>Debt Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008A Principal</td>
<td>2,180,000</td>
<td>2,355,000</td>
<td>2,545,000</td>
<td>-</td>
</tr>
<tr>
<td>2008A Interest</td>
<td>471,400</td>
<td>293,800</td>
<td>101,800</td>
<td>-</td>
</tr>
<tr>
<td>Total Debt Service</td>
<td>2,651,400</td>
<td>2,648,800</td>
<td>2,646,800</td>
<td>-</td>
</tr>
<tr>
<td><strong>Debt Service Coverage Ratio</strong></td>
<td><strong>192%</strong></td>
<td><strong>460%</strong></td>
<td><strong>540%</strong></td>
<td><strong>-</strong></td>
</tr>
</tbody>
</table>

¹The District will fulfill its obligation to repay its current $25 million debt financing in 2019.

Source: SSJID Consolidated Budget, 2013

**MSR Finding 48**  The District maintains a superior credit rating and has sufficient revenues to pay existing debt service, which is expected to be fulfilled in 2019. SSJID has a current debt service coverage ratio well above the minimum standard of 125 percent. The District’s Series 2008A Certificates of Participation allows SSJID to incur future debt obligations with an equal (“parity”) claim on District revenues if the new debt establishes the same debt service coverage calculation with a minimum requirement of 125 percent coverage of all parity debt service.

### Development and Maintenance Fees

Table 5-3 shows the fees the District charges for its services. Irrigation water customers are charged for irrigation water services, which include the development of new and maintenance of existing canals, ditches, and pressurized pipelines. Customers using the Division 9 pressurized system are charged based on volumetric water usage.

The District recently (2012) enacted a new volumetric pricing structure pursuant to SBx7-7 (Steinberg, 2009). SBx7-7 requires agricultural water to be priced at least in part based on volume. SSJID has added a volumetric rate of $3.00 per acre-foot to the existing fixed charge of $24 per acre. The new volumetric rate is projected to provide enough incremental revenue to amortize the cost of the meters and to cover operating and maintenance costs of the measurement program. This fee structure became effective in 2014.

New Division 9 customers connecting to the system will also be charged the cost to connect to the system. Agricultural customers that pump groundwater instead of using surface water are charged a recharge fee of $12.00 per acre for the benefit they derive from the beneficial impact of flood irrigation on the groundwater supply. The cities of Manteca, Lathrop, and Tracy are charged for water treated at the Nick C. DeGroot Water Treatment Plant as well as operation and maintenance fees associated with the operation of the facility. Ripon purchases untreated raw contracted water from the District. The District also receives a share of property tax revenue collected by the County of San Joaquin.
SSJID has operated its irrigation service line at a loss (i.e., irrigation revenues are not enough to cover the cost of irrigation service). This is due, in part, to revenues SSJID receives from the sale of wholesale power and surplus water, revenue streams that are expected to continue in the future.

**TABLE 5-3 SSJID Fee Schedule**

<table>
<thead>
<tr>
<th>Fee</th>
<th>Cost</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigation Water</td>
<td>$24.00/acre-foot/year</td>
<td>$50.00</td>
</tr>
<tr>
<td>Volumetric Price(^1)</td>
<td>$3.00/acre-foot/year</td>
<td></td>
</tr>
<tr>
<td>Division 9 Pressurized Charge(^2)</td>
<td>$30.00/acre-foot for first 3 acre-feet per acre</td>
<td>$40.00/acre-foot for excess</td>
</tr>
<tr>
<td>Connection Charge - Division 9</td>
<td>Actual cost to install facilities to connect grower to District's facilities</td>
<td></td>
</tr>
<tr>
<td>Recharge</td>
<td>$12.00/acre/year</td>
<td>$25.00</td>
</tr>
<tr>
<td>Raw Water Charge</td>
<td>$30.89/acre-foot for deliveries to in-District cities; $85.85/acre-foot for Lathrop and Tracy.</td>
<td></td>
</tr>
<tr>
<td>Storm Drain; Engineering Plan Check(^4)</td>
<td>Cost varies</td>
<td></td>
</tr>
<tr>
<td>Annexation</td>
<td>$1,800/acre</td>
<td>-</td>
</tr>
<tr>
<td>Pumps(^3)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Public Records Act</td>
<td>$0.10/Page</td>
<td>-</td>
</tr>
</tbody>
</table>

\(^1\) Volumetric charge will be imposed starting in 2014.

\(^2\) Pressurized water is billed at $30 per acre foot and the additional $10 per acre-foot will be billed starting in 2014.

\(^3\) A charge for use of District pumps is based on the amount of usage.

\(^4\) Agreements with cities for storm drainage do not contain set fees. The District requires cost sharing for improvements to drainage facilities.

\(^5\) Additional fees/penalties applicable to flat rate charges that are not paid when due:

- Ten percent penalty added to 1st installment if not received by December 20
- Five percent penalty added to second installment if not received by June 20
- $5.00 cost added to parcels containing delinquencies on June 20
- Publication cost is added to parcels that appear on the delinquent list published in the paper. This fee varies based on what the District is charged by the newspaper.
- Lien release fee - $26.00
- Monthly interest is charged on all parcels with a lien. This rate is set every six months by the Franchise Tax Board. Currently, it is 4 percent.

*Source: SSJID, 2013.*

**MSR Finding 49** SSJID receives funding, collects fees, and generates revenues that are adequate to allow the District to provide irrigation, water, and drainage services and associated maintenance of District facilities. The District’s revenues are sufficient to meet current demand for irrigation, water, and drainage services; perform necessary maintenance; improve facilities; and maintain District reserves. Continued growth in SSJID’s reserves indicates that the District may need to reevaluate its rates or invest in facility improvements and programs that enhance customers’ services.
Historic and Projected Water and Power Revenues

SSJID has generated revenues through selling electricity wholesale from the Tri-Dam Project, Tri Dam Power Authority, and Woodward Dam, and the sale of surplus water to agencies outside its boundaries. The District uses these funds to avoid increases in the cost of water to its existing irrigation customers and has also used them to undertake capital improvement projects, such as the Division 9 project. The revenues generated by the sale of electricity pay for the operation and maintenance of the hydroelectric projects, as well as other District operations and facilities. The following section describes SSJID’s historic and projected surplus water and wholesale power revenues.

Historic Water and Power Revenues

SSJID has historically sold water to agencies outside its boundaries. For example, from 2000 to 2010 the District had a 10-year agreement to sell about 15,000 acre-feet of raw water per year to SEWD. More recently, SSJID has sold surplus water on an ad hoc basis without long-term agreements. For example, in 2013 the District sold over 40,000 acre-feet of surplus water to the City of Ripon, the South Delta Water Agency, U-3 Ranch, and the San Luis and Delta Mendota Water Authority.

The revenues SSJID receives from its ownership interest in the Tri-Dam Project have contributed to substantial increases in the District’s cash reserves since 2005, when the District began selling wholesale electricity on the open market. The Tri-Dam Project began selling power to the City of Santa Clara in January 2014 as part of a 10-year contract that expires at the end of 2023. Tri-Dam Power Authority has sold electricity to PG&E under a Standard Offer No. 4 contract that governs the price of the wholesale electricity. This agreement expires in 2016. The Tri-Dam Power Authority is also a party to the agreement with the City of Santa Clara and when the contract with PG&E expires, the Power Authority will sell all electricity to the City of Santa Clara under that contract which expires at the end of 2023.

Table 5-4 shows surplus water and wholesale power revenue distributions SSJID has received since 2006. As the table shows, since 2006 SSJID received an average of nearly $13.5 million per year from the sale of surplus water and wholesale power; however, this revenue source has not been steady. The lowest revenue year in 2010 was due to an out-of-service hydro-electric generator at the Donnells Dam; however, insurance coverage maintained by Tri-Dam Project resulted in insurance payments for the Donnells interruption. These amounts included both repair costs and foregone revenue. The effect on SSJID was that it made more cash available for the Tri-Dam Project to distribute to SSJID and OID in 2011. According to SSJID, similar insurance coverage is maintained by the Tri-Dam Authority and Woodward Reservoir hydroelectric projects. Over the six-year time frame, revenues generated from a fully operational system fluctuated from a high of $19 million (2006), to a low of $5.2 million (2010).

Fluctuations in revenue are caused by several factors, such as the availability of water to sell and run the hydroelectric generators and the market price and demand for wholesale water and
electricity. The 2010 revenue year illustrates the sensitivity of these revenue sources to unexpected facility interruptions, and the time and funding required for necessary repairs. However, on average, SSJID has received about $10.1 million per year in revenue from the sale of wholesale power, and about $3.1 million per year for the sale of surplus water. And, as noted in SSJID’s consolidated budget summary (Table 5-1), surplus water and wholesale power revenues have contributed to significant growth in SSJID’s reserves and enabled the District to keep irrigation rates lower than the cost to provide service.

**TABLE 5-4 SSJID HISTORIC SURPLUS WATER AND WHOLESALE POWER SALES REVENUES**

<table>
<thead>
<tr>
<th>Year</th>
<th>Tri-Dam Project</th>
<th>Tri-Dam Power Authority</th>
<th>Woodward</th>
<th>Power Sales Subtotal</th>
<th>Surplus Water</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$13,800,000</td>
<td>$2,800,000</td>
<td>$301,686</td>
<td>$16,901,686</td>
<td>$2,229,486</td>
<td>$19,432,858</td>
</tr>
<tr>
<td>2007</td>
<td>$10,600,000</td>
<td>$1,500,000</td>
<td>$315,339</td>
<td>$12,415,339</td>
<td>$4,195,758</td>
<td>$16,926,436</td>
</tr>
<tr>
<td>2008</td>
<td>$9,400,000</td>
<td>$1,800,000</td>
<td>$321,543</td>
<td>$11,521,543</td>
<td>$2,421,171</td>
<td>$14,264,257</td>
</tr>
<tr>
<td>2009</td>
<td>$6,500,000</td>
<td>$1,800,000</td>
<td>$305,398</td>
<td>$8,605,398</td>
<td>$8,264,154</td>
<td>$17,174,950</td>
</tr>
<tr>
<td>2010</td>
<td>$1,700,000</td>
<td>$200,000</td>
<td>$281,644</td>
<td>$2,181,644</td>
<td>$2,763,240</td>
<td>$5,226,528</td>
</tr>
<tr>
<td>2011</td>
<td>$12,955,114</td>
<td>$1,000,000</td>
<td>$299,743</td>
<td>$14,254,857</td>
<td>$525,423</td>
<td>$15,080,023</td>
</tr>
<tr>
<td>2012</td>
<td>$6,334,000</td>
<td>$1,000,000</td>
<td>$264,340</td>
<td>$7,598,340</td>
<td>$25,015</td>
<td>$7,887,695</td>
</tr>
<tr>
<td>2013</td>
<td>$6,582,000</td>
<td>$750,000</td>
<td>$296,347</td>
<td>$7,628,347</td>
<td>$4,046,973</td>
<td>$11,971,667</td>
</tr>
<tr>
<td>AVG</td>
<td>$8,483,889</td>
<td>$1,356,250</td>
<td>$298,255</td>
<td>$10,138,394</td>
<td>$3,058,903</td>
<td>$13,495,552</td>
</tr>
</tbody>
</table>

1. 2010 Tri-Dam Project revenue was down due to an out-of-service generator at Donnells Dam.


**Projected Water and Power Revenues**

SSJID expects to continue generating non-operating revenues from its share of wholesale power sales from the Tri-Dam Project, Tri-Dam Power Authority, and Woodward Dam, and plans to continue selling surplus water to other water purveyors. SSJID does not have any current agreements or contracts to sell surplus water. SSJID assumed in its financial projection that it could sell surplus water at $100 per acre-foot. However, according to SSJID staff, the value of water has increased over the last several years, and the District has received offers of up to $300 per acre-foot.

In 2014 SSJID and OID, through the Tri-Dam Project, began selling power to the City of Santa Clara as part of a 10-year agreement that will expire at the end of 2023. SSJID has indicated that prior to its expiration it would work with OID to establish a new contract. This is typical of past power sale agreements established by SSJID and OID. The Tri-Dam Power Authority agreement with PG&E (i.e., Standard Offer No. 4 contract) is set to expire in 2016. In June 2016 the Tri-
Dam Power Authority will begin selling this electricity under the contract with the City of Santa Clara. Revenues from the Tri-Dam Power Authority also reflect retirement of an existing debt service in 2016. SSJID expects to continue receiving wholesale power revenues through 2046 per its licenses issued by the Federal Energy Regulatory Commission.

Table 5-5 summarizes SSJID’s projected revenues through 2024 from surplus water and wholesale electricity based on SSJID’s consolidated budget projection and input from SSJID staff. As the table shows, SSJID projects it will receive about $12.8 million in revenue in 2015 and about $20.7 million in 2024, for an average annual growth rate of about 5 percent. Over the next ten years SSJID expects to receive an average of about $17.8 million in revenue. For wholesale power revenue, SSJID projects average revenues will increase by about $6.1 million by 2013 over past revenues. SSJID projects water sales will, on average, generate about $600,000 more than past average revenues.

<table>
<thead>
<tr>
<th>Year</th>
<th>Tri-Dam Project</th>
<th>Tri-Dam Power Authority</th>
<th>Woodward</th>
<th>Power Sales Subtotal</th>
<th>Surplus Water</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$7,205,000</td>
<td>$996,433</td>
<td>$311,000</td>
<td>$8,512,433</td>
<td>$4,239,437</td>
<td>$12,751,870</td>
</tr>
<tr>
<td>2016</td>
<td>$10,477,500</td>
<td>$902,419</td>
<td>$323,000</td>
<td>$11,702,919</td>
<td>$3,115,575</td>
<td>$14,818,494</td>
</tr>
<tr>
<td>2017</td>
<td>$10,822,500</td>
<td>$2,281,067</td>
<td>$337,000</td>
<td>$13,440,567</td>
<td>$3,227,587</td>
<td>$16,668,154</td>
</tr>
<tr>
<td>2018</td>
<td>$11,281,000</td>
<td>$2,381,198</td>
<td>$350,000</td>
<td>$14,012,198</td>
<td>$3,342,035</td>
<td>$17,354,233</td>
</tr>
<tr>
<td>2019</td>
<td>$11,852,000</td>
<td>$2,480,683</td>
<td>$364,000</td>
<td>$14,696,683</td>
<td>$3,460,596</td>
<td>$18,157,279</td>
</tr>
<tr>
<td>2020</td>
<td>$12,416,000</td>
<td>$2,579,377</td>
<td>$379,000</td>
<td>$15,374,377</td>
<td>$3,581,923</td>
<td>$18,956,300</td>
</tr>
<tr>
<td>2021</td>
<td>$12,853,500</td>
<td>$2,639,012</td>
<td>$394,000</td>
<td>$15,888,533</td>
<td>$3,706,243</td>
<td>$19,594,776</td>
</tr>
<tr>
<td>2022</td>
<td>$12,926,750</td>
<td>$2,621,298</td>
<td>$407,542</td>
<td>$15,955,590</td>
<td>$3,833,491</td>
<td>$19,789,081</td>
</tr>
<tr>
<td>2023</td>
<td>$13,128,750</td>
<td>$2,602,761</td>
<td>$421,550</td>
<td>$16,153,061</td>
<td>$3,964,902</td>
<td>$20,117,963</td>
</tr>
<tr>
<td>2024</td>
<td>$13,552,000</td>
<td>$2,656,795</td>
<td>$436,040</td>
<td>$16,644,835</td>
<td>$4,100,736</td>
<td>$20,745,571</td>
</tr>
<tr>
<td>2014-2023</td>
<td>$11,651,500</td>
<td>$2,214,104</td>
<td>$372,313</td>
<td>$14,238,120</td>
<td>$3,657,253</td>
<td>$17,817,374</td>
</tr>
</tbody>
</table>

Source: SSJID Consolidated Budget, 2013; SSJID, 2013

**MSR Finding 50** SSJID has historically received a significant amount of revenue from the sale of surplus water and wholesale power; however, these revenues have fluctuated due to factors such as available water supply, wholesale energy demands, and hydro-electric facility issues. SSJID projects that it will continue to receive revenue from these sources in the future. SSJID’s projected average revenues from these sources over the next 10 years ($17.8 million) are higher than what it has received on average in the past ($13.5 million); however, it is reasonable to expect the District will receive more money in the future as power prices increase, as reflected in the Tri-Dam Project’s agreement with the City of Santa Clara, which expires at
the end of 2023, and the Tri-Dam Power Authority’s agreement with PG&E expires and it begins selling power to the City of Santa Clara through 2023.

**Opportunities for Additional Revenue**

The District has several other opportunities to enhance its already stable revenue stream. The District’s investments in two solar projects at the Nick C. DeGroot Water Treatment Plant are being repaid from State rebates and billings for electricity to the Treatment Plant water customers. The plant is expected to generate revenue for the District through 2040. The District is also currently (2013) reviewing the feasibility of delivering treated water to Ripon.

**MSR Finding 51** SSJID has several opportunities to increase its revenues as current debts are retired and existing contracts expire. SSJID could improve the likelihood and stability of future revenues by entering into long-term surplus water sales contracts, and by selling treated water to the City of Ripon.

**Potential Impacts on Rates and Revenue**

**Wholesale Water Revenue Impacts**

As described in Chapter 4a, SSJID’s water supplies fluctuate from year to year and the District may not always have surplus raw water available to sell. Chapter 4 also identifies several environmental and regulatory impacts that could limit surplus water and constrain SSJID’s ability to sell surplus water for a given year or several consecutive years. For example, climate change is predicted to reduce snow pack and river flows, extend periodic or prolonged droughts, or increase saltwater intrusion in the groundwater basin. In addition, SSJID has cited concerns that regulatory changes may threaten the District’s long-term water rights. See the section entitled “Potential Impacts to Water Rights” on page 55.

According to the 2011 UWMP, SSJID charges cities involved in the SCWSP for all operating, maintenance, and capital costs of the water treatment and delivery system. For billing purposes, these costs fall into two categories: fixed costs and variable costs. Variable costs vary with the volume of water treated and delivered to the cities, so variable costs are assessed to the cities on a volumetric basis. Fixed costs do not vary with volume and are fully billed to the cities regardless of the volume of water treated and delivered. Total fixed costs are allocated among the cities pro rata on the basis of their annual volume allotments. Because only variable costs are billed volumetrically, and all fixed costs are always fully billed to the cities without regard to the volume of water treated and delivered, SSJID revenue is always sufficient to recover all costs of the water treatment system. Therefore, net cash flow of the Nick C. DeGroot Water Treatment Plant would not be affected by severe drought conditions.

**Wholesale Power Revenue Impacts**

Unforeseen regulations, environmental changes, or inter-governmental conflicts could constrain SSJID’s wholesale power funding streams for a given year or several consecutive years. For
example, droughts or lower average rates of rainfall could limit the amount of water available to generate hydro-electricity at the dams. Similarly, new Federal or State regulations could limit the timing of water releases, which could affect hydro-electricity generation during peak demand periods. Finally, lower power prices due to economic recessions or reliance on other, lower cost energy sources could reduce wholesale power revenues.

According to a recent (August 2012) OID assessment of its own projected Tri-Dam revenues for its 2013 Budget, OID reduced its forecasted 2013 Tri-Dam revenues by 33 percent from a projected $12 million per year to $8 million per year. OID cited lower projected wholesale power pricing due to continuation of the recession, vacant homes, closed factories, and lower natural gas prices. OID also cited increasing Tri-Dam operating costs (i.e., a recent increase of over 13 percent in Tri-Dam operating costs). In making its 2012 budget projections, OID made an overall assumption that recent economic stagnation would continue for the next three to four years.

In addition to the potential issues described above, the operation of the Tri-Dam Project and Tri-Dam Authority could also affect wholesale power revenues. SSJID and OID have managed the Tri-Dam Project and Tri-Dam Power Authority successfully in the past. While SSJID and OID do have a formal revenue sharing agreement as part of the Tri-Dam Project (Resolution TDP-2013-01), there is no legally binding agreement that assures SSJID will timely receive its share of revenues for the Tri-Dam Power Authority (See Chapter 7 of this MSR for details on SSJID/OID Agreements). Future inter-governmental conflicts between the two districts could affect SSJID’s share of this funding source.

**MSR Finding 52**

It is unlikely that future circumstances will significantly reduce SSJID’s revenues or increase customer rates. SSJID’s operating revenues (i.e., those generated from customer rates) and its projection of future revenues are a reasonable assumption of future needs and resources. It would be speculative to assume that environmental or regulatory impacts will significantly reduce on average SSJID’s surplus water and wholesale power sales revenues beyond what SSJID has projected for the future.

### 5.2 Financial Analysis for SSJID’s Retail Electric Service Plan

As part of its review of SSJID’s retail electricity plan, San Joaquin LAFCo retained PA Consulting Group, Inc. (PA) to appraise the market value of PG&E’s distribution assets that SSJID would acquire, review and comment on each of the appraisal reports from SSJID and PG&E, and review and assess the viability of SSJID’s retail electric business plan. PA submitted two reports, one on May 21, 2010, and one on February 23, 2011. These reports are collectively referred to here as the PA Analysis. The PA Analysis concluded in its February 23, 2011, report that:

> “Based on its analysis, PA has determined that SSJID would need to reinvest excess operating revenue, adjust PG&E rates, and contribute $39 million of equity up-front and $15 million on average per year over the term of the business plan in order to achieve a flat 15% rate-discount to PG&E rates.”
Subsequently, in 2013 SSJID commissioned MRW & Associates to update the PA Analysis, noting that there had been significant changes in wholesale power prices, economic conditions, and utility regulatory requirements. MRW & Associates prepared a new financial model for SSJID’s proposed retail electric plan and conducted detailed research and analysis to identify model inputs and assumptions. Based on the results of the modeling effort, MRW & Associates prepared the South San Joaquin Irrigation District Retail Electric Financial Analysis (September 19, 2013). The MRW analysis found that SSJID’s “retail electric plan is feasible.” They also concluded that the results of stress-test cases were “manageable,” and that the SSJID financial plan is “robust.” The MRW analysis concluded the following:

“The MRW Analysis finds that SSJID’s retail electric plan is financially viable. This conclusion derives from considering a conservative base-case scenario as well as several high-cost conditions. Under nearly all scenarios, the retail electric plan has positive net cash flow over the 30-year analysis term, indicating that revenues from the retail electric plan exceed all costs associated with providing retail electric service. This holds true while restricting revenue from electric sales in order to provide customers with a discount of at least 15% off of PG&E’s retail electric rates.”

In a letter to Mintier Harnish on December 20, 2013, SSJID confirmed its previously stated preference that the SOI Plan/MSR rely on the MRW analysis prepared in September 2013 because, in SSJID’s opinion, MRW’s work was a more current and thorough analysis of SSJID’s plan compared to the PA Analysis. Mintier Harnish retained the services of Michael Bell Management Consulting (MBMC) to conduct an independent peer review of both the PA Analysis and the MRW analysis, as well as the issues raised to date in public comments on the November 2011 Draft SOI Plan/MSR. MBMC reviewed the PA Reports, MRW analysis, and related documents. At the direction of Mintier Harnish and MBMC, MRW conducted additional analysis. MBMC then prepared a Peer Review Report (Appendix E: MBMC Peer Review Report) that analyzed and opined on the key assumptions and conclusions made in the MRW analysis of the financial feasibility of SSJID’s retail electric plan. Because of the differences between the PA Analysis and MRW’s analysis, the MBMC Peer Review focused on key assumptions and variables used in each analysis and whether the MRW analysis could be relied upon for evaluating SSJID’s plan in the SOI Plan/MSR.

The MRW analysis updated wholesale power prices, interest rate assumptions, and the SSJID load forecast and adjusted costs for operating, maintaining, and improving the PG&E distribution system that SSJID is seeking to acquire. MRW added another $51 million to the value the PA Analysis identified for additional infrastructure improvements and financing and transaction costs. The assumed acquisition cost used in the MRW analysis was $269 million compared to $218 million used in the PA Analysis. MRW also updated the wholesale power supply price forecast since these costs have declined considerably in recent years largely because of reduced natural gas cost due to the increase in supply resulting from technological improvements (fracking).
Finally, MRW included detailed analysis of several key inputs and assumptions. MRW provided an in-depth analysis of PG&E’s future rates based upon PG&E’s actual 2013 rates, and PG&E’s 2014 General Rate Case (GRC) application. Likewise, MRW provided a detailed analysis of PG&E’s future rates by analyzing PG&E’s 2014 GRC, and applying various California Public Utilities Commission (CPUC) orders and decisions, and wholesale power price and fuel cost projections into the forecast process. MRW also analyzed regulatory changes to PG&E’s California Alternative Rates for Energy (CARE) program resulting from the passage of AB 327, and incorporated changes brought about by California’s greenhouse gas cap-and-trade regulations.

These updates and adjustments had a significant impact on the analysis and conclusions compared to the PA Analysis. MRW found that SSJID’s retail electric plan would result in a positive net cash flow of $450 million after 30 years. This is $900 million more than the PA Analysis, which found that SSJID’s retail electric plan would have a net cash flow of negative $440 million after 30 years. As a result, instead of the ongoing equity contribution requirements identified in the PA Analysis, MRW showed a positive accumulation of net cash reserves.

MRW with input from Mintier Harnish and MBMC also tested SSJID’s plan under a variety of stress-tests and alternative assumptions. In all scenarios except one MRW found that SSJID’s plan would be entirely self-sufficient (i.e., SSJID would be able to meet all of the financial obligations associated with its retail electric plan without providing equity contributions). In all scenarios SSJID would also meet the requirements in every year for a minimum of 120 days-cash-on-hand and a debt service coverage ratio of at least 125 percent.

Following publication of the MBMC Peer Review Report and the Preliminary Revised Draft Sphere of Influence Plan/Municipal Service Review on March 3, 2014, San Joaquin LAFCo held a workshop on June 12, 2014, to review a proposal by the LAFCo Executive Director to retain PA Consulting to analyze the financial feasibility of SSJID’s plan. At the workshop, the Commission directed Mintier Harnish and MBMC to work jointly with MRW & Associates and PG&E to try to resolve differences of opinion regarding the assumptions used in the MRW model. Based on discussions with both parties, Mintier Harnish and MBMC developed a revised financial feasibility analysis of SSJID’s plan to provide retail electric service (Appendix H: MBMC SSJID Retail Electric Forecast Model).

This section presents and analyzes the financial modeling Mintier Harnish and MBMC conducted based on input from MRW & Associates and PG&E staff on SSJID’s proposed retail electric plan. This section is intended to assess whether SSJID’s preferred financial model prepared by MRW is an acceptable tool for San Joaquin LAFCo to use in assessing the financial feasibility of SSJD’s plan.

**Mintier Harnish/MBMC Analysis Summary**

The Mintier Harnish/MBMC Analysis was prepared as an update to previous work conducted by MRW & Associates, SSJID, Siemens, and PA Consulting with new input from MBMC and
PG&E. In some cases the Mintier Harnish/MBMC Analysis used assumptions developed as part of the PA Analysis. In other cases, it relied upon PG&E assumptions.

The Mintier Harnish/MBMC Analysis was prepared as a stand-alone assessment of SSJID’s proposed retail electric plan, and did not evaluate the retail electric service as part of the District’s consolidated budget, nor did it take into consideration non-operating revenues SSJID generates from the sale of surplus water and wholesale power. As part of this SOI Plan/MSR, Mintier Harnish and MBMC worked with SSJID staff to incorporate the results of the Mintier Harnish/MBMC Analysis into the District’s consolidated budget to assess the effect of the retail electric plan on SSJID’s existing and planned services, net income, available cash reserves, days cash-on-hand, and debt service coverage ratio (see Chapter 5, Section 5.3).

**Mintier Harnish/MBMC Analysis**

The Mintier Harnish/MBMC Analysis represents Mintier Harnish/MBMC’s forecast of the most likely outcome of SSJID’s proposed plan to provide retail electric service. The Mintier Harnish/MBMC Analysis was designed to determine what SSJID’s net cash flow would be over the 30-year forecast period, and what SSJID equity contributions, if any, would need to be over the operating period in order to meet the three objectives established by SSJID:

- A minimum debt service coverage ratio of 125 percent;
- Minimum cash-on-hand no less than 120 days; and
- Rate discount of 15 percent off of PG&E rates.

The Mintier Harnish/MBMC Analysis found that SSJID’s net cash flow, after accounting for all expenses, would be positive in each year, and the retail electric plan would be entirely self-sufficient (i.e., SSJID would be able to meet all of the financial obligations associated with its retail electric plan without providing equity contributions). The Mintier Harnish/MBMC Analysis also found that SSJID would meet the requirements in each year for a minimum of 120 days-cash-on-hand and a debt service coverage ratio of at least 125 percent and that.

**MSR Finding 53** The financial model and analysis of SSJID’s plan was prepared by Mintier Harnish and MBMC using the MRW & Associates model. Based on modeling, analysis, and conclusions of the Mintier Harnish/MBMC Analysis, conclusions of the PA Reports are out of date and no longer provide an accurate assessment of the financial feasibility of SSJID’s retail electric plan. Based on review of the PA Analysis and consultation with MRW & Associates and PG&E, MBMC developed assumptions that are reasonable, realistic, and tend toward conservative as they apply to SSJID cost and revenue. Mintier Harnish and MBMC used reliable and accurate data sources provided by MRW & Associates and PG&E to back-up their assumptions. Mintier Harnish and MBMC are confident that the analysis is sufficient for the purpose of San Joaquin LAFCo’s evaluation. Ultimately, the financial feasibility of providing retail electric service at a discount to PG&E rates must be determined by San Joaquin LAFCo based on the information presented in the District’s application and this SOI Plan/MSR. San Joaquin LAFCo should consider the modeling, analysis, and conclusions contained in the Mintier
Harnish/MBMC Analysis and this SOI Plan/MSR as adequate and reliable for the purposes of evaluating SSJID's plan.
5.3 **PROJECTED BUDGET AND ANTICIPATED REVENUE WITH RETAIL ELECTRIC SERVICE**

While Section 5.1 analyzed SSJID’s budget as if the District did not provide retail electric service, this section presents and analyzes SSJID's consolidated budget assuming San Joaquin LAFCo approves SSJID’s plan to provide retail electric service and the District implements that plan. Section 5.2 confirmed the financial model prepared by Mintier Harnish and MBMC is an accurate and reliable source of data and information for the SOI Plan/MSR. This section takes the Mintier Harnish/MBMC Analysis and integrates it into the District’s consolidated budget.

This section is intended to determine the financial feasibility of SSJID’s plan to provide retail electric service as part of the District’s consolidated budget, assess whether SSJID could achieve a 15 percent rate discount compared to PG&E rates. Subsequent sections evaluate whether SSJID’s plan would result in any impacts to existing PG&E customers or existing SSJID customers.

**Consolidated Budget with Retail Electric Service**

The following discussion assesses whether SSJID has the financial ability to acquire PG&E’s retail electric system and provide retail electric service at lower rates than PG&E’s rates. Table 5-6 presents SSJID’s consolidated budget with retail electric service, assuming SSJID would provide rates 15 percent below PG&E rates for all customer classes, including low-income customer rates (i.e., CARE rates).

In practice, SSJID operates under a single financial system. The addition of retail electric service would add this new service to the District’s consolidated budget with its other business lines (e.g., irrigation, water treatment, drainage). The consolidated approach used by the District folds the Mintier Harnish/MBMC Analysis of retail electric modeling into the District’s consolidated budget (See Table 5-1) as a single, aggregated financial system which allows evaluation of cash flows, cash reserves, and debt service coverage on a consolidated level. This approach is consistent with the District’s ordinary management practice, and is required by the District’s existing and expected debts. It also shows the overall effects (e.g., revenue, reserves) of the retail electric operation on the District as a whole.

SSJID’s consolidated approach assesses the District’s ability to meet the terms of funding the provision of service and meeting expected future debt requirements. This evaluates whether the District would have sufficient operating cash-on-hand and an adequate debt service coverage ratio. In all scenarios, the Mintier Harnish/MBMC Analysis model required SSJID to meet a minimum debt service coverage ratio of at least 125 percent and a minimum cash-on-hand balance to cover 120 days of expenses. These same minimums were applied to the consolidated budget analysis described below.
Cash flow and reserve balances are also projected to be strong throughout the projection period. In 2015 SSJID’s equity contribution to separate from PG&E’s facilities and make system improvements would result in a negative cash flow of $33.96 million. However, this cost could be covered by the District’s existing reserves. There is also no need for SSJID to provide ongoing equity contributions to subsidize the retail electric service.

In all years SSJID maintains days cash-on-hand above the minimum standard of 120 days, except for 2015 when District’s cash-on-hand would only be 107 days. This is due in part to the district purchasing PG&E’s system and beginning to provide retail electric service. Once SSJID is operating as a retail electric service provider and collecting fees and revenues, days cash-on-hand never fall below 138 days.

Finally, debt service coverage is strong throughout the projection period; SSJID maintains a debt coverage ratio well over the minimum standard of 125 percent.

**MSR Finding 54** SSJID’s plan to provide retail electricity could provide a 15 percent rate discount to PG&E rates. The provision of a rate discount would not require SSJID to make ongoing equity contributions, beyond an initial investment to acquire PG&E’s distribution facilities. SSJID’s retail electric plan does not rely on surplus water or wholesale power revenues to subsidize service. While SSJID’s days cash-on-hand are maintained above the standard minimum of 120 days, except during first year of operation (2015) when the District would only have 107 days of cash-on-hand. SSJID’s debt service coverage ratio to meet its current and additional debts remains well above the minimum standard of 125 percent.
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<td>183%</td>
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<td>248%</td>
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<td>233%</td>
<td>279%</td>
<td>318%</td>
<td>356%</td>
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1 A detailed version of the consolidated budget, by year and service line, can be found in Appendix F: SSJID Consolidated Budget Scenarios
2 Assumes that SSJID would need to pay in-lieu property taxes and franchise fees through non-retail electric revenue sources, but does not consider this to be a retail service line “subsidy” to ensure financial feasibility or achieve the 15 percent rate discount.

Source: SSJID Consolidated Budget, SSJID, September 2014; Mintier Harnish/MBMC Financial Analysis, MBMC, September 2014
Border Area Alternative

If SSJID is unable to enter into a wholesale power agreement with MID and/or PG&E to serve border areas customers, SSJID may need to invest additional revenue to construct underbuilds in order for PG&E to continue serving the border areas. According to Siemens, this construction would likely cost about $10.7 million. The border area alternative plan also would also cause an increase in the District’s acquisition debt. In using the PA Consulting Group acquisition and severance cost, the Mintier Harnish/MBMC Financial Analysis included in its assumptions the additional cost of implementing the border area alternative. As stated in the May 21, 2010, PA Report:

“We did not adopt SSJID’s position that...SSJID can acquire through eminent domain PG&E facilities located outside of its territory and not needed to serve loads within its territory. Thus we assumed that all customers outside of the SSJID boundaries now served by PG&E would continue to be served by PG&E. We agree that the severance plan would be simpler and less expensive if some of those customers were served by Modesto Irrigation District as postulated by SSJID's severance plan, but evaluation of the legal authority to do so is outside of our scope.”

MSR Finding 55

San Joaquin LAFCo legal counsel opined that San Joaquin LAFCo could condition approval of SSJID’s plan to require SSJID to implement the Border Area Alternative if: 1) SSJID cannot enter into an agreement with MID or PG&E to serve border area customers within a specified time frame; and/or 2) SSJID enters into an agreement with MID, but PG&E will not request the CPUC to be relieved of its obligation to serve the border areas within a specified time frame. If SSJID implements the border area plan and constructs additional facilities so that PG&E can continue serving border areas, SSJID’s improvement costs would increase by about $10.7 million. However, the border area alternative plan would reduce the overall acquisition cost SSJID would pay to purchase PG&E’s facilities. This is because SSJID would no longer need to purchase facilities in the border area it assumed it would need to acquire from PG&E in order to implement a wholesale metering agreement with MID. At this time the cost of these facilities has not been determined.

In order to ensure border area customers continue to receive service, San Joaquin LAFCo should impose a condition of approval that ensures border area customers continue to receive PG&E service. San Joaquin LAFCo could require that SSJID serve border areas by agreement with PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue providing service at its existing or planned rates.

Fees and Additional Revenue

If approved by LAFCo to provide retail electric service, SSJID would update its fee schedule to include retail electric rates. As a retail electricity service provider, it is expected that the District would expand its retail electric services to meet projected population growth and new customers
would increase the District’s retail electricity revenues. SSJID would also generate revenue from interest resulting from its retail electric investments.

In addition, SSJID also expects to generate over revenues from the sale of greenhouse gas allowances under the California Cap-and-Trade program. Section 95892 of the Cap-and-Trade Regulations would require that SSJID use its GHG allocations exclusively for the benefit of retail ratepayers consistent with the goals of AB 32, and not use the funds the benefit of entities or persons other than its retail electric ratepayers. According to the CPUC Electrical Distribution Utility Use of Allowance Value Form uses of the funds could include helping customers install more efficient equipment (i.e., customer side benefits), replacing utility vehicles with more fuel-efficient vehicles (service side benefits), and preventing a rate increase which would otherwise be necessary or provide non-monetary benefits to some or all ratepayers. Furthermore, the regulations state that pursuing greenhouse gas reductions should be done in a way that "minimizes costs and maximizes benefits for California’s economy, improves and modernizes California’s energy infrastructure and maintains electric system reliability, maximizes additional environmental and economic co-benefits for California, and complements the state’s efforts to improve air quality."

The Cap-and-Trade Regulation would require that SSJID annually submit to the CPUC a report describing the disposition of any auction proceeds and allowance value received in the prior calendar year. Under this reporting requirement, SSJID would also need to describe how it used the funds to meet the requirements of section 95892 of the Cap-and-Trade Regulation and the requirements of the California Health and Safety Code Sections 38500 (AB 32). These requirements focus on reducing greenhouse gas emissions and benefiting ratepayers.

**MSR Finding 56** SSJID’s retail electric plan will provide opportunities for the District to generate additional revenues. SSJID would generate revenue from interest resulting from its retail electric investments, as well as from the sale of greenhouse gas allowances under the California Cap-and-Trade program. While its interest earnings would not be restricted, the Cap-and-Trade program stipulates that this revenue source must be used to benefit retail electric ratepayers and furthers the objectives of AB 32 (e.g., energy efficiency).

### 5.4 Effect of SSJID’s Plan on its Financial Standing

SSJID expects to incur additional debt financing to implement its plan to provide retail electric service. SSJID has indicated that it will use two types of financing: taxable debt to finance the acquisition of PG&E’s facilities; and tax-exempt debt to fund separating its facilities from PG&E's and make improvements to ensure system reliability. The Mintier Harnish/MBMC Analysis assumes SSJID will incur a total of $270.7 million in debt financing based on the valuation of the PG&E distribution system in the Market Expert Report prepared by PA Consulting Group and more recent system investments reported by Black & Veatch on behalf of PG&E: $214.9 million in taxable debt financing and $55.9 million in tax exempt debt financing.
The Analysis also assumes SSJID would contribute $39.0 million in equity. The District expects that its debt financing for the electricity facilities will be for a term of 30 years.

SSJID has indicated in the Second Supplement to its Application that it will use Certificates of Participation (COPs) for its tax-exempt financing. COPs are based upon a structured lease transaction in which title to an asset is held by a financing entity and leased to a government agency, with the lease divided into fractionalized interests or shares, evidenced by formal certificates much like bonds, for individual sale to investors. Payments during the term of the lease are distributed to the COP holders and title to the asset is passed to the public agency at the end of the lease term. COPs have been used by public agencies for a variety of different types of financing, but are typically used for large asset investments.

Table 5-7 summarizes SSJID’s debt service coverage for its plan as part of the District’s Consolidated Budget. SSJID used a consolidated basis to calculate its debt service ratio, because the District needs to focus on the viability of the District’s services as a whole (i.e., irrigation water, water treatment, retail electric, and solar generation). The District expects that debt financing used to acquire the retail distribution system would be held to the minimum 125 percent debt coverage ratio standard.

It is expected that SSJID will maintain a debt service coverage ratio well above the minimum standard of 125 percent. This means that after paying all operating expenses, the District’s cash flow (i.e., net revenues) would be above the amount needed to meet the requirements of both its existing 2008A Certificates of Participation and the new debt SSJID plans to incur to acquire the retail electric distribution system.
**TABLE 5-7**  DEBT SERVICE COVERAGE WITH RETAIL ELECTRIC SERVICE

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<th>2017</th>
<th>2019</th>
<th>2020(^2)</th>
<th>2030</th>
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<td>Net Revenues</td>
<td>$29.9</td>
<td>36.7</td>
<td>38.8</td>
<td>37.8</td>
<td>51.9</td>
<td>66.1</td>
</tr>
</tbody>
</table>

**Debt Service Payments**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2017</th>
<th>2019</th>
<th>2020(^2)</th>
<th>2030</th>
<th>2040(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008A Principal</td>
<td>$2.2</td>
<td>2.4</td>
<td>2.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2008A Interest</td>
<td>$0.47</td>
<td>0.29</td>
<td>0.10</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Retail Electric Plan Debt Service</td>
<td>$14.4</td>
<td>18.6</td>
<td>18.6</td>
<td>18.6</td>
<td>18.6</td>
<td>18.6</td>
</tr>
<tr>
<td>Total Debt Service</td>
<td>$17.0</td>
<td>21.3</td>
<td>21.3</td>
<td>18.6</td>
<td>18.6</td>
<td>18.6</td>
</tr>
</tbody>
</table>

**Debt Service Coverage Ratio**

<table>
<thead>
<tr>
<th>2015</th>
<th>2017</th>
<th>2019</th>
<th>2020(^2)</th>
<th>2030</th>
<th>2040(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>176%</td>
<td>173%</td>
<td>183%</td>
<td>203%</td>
<td>279%</td>
<td>356%</td>
</tr>
</tbody>
</table>

\(^1\)Based on the SSJID Projected Budget: MRW Base-Case Analysis with No Rate Discount (see Table 5-8).

\(^2\)The District will fulfill its obligation to repay its current $25 million debt financing (2008 A Principal and Interest) in 2019.

\(^3\)The District’s 30-year obligation would end in 2044, assuming SSJID acquires PG&E’s system in 2015.

*Source: SSJID Consolidated Budget, 2014*
**MSR Finding 57** SSJID would incur about $270.7 million in debt to acquire the necessary electric distribution facilities, separate from PG&E facilities, and construct system improvements, based on the valuation of the PG&E distribution system in the Market Expert Report prepared by PA Consulting Group and more recent system investments reported by Black & Veatch on behalf of PG&E. San Joaquin LAFCo’s legal counsel opined that San Joaquin LAFCo could condition approval of SSJID’s plan to require that SSJID obtain sufficient financing in order to ensure sufficient revenues are available to provide service. However, the statutes covering bonds are broad (Government Code Section 5850), and California Water Code Section 25201 specifically authorizes SSJID’s Board of Directors to determine the type of bonds it issues and sells. Therefore, San Joaquin LAFCo may condition that SSJID have sufficient revenue sources pursuant to Government Code Section 56886, but may not prescribe the type of bonds, such as revenue bonds or certificates of participation.

Based on the Mintier Harnish/MBMC Analysis, SSJID’s projected revenues are sufficient to maintain debt service coverage ratio above the minimum industry standard that public agencies should maintain (125 percent). When issuing this debt, SSJID is likely to make covenants, one of which could require the District to take all actions necessary to raise revenue if at any time existing revenues are insufficient to make debt service payments. The implication of such a covenant could compromise SSJID’s ability to maintain rates 15 percent below PG&E rates if future circumstances impact its ability to meet debt service payments; however, it is speculative to assume what, if any, impacts would occur.

While it appears that SSJID’s plan is financially feasible, this conclusion is based on a certain set of assumptions. If one or more of these assumptions is inaccurate, it could affect the financial feasibility of SSJID’s plan to provide retail electric service and protect customers from increase rates. According to San Joaquin LAFCo’s legal counsel, San Joaquin LAFCo may condition SSJID’s plan to provide retail electric service on the conditions set forth under Government Code Section 56886 to ensure sufficient revenue sources to acquire PG&E’s facilities and provide retail electric service. It would be difficult, if not impossible, for San Joaquin LAFCo to condition SSJID’s plan on future power costs, PG&E rates, or escalator assumptions used in the MRW Analysis. These are fluid assumptions that change over time. However, LAFCo could condition its approval on a not-to-exceed dollar amount that SSJID would pay to purchase PG&E’s system. The Mintier Harnish/MBMC Analysis assumed SSJID would pay about $310 million to acquire PG&E’s facilities, separate from them, construct necessary improvement, and pay other costs (stranded costs, damages), while still maintaining minimum days-cash-on-hand and a minimum debt service coverage ratio.

San Joaquin LAFCo should condition the approval of SSJID’s plan on any acquisition cost up to $310 million or other amount to be determined that ensures the financial feasibility of SSJID’s plan.

### 5.5 Effect of SSJID’s Plan on its Wholesale Revenue Commitments

It can be expected that SSJID’s revenues will rise and fall with changes in hydroelectric generation and wholesale market prices for power. While revenues will vary from year-to-year as a result of various factors, the factors may offset one another to a certain degree. SSJID’s
revenues from the Tri-Dam Project, Tri-Dam Power Authority, and Woodward Dam may rise and fall with the District’s cost of purchasing power to meet its retail electricity demands since SSJID will be purchasing energy in the same markets as Tri-Dam Project/Authority is selling power. Therefore, if the price of power falls and SSJID receives less revenue, it may be able to purchase power to meet customer demand at a similarly lower price. SSJID would still be susceptible to fluctuations in weather that could affect their output from the hydroelectric projects.

The full costs of providing irrigation services and solar generation (e.g., operating and maintenance expenses; debt service; and capital replacement and improvement) are covered by several revenue sources besides irrigation fees, taxes, and solar power sales. SSJID currently uses additional revenues from the sale of wholesale power, including revenues from two mini-hydroelectric generating plants on the main supply canal and Tri-Dam) and out-of-district water sales to subsidize the cost of providing irrigation services and operating its solar generation facilities. By using these other revenues, SSJID has been able to maintain irrigation rates below the cost of service (i.e., subsidize rates) and pursue facility enhancement projects (e.g., pressurized system improvements).

According to SSJID, since 2008 the District has provided about $5.95 million on average in annual subsidies to augment the full costs of irrigation and the solar farm. Since 2006 SSJID has generated an average of about $13.5 million per year in revenue from the sale of wholesale electricity and surplus water. This is well above the amount used to subsidize irrigation operations and rates and solar farm operations and has allowed SSJID to increase cash reserves to over $53 million (2014).

Table 5-8 summarizes SSJID projected annual wholesale power and water revenue commitments for existing irrigation and solar farm operations as well as anticipated wholesale revenue commitments that will be required to implement the retail electric plan, including annual contributions to the retail electric service operation, public benefits and low-income programs, and ongoing in-lieu tax and fee payments to San Joaquin County, the Cities of Escalon, Manteca, and Ripon, and other affected districts.

SSJID expects to continue using these revenues to subsidize irrigation operations and rates and solar farm operations. SSJID anticipates the average commitment for this subsidy will continue to be about $5.9 million per year through 2019. After 2019, when SSJID 2012A bonds will be fully paid, the amount needed to subsidize these operations and services is expected to fall to about $3.3 million per year. If SSJID began providing retail electric service it is anticipated that additional revenues would need to be committed by SSJID to meet public purpose and low-income programs and in-lieu taxes and fees commitments. In total, SSJID would be committing to contribute a near-term (i.e., 2015 to 2019) average of $8.2 million per year and longer-term (i.e., 2020 to 2040) average of $6.6 million per year to cover these costs.
As previously described, SSJID generated an average of $10.1 million annually from wholesale electric sales and $3.1 million annually from the sale of surplus water since 2006. SSJID projects that it will generate an average of $15.9 million annually from 2015 to 2019 ($12.5 million annually from Tri-Dam distributions and $3.5 million annually from the sale of surplus water), and an average of $19.8 million annually from 2020 to 2040 ($16.0 million from Tri-Dam distributions and $3.8 million from the sale of surplus water). Both historic and projected revenues are sufficient to cover SSJID commitments in order to continue subsidizing its irrigation operations and rates and solar operations, as well as new commitments to pay in-lieu franchise fees and taxes and public benefits expenses.

As an electricity provider SSJID would also be able to generate an average of $2.6 million annually (2015 – 2020) and $4.2 million annually (2020 – 2040) in revenue through the California Cap-and-Trade program. The use of these funds would be limited to improving retail electric service by furthering the goals of the Cap-and-Trade program and AB 32. Based on the types of public benefits programs that SSJID would be required to provide, it is expected that the District could use these funds to provide SSJID’s public benefits and low-income programs.

**TABLE 5-8  ANNUAL WHOLESALE POWER AND WATER REVENUE COMMITMENTS**

<table>
<thead>
<tr>
<th>Revenue Commitments</th>
<th>2015 - 2019</th>
<th>2020 - 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigation/Solar Farm Operations and Rates</td>
<td>$5,951,367</td>
<td>$3,351,367</td>
</tr>
<tr>
<td>In-Lieu Franchise Fees and Taxes</td>
<td>$2,170,000</td>
<td>$3,193,000</td>
</tr>
<tr>
<td>Public Benefits/Low-income Programs</td>
<td>$939,838</td>
<td>$884,638</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9,061,205</strong></td>
<td><strong>$7,429,005</strong></td>
</tr>
</tbody>
</table>

**Projected Wholesale Revenues**

<table>
<thead>
<tr>
<th></th>
<th>2015 - 2019</th>
<th>2020 - 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale Water Sales</td>
<td>$3,477,046</td>
<td>$3,837,459</td>
</tr>
<tr>
<td>Wholesale Power Sales</td>
<td>$12,472,960</td>
<td>$16,003,279</td>
</tr>
<tr>
<td>GHG Allowances</td>
<td>$2,646,000</td>
<td>$4,232,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,596,006</strong></td>
<td><strong>24,072,738</strong></td>
</tr>
</tbody>
</table>

1) Estimated annual commitment or revenue.
2) Amount of SSJID’s public benefits expenses not covered by nonbypassable charges to customers (i.e., 29 percent of total costs).
3) Annual revenue projections for water and power and water from 2020 through 2040 are based on a four year projection from 2020 to 2024. It can be assumed that SSJID would have higher average revenues during this timeframe.
4) SSJID is restricted to using these funds to further the goals of the Cap-and-Trade program and AB 32. It is assumed that SSJID could use these funds to cover its public benefits and low-income expenses.

*Source: Mintier Harnish/MBMC Analysis, 2014; SSJID Consolidated Budget, 2014; SSJID Average Expected Subsidy Requirement from Tri-Dam, 2014*
5.6 Effect of SSJID’s Plan on Other Services

The SOI Plan/MSR is intended to evaluate all of SSJID’s existing services and operations and planned services, and identify potential impacts that could affect the provision of future services. The budget analysis contained in the SOI Plan/MSR (Appendix F: SSJID Consolidated Budget Scenarios) includes revenues and expenses for each of SSJID’s service lines (existing services as well as retail electric service) so that they can be viewed individually, and as a whole.

SSJID’s retail electric plan could affect the District’s continued ability to make irrigation system enhancements (e.g., pressurized systems upgrades) if SSJID is unable to or does not voluntarily include in its retail electric rates anticipated costs associated with property tax and franchise fee payments and/or public benefits programs. If LAFCo conditions SSJID to pay in-lieu property taxes and franchise fees to San Joaquin County, the Cities of Escalon, Manteca, and Ripon, and effected districts, SSJID could use its Tri-Dam Revenue to make these payments. Likewise, if LAFCo does not condition that SSJID pay in-lieu taxes and franchise fees, SSJID could choose to use its Tri-Dam Revenue to make these payments; however, there is risk that this could be deemed a gift of public funds and not allowed. Use of Tri-Dam revenues for these payments could draw funds away from irrigation system enhancement projects the District has undertaken in the past to improve service to existing customers (e.g., pressurized irrigation system). Use of Tri-Dam revenues for these costs could draw funds away from irrigation system enhancement projects the District has undertaken in the past to improve service to existing customers (e.g., pressurized irrigation system).

**MSR Finding 58** While it is not expected that SSJID’s plan will result in negative impacts to the provision of existing services or maintenance of existing facilities, there is potential for SSJID to allocate funding it has used to enhance its irrigation system and services to pay in-lieu taxes and fees and to provide public benefits programs. Without this funding, SSJID customers may not be provided with more efficient or improved service.

5.7 Effect of SSJID’s Plan on Customer Rates

**Irrigation, Water, and Drainage Rates**

As described in Section 5.2 and 5.3, it Mintier Harnish and MMBMC have found that SSJID’s retail electric plan is likely to be financially feasible and would not adversely affect irrigation, water, and drainage rates or fees. Appendix F: SSJID Consolidated Budget shows that the irrigation, treated water, and drainage services would not be adversely affected by the addition of the retail electric service line. Therefore, SSJID would be able to maintain rates and adjust them in the future based on the operational cost of each particular service.

The SSJID retail electric plan could affect the District’s continued ability to subsidize existing irrigation customer rates if the District wholesale electricity and surplus water revenue projections do not generate funding similar to past trends or projected. In the event that revenues are not sufficient to cover SSJID existing irrigation subsidies and additional in-lieu taxes and
fees commitments, the District could reallocate funding that currently subsidizes irrigation customer rates.

Should future conditions not allow the District to continue using its revenues to subsidize irrigation water rates, the District could adjust rates according to standard industry rates, resulting in an increase in the District’s operating revenue. This would result in an increase in the cost of irrigation water for existing customers. SSJID sells treated water to SCWCP participants using contracts with each city. Upon renegotiation of the contracts with the cities, SSJID could raise the price of water it sells to the cities. Finally, SSJID does not charge rates for agricultural drainage and agreements for urban storm drainage do not contain set fees. The District requires cost sharing for improvements to drainage facilities.

**MSR Finding 59** SSJID’s plan will not impact irrigation, treated water, or drainage customer rates. Projected growth in the District’s reserves may provide opportunities for SSJID to lower rates and/or fees for these services. While it is not expected that the SSJID plan will result in negative impacts to existing customer rates, there is potential for SSJID to reallocate Tri-Dam funding to pay in-lieu taxes and fees, however this could be determined to be a gift of public funds, or to fund public benefits and low income programs. If future conditions do not allow the District to maintain existing rates, SSJID could raise currently subsidized irrigation rates similar to standard industry rates, or increase the cost of treated water upon renegotiation of contracts with the cities. However, based on the financial analysis prepared by MRW & Associates, Mintier Harnish, and MBMC, SSJID’s plan is not expected to cause the District to raise irrigation, treated water, or drainage rates.

**Retail Electric Rates**

As described in Section 5.2 and 5.3, SSJID’s retail electric plan would be financially feasible and would not affect retail electric customer rates within SSJID’s service area. As proposed, SSJID’s plan would reduce rates. It is important to note that SSJID’s rates are tied to PG&E’s rates. If SSJID is able to provide retail electricity at rates 15 percent below PG&E rates, any increase or decrease in PG&E rates will raise or lower SSJID’s rates accordingly. Based on recent applications to the CPUC and FERC, it is not expected that PG&E’s rates will decrease in the near future. In fact, PG&E rates increased 3.9 percent in 2013, and PG&E has recently (2014) raised average residential electric rates about 0.6 percent system-wide in order to pay for higher wholesale energy costs and to maintain and modernize its facilities. The CPUC has not yet acted upon PG&E’s 2014 General Rate Case application which requested significant increases in generation and distribution rates.

SSJID would be able to maintain rates 15 percent below PG&E rates, and adjust rates in the future based on the cost to provide service or changes in PG&E rates. While SSJID’s surplus water and wholesale electric sales revenue play a role in the District’s growing reserves, retail electric sales contribute significantly to the growing reserves, and the District may, at some point in the future, further lower electricity rates and fees.
Should future conditions not allow the District to continue providing a 15 percent rate discount, the District could adjust rates to reduce the rate discount below 15 percent or to eliminate the discount entirely, resulting in an increase in the District’s operating revenue. This would result in an increase in the cost of electricity service for customers. Further adjustments that would increase the cost of service above the cost of PG&E service are also possible.

**MSR Finding 60** The SSJID plan would not cause an increase in retail electric customer rates within the SSJID service area. As proposed, SSJID’s plan would reduce customer rates compared to PG&E rates. Projected growth in District reserves should allow SSJID to lower rates and/or fees for service. If future conditions do not allow the District to maintain rates 15 percent below PG&E rates, SSJID could raise rates to offer a lower discount or to match PG&E rates without adversely affecting customer rates that would have otherwise been paid to PG&E. However, based on financial analysis prepared by Mintier Harnish and MBMC, SSJID’s plan is not expected to adversely affect electric rates.

**Low-income Rate Discounts**

While SSJID’s application does not expressly propose to match PG&E’s funding of its CARE rate discount, it does commit SSJID to provide electricity service at rates 15 percent below PG&E rates using the same rate design structure that is used by PG&E. It also commits SSJID to provide the same primary level of services to all customer classes (residential, commercial, industrial, and agriculture) currently being provided by PG&E, including low-income assistance. Details on PG&E’s CARE program and SSJID’s proposed low-income rate discount can be found in Chapter 4, Section 4c.7.

A simple explanation of how customers’ rates would change involves comparing the rates of a CARE and non-CARE customer under PG&E and SSJID. Consider two households within SSJID’s service area, Household A and Household B. Household A currently pays a standard PG&E rate of $0.21 per kWh, while Household B pays a discounted PG&E CARE rate of $0.11 per kWh. SSJID proposes to reduce rates by 15 percent for all PG&E customers, so SSJID customer Household A would pay $0.18 per kWh and Household B would pay $0.10 per kWh. If SSJID’s plan was to only match PG&E’s rates, there would be no change in rate for Household A or Household B.

This section describes how the Mintier Harnish/MBMC Analysis applied the CARE discount to ensure SSJID’s proposed revenues accounted for low income rate discounts. Accordingly, they include SSJID’s proposed 15 percent rate discount. If the Mintier Harnish/MBMC Analysis did not include the 15 percent rate discount and simply matched PG&E CARE and non-CARE rates, the District’s revenue would increase accordingly.

In order to apply the CARE discount, the Mintier Harnish/MBMC Analysis discounted SSJID’s projected revenue from residential loads based on an estimated percentage of CARE customer loads in SSJID. The Mintier Harnish/MBMC Analysis did this in three major steps detailed below:
In step one, the Mintier Harnish/MBMC Analysis estimated and forecast PG&E residential rates within SSJID’s service area for all customer classes, including residential CARE and residential non-CARE customers. MRW then reduced both rates by 15 percent to estimate and forecast SSJID’s electricity rates. Table 5-9 summarizes for three sample years the Mintier Harnish/MBMC Analysis rate forecast for SSJID.

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential CARE</td>
<td>$0.13</td>
<td>$0.16</td>
<td>$0.18</td>
</tr>
<tr>
<td>Residential non-CARE</td>
<td>$0.22</td>
<td>$0.25</td>
<td>$0.27</td>
</tr>
<tr>
<td>Small commercial</td>
<td>$0.19</td>
<td>$0.21</td>
<td>$0.23</td>
</tr>
<tr>
<td>Large commercial</td>
<td>$0.16</td>
<td>$0.19</td>
<td>$0.20</td>
</tr>
<tr>
<td>Agricultural</td>
<td>$0.14</td>
<td>$0.16</td>
<td>$0.17</td>
</tr>
<tr>
<td>Industrial</td>
<td>$0.14</td>
<td>$0.16</td>
<td>$0.18</td>
</tr>
<tr>
<td>Street lighting</td>
<td>$0.17</td>
<td>$0.19</td>
<td>$0.21</td>
</tr>
</tbody>
</table>

Sources: Mintier Harnish/MBMC Analysis, September 2014

In step two the Mintier Harnish/MBMC Analysis calculated the percentage of residential load that would be sold to CARE customers and non-CARE customers (see Table 5-10). To do this, the Mintier Harnish/MBMC Analysis started with PG&E’s statement to San Joaquin LAFCo that SSJID-area CARE customers would pay about $8.4 million less for electricity in 2013 than they would if they paid non-CARE rates. First the Mintier Harnish/MBMC Analysis calculated the difference between non-CARE rates and CARE rates ($0.0937 per kWh) and divided this by PG&E’s estimate of the overall value of the CARE discount ($8.4 million) to calculate the amount of load used by CARE-customers (92,951 MWh). MRW then took the estimated CARE load and divided it by the total residential load to estimate the percentage of load used by CARE customers (33 percent). This is the percentage of residential load that CARE customers would purchase from PG&E, or the percentage of residential load SSJID would sell at a CARE-equivalent rate.

<table>
<thead>
<tr>
<th>Estimated Average CARE Rates Within SSJID</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG&amp;E Reported 2012 Care Subsidy with 2013 Rates</td>
</tr>
<tr>
<td>PG&amp;E 2013 Rates</td>
</tr>
<tr>
<td>Average 2013 Non-CARE Rate ($)/kWh</td>
</tr>
<tr>
<td>Average 2013 CARE Rate ($)/kWh</td>
</tr>
<tr>
<td>Difference ($)/kWh</td>
</tr>
<tr>
<td>PG&amp;E Estimated 2013 Residential Load in SSJID-Area</td>
</tr>
<tr>
<td>Total Residential Load (MWh)</td>
</tr>
<tr>
<td>CARE Load (MWh)</td>
</tr>
<tr>
<td>Estimated SSJID-Area CARE Load Percentage</td>
</tr>
</tbody>
</table>

1 Estimated CARE Load in SSJID-Area is calculated by dividing PG&E’s
Reported 2012 CARE Subsidy ($8.4 million) by the difference between Average Non-CARE Rates and CARE Rates ($0.09037).

2. Estimated the percentage of load used by CARE customers within SSJID’s service area by dividing the estimated CARE load by the estimated total residential load.

Sources: Letter from Mark Penskar, PG&E, to James Glaser, San Joaquin LAFCO. February 4, 2013; PG&E Advice Letter AL-4096-E-A, effective January 1, 2013, Table 4

In the third step the Mintier Harnish/MBMC Analysis estimated SSJID revenue from residential CARE and residential non-CARE (see Table 5-11). To do this, the Mintier Harnish/MBMC Analysis multiplied the estimated SSJID CARE and non-CARE rates (Step 1) by the estimated CARE load and non-CARE load (Step 2) to calculate SSJID’s revenue from residential CARE and residential non-CARE customers (Step 3).

**TABLE 5-11 SSJID CARE AND NON-CARE RESIDENTIAL REVENUE**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CARE</td>
<td>Non-CARE</td>
<td>CARE</td>
</tr>
<tr>
<td>Customer Rates ($/kWh)</td>
<td>$0.13</td>
<td>$0.22</td>
<td>$0.16</td>
</tr>
<tr>
<td>CARE/Non-CARE Percentage</td>
<td>31.5%</td>
<td>68.5%</td>
<td>31.5%</td>
</tr>
<tr>
<td>CARE/Non-CARE Load (MWh)</td>
<td>88,836</td>
<td>193,451</td>
<td>93,106</td>
</tr>
</tbody>
</table>

1 Total projected SSJID residential load is 282,287 MWh in 2015, 295,858 MWh in 2020, and 312,609 MWh in 2025. Sources: Letter from Mark Penskar, PG&E, to James Glaser, San Joaquin LAFCO. February 4, 2013; PG&E Advice Letter AL-4096-E-A, effective January 1, 2013, Table 4; Mintier Harnish/MBMC Analysis, September 2014

The enactment of AB 327 (2013, Perea) enables the CPUC to reduce over time the level of CARE discount offered by PG&E and the other investor-owned utilities. It also allows PG&E to require proof of income eligibility for some CARE participants, require participation in PG&E’s low-income energy efficiency program, or remove from the CARE program customers whose usage exceeds 400 percent of baseline in any billing period, and to condition continued CARE eligibility on participation in PG&E’s low-income energy efficiency program. As a whole, AB 327 is expected to reduce both the number of CARE customers and increase the rates that remaining and future CARE participants pay. The Mintier Harnish/MBMC Analysis reflects this impact of AB 327 by reducing the assumed discount to CARE customers. In 2015 the Analysis assumes a CARE discount of 43 percent and then decreases the discount to 40 percent, 37 percent, and 35 percent in 2016, 2017, and 2018, respectively. The discount is held at 35 percent for the remainder of the planning period.

**MSR Finding 61** The Mintier Harnish/MBMC Analysis accounted for PG&E CARE rates and spending within SSJID’s service area and estimated SSJID’s potential revenue accordingly. SSJID could feasibly provide retail electric service if SSJID matched PG&E rates and provided a similar level of CARE rate discounts as provided by PG&E. As calculated, the Mintier Harnish/MBMC Analysis assumed SSJID’s plan to provide a 15 percent rate discount would
provide an additional rate discount for CARE customers. The Mintier Harnish/MBMC Analysis calculated SSJID’s CARE rate discount separate from SSJID’s proposed 4 percent spending on public benefits programs (i.e., SSJID’s public purpose spending was not used to match PG&E CARE rates). Recent legislation (AB 327) allows for PG&E to increase current CARE customer rates, require proof of eligibility for CARE programs, and remove excessive energy users from the CARE program. While the actual implications of this law are unknown, it is reasonable to assume that PG&E CARE customers’ rates will increase and CARE program participation will decrease. Either of these implications would likely benefit SSJID’s plan in terms of increased revenue, because more PG&E customers would be paying non-CARE rates.

**MSR Finding 62** SSJID has not provided any details on how it plans to provide a low-income rate discount program. It is unclear how SSJID would construct such a program, or ultimately set its rates and ensure current PG&E CARE customers pay rates similar to those they currently pay under PG&E’s CARE program. SSJID would be required by State law to conduct an assessment of low-income program needs before providing service, which could identify how SSJID would structure a low-income program. Also, as part of its public benefits programs, it is unclear whether the 4 percent SSJID has committed to providing would be allocated toward low-income rate discounts, or if SSJID would treat low-income rate discounts similar to the way the Mintier Harnish/MBMC Analysis applied them to SSJID’s plan. If it is the former, then SSJID may have limited funds available to provide energy efficiency, renewable resources, demand management, and weatherization programs. Finally, the Mintier Harnish/MBMC Analysis used PG&E’s average CARE rates for customers within the district. PG&E CARE customers have a range of rates based on different rate tiers. Using averages could increase CARE rates for some customers who currently pay a rate lower than the CARE average, but lower it for those who pay more.

**Border Area Customer Rates**

If SSJID contracts with MID to serve border area customers, existing PG&E customers will be shifted to MID and pay rates set by MID. Table 5-12 shows how border area customers rates could be effected by having MID as a service provider based on average electricity use. PG&E’s average price is higher than that of MID for any customer that uses 668 kWh/month or more. As a service provider MID would potentially increase the rates currently being paid by border area customers who use less than 662 kWh/month. Those who use an amount between 662 kWh/month and 668 kWh/month would not see a rate change. According to the EIR, residential customers in San Joaquin County use an average of between 650 to 700 kWh per month. Therefore, some border areas customers’ rates would increase with MID as their service provider. Since non-residential customers (i.e, industrial, agriculture, commercial) typically use greater amounts of electricity, it is likely that their rates would decrease with MID as their service provider.

MID customers would also no longer be eligible for PG&E CARE rates. PG&E estimated that about 33 percent of its customers within SSJID were CARE customers. Applying this same percentage to total border area customers (1,500) means about 500 PG&E customers could lose
access to PG&E’s CARE program. However, MID does provide a low-income rate program called MID CARES, which provides a 23 percent discount on the first 850 kWh of energy used by qualifying customers each month. Since customers in the border area use an average of 650 to 700 kWh per month, it is likely that many would qualify for the MID CARES program.

**Table 5-12 Monthly Residential Costs by Usage**

<table>
<thead>
<tr>
<th>kWh/Month</th>
<th>PG&amp;E Rates</th>
<th>MID Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Summer</td>
<td>Winter</td>
</tr>
<tr>
<td>600</td>
<td>$82</td>
<td>$106</td>
</tr>
<tr>
<td><strong>Break-even (662-668)</strong></td>
<td><strong>$113-114</strong></td>
<td></td>
</tr>
<tr>
<td>750</td>
<td>$128</td>
<td>$154</td>
</tr>
<tr>
<td>800</td>
<td>$144</td>
<td>$172</td>
</tr>
<tr>
<td>850</td>
<td>$160</td>
<td>$190</td>
</tr>
<tr>
<td>1,000</td>
<td>$210</td>
<td>$244</td>
</tr>
<tr>
<td>1,500</td>
<td>$390</td>
<td>$424</td>
</tr>
</tbody>
</table>

*Source: MID Electric Rate Schedule D-Residential Services, January 1, 2011; PG&E Electric Schedule E-1-Residential Services, October 1, 2013*

**MSR Finding 63** If SSJID entered into an agreement with MID, border area customers would not get to decide whether they want their service provider to be MID, and they would not have the ability to prevent a rate increase due to the change in service providers. While the border-area customers are outside SSJID’s jurisdiction, they are within LAFCo’s jurisdiction, and LAFCo has the responsibility to consider the effect on the border-area customers when evaluating SSJID’s plan. This is required by State law and San Joaquin LAFCo’s Policies and Procedures. SSJID’s plan would likely increase rates for some customers and decrease others. Likewise, an estimated 500 PG&E CARE customers’ rates could also increase; although customers would have access to MID’s low-income rate program.

In order to ensure that border area customer rates are not adversely affected by SSJID’s plan, San Joaquin LAFCo should impose a condition of approval that ensures border area customers continue to receive PG&E service. San Joaquin LAFCo could require that SSJID serve border areas by agreement PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue providing service at its existing or planned rates. The Mintier Harnish/MBMC model assumed costs associated with the implementing the border area alternative, and it is not expected that such a condition would adversely impact the feasibility of SSJID’s plan.

**5.8 Effect of SSJID’s Plan on Public Benefits Spending**

This section summarizes and compares public benefits programs provided by PG&E with those proposed as part of SSJID’s retail electric plan. For the purposes of this comparison, this section only focuses on Public Purpose Programs (PPPs) and demand response spending. It does not
address CARE rates. While CARE rate subsidies do provide a public benefit to customers, SSJID’s plan addresses CARE rates separate from public benefit program spending. Accordingly, Section 5.6 of this chapter summarizes and compares PG&E’s CARE rates with those proposed as part of SSJID’s plan.

PG&E is required by the CPUC to devote a specific amount of revenues to fund public benefits programs (see Chapter 4). Table 5-13 provides an estimate of projected 2014 PG&E public benefits program spending based on available public data. Data on PG&E’s systemwide public benefit programs spending is publicly available, but it is not available at a detailed-enough level to report actual spending in SSJID’s service area. In some cases PG&E spending on a specific program can be directly correlated to areas or customers within SSJID’s service area. In other cases program spending is only available by zip code, or must be estimated based on assumptions, such as energy consumption or peak load. This methodology likely overestimates payments in SSJID's service area because zip codes cover the entire SSJID service area as well as areas beyond SSJID’s service area (i.e., zip code boundaries overlap with areas within and outside SSJID’s service area).

As shown in Table 5-13, in 2014 PG&E is projected to spend systemwide about $558 million or 4.3 percent of its retail electricity revenues on public benefits programs, including: Energy Efficiency Procurement, Low Income Energy Efficiency, Self Generation Incentives, California Solar Initiative, Family Electric Rate Assistance, and demand response programs. Within SSJID’s service area, PG&E is expected to spend about $4.63 million or 4.5 percent of its revenues on public benefits programs. This includes $3.97 million on Public Purpose Programs and just over $650,000 on demand response programs. Notably, PG&E spending in SSJID’s service area as a percentage of its total revenue is estimated to be higher compared to the system-wide average (4.5 percent versus 4.3 percent, respectively). This is due to assumptions that customers in SSJID’s service area have higher rates of energy use and higher CARE program participation rates compared to PG&E’s system-wide averages.
### TABLE 5-13  PG&E 2014 PUBLIC BENEFIT PROGRAMS BUDGET

<table>
<thead>
<tr>
<th>Electricity Service PPP Categories</th>
<th>Systemwide Spending</th>
<th>Percent Spending within SSJID Area</th>
<th>Estimated Spending in SSJID Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency</td>
<td>$120,734,365</td>
<td>0.7%(^1)</td>
<td>$795,535</td>
</tr>
<tr>
<td>Procurement of Energy Efficiency</td>
<td>$220,370,805</td>
<td>0.7%(^1)</td>
<td>$1,452,054</td>
</tr>
<tr>
<td>Low Income Energy Efficiency</td>
<td>$94,892,989</td>
<td>0.9%(^2)</td>
<td>$826,298</td>
</tr>
<tr>
<td>Self Generation Incentive Program (SGIP)</td>
<td>$29,838,521</td>
<td>0.5%(^3)</td>
<td>$136,485</td>
</tr>
<tr>
<td>California Solar Initiative (CSI)</td>
<td>$85,917,150</td>
<td>0.8%(^4)</td>
<td>$697,309</td>
</tr>
<tr>
<td>Family Electric Rate Assistance (FERA)</td>
<td>$7,867,540</td>
<td>0.9%(^5)</td>
<td>$68,508</td>
</tr>
<tr>
<td><strong>PPPs Subtotal</strong></td>
<td>$559,621,370</td>
<td></td>
<td>$3,976,188</td>
</tr>
<tr>
<td>Demand Response Programs</td>
<td>$624,575,002</td>
<td>1.0%(^8)</td>
<td>$656,060</td>
</tr>
<tr>
<td><strong>Total Public Benefits Programs</strong></td>
<td>$624,575,002</td>
<td></td>
<td>$4,632,248</td>
</tr>
<tr>
<td>Other Distribution/Transmission Expenses(^9)</td>
<td>$5,049,171,980</td>
<td></td>
<td>$41,405,917</td>
</tr>
<tr>
<td>Generation/ Other Expenses(^10)</td>
<td>$6,614,893,191</td>
<td></td>
<td>$41,678,007</td>
</tr>
</tbody>
</table>

Public Benefit Programs Spending as a Percentage of Total 2014 Electrical Budget  

| 4.3% | 4.5% |

1\(^{\text{SSJID-area share of PG&E energy efficiency spending in zip codes covering SSJID, including: 95366, 95336, 95337, and 95320. Includes zip codes that partially cover SSJID’s service area and other areas outside SSJID’s service area. Excluded Statewide Marketing and Outreach for energy efficiency because this budget supports the Energy Upgrade California website, which markets all energy efficiency programs, including POU programs.}}

2\(^{\text{Estimated share of PG&E CARE customers in SSJID’s service area.}}

3\(^{\text{Share of SGIP incentives to-date that PG&E disbursed in SSJID’s service area.}}

4\(^{\text{Share of CSI incentives to-date that PG&E disbursed in SSJID’s service area. POUs are required to finance their own solar incentive programs (PUC 2851).}}

5\(^{\text{FERA is a rate discount for low/moderate income customers not qualifying for the CARE discount. It is assumed that SSJID customers qualify for FERA at a higher rate than average, consistent with their higher rate of qualification for the CARE program.}}

6\(^{\text{Excluded EPIC program because PG&E may only administer technology demonstration and deployment programs with these funds. Most are high-level R&D programs, not programs to benefit specific customers.}}

7\(^{\text{Excluded Amortization of Balancing Account (PPRAM) because this is not part of PG&E’s 2014 program expenditures; these funds repay PG&E for unrecovered 2013 expenses.}}

8\(^{\text{Estimated PG&E demand response spending in SSJID’s service area based on PG&E Systemwide projected peak load of 17,722 MW divided by SSJID area projected peak load 179 MW and applied to PG&E’s 2014 demand response budget.}}

9\(^{\text{Estimate based on the share of PG&E peak load and energy usage in SSJID’s service area. Excludes demand response and distribution-related public purpose programs.}}

10\(^{\text{Estimate based on the share of PG&E energy usage in SSJID’s service area. Excludes public purpose programs.}}

11\(^{\text{CPUC plus FERC revenue requirement. Excludes amortization of balancing accounts (i.e., refunds to PG&E for prior-year under-collections).}}

SSJID would be required to impose upon its customers a non-bypassable rate charge to fund energy efficiency and low-income programs based on a formula set forth in Public Utilities Code Section 385. It is estimated this formula would require SSJID establish this charge to generate a minimum of 2.85 percent SSJID’s gross retail electric revenue. SSJID has committed to allocate 4 percent of its gross retail electric revenues to public benefits programs and

There are three certain sources of funding SSJID will have to achieve its 4 percent goal. The first are the non-bypassable charges required by Public Utilities Code Section 385, which would be passed on to ratepayers. San Joaquin Legal Counsel has opined SSJID can rely on nonbypassable charges for up to 2.85 percent is 4 percent commitment. In order for SSJID to charge the remaining 1.15 percent to customers, the District would need to conduct Prop 26 election to gain voter approval to do so.

The second is through Cap-and-Trade allowances, which must be spent exclusively for the benefit of retail ratepayers consistent with the goals the Cap-and-Trade program and AB 32. These goals include increasing energy efficiency, improving customer service and rates, and improving the overall efficiency and reliability of California’s electric delivery systems. These goals are consistent with those required by statute for public benefits and low-income programs. The third is through revenues SSJID generates from the sale of wholesale power (i.e., Tri-Dam) and surplus water. San Joaquin LAFCo legal counsel has opined that use of these funds for public purpose programs would not be deemed a gift of public funds.

A fourth, but uncertain, source of funding that SSJID may use to fund public purpose programs would be its retail electric revenues (i.e., revenue from ratepayers). However, San Joaquin LAFCo legal counsel has opined that use of these funds would likely require customer approval through a Prop 218 election.

Table 5-14 summarizes and compares SSJID projected public benefits and low-income funding and commitments based on the Mintier Harnish/MBMC Analysis. SSJID has committed to spend an average of $3,269,000 per year from 2014 to 2019 and an average of $3,193,000 per year from 2020 to 2040. It is expected that SSJID will be able to cover about 71 percent of this expense through a non-bypassable charge to retail electric customers and rely on another funding source to cover the remaining 29 percent. Therefore, SSJID would need to cover an average of $939,838 per year from 2015 to 2019 and $884,638 per year from 2020 to 2040 using Cap-and-Trade allowances or wholesale power and surplus water revenues.
**TABLE 5-14  SSJID PUBLIC BENEFITS AND LOW-INCOME COSTS**

<table>
<thead>
<tr>
<th>Public Benefits and Low-income Funding Sources</th>
<th>2015 - 2019</th>
<th>2020 - 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-bypassable Charges(^1)</td>
<td>$2,329,163</td>
<td>$2,192,363</td>
</tr>
<tr>
<td>Cap-and-Trade Allowances</td>
<td>$2,646,000</td>
<td>$4,232,000</td>
</tr>
<tr>
<td>Wholesale Power and Surplus Water Revenues(^2)</td>
<td>$15,950,006</td>
<td>$19,840,738</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$20,925,169</td>
<td>$26,265,101</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>SSJID Public Benefits and Low-income Commitment(^3)</strong></th>
<th>$3,269,000</th>
<th>$3,077,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus without Wholesale Power and Surplus Water Revenues</td>
<td>$1,706,163</td>
<td>$3,347,363</td>
</tr>
<tr>
<td>Surplus with Wholesale Power and Surplus Water Revenues</td>
<td>$17,656,169</td>
<td>$23,188,101</td>
</tr>
</tbody>
</table>

\(^1\)It is expected that SSJID will be able to cover about 71 percent of public benefits and low-income programs expenses through a non-bypassable charge to retail electric customers.

\(^2\)Wholesale Power and Surplus Water Revenues is an estimate of remaining available funding after subtracting the projected expenses associated with irrigation/solar farm operations and rates ($5.1 million/year from 2015 to 2019 and $2.5 million per year from 2020 to 2040) and In-Lieu Franchise Fees and Taxes ($2.2 million per year from 2015 to 2019 and $3.2 million per year from 2020 to 2040).

\(^3\)Based on SSJID’s commitment to provide funding for public purpose programs equal to 4 percent of gross retail electric revenues.

_Sources: Mintier Harnish/MBMC Analysis, September 2014; SSJID Consolidated Budget, 2014_

As described above, it is expected that SSJID will generate from Cap-and-Trade allowances an average of $2.6 million annually from 2015 to 2019 and $4.2 million annually from 2020 to 2040. This is well above the 4 percent commitment SSJID has made to fund public purpose and low-income programs. SSJID could allocate part or all of its Cap-and-Trade allowances to public benefits and low-income programs. When added with the non-bypassable charges SSJID will collect from customer rates, this would provide an average of $4.97 million per year from 2015 to 2020 and $6.42 million annually from 2020 to 2040. This is slightly higher than estimated PG&E spending on public purpose programs.

The SSJID retail electric plan could affect the District’s continued ability to subsidize existing irrigation customer rates if the District Cap-and-Trade allowances and wholesale electricity and surplus water revenue projections do not generate funding similar to past or projected trends. In the event that revenues are not sufficient, the District could reallocate funding that currently subsidizes irrigation customer rates to cover its public benefits and low-income expenses. Border Area Customers

Based on the number of PG&E customers within SSJID’s boundaries (i.e., 38,000) and estimated PG&E funding toward public benefits programs ($4.6 million), each SSJID-area customer represents about $122.00 of public benefits spending. Assuming the 1,500 affected border area customers represent a similar amount of spending per customer, SSJID’s plan could result in a loss of $182,852 in public benefits spending if MID takes over service. It should be noted that
this figure is only a rough estimate and is not based on actual spending or program participation in the border areas. Furthermore, MID does offer energy efficiency, lighting, and special needs programs that border areas customers would have access to. Finally, the analysis in Table 5-16 may already account for PG&E public benefit spending in the border area for zip codes that cover areas outside SSJID’s service area.

SSJID’s retail electric plan would result in less public benefit programs spending than what is estimated to be provided by PG&E. SSJID has committed to spending 4 percent of its gross retail electric revenue on public benefits programs. This was estimated to be $3.40 million in 2015 (Mintier Harnish/MBMC Analysis). In 2015 PG&E will spend an estimated 4.5 percent ($4.63 million) of the revenue it generates from customers within SSJID’s service area on public benefit programs. This is $1.23 million more than what SSJID is expected to spend. If SSJID generated less revenue from its retail electric service, public benefits spending would decline. Likewise, if gross retail electric revenues were higher, public benefits spending would increase. Calculating the difference in spending between PG&E and SSJID over the 30-year projection period, SSJID’s plan could result in about $40 million less public benefits program spending.

While San Joaquin LAFCo cannot condition SSJID public benefits and low-income programs spending, it is within District discretion to allocate additional revenues from Cap-and-Trade allowances and wholesale power and surplus water sales toward public benefits and low-income programs. SSJID should match or exceed the funding provided by PG&E in order to limit impacts to customers. It is expected that SSJID would have sufficient revenue from Cap-and-Trade allowances and wholesale power and surplus water sales to match or exceed the funding currently provided by PG&E. SSJID should allocate funding from its non-service based revenue sources to ensure it maintains public benefits and low-income programs funding comparable to PG&E, so long as existing services and customer rates are not negatively impacted.

In addition, the SSJID retail electric plan would likely result in less public benefit programs spending than what is currently provided by PG&E in the border area. In order to ensure that border area customers continue to receive public benefits currently provide by PG&E, San Joaquin LAFCo could impose a condition of approval that ensures border area customers continue to receive PG&E service. San Joaquin LAFCo could require SSJID to serve border areas by agreement PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue providing public benefits programs.

5.9 Fiscal Impact of the SSJID Plan on Other Agencies

The change from an investor-owned utility (PG&E) to a publicly-owned utility (SSJID) has tax implications for the Federal and State governments, San Joaquin County, cities and districts within San Joaquin County, and individual property owners within K-14 schools districts. This section evaluates the potential fiscal impact to government agencies resulting from SSJID’s plan.
At the time this SOI/MSR was prepared SSJID was in the process of adopting a resolution stating that the District is committed to:

- providing the same amount of revenue to the Cities of Manteca, Escalon and Ripon and San Joaquin County as they currently receive through franchise fees;

- providing the same amount of revenue to San Joaquin County as the County currently receives through property taxes, including the portion of property taxes the County receives and distributes to other public agencies within the county, plus an annual inflation adjustment; and

- meeting with officials of Manteca, Escalon and Ripon and the County of San Joaquin to negotiate agreements to accomplish the foregoing objectives for the Board’s approval, in order to assure the District’s right to use public rights of way necessary to provide retail electric service, and to memorialize the District’s commitment to furnish these agencies with the same amount of revenue as is currently received, including revenues required to properly construct, repair and maintain streets, roads, highways and other public rights of way and to provide fire protection, police services and other public health and safety services, as a result of the District providing retail electric service.

Furthermore, the resolution states that SSJID agrees that San Joaquin LAFCo may condition its approval of the District’s application to provide retail electric service by requiring that the District, as a cost of providing retail electric service, make payments in lieu of franchise fees and property taxes subject to terms of agreements to be executed with the Cities of Manteca, Escalon and Ripon and the County of San Joaquin.

San Joaquin LAFCo legal counsel has opined that San Joaquin LAFCo could impose the condition described above. By imposing such a condition, San Joaquin LAFCo would ensure that the County, three cities, and effected district would continue receiving taxes and fees currently paid by PG&E.

If San Joaquin LAFCo does not impose such a condition, SSJID could: 1) not make in-lieu payments, 2) be required to conduct a Prop 26 election to obtain voter approval to fund these payments through retail electric rates; or 3) use Tri-Dam revenue to fund the payments.

Under the first option, the County, cities, and effected districts would lose property tax and franchise fee revenues, but retail electric customers could see a further rate reduction or SSJID could generate more revenue that would have otherwise gone to pay in-lieu taxes and fees.

While the second and third options could ensure the County, cities, and effected districts receive property taxes and fees, they are not without risk. San Joaquin LAFCo legal counsel has opined that if SSJID elects to voluntarily pay in-lieu property taxes or franchise fees such an action could be challenged as a gift of public funds. If the use of these funds was not deemed a gift of public funds, SSJID could still need to get voter approval through a Prop 26 election.
Because SSJID has stated it will pay in-lieu taxes and fees and there is uncertainty in not conditioning the District to do so, this SOI Plan/MSR assumes that San Joaquin LAFCo would impose such a condition. Furthermore, the Mintier Harnish/MBMC Analysis assumed that SSJID would pay this expense through its available wholesale power and surplus water revenues (i.e., this charge is not passed on to customers or paid with retail electric revenues).

**MSR Finding 64**

In order to ensure that the County, Cities, and other districts effected by SSJID’s plan continue receiving property taxes and franchise fees, San Joaquin LAFCo should impose a condition of approval on SSJID’s retail electric plan application that requires, as a cost of providing retail electric service, SSJID make payments in-lieu of franchise fees and property taxes subject to terms of agreements to be executed with the Cities of Escalon, Manteca, and Ripon and San Joaquin County to ensure the County, Cities and districts effected by SSJID’s plan do not lose property tax and franchise fee revenues as a result of SSJID’s retail electric plan. By imposing such a condition, San Joaquin LAFCo would ensure that these agencies continue receiving taxes and fees and that SSJID would be authorized to do so. However, the method of payment SSJID uses to make these payments would be at the discretion of the District and could affect existing irrigation customer rates or services if SSJID chose to use Tri-Dam funds. Furthermore, the mechanism used to ensure payments are made is unknown at this time and would need to be included in any agreement.

**Local Taxes and Fees Paid by PG&E**

Table 5-15 summarizes estimated taxes and fees paid by PG&E to local agencies for property and services it provides within the district. The table also projects the cumulative total for each tax and fee over the 30-year projection period (i.e., the total amount of taxes and fees PG&E would pay over the next 30 years). As a publicly-owned utility, SSJID would not be required to pay any of the identified taxes or fees.

As the table shows, PG&E pays an estimated $961,276 in property taxes to San Joaquin County; $766,444 in franchise fees to the City’s of Escalon, Ripon, and Manteca and San Joaquin County; and $41,500 in Vehicle License Fees (shared by the County and cities).

<table>
<thead>
<tr>
<th>Tax/Fee</th>
<th>Recent One-year Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Taxes</td>
<td>$961,276</td>
</tr>
<tr>
<td>Franchise Fees</td>
<td>$766,400</td>
</tr>
<tr>
<td>Vehicle License Fees</td>
<td>$41,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,769,176</strong></td>
</tr>
</tbody>
</table>

Franchise Fees based on reported payments made to the cities of Escalon, Manteca, and Ripon and San Joaquin County in adopted city and County budgets.

Sources: Capital Matrix Consulting, April 15, 2012; San Joaquin County Auditor, 2012; San Joaquin County Schedule 6, Fiscal Year 2012-2013; City of Manteca, 2013; City of Ripon 2013-2013 City Budget, June 19, 2012; City of Escalon FY 2012-2013 Budget, June 12, 2012
Property Tax and Franchise Fee Impacts

Public utilities are assessed as a unit, instead of by the value of separate properties owned by the utility. The California State Board of Equalization (BoE) allocates the "unitary" assessed value among the counties based on the amount of property within each county. County auditors allocate the property tax revenues from unitary properties using a formula based on the amount of unitary revenues received by the county's jurisdictions in 1987-88. For years after 1987-88 each taxing jurisdiction receives up to 102 percent of its prior year unitary property tax revenues. The County auditor allocates the remaining property tax from the County's unitary roll to all taxing jurisdictions in proportion to their share of property tax revenues derived from locally-assessed property. In other words, the unitary tax method creates a countywide pool of property tax revenues generated by growth in the value of State-assessed properties. Each local taxing agency gets a share of the countywide pool, regardless of whether any State-assessed property is within that agency's boundaries.

Each year BoE sets the values for utility properties. On May 30, 2012, BoE established a value of $87.5 billion for privately-owned public utilities and railroads in California. Local governments will collect an estimate $979.1 million in revenue over the next fiscal year based on this value. The values were up $2 billion over those established by BoE. These properties are not subject to Proposition 13 and are reappraised annually at their market value by considering market conditions, use of property, income generated by the property, replacement costs, investments in the property, regulatory climate, depreciation, and other factors. PG&E’s statewide value was set at $23.3 billion for 2012. According to a report prepared by Capitol Matrix Consulting, the estimated assessed unitary value of PG&E’s electric facilities within SSJID’s service area is $72 million.

Based on the average tax rate in San Joaquin County of 1.33 percent (San Joaquin County Assessor, 2012), Capitol Matrix Consulting estimated PG&E property tax to be $961,276 in 2012. The direct tax loss (1 percent share) to the County, cities, and districts revenues is estimated at $726,276, and the balance ($235,000) would be used to pay debts from bonds issued by public agencies throughout the county, as well as bordering counties that have joint jurisdictions of the K-14 school districts: Alameda, Calaveras, Sacramento, Solano, and Stanislaus. Appendix G: Estimated Property Tax Impacts provides a detailed breakdown of the affected agencies and potential losses.

Finally, PG&E’s consultant Capitol Matrix Consulting indicated that as a result of implementation of SSJID’s plan, PG&E would no longer pay an estimated $1.89 million in annual electric franchise fees. As shown above in Table 5-17, according to the adopted budgets of the cities of Escalon, Manteca, and Ripon and San Joaquin County, in 2011 PG&E paid $766,400 in franchise fees for retail electric service.

California Constitution Article XIII, Section 3(b) exempts special districts, such as SSJID, from paying property taxes. Also, the section of the Public Utility Code that sets forth procedures for payment of franchise fees does not apply to publicly-owned utilities, such as SSJID. Finally, the
Water Code Sections addressing power lines on public property do not clearly address franchise fees and more than likely cannot be relied on to require SSJID to pay franchise fees.

SSJID’s Board of Directors stated its intention to pay franchise taxes to the cities within the District and property tax to the County and to ensure revenue neutrality. SSJID Resolution 12-13-E states that the District is committed to providing from the same electric distribution facilities owned and operated by PG&E: 1) the same amount of franchise fee revenue to the cities of Escalon, Manteca, and Ripon; and 2) the same amount of franchise fee and property tax revenue to San Joaquin County. The District’s plan to provide retail electricity allocates 2.5 percent of its gross retail electricity revenues to make up for revenue losses resulting from decreases in franchise fees and property taxes PG&E now pays to the cities within the district and to San Joaquin County. The District plans to do this by paying permission fees according to agreements to be entered into with the cities within the District based on Water Code 22476, and making payments in lieu of franchise fees and property taxes to the County. The District has indicated that County payments would include the portion of property taxes the County now receives and distributes to other public agencies within the county.

The Mintier Harnish/MBMC Analysis incorporated SSJID’s commitments to paying 2.5 percent of its revenues toward in-lieu property taxes and franchise fees. According to the Mintier Harnish/MBMC Analysis, in 2015 SSJID would pay about $2.1 million in in-lieu property taxes and franchise fees. The Mintier Harnish/MBMC Analysis assumes these in-lieu payments will increase over time with inflation, and includes an escalator of 2 percent per year.

**MSR Finding 65**

PG&E currently pays an estimated $1,727,676 in franchise fees and property taxes for property, facilities, and services within the district. SSJID has committed (Resolution 12-13-E) to maintain the same amount of franchise fee revenue to the cities of Escalon, Manteca, and Ripon, and the same amount of franchise fee and property tax revenue to San Joaquin County for distribution to affected agencies. SSJID proposes to spend 2.5 percent of its gross retail electric revenue on in-lieu payments to address potential property tax and franchise fees. According to the Mintier Harnish/MBMC Analysis, SSJID would pay about $2.1 million in in-lieu taxes and fees in its first year of operations. This is about $372,000 more than PG&E is estimated to pay. The Mintier Harnish/MBMC Analysis also assumed SSJID payments would increase at 2 percent annually. It is expected that SSJID’s plan will not result in a loss of property taxes or franchise fees to agencies within San Joaquin County. SSJID’s plan would impact property taxes used to pay voter approved debt service for school districts outside San Joaquin County. This loss will be passed on to property owners whose property tax payments will increase.

**Vehicle License Fees**

As an investor-owned utility, PG&E pays vehicle license fees to the State on the vehicles it uses as part of its operations. According to Capital Matrix Consulting, PG&E pays about $41,500 per year in VLF for vehicles used to provide service within SSJID’s service area. If SSJID acquires PG&E’s vehicles, as a publicly-owned utility, it is not required to pay VLF. SSJID has stated that it is not intending to maintain revenue neutrality for VLF that would otherwise be paid by
PG&E. SSJID’s plan and the Mintier Harnish/MBMC Analysis do not include costs associated with SSJID making such payments.

**MSR Finding 66** SSJID is not planning to pay in-lieu fees for vehicle license fees (VLF) paid by PG&E. Assuming PG&E sells the vehicles it uses to serve areas within SSJID, transfers them from San Joaquin County, or disposes of them, SSJID’s plan could result in a loss $41,500 that is paid to the State, San Joaquin County, and the cities in the county. LAFCo could condition SSJID to pay in-lieu fees sufficient to offset VLF paid by PG&E, assuming PG&E no longer registers the vehicles that served SSJID’s service area. San Joaquin LAFCo Counsel opined that SSJID could pay in-lieu fees to affected agencies under Government Code Section 56886 (i) and Subsection (v). Conditioning SSJID to offset any loss in VLF would add additional costs to SSJID’s retail electric operations. Such a condition would be complex to calculate and recalculate and assess over time since the State changes the methodology it uses to calculate such fees. And, San Joaquin LAFCo would need to obtain records from PG&E indicating which vehicles from SSJID’s service area it is no longer registering. Ultimately, if SSJID were to pay in-lieu VLF based on the amount identified by Capital Matrix Consulting ($41,500), there would be no impact on the financial feasibility of SSJID’s plan.

**State and Federal Income Tax Impacts**

SSJID’s plan would result in a loss of State and Federal income tax revenue. As a publicly-owned utility, SSJID does not pay State or Federal income taxes. SSJID has not made a commitment to maintain revenue neutrality for State and Federal income taxes that would otherwise be paid by PG&E. SSJID’s plan and the Mintier Harnish/MBMC Analysis do not include costs associated with SSJID making such payments.

According to Capitol Matrix Consulting, in 2011 PG&E paid a State-income tax rate of 8.84 percent; however, this cannot be confirmed. PG&E Company is a subsidiary of a holding company, the PG&E Corporation. The PG&E Corporation files a tax return that consolidates its utility and non-utility businesses, allowing it to capture some of the utility taxes as additional assets or as profits. Like any tax paying corporation, PG&E lowers its ultimate income-tax bill based on adjustments allowed by tax codes and government programs, such as tax write-offs, tax credits, depreciation and accelerated depreciation of property, and deferred tax payments. Based on these calculations, PG&E’s income taxes for any given year can vary from payments to the State and Federal governments to taxes returned to PG&E.

As a private company PG&E’s tax filings are confidential. Without obtaining and reviewing PG&E’s income tax filings, it would be extremely difficult to ascertain PG&E’s actual income tax payments to the State and Federal governments.

**MSR Finding 67** SSJID’s plan would result in a loss of Federal and State income taxes. SSJID is not required to pay income taxes and has no plans to do so. San Joaquin LAFCo could condition approval of SSJID’s plan to require that SSJID to pay in-lieu State and Federal income taxes that would otherwise be paid by PG&E. Conditioning SSJID to pay State and/or Federal income taxes would add additional costs to SSJID’s retail electric operations. San Joaquin LAFCo would need to develop a methodology that would calculate PG&E’s actual tax payments.
each year for retail electric facilities within SSJID’s service area. Once SSJID has acquired PG&E’s facilities it would be extremely difficult, if not impossible, for San Joaquin LAFCo to monitor SSJID’s compliance.

Border Area Tax and Fee Implications
SSJID’s plan could result in losses in State and Federal income taxes, property taxes and franchise fees, if SSJID contracts with MID to serve border areas. As a public utility, MID would not be required to pay taxes and fees. Likewise, SSJID has stated that it does not intend to pay income taxes in lieu of what PG&E would have paid. SSJID has committed to maintain revenue neutrality for agencies that receive revenues through property taxes and franchise fees. Since contracting with MID is part of SSJID’s plan, SSJID’s in-lieu payments should include areas that would be served by MID. If SSJID does not contract with MID, and instead constructs facilities so that PG&E can maintain service in the border areas, there would be no loss in taxes and fees in these areas.

Table 5-16 estimates the impact that SSJID’s plan could have for franchise fees and property taxes if MID takes over service. As the table shows, with MID as service provider, local governments could collectively stand to lose about $65,651 per year. It should be noted that this figure is likely overestimated, because PG&E has less property and facilities and provides less service in the border areas compared to the urban areas within SSJID’s service area. The State and Federal governments could lose income tax revenue, and would potentially see vehicle license fee reductions if additional vehicles were no longer registered by PG&E to serve border areas.
TABLE 5-16  BORDER AREA TAX AND FEE IMPLICATIONS

<table>
<thead>
<tr>
<th></th>
<th>Franchise Fees</th>
<th>Property Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSJID-area Customers</td>
<td>38,000</td>
<td>38,000</td>
</tr>
<tr>
<td>Border Area customers less City of Ripon</td>
<td>~1,000</td>
<td></td>
</tr>
<tr>
<td>Border Area customers</td>
<td></td>
<td>1,500</td>
</tr>
<tr>
<td>Percent Border Area Customers</td>
<td>3.8%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Estimated Franchise Fees</td>
<td>$766,400</td>
<td>$961,276</td>
</tr>
<tr>
<td>Estimated Border Area Franchise Fees</td>
<td>$29,123</td>
<td>$36,528</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$65,651</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Capital Matrix Consulting, San Joaquin County Auditor, 2012; San Joaquin County Schedule 6, Fiscal Year 2012-2013; City of Manteca, 2013; City of Ripon 2013-2013 City Budget, June 19, 2012; City of Escalon FY 2012-2013 Budget, June 12, 2012; Mintier Harnish, 2013*

**MSR Finding 68**  SSJID’s plan for border areas is not expected to cause significant tax or fee revenue reductions. If SSJID constructs underbuilds to enable PG&E to continue serving border areas, no impact would occur. If SSJID contracts with MID to serve the border areas, the cities and County could lose up to $65,651 per year in property tax and franchise fees. In order to ensure that the County, Cities, and other districts effected by SSJID’s plan continue receiving property taxes and franchise fees, San Joaquin LAFCo should impose a condition of approval on SSJID’s retail electric plan application that requires SSJID serve border areas by agreement with PG&E pursuant to Public Utilities Code Section 9608 or through construction of underbuild facilities (i.e., the border area alternative). Under either of these options, PG&E would remain the service provider to border area customers and continue paying franchise fees and taxes for these areas.

Alternatively, San Joaquin LAFCo could condition approval of SSJID’s plan to require that SSJID to pay in-lieu property tax, franchise fees, and State and Federal income taxes to ensure areas transferred to MID maintain revenue neutrality. Conditioning SSJID to pay these in-lieu taxes and fees would add nominal costs to SSJID’s retail electric operations. The effect of such a condition on the feasibility of SSJID’s plan would be insignificant. It should be noted that, for areas within the district, it is estimated that SSJID would pay about $372,000 more in taxes and fees compared to what PG&E pays. This additional funding could offset any loss in property tax and franchise fees for border areas. There would be additional State and Federal income tax losses and, potentially, vehicle license fee reductions; however, these additional costs would have an insignificant effect on the financial feasibility of SSJID’s plan to provide retail electric service.
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This chapter evaluates opportunities for shared facilities. As part of the MSR process, LAFCo must evaluate opportunities for sharing facilities and resources between jurisdictions and districts, which may reduce costs for public services. Sharing facilities can reduce costs and allow for a level of service that may not otherwise be achieved under normal funding or facility constraints. Facility sharing agreements generally require the service provider to relinquish some control over facilities. In addition, facility sharing may not be entirely suited to meet certain needs (e.g., facilities may be in an inconvenient location, may be undersized or oversized to suit needs, or have limited availability).

San Joaquin LAFCo Policies and Procedures: Status of, and Opportunities for, Shared Facilities

The service review should identify opportunities for jurisdictions to share facilities and resources creating a more efficient service delivery system. Sharing facilities and utilizing excess capacity in another agency’s service system works to avoid service duplications, reduces costs, and minimizes unnecessary resource consumption. The service review will need to inventory facilities within the study area to determine if facilities are currently being utilized to capacity and whether efficiencies can be achieved by accommodating the facility needs of adjacent agencies. Options for planning for future shared facilities and services will also be considered.

The focus of this section is to identify opportunities to reduce costs and improve services by sharing facilities and resources. The following outlines existing and potential opportunities for SSJID to share facilities and resources.

Existing Shared Facilities and Services

SSJID has shared ownership of certain assets and facilities with OID since the two districts were formed in 1909, including: water rights; Goodwin Dam; (Old) Melones Dam; and the joint supply canal. SSJID and OID developed, operated, and have shared revenues from the dams and hydroelectric generation facilities on a 50/50 basis since entering into a mutual agreement in 1948 (see Resolution re: Joint Cooperation on Proposed Storage Projects on Stanislaus River; January 13, 1948). The District has agreements with San Joaquin County and with the cities of Escalon, Manteca, and Ripon for sharing the costs of replacing road crossings that impact District irrigation facilities.

The District works cooperatively with the cities in the District in many areas, including: use of its facilities for urban storm drainage; consultation in the approval of new developments; installation of structures; and public road work, when such work affects District facilities. The
District has worked with the City of Manteca to share expertise on vehicle maintenance issues, including compliance with diesel particulate rules, and is working with Manteca on a joint public outreach program to reduce pollutants in stormwater drainage. The District also has an agreement with McMullin Reclamation District for cooperative operation and maintenance of certain drainage facilities. The agreement was formed in 1953.

SSJID has a mutual aid agreement with MID (SSJID Resolution 05-09-A) that specifies procedures, terms, and conditions whereby MID and SSJID can obtain from the other district assistance in the form of personnel, equipment, and materials. Neither district is under any obligation to adhere to any part of the agreement if either district determines that it is unable to provide assistance.

The District participates with Lathrop Irrigation District (LID) through an agreement in which SSJID provides assistance to LID in matters related to LID’s efforts to enter into the retail electric service business.

**Tri-Dam Project and Tri-Dam Power Authority**

SSJID works with the OID through the Tri-Dam Project and the Tri-Dam Power Authority to operate and maintain four hydroelectric generating projects along the Stanislaus River. These shared facilities enable both districts to store adequate amounts of water during the wet season for release throughout the year. The facilities also generate and sell electricity which provides revenue for both districts, as described in Chapter 4.

The Tri-Dam Power Authority is a separate entity from the Tri-Dam Project and the two Districts. It is governed by a Commission composed of the members of the Boards of the two Districts. It has responsibility for the Sandbar Project also located on the Middle Fork of the Stanislaus River. The Tri-Dam Project has responsibility for three hydroelectric projects. The Tri-Dam Project is governed by a joint board of directors composed of the five-member boards of the two Districts. Based on a joint exercise of powers agreement and an operating resolution, the day-to-day activities of the Tri-Dam Project are managed by a staff that includes a General Manager who reports to the joint Boards. The administrative offices of Tri-Dam Project are located in Strawberry, California. The Project and the Authority each meet on a monthly basis. The Authority contracts for use of Project staff.

SSJID works cooperatively with Turlock Irrigation District (TID) which manages the two SSJID hydroelectric generation facilities at Woodward Reservoir and which purchases all generation and other attributes of these two facilities.

**South County Water Supply Program**

The SCWSP is a joint effort between SSJID and the cities of Manteca, Escalon, Lathrop, and Tracy to provide treated domestic water to the cities of Manteca, Tracy, and Lathrop. The city of
Escalon does not receive water from the SCWSP at this time. The agreement to provide treated water to the cities through the Water Treatment Plant is part of a 25-year contract between the District and cities. The agreement provides for renewal on terms to be negotiated, and if no agreement is reached, for the cities to jointly take over control and operation of the treatment plant. The cities would continue to purchase untreated water from the District.

**MSR Finding 69**  SSJID shares facilities and services with several agencies that allow for more efficient operations and services to its customers. These shared facilities have allowed the District to efficiently maintain services and provide additional services to its customers including construction of renewable energy sources. SSJID should continue working with other agencies to share facilities, and explore opportunities to share additional facilities where it would improve system efficiencies and services, lower customer rates, and improve the environment.

### Opportunities for Shared Facilities and Services

#### Domestic Water

SSJID shares facilities with the cities that participate in the SCWSP. The second phase of the SCWSP will expand the existing water system and provide treated domestic water to the City of Escalon. Providing domestic water to Escalon will result in reductions in groundwater pumping and ensure long-term water supply to urban areas within District boundaries. The District is also working with SCWSP member agencies and the City of Ripon to evaluate the feasibility of providing treated water to the city. Upon completion of the current 25-year SCWSP contract, the cities and/or SSJID will have the option to jointly take over the Nick C. Groote water treatment plant.

#### Stormwater Drainage Systems

SSJID already shares drainage facilities with the three cities within its boundaries. As the cities grow and expand, the District can work with the cities to connect urbanized areas to its drainage facilities. The cities’ use of the District’s facilities will continue to be subject to compliance with applicable Federal and State laws concerning stormwater drainage, including the Clean Water Act.

#### Retail Electric Service

If LAFCo approves SSJID’s application to provide retail electric service, SSJID could take advantage of opportunities to share facilities with MID and/or PG&E. In addition, the District could enter into wholesale distribution agreements with MID and/or PG&E to provide service from District-owned facilities located outside the District acquired from PG&E (i.e., border areas).

**MSR Finding 70**  SSJID should continue reviewing the potential to extend SCWSP facilities to Ripon, and work with SCWSP members to establish a long-term facility sharing agreement. Similarly, SSJID should continue to provide access to its canals and drainage facilities for
stormwater from the cities of Escalon, Manteca, and Ripon as growth occurs, including areas of Manteca and Ripon that are outside the District SOI. As a retail electric service provider, SSJID should pursue opportunities to share facilities with MID and PG&E to improve efficiencies, reduce duplicate facilities, and provide system redundancy.

**Capacity to Service Customers of Other Agencies**

Based on projected water demand over the next 30 years, the District expects to have sufficient water supplies to serve agricultural demands within the District and to meet its contractual agreements with Manteca, Escalon, Lathrop, and Tracy. SSJID has been working with other SCWSP members and the City of Ripon to evaluate a request to provide treated drinking water to Ripon.

SSJID could provide services to Area-C, which is currently (2011) within CSJWCD’s service area and SSJID’s SOI. Due to the geography and hydrology of Area-C in relation to the natural streambeds that CSJWCD uses to distribute water, CSJWCD cannot readily serve this area. SSJID serves areas on three sides of Area-C, and has existing facilities that could be extended to serve this area. Prior to annexing and extending irrigation water service to this area, the District would need to meet with the affected landowners to confirm their commitment to the terms of the annexation, including payment of annexation costs and the costs of new facilities.

SSJID sold raw water to the SEWD, which provides drinking water to Stockton, from 2000-2010 under an agreement to provide about 15,000 acre-feet per year with dry-year reductions. SSJID sold 40,000 acre-feet of untreated water in 2013. SSJID plans to sell untreated water in the future, subject to compliance with CEQA and establishment of new agreements.

The District is a member of the San Joaquin River Group Authority, which is composed of five local irrigation districts and three other agencies, and the San Joaquin Tributaries Authority composed of the same five local irrigation Districts and the City and County of San Francisco (Authority). The Authority’s members work with regional, State, and Federal agencies to research and monitor fish survival and improve fishery habitat in the San Joaquin River and its tributaries. The Authority also addresses regional water supply issues, including the protection of its members’ water rights.

**MSR Finding 71** SSJID, in coordination with the SCWSP members, could work with the City of Ripon to provide treated water to Ripon from the Nick C. Groote Water Treatment Plant. SSJID could more efficiently serve customers in Area-C compared to CSJWCD. San Joaquin LAFCo should work with the two districts to resolve the overlapping boundaries in Area-C by removing it from CSJWCD’s service area. SSJID could continue selling surplus raw water to agencies outside its boundaries to supplement their water supplies and meet demand. SSJID has a history of working with agencies outside its boundaries to more efficiently and effectively operate, provide services, and protect the environment. SSJID should continue to work with its existing partners and others to address service needs and improve operational efficiencies.
CHAPTER 7 ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

This chapter of the MSR assesses the level of accountability of SSJID to those it serves, focusing on opportunities for public participation and efficiency.

The CKH Act requires LAFCo to consider advantages and disadvantages of various governmental structures that could provide public services, including an evaluation of consolidation or reorganization of service providers. The MSR provides an opportunity to study existing and future public service conditions; to evaluate options that would accommodate growth; and to ensure that critical services are effectively and efficiently provided. LAFCo is not required to initiate changes of organization based on service review conclusions. However, LAFCo, local agencies, and the public may use MSR determinations to pursue subsequent change to service structures and SOIs. LAFCo is responsible for guiding local agencies in the county in addressing the need for more logical and efficient service areas, funding for service levels that the residents desire, and for providing adequate service levels in growing areas.

Tied closely to the consideration of organizational or governance alternatives, the MSR also needs to evaluate management efficiencies. Management efficiencies refer to the quality of public services and the agency’s ability to provide service. Efficiently managed agencies implement plans to reduce waste, eliminate duplication of effort, contain costs, and build and maintain adequate contingency reserves.

San Joaquin LAFCo Policies and Procedures: Accountability for Community Service Needs, including Governmental Structure and Operational Efficiencies.

The MSR will consider the advantages and disadvantages of various government structures that could provide public services. San Joaquin LAFCo encourages local agencies to use service reviews to determine whether initiation of proceedings for changes of organization and reorganization, including spheres of influence, would be in order and in the best interests of the agency and the community it serves. LAFCo will examine efficiencies that could be gained through: (1) functional reorganizations within existing agencies; (2) amending or updating spheres of influence; (3) annexations or detachments from cities or special districts; (4) formation of new special districts; (5) special district dissolutions; (6) merges or special districts with cities; (7) establishment of subsidiary districts; or (8) any additional reorganization options found in the LAFCo statute.

Operational efficiency refers to the quality of public services and the agency’s ability to provide services. Efficiently managed entities consistently implement plans to improve service delivery, reduce waste, eliminate duplications of effort, contain costs, build and maintain adequate
contingency reserves, and encourage open dialogues with the public and other public and private agencies. The MSR will evaluate operational efficiency by analyzing agency functions, operations, and practices, as well as the agency’s ability to meet current and future service demands.

7.1 Government Structure

**South San Joaquin Irrigation District**

SSJID was formed on May 24, 1909. The District operates under the Irrigation District Act, Division 11 of the California Water Code. SSJID’s five-member Board of Directors is elected by voters. Directors serve four-year terms. This governing structure provides local control over policy decisions that concern public services provided by SSJID. The District provides services using the following powers available to an irrigation district according to Division 11, Part 5, Chapter 1, of the California Water Code:

- Article 1, Water;
- Article 2, Drainage;
- Article 4, Pension and Retirement Services; and
- Article 7, Recreation Facilities.

Latent powers of the SSJID include Article 3, Electric Power; Article 5, Flood Control; and Article 6, Sewage Disposal. Latent powers are services that a district is authorized by State law to provide, but are not currently being provided. As discussed in Chapter 4, the District is seeking approval of LAFCo to provide retail electric service in the District. If approved, SSJID would acquire the customers that are currently served by PG&E within the District service area.

**SSJID Government Affiliations**

SSJID is a member of several formal government entities (described below). SSJID is also a member of the San Joaquin River Group Authority (SJRGA) and the San Joaquin County and Delta Water Quality Coalition.

**Tri-Dam Power Authority**

The Tri-Dam Power Authority is governed by a Commission made up of the joint board of directors from SSJID and OID. The Tri-Dam Power Authority is responsible for the Sandbar Project, located on the middle fork of the Stanislaus River. The day-to-day activities of the Tri-Dam Power Authority are managed by a General Manager who reports to the Commission and President of the Authority (i.e., elected member of the Commission). The Commission is
supported by a Secretary of the Commission. The Commission conducts monthly meetings, which are publicly noticed pursuant to State open meeting laws.

The Tri-Dam Power Authority is the result of a Joint Exercise of Powers Agreement entered into by SSJID and OID on October 14, 1982, and is effective through January 1, 2034, or until such time as all of the Authority’s revenue bonds and interest is paid. The agreement established the Tri-Dam Power Authority as a public entity separate from SSJID and OID. It also establishes the Tri-Dam Power Authority Commission and provides the rules and procedures by which the Commission operates. It specifies that SSJID and OID will equally (i.e., 50/50 split) share in the costs and expenses associated with the maintenance and operation of the Authority and the revenues of the Authority. It also states that the debts and liabilities and obligations of the Authority are not the responsibility of either SSJID or OID. The agreement provides for the acquisition, construction, and maintenance and operation of electric generation facilities. It also enables the Authority to enter into electric power sales contracts. Additional information on the Tri-Dam Power Authority can be found at http://www.tridamproject.com/.

**Tri-Dam Project**

The Tri-Dam Project is a joint venture between OID and SSJID dating back to 1948. This joint venture developed, operates, and maintains the Beardsley, Donnells, and Tulloch projects on the Middle Fork of the Stanislaus River in Tuolumne and Calaveras Counties. The two Districts work jointly to provide and maintain the dams, tunnels, penstocks, power houses, communications systems, and general offices. The day-to-day activities of Tri-Dam Project are managed by a General Manager who reports to the two Boards. The Boards of Directors for the two districts meet monthly as the Tri-Dam Project governing body.

The Tri-Dam Project is the result of the 1948 Joint Cooperation Resolution and a Joint Exercise of Powers Agreement entered into by SSJID and OID on December 12, 1991, pursuant to Government Code Section 6502. The Agreement acknowledges the District’s past working relationship and agreements, and establishes rules and procedures by which both Districts follow in jointly operating the Tri-Dam Project, such as meeting quorum rules and voting procedures. Through the Tri-Dam Project SSJID and OID recently (2013) passed a resolution (TDP-2013-01) to establish operating standards for Tri-Dam Project revenues and expenses, reserves, insurance, and district distributions. The resolution states that available Tri-Dam Project revenues will first be used to replenish reserves up to $750,000, then be distributed to SSJID and OID in equal shares.

Additional information on the Tri-Dam Project can be found at http://www.tridamproject.com/.
Eastern San Joaquin Groundwater Basin Authority

SSJID is a member of the Eastern San Joaquin Groundwater Basin Authority (ESJGBA), a Joint Powers Authority (JPA). ESJGBA has existed for several years, but under a slightly different name. The ESJGBA JPA was formed to seek grants for conjunctive use projects. More recently it was reformed for the purpose of monitoring and reporting on groundwater for compliance with SBx7. Members agree to work cooperatively and to speak with one voice in their efforts to achieve reliable, affordable water supplies for the region. Additional information on ESJGBA can be found at [http://www.gbawater.org/](http://www.gbawater.org/).

Association of California Water Agencies Joint Powers Insurance Authority

SSJID is a member of the Association of California Water Agencies Joint Powers Insurance Authority (ACWA JPIA). ACWA JPIA is a partnership of water agencies working together to share the risks associated with purveying water. The risk-sharing pools of the JPIA are a cost-effective form of risk management available only to public entities, allowing them to bypass the high cost of commercial insurance. The insurance provided by this risk-sharing arrangement are unique to water agencies; the water agencies themselves, their directors and managers, have selected and refined this insurance. Not all water agencies are accepted into the JPIA. Prospective members must demonstrate a commitment to effective risk management programs. Additional information on ACWA JPIA can be found at [http://www.acwajpia.com/](http://www.acwajpia.com/).

Risk Management Authority (SDRMA)

SSJID is a member of the Risk Management Authority (SDRMA), a not-for-profit public agency formed under California Government Code Section 6500 that provides risk management programs for California local governments. Additional information on SDRMA can be found at [http://www.sdrmabout.org/](http://www.sdrmabout.org/).

San Joaquin Tributaries Authority (SJTA)

SSJID is a member of San Joaquin Tributaries Authority (SJTA), a JPA formed by the Modesto Irrigation District, Turlock Irrigation District, Oakdale Irrigation District, Merced Irrigation District, South San Joaquin Irrigation District, and the City and County of San Francisco. The stated mission of SJTA is to promote sound, environmentally responsible solutions to water supply management within a framework that recognizes the historic rights of its member agencies and the concerns of ratepayers. Additional information on SJTA can be found at [http://calsmartwater.org/](http://calsmartwater.org/).
**MSR Finding 72**  SSJID is a member of four Joint Powers Authorities and an operating agreement (i.e., Tri-Dam Project agreement between SSJID and OID). These meet specific operational, management, and service needs of SSJID and its customers. As a member of these agencies, SSJID works with other public agencies to manage specific facilities (e.g., Tri-Dam Power Authority, Tri-Dam Project), operate more safely and efficiently (e.g., SDRMA, ACWA JPIA), and protect resources (SJTA). SSJID is obligated to perform under the respective membership agreements of each agency. For JPAs, SSJID is responsible, with its partner agencies that form the JPA, for any actions taken by the JPA or its members. It is expected that SSJID’s continued participation in these organizations will help the District maintain service levels and meet future customer needs.

### 7.2 Government Management and Accountability

**Accountability**

The SSJID Board of Directors operates under established governance protocols. Figure 7-1 shows the SSJID Board of Directors districts. The Board holds regular meetings on the second and fourth Tuesday of each month. The Board also meets jointly with the OID as the Tri-Dam Project Board on the third Thursday of each month. Board members are also ex-officio commissioners of the Tri-Dam Power Authority, which meets immediately after the monthly Tri-Dam Project meetings. District customers ultimately oversee the provision of public services provided by the District since the District is run by an elected Board of Directors that answers to District residents and customers through an electoral process.
MSR Finding 73  SSJID is accountable to its customers, operates in a transparent manner, and provides sufficient opportunities for public input in its activities. SSJID services and facilities are ultimately overseen by District customers who elect the SSJID Board of Directors. The Board operates under established governance protocols.

Management and Operations

Management Plans and Policies

The District maintains Rules and Regulations for control of system facilities, employee conduct, apportionment of water, rotation of water, time limits, continuous use of water, deliveries, control waste of water, access to land, breaks, use of rights-of-way, liability, unlawful acts, and enforcement and modification of rules. The District also has Hazardous Material Management Program (HMMP) and Risk Management Plan (RMP) certifications on file with the San Joaquin County Office of Emergency Services. These certifications verify that SSJID has policies in place for the storage and handling of hazardous materials at SSJID facilities, and that response plans are in place for the potential accidental release of hazardous materials.
Management Structure

Directly under the Board of Directors is a General Manager who is responsible for managing the District’s departments, operations, staff, and administration. SSJID’s Board of Directors is assisted by its General Counsel. SSJID is organized into five departments that oversee different aspects of the District’s operations, facilities, and services. The five departments include: the Financial Department, Engineering Department, Operations/Water Department, Electrical Department, and Water Treatment Plant. Figure 7-2 shows the District organizational structure. SSJID currently (2014) has 89 full-time employees who are responsible for operations and maintenance, construction, billing and collection for irrigation and water utility services, and wholesale power sales. District employees, other than management and confidential employees, including those at Tri-Dam, are represented by the International Brotherhood of Electrical Workers (IBEW) Local 1245.

Management and Operations Facilities

The District maintains its utility operations, including corporation yard, warehouse, administrative, and customer service functions at its headquarters building located on Highway 120 in Manteca. In addition, the District has extensive facilities to support the domestic water program at the Nick C. DeGroot Water Treatment Plant on Dodds Road in the unincorporated Valley Home area of Stanislaus County. The Tri-Dam operations are managed by a separate staff in conjunction with OID in a third facility located in Strawberry, California. SSJID’s main distribution canal is controlled through a centralized, computer-based facility. Its irrigation laterals and drainage system are remotely monitored from the same central facility through an extensive SCADA system. Its employees schedule the delivery of irrigation water to water customers on a regular rotation continuously during the irrigation season. Regular patrolling of its lands and rights-of-way is designed to control the misuse and waste of water; prevent unpermitted use of its lands and rights-of-way; prevent water line breaks; improve service reliability; and enforce its rules and regulations.

Billing Administration

SSJID manages and operates an accounting and billing system using Customer Information System (CIS) software. This system is run out of the District’s central office in Manteca. The CIS software has: improved the accuracy and timely accounting and invoicing of sales and services; enhanced the current utility system accounting, mapping, and management protocols; and integrated the water treatment program within the irrigation enterprise.
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Figure 7-2 SSJID Organizational Structure
Back of Figure
Other Programs

The District allocates funding to its Community Education and Awareness program yearly. Funds are provided to non-profit, tax-exempt organizations operating within the District service area and benefiting SSJID customers. The District receives promotional benefits for its contributions (e.g., educational advertising on canal safety and water and/or energy conservation) or opportunities to distribute SSJID educational materials.

**MSR Finding 74** SSJID has a good track record of managing and operating its irrigation, water treatment, agricultural drainage, and electric generation facilities. The District maintains rules and policies that provide direction for the management of District employees, property, and equipment. Based on past performance, it can be reasonably assumed that SSJID will continue to effectively manage and operate its irrigation, water treatment, and electric generation facilities.

**Capital Facility Maintenance and Improvement Planning**

Local governments and special districts often use Capital Improvement Plans (CIP) to develop financing strategies for capital expenditures and ensure the efficient use of public funds. A CIP is generally a short- to mid-range strategic plan (i.e., 3 to 10 years) that identifies capital projects and equipment purchases, provides a planning schedule, and identifies options for financing the plan. It is usually integrated with a long-range strategic planning and budgeting process, and provides an opportunity for an agency to achieve its strategic and financial goals and objectives. A CIP typically includes:

- A summary of short-, mid-, and long-range strategic goals and objectives;
- A listing of the capital projects or equipment to be purchased ranked in order of preference;
- A plan for financing the projects and a timetable for the construction or completion of the project;
- Justification for the projects and a detailed breakdown of expenses for the project; and
- Provisions for ongoing maintenance and regular reporting of progress.

SSJID does not have a CIP. SSJID does maintain a five-year capital expenditures plan that is updated by Staff and reviewed and approved by the Board each year. The current plan was approved by the SSJID Board on September 24, 2013 (Appendix C: SSJID Five-Year Capital Expenditures Plan). The District’s capital expenditures plan is a list of capital projects and major equipment needs that is used by District staff for facility maintenance, project management, and budgeting. Features of this list include prioritization of identified projects and purchases, identification of costs for projects and equipment, and a schedule of projects for one year and a tentative schedule for future years.

The District’s capital expenditures plan is prepared through a capital asset maintenance and improvement planning process. The plan is updated annually and used as the basis for
programming and financing new projects and equipment based on new information and available financial resources. Every year, senior management staff engages the Board in the capital asset planning process that involves the following steps:

- The previous year’s plan is reviewed and Staff develops a list of priorities and strategic goals based on Board direction. The plan has three expenditure components for: the irrigation system, the Nick C. DeGroot Water Treatment Plant, and for vehicles and equipment.

- A new, comprehensive list of projects is compiled on the basis of a year of inspections. The list has two classes of projects: 1) major repair, maintenance, and replacement projects; and 2) improvement projects.

- The project list is prioritized according to several criteria, such as: urgent maintenance needs and repairs, improvements in operational efficiencies, environmental issues (e.g., groundwater levels), and long-term strategic goals (e.g., water conservation). Generally, repair, maintenance, and replacement projects have higher priority than improvement projects.

- Cost estimates are generated for each project.

- From the highest priority projects on the list, a subset is selected for recommendation to the Board, partly on the basis of financial criteria, for the coming year. The remaining projects are recommended to be tentatively scheduled for future years.

- The Staff recommended project list, schedule, and funding is taken before the Board for review and refinement, before being confirmed and approved by the Board for use in the following year’s operations. The list then becomes an input to the new budget.

- The tentatively scheduled future projects are re-evaluated in the following year’s process.

According to SSJID the strategic planning process is an ongoing, informal process undertaken by District staff. Throughout the year District staff gathers Board direction on various issues and long-term goals, such as future changes in demand for existing services, expected regulatory requirements, water conservation needs and opportunities, and potential operating and financial efficiencies. Strategies and priorities are not developed as part of a formal, public process and they are not adopted or approved by the District Board. The financial aspect of SSJID’s plan is part of the District’s annual budget process and is reflected in the District’s adopted budget.

SSJID’s capital asset maintenance and improvement planning process is similar to the process used to develop a CIP in that it reviews previous accomplishments, identifies and estimates costs for new projects, prioritizes projects for the near term, and schedules unfunded projects for future years. SSJID’s process is also used to inform the District’s annual budgeting process. The Plan does not address how SSJID will ultimately provide service to areas within its SOI.
MSR Finding 75  SSJID has historically operated, maintained, and improved its irrigation water and drainage systems to meet customer demand using its capital expenditures planning process. However, this process does not result in an adopted strategic plan that is the equivalent of a Capital Improvement Plan (CIP). In order to more effectively plan future facility and service needs, especially with the addition of retail electric service, SSJID should prepare a long-range strategic plan (i.e., a CIP) that includes long-term capital improvements for facility maintenance, projects, and purchases. SSJID should prepare the plan through a formal public process and define how SSJID will ultimately serve areas within its SOI. The plan should also be prepared in coordination with an independent peer review engineer or auditor.

Extending Services and Boundaries

When the SSJID annexes property within the SOI, the District provides irrigation water and drainage services to this new area. To the extent feasible, the District’s adopted policies direct it to work with property owners and the County to annex all areas within its SOI to consolidate services, increase efficiencies, and improve infrastructure and service deliveries. The District is expected to extend and expand infrastructure and services logically and efficiently pursuant to the agreements it maintains with its customers. Provision of irrigation water and drainage infrastructure and services by the District within the SOI are not expected to be duplicated or conflict with the provision of infrastructure or services by other providers.

Infrastructure and services that would be provided with annexation would, in most cases, enhance those services currently available. The District’s policy is to require property owners to pay for necessary facilities to serve the annexed property. The District’s adopted policies commit it to providing services and facilities within the SOI upon annexation in a cost-effective manner in conformance with adopted policies, maintenance plans, and service agreements.

Government Management and Accountability with Retail Electric Service

Accountability

PG&E. PG&E Company is an investor-owned utility (IOU) that provides natural gas and electricity to most of the northern two-thirds of California. It is a subsidiary of the PG&E Corporation. As an IOU, PG&E provides a public utility service, but is managed as a private enterprise rather than as a function of a public agency. Shareholders, or investors, are owners of the company. PG&E is managed by a Board of Directors that can range in size from 9 to 17 members. Board members are elected each year by company shareholders and serve one-year terms. Decision-making occurs “in-house” with limited or no public review or input.

PG&E is regulated by the CPUC. The CPUC is responsible for setting most of the regulations that govern PG&E’s business. San Joaquin LAFCo does not have any responsibility for ensuring the provision of adequate and efficient services provided by PG&E or authority over PG&E boundary and service changes. PG&E customers are typically not involved in the decision-
making process related to services or rate setting. CPUC meetings are held in San Francisco. When a rate case or regulatory proceeding is underway, the entire process of cross-examination of witnesses is generally termed a public hearing, but is usually a very technical process. Formal CPUC regulatory proceedings are held under State administrative law rules, and function very much like a courtroom. While an individual may participate without an attorney, requirements of the rules of procedure and evidence must be met.

**MID.** MID is an irrigation district formed and managed similar to SSJID. MID is governed by a Board of Directors. The Board of Directors consists of five members, one from each of five geographical divisions of the district. A Board President and Vice President are selected yearly by the board. Registered voters within each division elect a director for a four-year term of office. MID customers within San Joaquin County are not able to vote in MID elections. Likewise, Stanislaus LAFCo is not responsible for ensuring the provision of adequate and efficient services to areas outside Stanislaus County. Finally, San Joaquin LAFCo does not have the authority to evaluate and make decisions regarding MIDs services and boundaries within San Joaquin County. While MID’s customers from San Joaquin County may attend MID Board meetings, they are not constituents of the MID Board.

**SSJID.** Should San Joaquin LAFCo approve SSJID’s plan to provide retail electric service, the District would continue to operate under its Board of Directors as described above. The addition of retail electric service would likely result in more public participation at Board meetings, but not have a material effect on the governance process. It would provide opportunities for a local voice in resource decisions through community forums, initiative process, and referendum. Electric customers who currently receive service from PG&E do not decide how service is provided or how rates are established. PG&E and its shareholders currently oversee its management and operations, and the CPUC approves PG&E rates. SSJID’s plan would enable its customers to be part of the decision-making process for the provision of service and in setting rates. It is expected that, after implementation of SSJID’s plan to provide retail electricity, the Board’s operations would likely resemble those of MID and TID, both of which provide irrigation and retail electric services.

SSJID would also result in more transparent business practices compared to PG&E. As a public agency, SSJID must hold open meetings consistent with the Brown Act and provide all information and full disclosure of documents consistent with the Public Records Act. As a private enterprise, PG&E is subject to none of these requirements. In addition, SSJID is subject to public bid requirements, providing more opportunities for competitive contractor bidding on all contracted services.

**MSR Finding 76**  SSJID’s plan would improve accountability, transparency, and public involvement in the provision of retail electric service and setting rates. SSJID has an existing Board of Directors that would be accountable to voters within the district who receive retail electric service from SSJID.
Management and Operations

As a wholesale power seller, SSJID has experience in the marketing of electricity. Since 2005 SSJID has negotiated market-based agreements through the Tri-Dam Project. SSJID’s senior management has over 65 years of experience in scheduling, purchasing, and marketing power to meet retail electric loads (SSJID 2009, pp. 1-10, 1-14). SSJID has undertaken projects to develop and construct power projects to serve retail electric load, including: contracting with Lathrop Irrigation District (LID) to assist in the design and initial construction of a retail electric system; developing a demand response program within the City of Manteca in cooperation with BPL Global, LTD; installing 1.378 MW of solar generation facilities to offset peak electric demand at SSJID’s Nick C. DeGroot Water Treatment Plant; and expanding the electric generation capacity at its Tulloch Hydroelectric Project.

The PA Analysis found that SSJID’s plan is operationally feasible in that SSJID has management personnel with experience in operating an electrical distribution system of the size that SSJID has proposed, substantial applicable experience in the operation of its water distribution and treatment facilities, and a generally realistic staffing and resource plan. Over the first full year of retail electric service operations, SSJID expects to adjust its organization based on its actual operational experience, with the goal of optimizing economic and operational efficiencies, improving response time, reducing the number and duration of outages, and improving overall customer service satisfaction. SSJID’s retail electricity plan includes measures and funding to ensure it has sufficient knowledgeable and experienced personnel to provide retail electric service in addition to the services it currently provides.

SSJID plans initially to hire approximately 70 full-time experienced electric utility staff to supplement its existing staff, including an operations manager, two full-time four-person line crews, and three journeymen/troublemen. All work activities required to operate and maintain the electric system and provide related customer services would be performed locally. Additional line personnel required for start-up operations would be hired on a contract basis as needed. SSJID may contract with MID for specific support service during the initial start-up period. SSJID currently has six employees in its customer service and finance department. Administrative functions related to the provision of retail electric service (e.g., accounting, human relations) would be handled at SSJID’s Manteca office. SSJID may also contract with MID for specific support services during the initial start-up period. SSJID has joined the California Utilities Emergency Association (CUEA), whose members would provide mutual assistance during periods of emergency.

For its expansion into retail electricity service, SSJID would use its automated metering technology to provide for accurate and timeliness in the accounting of, and billing for, all the District’s services. SSJID has new accounting software that would be compatible with automated metering technology now being installed by PG&E. Prior to securing title to PG&E’s electricity
facilities, SSJID plans to coordinate with PG&E to exchange customer specific billing and metering data and to transfer system maps.

**MSR Finding 77** SSJID's plan is operationally feasible in that SSJID has management personnel with experience in operating an electrical distribution system of the size that SSJID has proposed, substantial applicable experience in the operation of its water distribution and treatment facilities, and a generally realistic staffing and resource plan. Based on an evaluation of SSJID’s plan, PA Consulting Group concluded that SSJID has the necessary resources and staffing levels to operate in a cost-efficient and professional manner.

**Safety Service Standards**

The CPUC oversees the safety of the state’s electric utilities and other utility services. The standards and procedures that apply to distribution operations (below 69,000 kV generally) of the electric investor-owned utilities (e.g., PG&E), include: Reliability Standards Emergency Standards, Electric Emergency Action Plan, and Inspection Standards.

For the electric safety programs of the State’s investor-owned utilities, the CPUC ensures that systems are designed, constructed, operated, and maintained according to safety standards set by the CPUC and the Federal government. The CPUC enforces safety regulations, inspects utility work, and makes necessary additions and changes to regulations for promoting the safety of the public and the utility employees. State and Federal regulators are responsible for ensuring that materials operators have risk management programs in place, that those programs are designed in conformance with State and Federal laws, that the programs are effective in achieving safety for the public and the employees of the operator, and that the entire system of achieving safety continues to improve itself. The CPUC conducts compliance inspections and accident investigations, reviews utilities’ reports and records, conducts construction inspections, conducts special studies, and takes action in response to complaints and inquiries from the public on issues regarding gas pipeline and electric safety.

The CPUC investigates alleged violations of the Public Utilities Code, CPUC regulations, and other California statutes. CPUC staff ensures that the entities they regulate have systems in place to ensure safety and compliance with the law, that those systems are implemented effectively, and that the safety of the public and utility employees is continuously monitored and improved. CPUC staff conduct investigations when accidents occur, consumers are victimized, and/or when violations of laws and rules identify problematic trends, and then recommend prosecution and/or rule improvements when the facts of the case warrant either or both actions.

SSJID proposes to provide the same primary services to all retail electric customer classes (residential, commercial, industrial, and agricultural) currently provided by PG&E. SSJID will participate in the Western Electricity Coordinating Council (WECC) and North American Electric Reliability Corporation (NERC) to assure coordinated system planning and compliance. For emergency operations the SSJID has joined the California Utilities Emergency Association (CUEA), whose members would provide mutual assistance during periods of emergency.
On occasion the CPUC inspectors monitor a small sample of a publicly-owned utility’s distribution and service facilities. Most inspections consist of looking for pole spacing infractions on jointly-owned poles or electrical conductor height infractions (wires sagging too low). The California Division of Occupational Safety and Health (CAL-OSHA) inspects for safety infractions in case of electrical safety accidents or if it has been advised of an infraction by an employee or third party.

SSJID plans to develop and maintain cooperative agreements with other service providers for emergency services. Ultimately, SSJID will control its own operations and not be held to the same standards as PG&E. SSJID’s customers will have direct access to the SSJID Board of Directors, and to a claims process established by the California Government Code.

**MSR Finding 78** As a public utility SSJID is not subject to the same service and emergency response requirements as an investor-owned utility (e.g., PG&E), nor will SSJID be subject to the same penalties for failures. However, based on SSJID’s proposed plan, it is reasonable to conclude that SSJID would meet the service level standards necessary to provide adequate retail electric service and address emergency situations, should they arise. SSJID’s customers would also have access to a claims process established by the California Government Code.

**Capital Facility Maintenance and Improvement Planning**

If SSJID’s plan to provide retail electricity is approved by LAFCo, the District’s services will be expanded, its facility maintenance and improvement requirements will increase, and its finances will become more complex. SSJID has not yet incorporated into its capital expenditures plan any of the likely infrastructure improvements and operation and maintenance costs that will be required as the District implements its retail electric plan and begins providing electricity service.

Until LAFCo approves the retail electric plan, SSJID acquires PG&E’s system, and the District resolves the border area service issues (i.e., agreements or underbuilds), SSJID cannot accurately reflect the true capital costs of retail electric service in its capital expenditures plan. SSJID has indicated that recent and ongoing PG&E capital improvement projects within the district make it difficult to conduct a facility inventory. SSJID will need an updated inventory of PG&E’s facilities, provided by PG&E, and its own facilities and a current assessment of all its facilities in order to provide information on which to base future capital expenditures for operation and maintenance.

It is likely that as PG&E makes system improvements, SSJID’s capital costs for maintenance and improvements will decrease; however, the cost to acquire the system will increase. For planning purposes, this SOI Plan/MSR analyzes a range of costs SSJID could pay for PG&E’s system.

**MSR Finding 79** SSJID has stated that it will continue to use its current capital asset maintenance and improvement planning process with the addition of the retail electricity service. However, because SSJID does not maintain an adopted CIP or equivalent document, and the retail electric plan has not been incorporated into the District’s capital expenditures plan, it is
difficult to evaluate and determine the long-term effects of retail electricity service on District ability to identify, plan, prioritize, and fund necessary facility improvements for existing plus new services. It would be extremely difficult, if even possible, for SSJID to prepare a comprehensive CIP that considers its retail electric plan prior to San Joaquin LAFCo’s approval of SSJID’s plan because PG&E will not provide details concerning its system and because parts of SSJID’s plan could be the subject of LAFCo conditions (e.g., border area alternative), which would change SSJID’s plan. At this time there is insufficient information available to determine whether San Joaquin LAFCo has the authority to impose a condition on SSJID's plan requiring SSJID to prepare a CIP.

**Headquarters Improvements**

SSJID’s current headquarters are near capacity. SSJID expects to rent existing commercial property or rely on existing contractor yards as a base for electric utility staff and equipment storage. Initially, administrative functions related to the provision of retail electric service (e.g., accounting, human relations) will be performed at SSJID's Manteca office. Administrative functions for the provision of retail electricity service (e.g., accounting, human relations) would be handled at rented facilities as needed and at SSJID’s existing Manteca Office.

SSJID is currently (2013) exploring the feasibility of constructing a new District headquarters facility. SSJID has identified a potential location for its future headquarters. The SSJID Board of Directors authorized purchase of approximately 31.4 acres at the northeast corner of E. Louise Avenue and Austin Road, east of Manteca as a possible location for SSJID’s new headquarters. SSJID may explore other potential locations as well. The future headquarters would likely include office buildings, a warehouse, storage yards, truck parking, fueling station, vehicle storage, and parking on about 20 acres. A total of approximately 160 workers would eventually be based at the new headquarters.

The new headquarters would likely include office buildings, a warehouse, storage yards, truck parking, fueling station, vehicle storage, and parking on about 20 acres. The headquarters would house existing SSJID personnel and personnel required for the proposed retail electric plan. A new headquarters for SSJID is not part of SSJID’s plan; SSJID has not committed to building any new headquarters. However, it is possible that the approval and implementation of the retail electric service plan would increase the potential for SSJID to build such a facility as one strategy for accommodating the additional employees and services.

**MSR Finding 80** SSJID’s existing headquarters is near capacity and the addition of the retail electric service will require the District to rent additional space, expand its existing facilities, or construct a new headquarters. At this time, a new headquarters is not part of SSJID’s plan. SSJID will rent space to accommodate the additional employees and services required to provide retail electric service.
7.3 Optional Government Structures

SSJID, the cities of Escalon, Manteca, and Ripon, San Joaquin County, and investor-owned and publicly-owned utility companies (e.g., SSJID, PG&E, MID) provide water, drainage, and electricity services and infrastructure within the SSJID service area and SOI. Expansion of urban development within the SOI is dependent upon the extension of infrastructure and provision of services from an incorporated city, County of San Joaquin, or other service providers. The following section describes government structure options for providing water, drainage, and retail electricity services within the District’s service area and SOI.

Water Service Options

SSJID is currently authorized to provide water service to areas within its service area. SSJID provides water service effectively and efficiently. Creating a new district to provide irrigation water service within SSJID’s service area would not improve service. However, there are optional government structures for the provision of water service that should be considered for areas within the District’s SOI, but outside its service area.

Reorganization for Water Service Option 1

SSJID’s existing SOI could be modified to transfer a part of its SOI to another district for water service. Within SSJID’s SOI, but outside the District service area, there is a 7,800-acre rural area that is actively farmed (see SOI Plan, Figure 2-3, Area “B”). The area is currently not served by a water district and properties rely on groundwater wells for irrigation and, at some times during the year, receive pass-through water (i.e., unused SSJID and OID water) from Lone Tree Creek on its way to drain into the San Joaquin River.

There are two water districts located to the north of SSJID’s service area: the SEWD and CSJWCD. In conjunction with the North San Joaquin Water Conservation District (NSJWCD), SEWD and CSJWCD joined together to form a joint powers agency, the Eastern Water Alliance (Alliance), to jointly pursue their mission of managing, preserving, and replenishing the Eastern San Joaquin County groundwater basin underlying all three districts. The goal for all three districts is to annex land within San Joaquin County to ensure that all landowners within the basin are part of the solution to the groundwater basin’s problems.

In 2008 the SEWD adopted resolution (SEWD Resolution 07-08-08) and submitted an application to LAFCo for an SOI amendment and annexation to include, among other areas, Area “B” within its service area and SOI. In its application to LAFCo, SEWD proposed to provide irrigation water service to the area through groundwater recharge and through existing natural watercourses. SEWD did not propose to extend conveyance facilities to serve the area with surface water. Properties would continue to primarily receive water through groundwater pumping. But, by placing Area “B” within SEWD’s service area, property owners would be required to pay annual groundwater assessments.
In its application SEWD stated its reasons for the reorganization ensuring that: 1) lands receiving benefits from SEWD operations are included within its boundaries; and 2) all property within San Joaquin County is represented by a water conservation district. On June 15, 2012, San Joaquin LAFCo adopted an SOI Plan/MSR for water conservation districts in San Joaquin County (i.e., North San Joaquin Water Conservation District, SEWD, and CSJWCD).

CSJWCD has also expressed interest in providing water service to Area-B. CSJWCD abuts Area-B along its southern boundary. The South Little Johns Creek natural streambed and the Avena Drain could be used by CSJWCD to deliver water to Area-B. Water customers would likely operate and pump their own water, similar to CSJWCD’s other customers. By placing Area-B within CSJWCD’s service area, property owners would be required to pay annual groundwater assessments and property taxes. However, CSJWCD does not have plans to provide water service to “Area B,” and, like SEWD, would need to prepare an MSR to evaluate its ability to provide service prior to pursuing such action.

By removing Area-B from SSJID’s SOI and placing it within SEWD’s SOI and service area, future irrigation service would not be significantly improved compared to current service levels. SEWD is not proposing to expand its facilities and properties in the area; property owners would continue to pump groundwater. Alternatively, LAFCo could place Area-B within CSJWCD’s SOI and service area. It is expected that there could be an improvement in irrigation water delivery services, and corresponding improvement in groundwater levels, if lands within Area-B were provided with surface water from CSJWCD’s delivery system (i.e., South Little Johns Creek natural streambed). However, in order to serve all property within Area-B additional delivery system improvements (e.g., canal extensions, pumping stations) would be needed.

In an October 1, 2008, letter to LAFCo, SSJID stated that it is opposed to SEWD’s application to annex Area-B, and would likely be opposed to CSJWCD efforts to annex the area. In its letter SSJID agreed to notify property owners that the District is willing to annex their property provided they agree to pay for system improvements necessary to provide service. If served by SSJID, the landowners’ right to receive water from SSJID would be subject to rights of existing irrigation and urban water customers in the event of water shortages and to the limitations of the District’s water rights. SSJID already provides irrigation water and drainage services to areas adjacent to the area.

Placing this area in any of the three districts would result in an improvement in service levels and groundwater recharge potential. However, SSJID would be more likely to provide better irrigation water service at a lower cost to customers compared with either SEWD or CSJWCD, because SSJID would have shorter facility extensions compared to SEWD or CSJWCD. In order to serve Area-B, SSJID would need to extend or construct irrigation and drainage lines and canals, and impose conditions to allocate water supplies.

In addition, unlike CSJWCD’s almost exclusive reliance on natural streambeds, SSJID’s water delivery facilities could use both natural waterways and constructed canals and pipelines...
(including pressurized pipelines) to deliver surface water. LAFCo does not have the authority to change this boundary without a formal change of boundary request from SSJID, SEWD, and/or CSJWCD, or a petition for change of boundary from property owners in the affected area. The selected district would need to work with property owners to annex lands into the district service area.

**MSR Finding 81** SSJID’s SOI could be modified to place Area-B within SEWD or CSJCWD; however, neither of these districts could provide a more efficient or cost-effective alternative to SSJID annexing and serving the area. SEWD is not located adjacent to the area and has no plans to extend services to the area. SSJID could potentially provide more cost-effective service because the District’s finances allow it to subsidize irrigation water costs, a savings that could be extended to customers in both areas.

**Reorganization for Water Service Option 2**

CSJWCD’s boundary could be modified to remove the part of its service area that currently overlaps with SSJID’s SOI. Within SSJID’s SOI, but outside the District service area, there is an 850-acre rural area that is actively farmed (see SOI Plan, Figure 2-3, Area-C). While the area is within CSJWCD’s service area, it is not currently served by any water conveyance facilities, and properties rely on groundwater pumped through individual wells. With SSJID identified as the only service provider, the District could work with property owners to annex the area into its service area and provide service.

CSJWCD relies on natural streambeds and limited connecting canals to supply water to its customers. CSJWCD does not have access to any natural streambeds that could readily be used to deliver water to Area-C. Due to the geography and hydrology of Area-C in relation to CSJWCD’s distribution system (i.e., natural streambeds), CSJWCD would need to construct and maintain distribution facilities to provide water service to Area-C. In order for CSJWCD to provide necessary conveyance facilities to serve the area, significant improvements would be necessary that would likely be paid for by property owners.

Based on SSJID’s current policies, property owners would need to fund the necessary improvements to extend water conveyance facilities. SSJID, however, already has conveyance facilities operating adjacent to the area. Extending these lines could be less costly to property owners in the area and not require support from properties outside the area. If served by SSJID, the landowners’ right to receive water from SSJID would be subject to rights of existing irrigation and urban water customers in the event of water shortages and to the limitations of the District’s water rights.

By removing this area from CSJWCD, it is expected that future irrigation water service could be improved and additional services could be provided to properties in the area. In addition, there could also be improvements to groundwater levels. SSJID currently provides surface water to properties on three sides of this area and, as the irrigation water service provider, could
potentially extend surface water conveyance facilities to properties in the area. Furthermore, as a multipurpose district, SSJID has the authority to provide additional services (e.g., drainage, electricity) that could not be provided by CSJWCD.

LAFCo does not have the authority to change these boundaries without a formal change of boundary request from both SSJID and CSJWCD or a petition for change of boundary from property owners in the affected area. If a boundary change was approved by LAFCo, SSJID would need to work with property owners to annex lands into the District service area. It should be noted that CSJWCD relies on fees collected on all property within its boundaries. If Area C was removed from CSJWCD’s service area, it would lose revenue that CSJWCD has stated is critical to meeting its debt financing obligations.

**MSR Finding 82** CSJWCD’s boundary could be modified to eliminate an overlap with SSJID’s SOI (see Area-C). Since CSJWCD does not provide any service to the affected area, this option would enable SSJID to annex and extend existing adjacent infrastructure to serve the area. In both cases SSJID could potentially provide more cost-effective service because the District’s finances allow it to subsidize irrigation water costs, a savings that could be extended to customers in both areas. Removal of Area-C from CSJWCD would eliminate revenue from properties in the area that CSJWCD has stated is critical to meeting its debt financing obligations.

**Consolidation of Water Service Agencies Option**

SSJID and CSJWCD could be consolidated to form one special district. LAFCo has authority to consolidate districts if it finds that consolidation would result in substantially more cost-effective service and public access and accountability for community services needs and financial resources would be improved. SSJID and CSJWCD do not wish to be consolidated.

If LAFCo decided to consolidate SSJID and CSJWCD, there are two alternative structures that could be used to deliver water to customers: 1) combine operations, connect the two systems, and deliver water from the two sources to areas based on need; or 2) operate the two systems independently under one service district.

Combining the two systems would not likely result in more cost-effective or efficient services and would require considerable up-front improvements. While lands within CSJWCD could benefit by receiving water from SSJID, both districts lack the water delivery infrastructure that would be necessary to move water between them. Extensive upgrades would be needed to connect the systems.

SSJID’s distribution canals and laterals were designed to transport enough water to meet the needs of land within SSJID during peak months. During peak months there is little surplus capacity to deliver additional water on a regular basis to all areas within CSJWCD. Even if the two systems were connected and SSJID’s main canal and water could be carried by gravity north to CSJWCD, the current surface water delivery facilities in CSJWCD would limit the ability of SSJID to deliver the water to customers in CSJWCD’s area.
SSJID has enough water to meet projected demands within its SOI, but not enough to meet CSJWCD’s average shortfall. Furthermore, “mixing” the two district’s water could result in issues with CSJWCD’s existing Bureau of Reclamation water supply contract, which is predicated on delivering water to areas within CSJWCD’s existing boundaries.

Operating the two systems independently under one district would not result in more cost-effective service, or improve service for CSJWCD customers. As stated above, CSJWCD currently lacks the water supplies and infrastructure to deliver water to all areas within its boundaries and, even if CSJWCD’s water delivery system was expanded to reach all areas, it still lacks adequate water supplies to meet all its water demands.

While there could be some economy of scale for CSWJCD customers resulting from consolidating the two districts, SSJID’s current customers would likely end up paying more (i.e., subsidizing CSJCWC customers). SSJID charges its customers an annual water charge to help pay the costs of operating and maintaining its irrigation system. The rates are supplemented by Tri-Dam revenue, which also provides the SSJID with sufficient financial reserves to undertake infrastructure enhancements to maintain and improve services for customers within its service area. CSJWCD has no such supplemental revenue, and charges its customers just enough to cover operating and maintaining its irrigation system and outstanding debt service. SSJID would probably not be able to continue supplementing water charges and operate, maintain, and serve both areas. If SSJID used its revenues to operate CSJWCD’s system, SSJID’s existing customers would likely pay higher fees for services. Fees for customers in both districts could increase further if additional funding was necessary to improve water distribution facilities currently within CSJWCD’s service area to a level consistent with SSJID’s service standards; in effect, SSJID’s current customers would pay part of the cost to improve the system that only serves CSJWCD.

Alternatively, the two areas could maintain separate rate structures and have customers pay for service, operations, and maintenance based on the revenues and expenditures from each geographic location. However, this would not result in any improvement in the delivery of or cost for service for CSJWCD as it would continue the status quo.

**MSR Finding 83** Consolidating SSJID with CSJCWD and either connecting the two systems or operating them separately under one district is not a more efficient or effective alternative government structure. CSJWCD’s water delivery system is inadequate to meet its existing service demands and its water supplies are insufficient to meet irrigation water demands. SSJID’s infrastructure and water supplies are sufficient to meet its existing customer demands; however, its water supplies are expected to only be adequate to meet long-term demand within its service area and SOI. Consolidating the two districts could solve CSJWCD’s infrastructure needs, but not address its water supply deficiencies. Consolidation would also likely result in SSJID and/or CSJWCD customers paying higher fees to make necessary improvements and secure adequate water to meet CSJWCD’s water demands.
Drainage Service Options

SSJID is authorized to provide drainage service to areas within its service area. SSJID provides agricultural drainage service effectively and efficiently. There are no other service providers within or near the District service area that could be consolidated or merged to provide more effective or efficient drainage services to areas within the District and SOI. Furthermore, it is unlikely that creating a new district to provide drainage would improve service.

**MSR Finding 84** There are no alternative government options to provide irrigation drainage service within SSJID’s service area. SSJID provides sufficient irrigation drainage service and it is unlikely that creating a new district to provide drainage would improve service.

Retail Electric Service Options

PG&E and MID are currently authorized to provide retail electric service to areas within SSJID’s service area and SOI. If the existing arrangement were to continue, PG&E and MID would continue to provide electricity, continue to sponsor their existing public purpose programs for reducing per capita electricity use, and continue existing trends on power purchases and existing efforts to comply with Renewable Portfolio Standards. It is expected that PG&E and MID could adequately meet existing and future demands.

Change of Organization to Provide Retail Electricity Service Option

As an optional structure, SSJID could replace PG&E as the retail electricity service provider within the SSJID service area, as described in SSJID’s pending application to LAFCo. MID would continue to serve areas it is authorized to under State law, and PG&E would continue to provide natural gas service.

SSJID has conducted extensive studies evaluating its potential to provide retail electricity service. Based on the results of its studies, SSJID is petitioning LAFCo for a change in organization to provide retail electricity services to areas within its service area currently served by PG&E. SSJID believes that the District can provide customers with more reliable service at lower rates compared to the services currently provided by PG&E. Under this option, for areas within the District service area, SSJID and MID would provide electricity, sponsor public purpose programs for reducing per capita electricity use, and purchase power in compliance with Renewable Portfolio Standards. PG&E and MID would do the same for areas within the SOI, but outside the District service area.

It is expected that SSJID, PG&E, and MID would adequately meet existing and future demands within the District service area and SOI. Permitting SSJID to provide retail electricity service instead of PG&E for areas within SSJID’s service area would not reduce the number of electric service providers. MID service in SSJID’s SOI offers a choice of service for customers from MID or PG&E. The three retail electric service providers would serve the following areas:
1. Within parts of SSJID’s service area, SSJID would be the sole retail electricity service provider;
2. Within parts of SSJID’s service area, SSJID and MID would compete to provide retail electric service;
3. Within parts of the SSJID SOI, but outside SSJID’s service area, PG&E would be the sole retail electricity service provider; and
4. Within parts of the SSJID SOI, but outside SSJID’s service area, PG&E and MID would compete to provide retail electric service.

**MSR Finding 85** The SSJID retail electric service plan is a feasible alternative to the existing retail electricity service structure. The SOI Plan/MSR provides determinations on the feasibility of the SSJID Plan and its likely or potential impacts and benefits. Ultimately, San Joaquin LAFCo will determine the merits of SSJID’s plan when it decides on SSJID’s application to provide retail electric service.

**Eliminate Unconventional Service Area Option**
State law authorizes MID to provide retail electricity in San Joaquin County. LAFCo alone cannot consolidate MID’s service area into a more efficient, conventional boundary. Removal of the competition zone would require action by the State Legislature to change current law that establishes MID’s electricity service area. SSJID and/or PG&E would need to sever MID distribution lines and MID would need to be compensated for its electricity distribution facilities. The effect on MID and its existing customers would likely make this option impractical.

**MSR Finding 86** Eliminating MID as an electricity provider within San Joaquin County is not a feasible alternative government structure. MID’s electric service within San Joaquin County does represent an illogical government structure that results in overlapping service providers and unrepresented customers. However, in order to remedy this situation, State law would need to be amended and MID would need to be compensated for their electric distribution facilities, which could negatively affect MID’s customers (e.g., they would pay higher rates under PG&E).

**Community Choice Aggregation Option**
Community Choice Aggregation (CCA) can be implemented by municipalities and public agencies possessing statutory authority to generate and deliver retail electricity, subject to limitations in the Public Utilities Code Sections 331.1 and 366.2. Prospective CCA entities must work with the CPUC and may not aggregate electrical load if that load is served by a local publicly-owned electric utility. The program was enabled by Assembly Bill 117 in 2002, and regulations were finalized in December 2005 and modified effective January 1, 2012, by Senate Bill 790. The program permits entities to purchase and sell electricity on behalf of utility customers in their jurisdictions after they have registered with the CPUC as “Community Choice Aggregators,” which involves executing a service agreement with the serving utility (i.e., PG&E).
and evidence of financing. Entering into this program can provide communities with incentive to advocate for new power plants or develop distributed generation or renewable energy supplies on their own. Senate Bill 790 (2012, Leno), amended Public Utilities Code Sections 331.1 and 366.2. One of the major changes that the bill made was to expand the definition of CCAs to permit irrigation districts to become a CCA.

In order to become a CCA SSJID would need to pass a resolution stating its intention to become a CCA and then work with the CPUC to become registered as a CCA. SSJID would also need to execute a service agreement with PG&E and provide evidence of sufficient financing to carry out the service. SSJID would then likely need to promote adoption of the necessary resolutions by the communities it serves (i.e., San Joaquin County and the cities of Escalon, Manteca, and Ripon). Upon passage of separate resolutions by the County and cities, SSJID would be able to purchase and sell electricity on behalf of electric customers within its jurisdiction. Under a CCA program, PG&E would continue to own and maintain the facilities for serving retail end-users, and SSJID would not acquire PG&E's electric distribution facilities. CPUC oversight would continue to dictate how the electric distribution system is operated, maintained, and/or expanded.

CCA would provide customers opportunity to choose the type of electricity they use (e.g., electricity from renewable sources) through SSJID. The CCA would replace PG&E’s rates for procurement of the power supply, but all other electricity rate components unrelated to purchasing generation would remain set by PG&E. PG&E would continue to meter and deliver electricity to the end-user, respond to customer service concerns, and send monthly bills. In implementing a CCA program, SSJID could decide to apply its revenues from publicly-owned electric generating facilities to subsidize the cost of the power supply and reduce this portion of electric rates. Although this alternative could enable cost reductions for customers that choose to participate in the CCA program, it would not reduce electric rates for non-participating customers.

CCA would expand the number of entities involved in the provision of electricity service within SSJID’s territory to include PG&E, MID, and SSJID. San Joaquin LAFCo’s legal counsel has opined that as a CCA, SSJID would not be able to service the loads of MID customers who received MID service prior to 2003 and MID would continue to compete with PG&E, and now SSJID, to provide service. Unlike SSJID’s proposed retail electric plan where PG&E would be replaced by SSJID, CCA would result in a customer having three potential service providers. A customer could continue to be fully served by PG&E, have loads served through a CCA and service provided by PG&E, or be fully served by MID. It should be noted, also, that if SSJID’s becomes the retail electricity service provider (i.e., a local public utility) no future CCA would be able to be formed in areas served by SSJID.

CCA Benefits

Establishing a CCA in lieu of SSJID’s plan would avoid SSJID’s proposed construction of the distribution system facilities for separation. No acquisition, severance, or construction would be
required for establishing a CCA. SSJID could be the CCA, or a new public agency, such as a joint powers authority, could be formed for the express purpose of implementing a new community choice aggregation program. Under a CCA program PG&E would continue to own and maintain the facilities for serving retail end-users.

Under CCA, customers of PG&E’s retail electric service could choose to have PG&E purchase power on their behalf. For customers that do not make this choice, the CCA would gain responsibility and accountability for procuring power supplies, while PG&E would continue to provide distribution service. SSJID could allocate its hydroelectric power supplies or revenues to the CCA, subject to the limitations on SSJID’s ability to allocate those resources that are described in Chapter 5.

Implementing a CCA would give local individual customers the option of having their power supply determined by the CCA, or customers could opt out and leave the power supply decisions to PG&E. The CCA would replace PG&E’s rates for procurement of the power supply (purchasing generation), but all other electricity rate components would remain set by PG&E. PG&E would continue to meter and deliver electricity to the end-user, respond to customer service concerns, and send monthly bills.

Under a CCA program SSJID could decide to apply its revenues from publicly-owned electric generating facilities to subsidize the cost of the power supply and reduce this portion of electric rates. Customers that opt out of the CCA program would not receive these potential benefits. Although CCAs could lead to cost reductions that could be passed on to customers, it would not directly reduce electric rates in the SSJID service area or the cost of acquiring electric supply. Customers that choose to participate in the CCA could benefit from cost reductions, but it would not reduce electric rates for non-participating customers.

The EIR prepared for SSJID’s plan and this SOI Plan/MSR found that CCA is feasible and is an environmentally superior alternative to SSJID’s plan. Customers within the CCA would gain responsibility and accountability for procuring power supplies, while PG&E would continue to provide distribution service. It also found that nearly all of SSJID’s project objectives for its retail electric service plan could be achieved through CCA. PG&E would retain ownership of the distribution facilities and would operate the facilities as they are today. The CCA program addresses only the generation aspect of electric services by aggregating the load of customers that choose to participate. It does not change the ownership or operator of the electric distribution services.

Implementing CCA would provide customers the choice to have the CCA purchase power on their behalf. To the extent that customers chose additional renewable energy, this alternative could reduce the use of non-renewable energy resources. CCA would avoid environmental impacts associated with SSJID’s proposed construction of new distribution system facilities or separation. It would avoid potential impacts to public health and safety resulting from
construction of new overhead and underground distribution lines, use, handling, or disposal of hazardous materials or waste, multiple utilities sharing a single pole and responding to line failures or needs to de-energize affected lines, and changes in emergency response practices or exposure to electrocution hazards or fire hazards related to accidental pole or line damage. It also would avoid any potential change in electric system reliability or the quality of service. Finally, CCA would avoid economic impacts associated with lost, or potentially lost, taxes and franchise fees, and eliminate the need for SSJID to incur debt to purchase and separate the electric system.

**Potential Issues and Challenges**

SSJID has indicated that it has no interest in pursuing CCA. SSJID has stated that its plan for long-term investment is to acquire, own, and operate the electric distribution system in its service area in order to provide full retail electric service. SSJID believes that over time, the ownership of electric distribution assets will pay dividends to SSJID customers through lower electricity rates. Rather than making SSJID owner and operator of retail distribution services within its service area, CCA would shift responsibility for ongoing power purchases from PG&E to local public agency officials. Under CCA SSJID’s revenues would be spent primarily on ongoing expenditures for purchased power.

CCAs would only partially transfer responsibility and accountability for local electric resource policies and practices from PG&E to locally elected officials. Because PG&E would continue to own and maintain the electric distribution facilities, a CCA program would not allow SSJID to increase local influence over and accessibility to customer service. CCAs address only the generation aspect of electric services. They do not give local customers or public agencies any control of electric distribution services, which may influence reliability, nor do they give any local control over other aspects of delivering electricity, such as customer service, public safety policies and practices, and/or vegetation management.

Jurisdictional boundaries do affect the viability of this option. A CCA may only aggregate the loads of customers within cities or counties within or contiguous to its jurisdiction that have requested by resolution implementation of the CCA program. While SSJID would only need to pass a resolution stating its plan to become a CCA, statutory requirements would necessitate separate resolutions by San Joaquin County and by the cities in SSJID’s service area in independent decisions by each jurisdiction, not by SSJID. If one or more jurisdictions did not support the CCA program, customers within that jurisdiction would not be able to access the potential benefits of the CCA program. They would remain customers of PG&E.

Authorizing SSJID to provide CCA service would not remove PG&E or MID as service providers within part or all of SSJID’s service area and, as a result, would create a circumstance where all three separate entities provide retail electric service in some form. Customers would have the opportunity to opt out. If a customer decided to opt out, then the customer would have the right to continue being served by the existing electric provider (e.g., MID or PG&E). Furthermore, the customer at any point could decide to change from CCA to non-CCA. While a
CCA is authorized to aggregate the electrical load, it may not do so if the electrical load is served by a local publicly-owned electric utility (e.g., MID). If SSJID, as a CCA, had an interested electricity customer that wanted to aggregate his or her load, SSJID wouldn't be able to do so if the customer is served by MID.

SSJID and PG&E disagree on whether CCA is a financially feasible alternative to SSJID’s plan. SSJID’s consultants have indicated that CCA is not financially feasible, would not achieve SSJID’s objective to provide electricity at a discount, and would result in SSJID quickly depleting its reserves if customers are to receive the same financial benefit as proposed in the District’s plan to provide retail electric service. PG&E has stated that SSJID’s financial assessment of CCA is flawed. At this time, there is insufficient evidence available to assess the financial feasibility of SSJID as a CCA. The EIR concluded a more comprehensive financial review is needed but the plan appears to be feasible for CEQA purposes.

**MSR Finding 87** As an irrigation district, State law allows SSJID to become a Community Choice Aggregator. At this time SSJID has indicated that it has no interest in pursuing a Community Choice Aggregation (CCA). Under SSJID proposed retail electric plan the CCA program would no longer be available to other jurisdictions within the SSJID territory. Another agency with the authority to become a CCA would not be able to do so.

CCA is a feasible alternative to the SSJID Plan to provide retail electric service. CCA would be an environmentally superior alternative to the SSJID Plan, because it would not require any new construction or separation of facilities. It would also maintain existing PG&E programs and services, provide customers with a choice in energy providers, and eliminate the need for SSJID to incur debt. As an alternative to SSJID’s Plan, San Joaquin LAFCo could find CCA to be the environmentally superior alternative to SSJID’s plan. San Joaquin LAFCo could adopt the SOI Plan/MSR, the proposed SOI expansion, and the proposed 80-acre island, but reject SSJID’s proposal to expand its existing services to provide retail electric service. Because a CCA program is not part of SSJID’s application, San Joaquin LAFCo could not require SSJID to become a CCA.

While CCA has been found to be a viable and environmentally superior alternative to SSJID’s plan, it’s implementation is not without challenges. First, SSJID has stated that it has no interest in pursuing CCA. Selection of CCA as a preferred alternative to SSJID’s plan by San Joaquin LAFCo would not compel SSJID to become a CCA. Second, in order to implement CCA SSJID would need to provide evidence that it has sufficient financing to carry out the program. There is disagreement between SSJID and PG&E as to the financial feasibility of SSJID as a CCA. Third, SSJID would need to enter into a service agreement with PG&E. PG&E has a history of opposing CCAs in other parts of the state (e.g., San Joaquin Valley Power Authority). And, in 2007 public statements by PG&E indicated its intent to view CCAs as competitors and actively campaign against them. Fourth, San Joaquin County or the cities of Escalon, Manteca, and Ripon would have to pass separate resolutions in support of a CCA program. Any one of the jurisdictions could choose to not support a CCA program and customers in parts of SSJID’s
territory where a resolution was not passed would not have access to the program. Finally, CCA could exacerbate an already complex system of services providers. MID would continue to compete with PG&E within part of SSJID’s territory and with SSJID as a CCA, some customers would be able to choose to receive full or partial service from PG&E, MID, or SSJID, while others would not.

**Renewable Energy Choice**

The EIR prepared for SSJID’s plan to provide retail electricity service and this SOI Plan/MSR evaluated an alternative to SSJID’s plan titled Renewable Energy Choice. This Alternative would retain the proposed project and all the components of the plan to provide retail electricity service, it would attain all the objectives of the proposed project, but it would provide the option to SSJID customers to pay a premium for renewable energy in order to achieve GHG emission reductions similar to those provided under the PG&E “ClimateSmart” program.

This Alternative would not necessarily reduce electric rates and the cost of electric service in the area for all customers, but it would increase the costs incurred by SSJID in implementing the retail electric service plan because SSJID would need to administer the program, promote the program, track customer participation in the program, and conduct additional recordkeeping to ensure sufficient procurement of renewable energy. The Renewable Energy Choice Alternative would use the same physical infrastructure as the proposed project, but the alternative would change the supply of energy procured for the SSJID service area. As such, the majority of the impacts detailed for the proposed project would not change with the inclusion of the Renewable Energy Choice Alternative.

**MSR Finding 88** The Renewable Energy Choice Alternative is not an optional governmental structure to SSJID’s plan; SSJID’s proposed plan would, for the most part, remain intact. It is an alternative to the programs SSJID would offer as part of its public benefits programs, would change the way SSJID bills its customers, would allow customers to choose to pay higher rates to purchase renewable energy and, to the extent customers participated in the program, increase the amount of renewable energy supplied to SSJID customers and support the development of more facilities that generate renewable energy. If San Joaquin LAFCo approved SSJID’s plan, the District would be required to prepare an assessment of public benefit program needs of residents, specifically lower-income residents. SSJID could consider, as part of that assessment, whether Renewable Energy Choice is an appropriate program to meet customers’ needs. It is doubtful that lower-income residents would participate in such a program because it would raise their rates. Ultimately the publicly-elected SSJID Board of Directors would decide which programs are provided by SSJID.

**Direct Payments and Bill Credits**

Public Comments on the Draft SOI Plan/MSR raised the issue of whether SSJID could use direct payments or bill credits as an alternative to SSJID’s plan, and if SSJID can legally do so. San Joaquin LAFCo’s legal counsel opined that an irrigation district derives its powers from the State statutes under which it is created and it has only those powers granted to it under the enabling
legislation either as those that are expressly stated, or those necessarily implied in order to carry out the essential purposes of the district. Nothing in State law permits SSJID to use its funds toward direct payments or bill credits. Moreover, making cash payments to PG&E customers within SSJID's service area or to PG&E on behalf of the customers would constitute a gift of public funds. Therefore, SSJID cannot use direct payments or bill credits as an alternative to its plan.

**MSR Finding 89**  
Direct payments and bill credits are not a viable alternative management structure for the provision of retail electric service. SSJID cannot legally use its funds for direct payments or bill credits.
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CHAPTER 8  DISADVANTAGED UNINCORPORATED COMMUNITIES

This chapter evaluates the provision of infrastructure and services to disadvantaged unincorporated communities within and adjacent to SSJID’s SOI. Effective January 1, 2012, as part of the MSR process, LAFCo must identify the location and characteristics of any disadvantaged unincorporated communities within or adjacent to the SOI. If any disadvantaged unincorporated communities are identified, LAFCo must evaluate sewer, municipal and industrial water, or structure fire protection services the present and planned capacity of public facilities, the adequacy of public services and infrastructure, and any needs or deficiencies. Based on the evaluation LAFCo may assess the feasibility of and recommend reorganization and consolidation of local agencies to further orderly development and improve the efficiency and affordability of infrastructure and service delivery.

San Joaquin LAFCo Policies and Procedures: The location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence

Cities or special districts that provide sewer, municipal and industrial water and structural fire services shall identify any disadvantaged unincorporated communities (DUCs) within or contiguous to the sphere of influence of cities or special districts, and shall make a determination on infrastructure needs or efficiencies for those public facilities and services within the identified DUC.

This section focuses on identifying disadvantaged unincorporated communities within or adjacent to SSJID’s SOI. However, because SSJID does not provide sewer, municipal and industrial water, or structure fire protection services, this MSR does not assess the provision of these services by SSJID. Furthermore, as described below, only one disadvantaged unincorporated community is located within or adjacent to SSJID’s SOI, the Census Designated Place (CDP) of French Camp. French Camp is already within the City of Stockton’s SOI. The City of Stockton provides all three services required to be analyzed, and Stockton would be responsible for providing such services upon annexation of the area.

8.1 Disadvantaged Unincorporated Communities

State law defines a disadvantaged unincorporated communities as an area that meets the following three criteria: 1) contains 10 or more dwelling units adjacent or in close proximity to one another; 2) is either within a city SOI, is an island within a city boundary, or is unincorporated, geographically isolated, and has existing for 50 years or
longer; and 3) has a median household income that is 80 percent or less the statewide median household income.

Currently (2012) the best available data for determining disadvantaged unincorporated communities was prepared by the California Department of Water Resources (DWR). DWR developed a mapping tool to help determine which communities meet the disadvantaged communities median household income definition. DWR’s maps and geographic information system (GIS) files use the US Census Bureau's American Community Survey and are compiled for the five year period 2006-2010. DWR included in the maps a calculated field that indicates the DAC status for different census geographies (Census Designated Place, Tract, and Block Group). DWR established a median household income of less than about $48,700 as the disadvantaged unincorporated communities threshold (i.e, 80 percent of the statewide median household income).

According to DWR the Census Designated Place (CDP) of French Camp meets the criteria for a disadvantaged unincorporated community. The French Camp CDP is located adjacent to the SSJID SOI, it includes 609 households and has been in existence for more than 50 years, and it had a median household income ($39,729). The DWR mapping tool did not identify any other disadvantaged unincorporated communities within or adjacent to the SSJID SOI.

**MSR Finding 90** There is only one disadvantaged unincorporated community (i.e., French Camp CDP) adjacent to SSJID’s SOI. SSJID does not provide sewer, municipal and industrial water, or structure fire protection services, and this MSR does not assess the provision of these services by SSJID or any other agencies. French Camp is within the City of Stockton’s SOI. The City of Stockton provides all three services and would be responsible for providing such services upon annexation of the area. San Joaquin LAFCo will, through Stockton’s next MSR, evaluate any service deficiencies in this area.
GLOSSARY

Annex, v. To incorporate a land area into an existing district or municipality, with a resulting change in the boundaries of the annexing jurisdiction.

Aquifer. An underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage. Aquifers generally hold sufficient water to be used as a water supply.

Community Choice Aggregation (CCA). A system available within the service areas of retail electricity providers that allows cities, counties, and/or special districts to purchase and/or generate electricity for their residents and businesses. Under CCA, the utility provider continues to deliver the electricity through its transmission and distribution system and provide meter reading, billing, maintenance, and outage response services.

California Environmental Quality Act (CEQA). A California State law requiring state and local agencies to regulate activities with consideration for environmental protection. If a proposed activity has the potential for a significant adverse environmental impact, an environmental impact report (EIR) must be prepared and certified as to its adequacy before taking action on the proposed project.

Capital Improvement Plan (CIP). A plan that links an agency’s comprehensive strategic plans with its annual budget. It identifies capital projects and equipment purchases, provides a planning schedule, and identifies options for financing improvements and investments.

Census Designated Place (CDP). The U.S. Census Bureau identifies a census designated place (CDP) as the statistical counterpart of a city in that it is a named place with a concentration of residents, housing, and commercial activity, but located in a county’s unincorporated territory.

Community Service District (CSD). A geographic subarea of a city or county used for the planning and delivery of parks, recreation, and other services based on an assessment of the service needs of the population in that subarea.

Detention Dam/Basin/Pond. Dams that are constructed to retard flood runoff and minimize the effect of sudden floods.

Disadvantaged Unincorporated Community (SB 244, Wolk). An area that meets the following three criteria: 1) contains 10 or more dwelling units adjacent or in close proximity to one another; 2) is either within a city SOI, is an island within a city boundary, or is unincorporated, geographically isolated, and has existing for 50 years or
longer; and 3) has a median household income that is 80 percent or less the statewide median household income.

**Distribution System.** Links the transmission system to most electrical customers. The system includes: main or “primary” lines and lower voltage or “secondary” lines that deliver electricity either overhead or underground; distribution transformers that lower voltage to usage levels; and switching equipment to permit the lines to be connected together in various combinations and patterns.

**Environmental Impact Report (EIR).** A report required pursuant to the California Environmental Quality Act that assesses all the environmental characteristics of an area, determines what effects or impacts would result if the area is altered or disturbed by a proposed action, and identifies alternatives or other measures to avoid or reduce those impacts. (See “California Environmental Quality Act.”)

**Gigawatt (GW).** One thousand megawatts (MW) or one million kilowatts (kW).

**Groundwater.** Water under the earth’s surface, often confined to aquifers capable of supplying wells and springs.

**Groundwater Recharge.** The natural process of infiltration and percolation of rainwater from land areas or streams through permeable soils into water-holding rocks that provide underground storage (aquifers).

**Impact Fee.** A fee, also called a development fee, levied on the developer of a project by a city, county, or other public agency as compensation for otherwise-unmitigated impacts the project would produce. To lawfully impose a development fee, a public agency must verify its method of calculation and document proper restrictions on use of the funds.

**Incorporated.** A geographic area within a formal city or town limits of an incorporated city or town.

**Infrastructure.** Public services and facilities such as sewage-disposal systems, water-supply systems, other utility systems, schools, and roads.

**International Brotherhood of Electrical Workers (IBEW).** A labor union which represents workers in the electrical industry in the United States and Canada, particularly electricians, or Inside Wiremen, in the construction industry and linemen and other employees of public utilities. The union also represents some workers in the computer, telecommunications, broadcasting, and other fields related to electrical work. It was founded in 1891 shortly after homes and businesses in the United States began receiving electricity.

**Joint Power Agency.** A partnership or collaboration between similar agencies across separate local or state governments formed to help manage common goals or problems.
Joint Powers Authority (JPA). A legal arrangement that enables two or more units of government to share authority in order to plan and carry out a specific program or set of programs that serves both units.

Kilowatt (kW). The power output of engines and the power consumption of tools and machines equal to one thousand watts.

Local Agency Formation Commission (LAFCo). A five- or seven-member commission within each county that reviews and evaluates all proposals for formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts, and merger of districts with cities. Each county’s LAFCo is empowered to approve, disapprove, or conditionally approve such proposals. The LAFCo members generally include county supervisors, city council members, and members representing the general public. Some LAFCos include representatives of special districts.

Megawatt (MW). The productive capacity of electrical generators that is equal to one million watts. For example, U.S. nuclear power plants have capacities between about 500 and 1,300 MW.

Municipal Services. Services traditionally provided by local government, including water, sewer, drainage, roads, parks, schools, energy, and police and fire protection.

Municipal Services Review (MSR). Evaluation of existing and future service conditions and review of the advantages and disadvantages of various government service structure options. An MSR provides information upon which a LAFCo can base its action on an SOI.

Plan to Provide Retail Electric Service. SSJID’s Plan to Provide Retail Electric Service is part of its application filed with San Joaquin LAFCo in September 2009, as may be amended from time to time.

Pre-1914 Rights. Water rights established prior to the enactment of the Water Commission Act in 1914 (i.e., pre-1914 rights). The place and purpose of use of pre-1914 rights can be changed without approval of the State Water Resources Control Board.

Special Service District. A type of local government that is not a part of the State, a county, or a city, that delivers specific public services within defined boundaries. Government Code §16271[d] defines a special district as, "any agency of the state for the local performance of governmental or proprietary functions within limited boundaries." Special districts can be distinguished by four common characteristics: a form of government; governed by a board; provides services and facilities; and has defined boundaries. Special districts have corporate power and tax power, but rarely police power.
**Sphere of Influence (SOI).** The probable physical boundary and service area of a local agency. Spheres of influence are regulated by Local Agency Formation Commissions (LAFCo).

**Substation.** Junctions and switching points in the electrical system that connect the transmission system to the distribution system. Substations use transformers to lower the voltage of electricity.

**Transmission System.** Bulk electric grid or “network” of high-voltage transmission lines that connect power plants to substations and link neighboring systems.

**Unincorporated.** A geographic area within a county that is outside the formal city or town limits of an incorporated city or town.

**Watt (W).** One joule of energy per second.
CaISO California Independent System Operator
CARB California Air Resources Board
CDP Census Designated Place
CEQA California Environmental Quality Act
CPUC California Public Utilities Commission
CSJWCD Central San Joaquin Water Conservation District
cfs Cubic feet/second
DOF Department of Finance
DWR California Department of Water Resources
GIS Geographic Information System
IBEW International Brotherhood of Electrical Workers
JPA Joint Powers Authority
LAFCo Local Agency Formation Commission
MAIFI Momentary Average Interruption Frequency Index
MID Modesto Irrigation District
MSR Municipal Services Review
MW Megawatt
OID Oakdale Irrigation District
REC Renewable Energy Credit
RPS Renewable Portfolio Standard
SAIDI System Average Interruption Duration Index
SAIFI System Average Interruption Frequency Index
SCWSP South County Surface Water Supply Program
SEWD Stockton East Water District
SJCFCCD San Joaquin County Flood Control and Conservation District
SOI Sphere of Influence
SSJID South San Joaquin Irrigation District
TID Turlock Irrigation District
WAPA Western Area Power Administration
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Glaser, Jim; San Joaquin Local Agency Formation Commission, Executive Officer
Hellstrom, Ray; South San Joaquin Irrigation District, GIS/Mapping
Kobor, Briana; MR W & Associates, LLC
Lindley, Bere; South San Joaquin Irrigation District, Manager of Finance Administration
Norin, Laura; MR W & Associates, LLC
Roberts, Reid; Central San Joaquin Water Conservation District, General Counsel
Shields, Jeff; South San Joaquin Irrigation District, General Manager
APPENDIX A: CITY GENERAL PLAN DIAGRAMS
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APPENDIX B: POPULATION HISTORY AND PROJECTIONS

Baseline forecasts of population and employment for San Joaquin County estimate growth from a variety of data sources. Forecasts serve as a basis for formulating economic development and planning strategies and allow for response to the opportunities and challenges of growth that are expected to occur. Regional forecasts differ in terms of their scope, level of detail, forecasting methodology, and results. The following paragraphs present an overview of projections for San Joaquin County.

Overview of Projections by Organization

- **California Department of Transportation (Caltrans).** Through its California Economic Forecast project, Caltrans provides a consistent set of long-term (20-year) socio-economic forecasts for each county, using county-specific econometric models. Caltrans projects the County’s population to increase at an average annual rate of 2.4 percent from 767,000 to 1.12 million from 2010 to 2025. During this same period, Caltrans projects employment to grow at 1.7 percent annually from 235,700 to 304,200 jobs by 2025.

- **California Department of Finance (DOF)** projects annual county population by using three factors—fertility, mortality, and migration—applied to base data from the U.S. Census Bureau. The assumptions related to migration are based partially on information from each local jurisdiction, changes in vehicle registration, and includes projected increases in the population from natural factors (births and deaths) compared to the population that would be accommodated in planned development projects. The DOF population projections for the County yield similar results to Caltrans projections, forecasting a 2.5 percent average annual growth rate from 2010 to 2030, which results in a total projected population of 1.2 million. Employment projections are not available from DOF.

- **San Joaquin Council of Governments (SJC0G)** prepares and maintains population and employment forecasts based on DOF projections and on each jurisdiction’s general plan. Compared to Caltrans and DOF, SJCOG projects a slightly lower population growth rate of 2.3 percent between 2010 and 2030, resulting in a 2030 projected population of 1.12 million in the County. With respect to job growth, however, SJCOG projects faster growth than Caltrans at an average annual growth rate of 1.4 percent (about 3,500 jobs per year) between 2010 and 2030, resulting in total employment of 289,500.

- **Woods & Poole Economics, Inc. (WPE)** provides long-term projections of population, employment, and earnings for all counties in the United States. WPE uses the “Export-Based Approach” to generate employment and earnings projections by industry sector that are based on data from the U.S. Department of Commerce. Compared to the other sources reviewed, WPE projections forecast the most conservative growth rates for both population
and employment in the county. WPE projects County population to grow at an average annual growth rate of 1.1 percent to reach 880,100 by 2030, while employment is projected to grow at a faster rate than population—1.3 percent annually from 307,000 jobs in 2010 to 398,700 jobs in 2030 (see Table 3-22).
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## TABLE B-1

**POPULATION AND EMPLOYMENT TRENDS**  
SAN JOAQUIN COUNTY  
1990-2030

<table>
<thead>
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<tbody>
<tr>
<td><strong>Historical Trends</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Caltrans</td>
<td>--</td>
<td>522,100</td>
<td>569,064</td>
<td>665,390</td>
<td>2.5%</td>
<td>766,644</td>
<td>874,103</td>
<td>982,834</td>
<td>1,091,537</td>
<td>--</td>
<td>2.4%</td>
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<tr>
<td>CCSCE</td>
<td>--</td>
<td>583,586</td>
<td>660,274</td>
<td>2.5%</td>
<td>727,026</td>
<td>798,768</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOF</td>
<td>480,628</td>
<td>517,926</td>
<td>563,598</td>
<td>652,060</td>
<td>2.1%</td>
<td>741,417</td>
<td>965,094</td>
<td>1,205,198</td>
<td>1.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJCOG</td>
<td>--</td>
<td>563,598</td>
<td>630,613</td>
<td>2.3%</td>
<td>708,364</td>
<td>888,536</td>
<td>995,132</td>
<td>1,117,006</td>
<td>2.3%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>U.S. Census</td>
<td>480,628</td>
<td>583,586</td>
<td>664,259</td>
<td>2.0%</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woods &amp; Poole</td>
<td>484,131</td>
<td>517,923</td>
<td>568,333</td>
<td>664,796</td>
<td>2.1%</td>
<td>706,428</td>
<td>747,377</td>
<td>833,424</td>
<td>880,147</td>
<td>1.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>481,796</td>
<td>519,316</td>
<td>568,629</td>
<td>653,232</td>
<td>2.2%</td>
<td>729,976</td>
<td>803,312</td>
<td>906,506</td>
<td>973,364</td>
<td>1,067,450</td>
<td>2.0%</td>
<td></td>
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<tr>
<td><strong>Projected Trends</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caltrans</td>
<td>--</td>
<td>170,140</td>
<td>196,410</td>
<td>214,220</td>
<td>2.3%</td>
<td>235,700</td>
<td>259,160</td>
<td>280,680</td>
<td>304,170</td>
<td>--</td>
<td>1.7%</td>
<td></td>
</tr>
<tr>
<td>SJCOG</td>
<td>--</td>
<td>195,710</td>
<td>207,397</td>
<td>221,171</td>
<td>1.7%</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDD</td>
<td>172,433</td>
<td>175,568</td>
<td>204,007</td>
<td>221,171</td>
<td>1.7%</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woods &amp; Poole</td>
<td>215,763</td>
<td>226,419</td>
<td>259,492</td>
<td>286,410</td>
<td>1.9%</td>
<td>306,636</td>
<td>327,846</td>
<td>350,178</td>
<td>373,760</td>
<td>398,717</td>
<td>1.3%</td>
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<tr>
<td>Average</td>
<td>194,098</td>
<td>190,709</td>
<td>213,905</td>
<td>232,300</td>
<td>1.8%</td>
<td>254,112</td>
<td>273,783</td>
<td>293,827</td>
<td>316,112</td>
<td>344,089</td>
<td>1.5%</td>
<td></td>
</tr>
</tbody>
</table>

1 The time frame for the average annual growth rate may vary based on available data.
2 Average annual growth rate shown for the 1996-2016 period; population and employment projects extrapolated to 2015 by Economic Planning Systems (EPS).
3 Defined as number of jobs in the County.

Source: U.S. Census; Caltrans; CCSCE; DOF; EDD; SJCOG; Woods & Poole; and EPS.
- **California Center for the Study of the Continuing Economy (CCSCE).** CCSCE provides high-level statewide and county projections. Short-term projections provide a nearer-term indicator of future growth and appropriateness of other projection sources. Projections are based on the analysis of economic regions, in this case the San Joaquin Valley Region, derived from CCSCE's regional projections, county-level data provided by regional planning agencies (such as SJCOG), and analysis of historical county shares of regional growth. Employment projections are determined based on analysis of individual industries in each area's economic base and factor location decisions, such as national growth rates and supply and determinants unique to each industry sector.

- **California Employment Development Department (EDD).** The State EDD provides detailed current employment estimates based on the Current Employment Statistics (CES) survey, which summarizes monthly employment, hours, and earnings data from a sample of California employers. Final revisions to the statewide and local area data, called a "benchmark" are made each March for the current and previous year. Projections are available by industry sector.

To provide a reasonable estimate of projected population and employment in the County, Table B-2 averages these projected demographic trends. This method accounts for the level of variation in projection methodology and provides a foundation for future analysis. Average San Joaquin County population projections estimate a 2 percent average annual rate of growth from 2010 through 2030 for a total of 1.1 million people, while employment is estimated to average 1.5 percent annually to a total of 344,100 jobs by 2030.

Overall, the County and incorporated cities have experienced significant growth since 2000. Annual average rates of growth of 2 percent or higher represent strong growth and almost all the Cities experienced this level of growth between 2000 and 2005. Countywide growth was at 2 percent; however, the unincorporated County population growth was a bit slower at 1.7 percent annually, possibly related to annexations of unincorporated land to cities.

Projected growth is expected to be absorbed largely by the cities. Between 2010 and 2030, SJCOG data show that of the total projected countywide population, about 88 percent of growth would occur in cities. By 2030 about 81 percent of the population growth would occur in incorporated cities. Average annual growth rates of these cities' population would also increase at a slightly faster rate than that of the unincorporated county. The county as a whole is expected to increase by a rate of 2.2 percent annually from 2010-2030. More robust growth is expected in Lathrop, Tracy, and Manteca, as those cities have planned capacity for future residential development. Growth in the unincorporated County is relatively slower than that of the cities – an estimated 1.1 percent increase annually over the 20-year time frame, as opposed to 2.4 percent annually in the cities over the same time period.
## TABLE B-2
### POPULATION FORECAST
#### SAN JOAQUIN COUNTY AND CITIES
#### 2000-2030

<table>
<thead>
<tr>
<th>City/County</th>
<th>Historical</th>
<th>Projected</th>
<th>2010-2030</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Growth</td>
<td>Avg. Annual Growth Rate</td>
<td></td>
</tr>
<tr>
<td>Escalon</td>
<td>5,963</td>
<td>6,712</td>
<td>749</td>
</tr>
<tr>
<td>Lathrop</td>
<td>10,445</td>
<td>12,369</td>
<td>1,924</td>
</tr>
<tr>
<td>Lodi</td>
<td>57,011</td>
<td>60,913</td>
<td>3,902</td>
</tr>
<tr>
<td>Manteca</td>
<td>49,255</td>
<td>57,499</td>
<td>8,244</td>
</tr>
<tr>
<td>Ripon</td>
<td>10,158</td>
<td>11,794</td>
<td>1,636</td>
</tr>
<tr>
<td>Stockton</td>
<td>243,771</td>
<td>268,270</td>
<td>24,499</td>
</tr>
<tr>
<td>Tracy</td>
<td>56,929</td>
<td>70,541</td>
<td>13,612</td>
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<tr>
<td>Total Incorporated</td>
<td>433,532</td>
<td>488,098</td>
<td>54,566</td>
</tr>
<tr>
<td>% of Population</td>
<td>76.9%</td>
<td>77.6%</td>
<td>-</td>
</tr>
<tr>
<td>Unincorporated County</td>
<td>130,066</td>
<td>141,278</td>
<td>11,212</td>
</tr>
<tr>
<td>% of Population</td>
<td>23.1%</td>
<td>22.4%</td>
<td>-</td>
</tr>
<tr>
<td>Total Population</td>
<td>563,598</td>
<td>629,376</td>
<td>65,778</td>
</tr>
</tbody>
</table>


While the current recession has slowed growth throughout the State and nation, recent (June 2011) California Department of Finance population projections show that in the near-term San Joaquin County’s population will experience a slow-down, but then recover in the long-term consistent with projections used in this MSR.
APPENDIX C: SSJID FIVE-YEAR CAPITAL EXPENDITURES PLAN
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APPENDIX D: MINTIER HARNISH/MBMC ANALYSIS
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APPENDIX E: MBMC PEER REVIEW REPORT
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APPENDIX F: SSJID CONSOLIDATED BUDGET SCENARIOS
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APPENDIX G: ESTIMATED PROPERTY TAX IMPACTS
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APPENDIX H: MBMC SSJID RETAIL ELECTRIC FORECAST MODEL
APPENDIX I: SSJID AVERAGE EXPECTED SUBSIDY REQUIREMENTS
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