PREPARED BY EES CONSULTING

City of Coachella

Feasibility Study for Municipal Electric Service to the Development Area

April 2024

EES Consulting
a GDS Associates Company

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a GDS Associates Company

April 18, 2024

Mr. Gabriel Martin
City of Coachella
1515 Sixth Street
Coachella, CA 92236

RE: City of Coachella Feasibility Study for Municipal Electric Service to the Development Area

Dear Mr. Martin:

We are pleased to submit to the City of Coachella (City) the Feasibility Study for Municipal Electric Service to the Development Area (Study). The Study used publicly available information to develop load power cost estimates.

The Study, which focuses on service to the economic development zones and select greenfield development. The Study finds that municipalization is beneficial to the City's electric customers when significant growth occurs in the new development area.

Thank you for your contributions to this Study.

Sincerely,

Kevin J. Mara
Executive Vice President

TABLE OF CONTENTS

1 Scope of Work

1.1 INTRODUCTION

The City of Coachella (City) seeks to ensure that its residents and businesses receive utility services that meet their current needs and provide for electric utility supply for the future needs of the community at fair and reasonable rates. Thus, in 2019, the City established a municipal utility to provide electric service within the City, with an initial focus on new development areas (City Resolution No. 2019-62.) The City is currently considering options for providing electric service to future customers locating in primarily undeveloped areas of the City's Development Area (i.e., "greenfield" areas).

The current population of the City is approximately 42,600; however, with current planning efforts, the City expects the population to grow three-fold by 2035.[1] Currently, citizens of the City, and businesses within the City, are provided electrical service by Imperial Irrigation District (IID), a publicly-owned utility.

1.1.1 About Imperial Irrigation District (IID)

Imperial Irrigation District (IID) is the sixth largest utility in California public utility providing electric and water service to areas across both the Imperial and Coachella Valleys including Riverside and San Diego Counties. The utility employs approximately 1,400 people, serves over 158,000 electric customers and controls more than 1,100 MW of energy. IID's total service area covers 6,471 square miles. IID is governed by a 5-member board of directors. IID's resource mix is approximately 40% renewable, 35% natural gas, 4.8% hydroelectric, 3.5% nuclear, and 16% unspecified (market purchases).[2] IID owns and operates several generating resources such as several small hydroelectric facilities on the All-American Canal and the Pilot Knob plant. IID is a member of the Southern California Public Power Authority (SCPPA). SCPPA members share several resources including the Palo Verde Station (nuclear), Parker-David Dam, Boulder Canyon, Yucca Steam Plant, 13 natural gas resources, and a battery storage system near El Centro.

IID residential retail electric rates include a fixed monthly charge, energy charge, plus an energy cost adjustment (ECA). The ECA is updated regularly to reflect changes in IID's wholesale power costs. IID's large power rates also include demand charges in addition to fixed customer charges and energy charges. Finally, IID customers can elect to purchase up to 100% renewable energy from IID through an Energy Cost Adjustment Renewable Billing Factor (Green Power Program).

Not only is IID a retail service provider, but it is also an energy Balancing Authority (BA). As a BA, IID ensures that the power system and demand are balanced in real time throughout the balancing area which includes Coachella Valley. IID is also responsible for maintaining operating conditions under the

[1] U.S. Bureau of the Census. Coachella, California. Estimate July 2022. https://www.census.gov/quickfacts/coachellacitycalifornia

[2] Imperial Irrigation District 2021 Power Content Label. https://www.iid.com/energy/renewable-energy/power-content-label

reliability standards issued by the North American Electric Reliability Corporation (NERC) and approved by the U.S. Federal Energy Regulatory Commission (FERC).

1.1.2 Study Framework

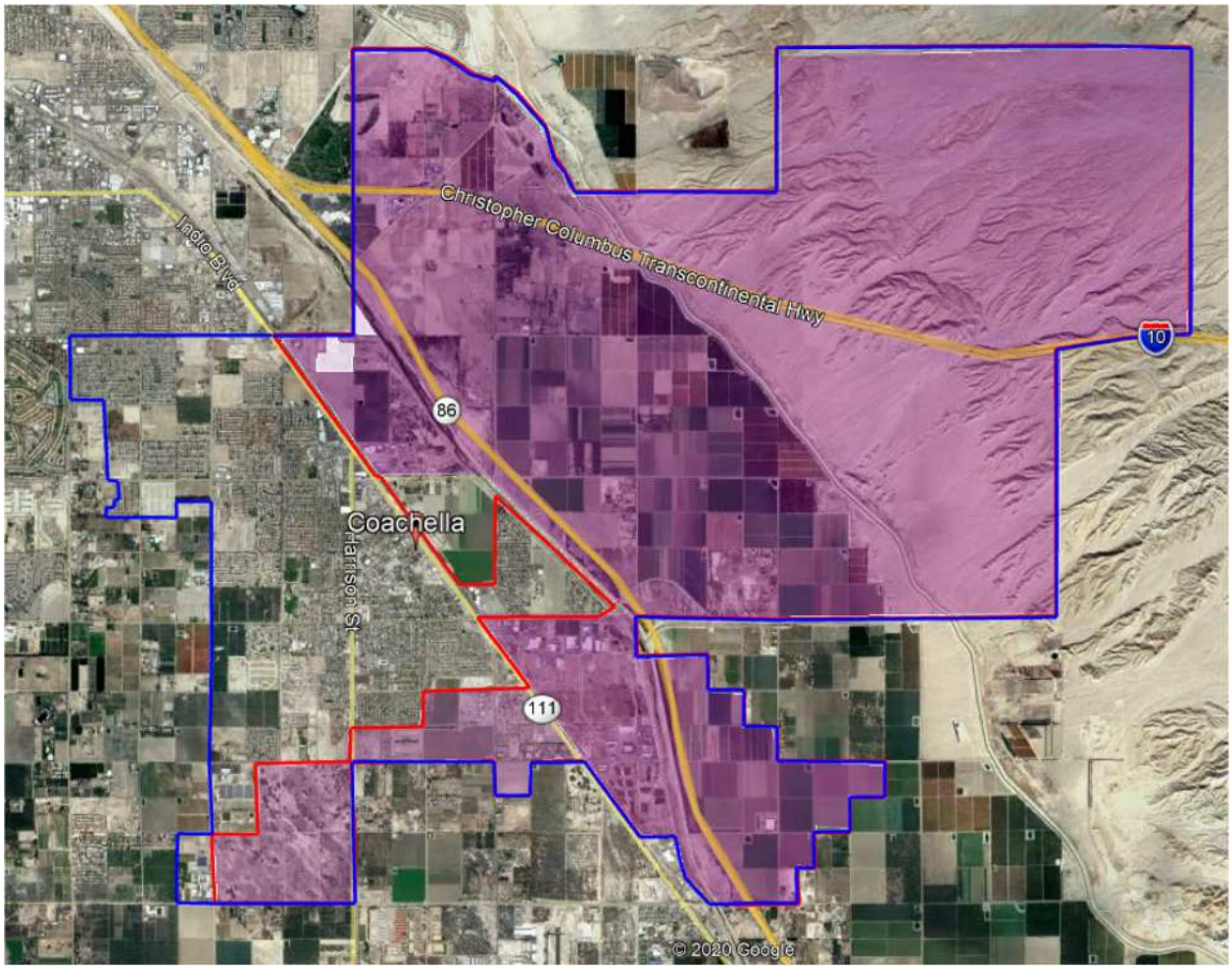
The City asked EES Consulting (EES), a GDS Associates Company, to evaluate the feasibility of the City serving new electric customers located within a portion of the City's boundaries through the municipal utility. This Feasibility Study for Municipal Electric Utility Service to the Development Area (Study) considers the investment needed to serve new customers and the potential supply costs. This Study does not include acquisition of existing assets owned by IID and used to serve existing IID customers.

The Study considers the case where the City develops the necessary energy delivery infrastructure and procures energy from the market. In order to estimate feasibility of energizing the City's utility, costs are forecasted over a 20-year study period beginning in 2025. Revenues for the potential municipal utility are calculated to be competitive with the current and forecast IID retail rates. Other operating costs are estimated from comparable electric utilities.

1.2 PROPOSED SERVICE AREA

Figure 1.1 illustrates the current municipal boundary in blue. The proposed initial municipal electric utility boundary is provided in red and shaded purple. The areas outside of the purple shading would continue to be served by IID. The Development Areas are located with the purple shading.

FIGURE 1.1: CITY MUNICIPAL UTILITY SERVICE AREA



1.3 20-YEAR ENERGY NEEDS

The Study developed a forecast of energy needs for the next 20 years for the municipal utility service area. Much of the growth is expected in the Economic Development Zones (EDZ) which are in the boundaries of the City's municipal utility. One is known as the Auto Wrecker Zone (northern most EDZ), and the second is the Industrial Zone (between Avenue 52 and Avenue 54). Figure 1.2 depicts the growth of annual energy sales and Figure 1.3 shows the forecasted electrical demand. EES added the ramp-up of energy sales between 2025 and 2030 to reflect potential near-term growth in the EDZs.

FIGURE 1.2: 20-YEAR LOAD FORECAST COMPARISON

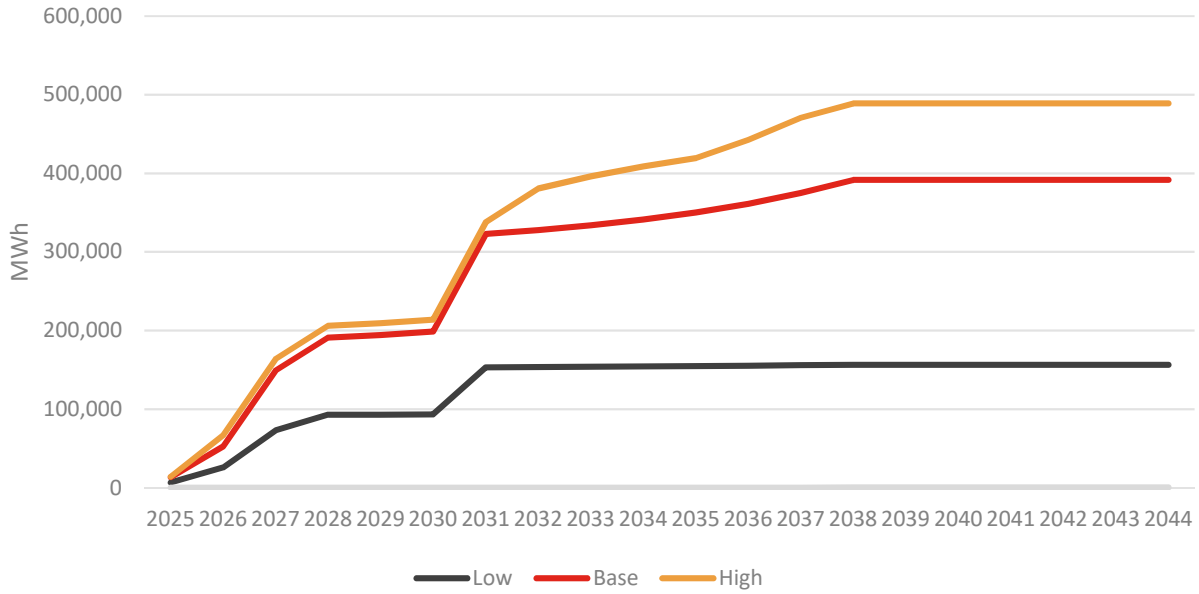
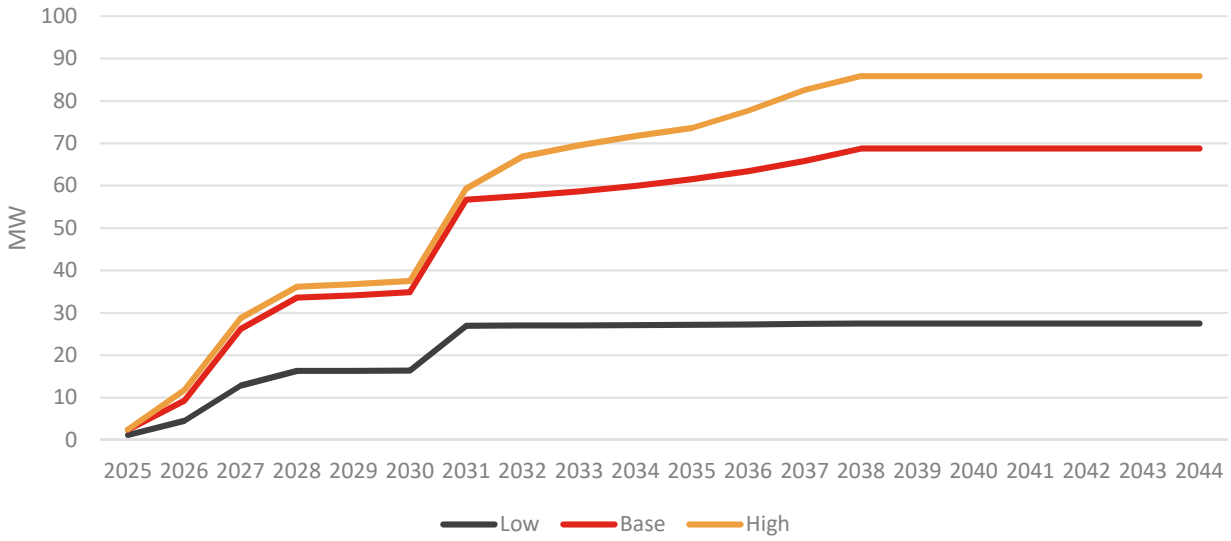


FIGURE 1.3: 20-YEAR PEAK DEMAND FORECASTS



1.4 FINANCIAL FEASIBILITY ASSUMPTIONS AND RESULTS

An annual budget was developed for the City's municipal utility based on the load assumptions, take-out financing, and estimated future capital improvement investments. Power supply costs assume the utility would meet all California mandates for renewable energy and resource adequacy or otherwise obtain waivers from some or all of those requirements. It is assumed that City finances the necessary infrastructure and pursues competitive offers for energy by means of wheeling through IID's transmission system.

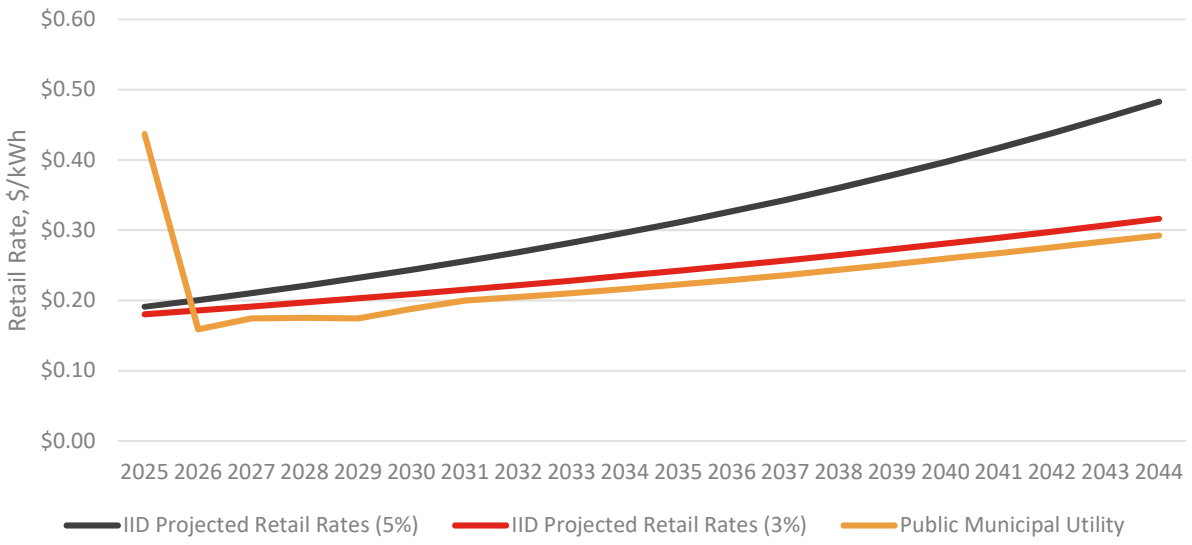
Table 1.1 summarizes the revenue requirement for the third year of operations. The load forecast for the third year has a demand component of 37.5 MW and projected energy sales of 191,158 MWh. The difference in financing is reflected in the debt service in Table 1.1 which is a snapshot of the revenue requirements needed in Year 3.

TABLE 1.1: YEAR 3 REVENUE REQUIREMENT, MILLIONS

	Municipal Utility Revenue Requirement
Power Supply & Transmission	$14.64
Distribution O&M	$1.47
Customer Service	$0.25
A&G	$0.32
Capital Improvement	$0.56
Debt Service	$1.89
Franchise Fee	$1.59
Taxes	$0.11
Public Benefits Charge	$0.66
Revenue Requirement	**$21.49**

IID rates are forecast to increase by 5% which is a conservative assumption given both recent rate history and the investments IID will need to make in infrastructure and renewable energy in support of electrification over the next 20 years. Figure 1.4 shows that once there is sufficient load growth, the municipal utility can offer lower rates compared with forecast IID rates. The figure also shows IID rates with a slower growth rate of 3% per year.

FIGURE 1.4: PROJECTED RETAIL RATES 2025-2044



1.5 CITY SERVICE TO EXISTING AREAS SERVED BY IID

This Study evaluates options for providing electric service to the EDZ and undeveloped and underserved areas of the City (*i.e.*, greenfield), as identified in the City's service territory map adopted by the City Council at the time the City Municipal Utility was formed in 2019. The Municipal Utility would have risks associated with load growth and the ability to obtain financing for start-up and construction costs in conjunction with serving the EDZ and greenfield, or alternatively, the City could serve the developed areas of the City where IID provides existing service. Extending the City Municipal Utility to this area would require the City to negotiate and purchase the existing substation, distribution, and potentially transmission assets within the municipal boundaries from IID and/or pursue an eminent domain action of those assets. With these assets and associated future revenues, the City could finance expansion into the greenfield area of the City. In anticipation of acquisition being contemplated as part of the City's potential options going forward, general estimates are provided herein as a starting point.

TABLE 1.2: ROUGH CONDEMNATION FIGURES

	Cost Estimate	Notes
Distribution System Value	$5,000-$10,000/electric customer $150 Million	Plant actually valued between original cost less depreciation and replacement cost less depreciation. Cost changes if substation and transmission assets are included.
Separation Costs	$30 Million	Assumed 20% of system value.
Stranded Costs	Unknown	Needs further study but can include generation, transmission, and distribution.
Total	$180+ Million	

This path would provide a means for borrowing and could be a long-term solution related to the uncertainty of IID's future in the Coachella Valley.

The timetable for developing a fair market value for the IID assets is 9 months to a year, depending on the cooperation of IID to provide information that is often considered confidential regarding the physical system within the City limits and the energy consumed by homes and business within the City. If both parties negotiate to a reasonable outcome, the acquisition could be completed in 2 to 3 years. However, if there is litigation, the duration can extend for 5 or more years.

1.6 NEXT STEPS

If the City decides to pursue energizing the municipal electric utility, the following next steps could be taken:

1. The City could explore acquisition of IID assets to service the entire City of Coachella.

2. The City could move forward with a limited municipal utility such as described in this study and issue request for proposals for power supply.

All options presented herein require financing, which is a significant hurdle. A next step greenfield municipal utility would be to explore financing options such as those used by the CCAs in California. This

can be accomplished by issuing a request for proposals to determine feasibility of financing start-up and construction costs.

Also, for the greenfield municipal utility, the City needs to initiate a conversation with IID regarding access to the transmission grid for wheeling power. This could be in the form of an application to interconnect. The initiation of this process will help to define the next steps needed if the City wishes to pursue this option.

The above next steps could be completed concurrently to further assess the viability of each path.

2 Study Framework

The City of Coachella (City) seeks to ensure that its residents and businesses receive utility services that meet their current needs and provide electric utility supply for the future needs of the community at fair and reasonable rates. Thus, in 2019, the City established a municipal utility to provide electric service within the City, with an initial focus on new development areas (City Resolution No. 2019-62). The City is currently considering options for providing electric service to new customers locating in primarily undeveloped areas of the City (i.e., "greenfield" areas). This Study evaluates two options for energizing a greenfield utility within part of the City's boundaries:

2.1 PUBLIC MUNICIPAL UTILITY

This option calls for the City to construct new substations and the required distribution facilities, and procure power supply delivered through either wheeling via existing IID infrastructure, if available, or through new facilities that interconnect to Southern California Edison's (SCE) transmission voltage lines located east of the City.

2.2 STUDY FRAMEWORK

The analytical construct includes the following assumptions.

1. Three scenarios for municipalization are evaluated from an economic perspective:
    a. Base load forecast estimated from City's current development queue.
    b. Low load forecast is half of the Base scenario representing an unfavorable economy.
    c. High load forecast which adds additional industrial load development.
2. As a greenfield utility, the municipal electric utility would not pay any generation or distribution asset stranding costs to IID. It is assumed that any other fees or costs imposed by the State of California will be applied. At this time, no such fees or costs have been defined or included in the Study.
3. As a greenfield utility, the City would not purchase existing IID distribution facilities.
4. Cost for the extension of distribution facilities includes transformers, meters, and services are assumed to be 100% assignable to new customers.
5. Operating costs and financing for the City's municipal utility are estimated based on current borrowing markets and other California municipal utility budget information.
6. The City's electric rates are based on expenses and debt service coverage requirements. Any difference between the City's rates and IID forecast rates can be used for customer programs, rate savings, or additional development by increasing the City's rates to match or be slightly lower than IID.
7. The illustrative forecast of IID rates are based on current approved IID rate levels with a 5% annual increase over the study period. Recent historic IID rate increases have averaged approximately 6% per year.

2.2.1 Data Limitations

This Study is conducted with varying degrees of data quality. Forecast loads are provided with a large range of potential build-out scenarios. Growth in the Study area may or may not materialize depending on a wide range of economic factors.

2.3 SYSTEM LOAD FORECAST

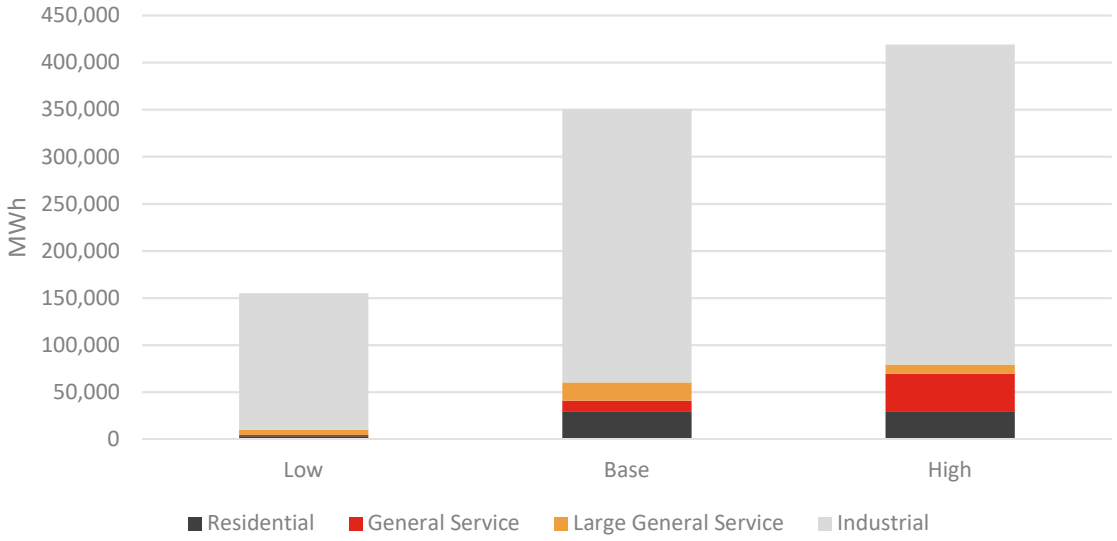
A forecast of electrical load was made for the area within the City's Municipal Utility Service Area as shown in Figure 1.1 To determine future energy usage for this area, multiple sources were referenced including the City's development queue. After year 10, moderate growth is assumed. The peak demand is calculated using a load factor of 65%. This load factor is higher than the load factor IID assumed in its 2018 IRP (50%) since expected load growth is primarily higher load factor loads (cannabis). Based on City's development queue, cannabis loads could reach 300 MW; however, with the changes in planning environment since COVID-19, it is largely believed that cannabis operations will not materialize as indicated in the queue. More likely, the industrial growth will be more diversified. The Study assumes general load factor data for industrial processes which may or may not include some portion attributed to cannabis operations.

There are two Economic Development Zones (EDZ) within the boundaries of the City's municipal utility. One is known as the Auto Wrecker Zone (northern most EDZ) and the second is the Industrial Zone (between Avenue 52 and Avenue 54). The anticipated cannabis growth operation load within the Auto Wrecking Zone is 33 MW. Meanwhile, the Industrial Zone is anticipated to serve approximately 30 MW of new commercial load retailed to the cannabis grow operations. None of the existing IID customers in the Industrial Zone are included in the Study. The Study does project an additional 11 MW of retail load within the proposed municipal boundary.

The ramp-up from not serving customers to serving customers with significant energy requirements is difficult to predict. For this Study, it is assumed to be 3 years. The infrastructure for electric service (substations and/or generating facilities) will need to be under development or possibly completed to assure new customers of the viability of the City Municipal System. It is assumed that three years will be necessary for the construction of commercial buildings plus ramp up to full operation for initial customers.

Figure 2.1 illustrates the forecast energy breakdown for the mid-point of the 20-year study.

FIGURE 2.1: LOAD FORECAST COMPARISON FOR THE MID-POINT OF THE 20-YEAR STUDY



Figures 2.2 and 2.3 compare the energy and peak demand forecasts over the 20-year study period.

FIGURE 2.2: 20-YEAR LOAD FORECAST COMPARISON

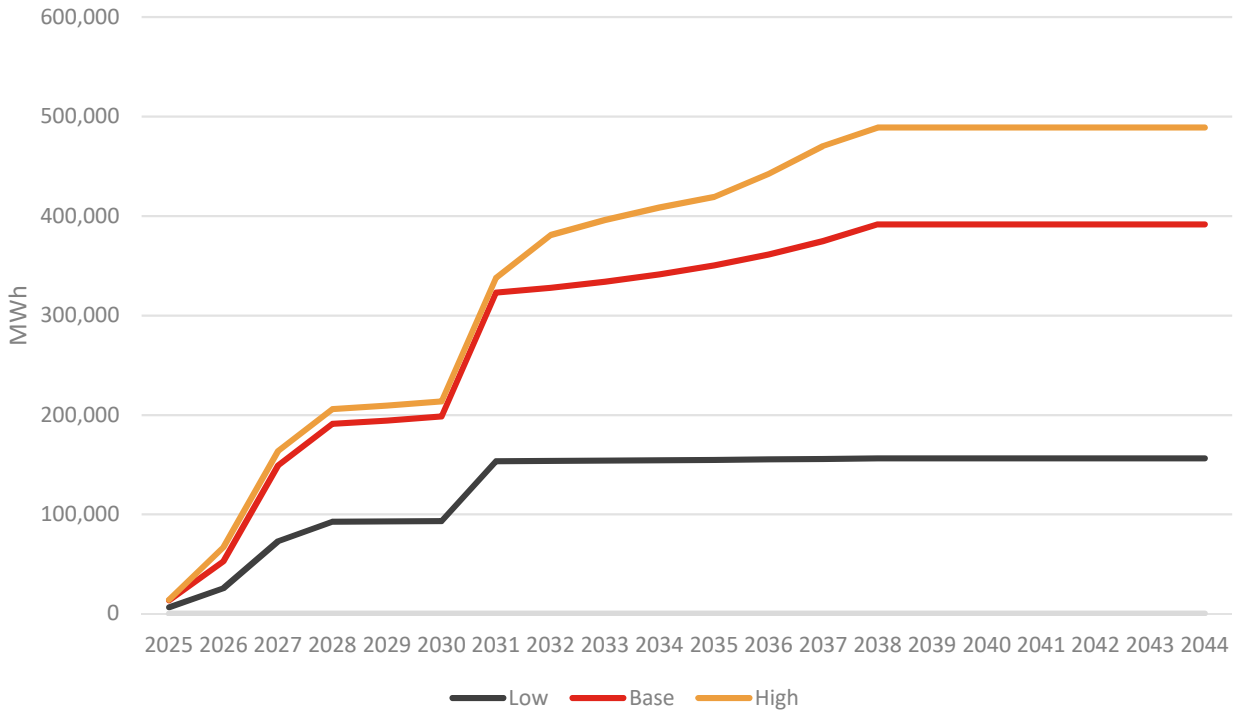
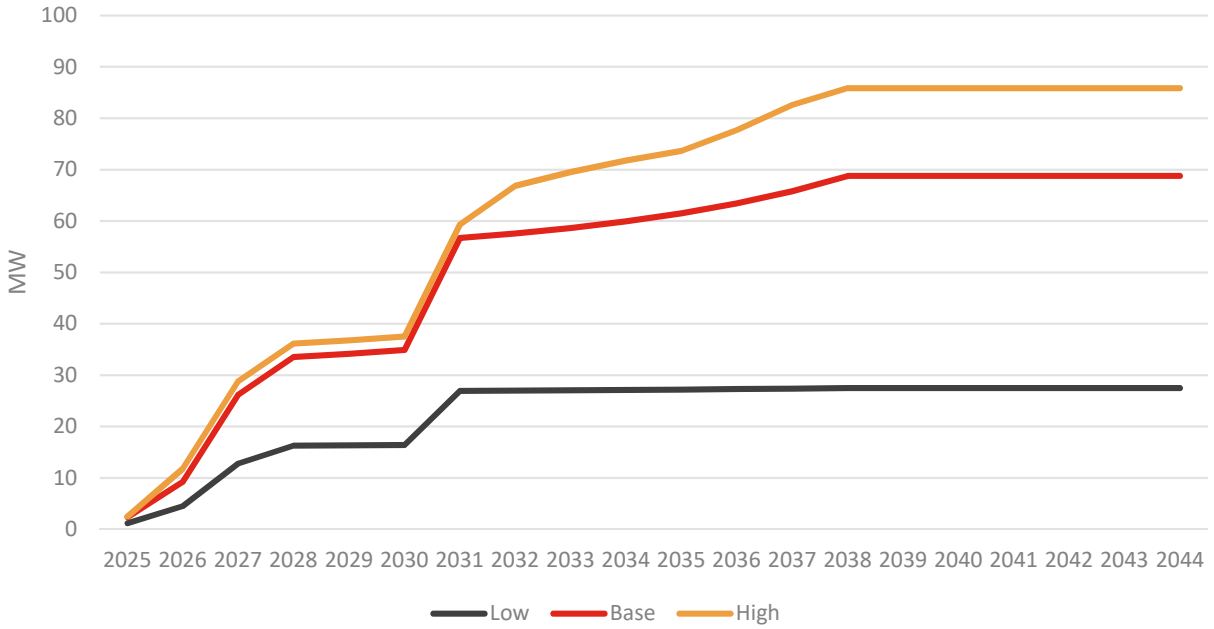


FIGURE 2.3: 20-YEAR PEAK DEMAND FORECASTS



Distribution line losses of 3% were added to retail sales to develop the system load forecast.

3 Public Municipal Utility

3.1 NEW CONSTRUCTION BY THE CITY

The City would need to build new substations and interconnect them to IID's existing 92kV transmissions in the vicinity of these substations. IID sells available transmission capacity to other entities that need IID lines to transport energy. IID offers point-to-point transmission service that uses IID's transmission facilities. This type of service can be used for the transportation of capacity and energy into, out of, through or within IID system.[3] EES has investigated the IID transmission system and believes there is capacity for at least 40 MW in this portion of IID transmission system. However, IID has not confirmed that it has sufficient capacity available. Further, IID determination of the available transmission capacity (ATC) takes into account the firm capacity set aside to serve peak native load forecast commitments.[4] The fact that the City has created a greenfield municipal utility should allow access to ATC which EES believes exists in this portion of their system. The ability of the City to obtain delivery from IID is unknown and presents a risk for energizing the City utility.

A proposed new Harrison Substation would be serving the load in what is known as the Auto Wrecker Zone (northern most EDZ). The anticipated cannabis growth operation load within the Auto Wrecking Zone is 30 MW. In addition, this substation could be used to serve future development of retail electric service outside the Auto Wrecking Zone. The station would be configured for two 40 MVA power transformers and 12 (twelve) 12.5 kV feeders.

A new Polk Substation, to be located in the Industrial Zone EDZ, is anticipated to serve approximately 30 MW of new commercial load retailed to cannabis grow operations and an additional retail load within the proposed municipal boundary. The station would be configured for two 40 MVA power transformers and twelve 12.5 kV feeders.

It is assumed that the design of the substations will meet an N-1 criterion (loss of any one system component and maintain electric service). The distribution feeders should also meet this N-1 criterion to the extent financially feasible.

As the load requirements approach the limit of available transmission capacity from IID, the City would need to obtain additional capacity at the Southern California Edison (SCE) 230kV line at or near the Coachella Valley Substation. The 20-year projected load in the Study is 70 MW and the expected capacity of a 92kV transmission line would be about 150 MW. Thus, a 230/92kV substation would be constructed and 92kV lines extended to the two new distribution substations (Harrison and Polk). The estimated distance of single pole 92kV transmission is 7.2 miles. Approximately 3.5 miles would have a single 92kV circuit with space for two distribution circuits on the structures. The other 3.7 miles would be double circuit 92kV with space for two distribution circuits on the structures. A typical width for a 92kV

[3] https://www.iid.com/energy/transmission-access/transmission-service

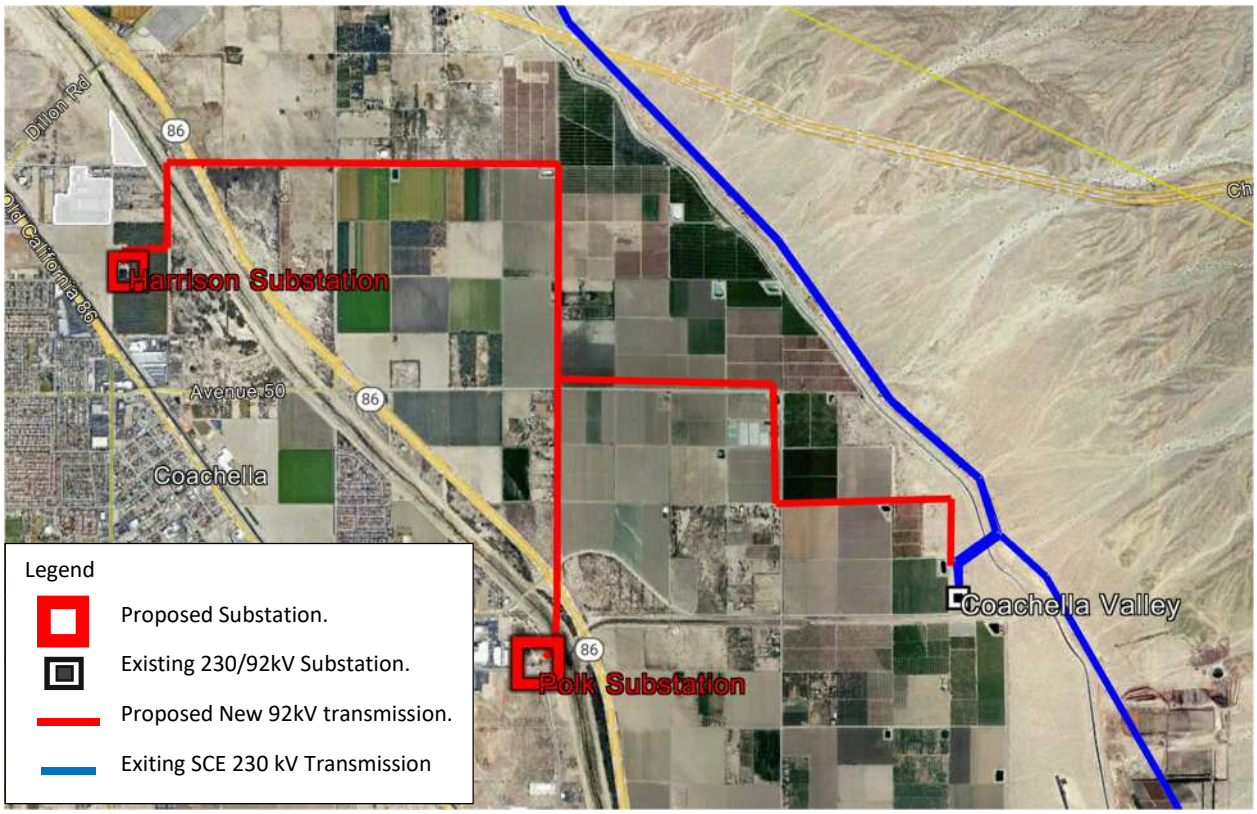
[4] Available Transfer Capability Implementation Document (ATCID) dated 4/15/2022

transmission line is 100 feet. Therefore, the loop would likely require acquisition of roughly a 50-foot strip easement. The other 50 feet will be located within the road right-of-way based on the proposed routing of the line. The cost of land acquisition is included in the transmission line construction estimate.

If at the time of construction, the load within the utility boundary is expected to exceed 150 MW, then 230kV transmission would be warranted.

Figure 3.1 depicts the location of the proposed substations and the route of the 92kV transmission.

FIGURE 3.1: NEW MUNICIPAL UTILITY INFRASTRUCTURE



It is estimated that the construction of the substations needed to wheel energy through IID's 92kV transmission line would cost roughly $16M. After 5 or more years when the capacity requirements of the of the City exceeds the available transmission capacity, a 230 kV interconnection will be made along with transmission to service the Harrison Polk and disconnect service from IID. The actual timing of capital expenditure will be driven by load requirements. However, for the Study, it is assumed that a capital expenditure of another $32.7M dollars would be required in the 5th year of the Study.

3.2 POWER SUPPLY & TRANSMISSION

Power supply and transmission includes all costs for power supply and related services to the municipal utility's distribution system. Costs for power scheduling are also included in the power supply cost estimates. The City could procure its power supply requirements using different strategies including fixed price/delivery contracts, all-inclusive power supply contracts, or a mix of generation and power purchases. The selected strategies would be guided by the City's objectives and ultimately approved by City Council.

Actual power supply contract arrangements are not specified for the purposes of this Study; however, the pricing estimates are described below.

3.2.1 Power Purchases

Costs for energy purchased to meet municipal utility load are estimated at market prices for the SP15 (South Path 15) area. Block energy purchases are valued at $80/MWh in 2025 based on current forward prices. This value decreases in the first 5 years of the Study until it reaches $65/MWh in 2030. This decrease reflects that the current market prices are historically high and are expected to reduce as supply and demand markets settle out. After 2030, prices are escalated at 3% per year. The levelized cost of market purchases is $81/MWh over the 20-year study period.

Capacity services, including resource adequacy, are estimated to cost $8.86/kW-month based on the CPUC Market Price Benchmark for 2023 and escalated at 3% annually. This figure is a weighted average for system, flex, and local resource adequacy all together. This value is included for 117.5% of the municipal utility's capacity requirements to cover the planning margin.

3.2.2 Renewable Energy

Per California's Renewable Portfolio Standards (RPS), electric utilities must purchase a volume of renewable energy equal to at least 60% of retail sales by 2030. The requirement ramps up from 46.7% in 2025. Renewable energy purchases are split between long-term and short-term contracts for Portfolio Content Category 1 (PCC1) and Portfolio Content Category 2 (PCC2). The City may purchase Portfolio Content Category 3 (PCC3) RECs at lower cost; however, this option is not evaluated in the Study. Long-term renewable energy is priced conservatively at $42/MWh. Long-term renewable contract prices have increased since the last study due to supply chain issues and general inflation. Still, this price assumption would allow for solar plus storage or wind resources. The City must meet 60% of its renewable energy requirement from long-term contracts. Because long-term contracts are priced lower than short-term, it is assumed that the City would purchase 75% of its renewable energy requirement through long-term contracts.

The Study assumes the City would wheel long-term bundled energy via IID until the SCE intertie is completed. Once the City has constructed the intertie with SCE, the City would wheel this energy via SCE to the 230 kV line at a cost of $15-$16/MWh (described below). If the City were able to develop local renewable projects for less than $57/MWh, renewable energy costs could be reduced from the base case assumptions.

3.2.3 Resource Adequacy

Capacity services are estimated to cost $8.86/kW-month based on the CPUC Market Price Benchmark for 2023 and escalated at 3% annually. This figure is a weighted average for system, flex, and local resource adequacy all together. This value is included for 117% of the municipal utility's capacity requirements to cover the planning margin.

3.2.4 CAISO Charges and Misc.

The utility would need to pay CAISO charges estimated at $6/MWh in 2025. Power scheduling would be needed to balance energy purchases on an hourly basis. Schedule coordinator costs of $100,000 per year are included for the first year of operation increasing by 10% per year due to projected load growth.

3.2.5 Wheeling and OATT

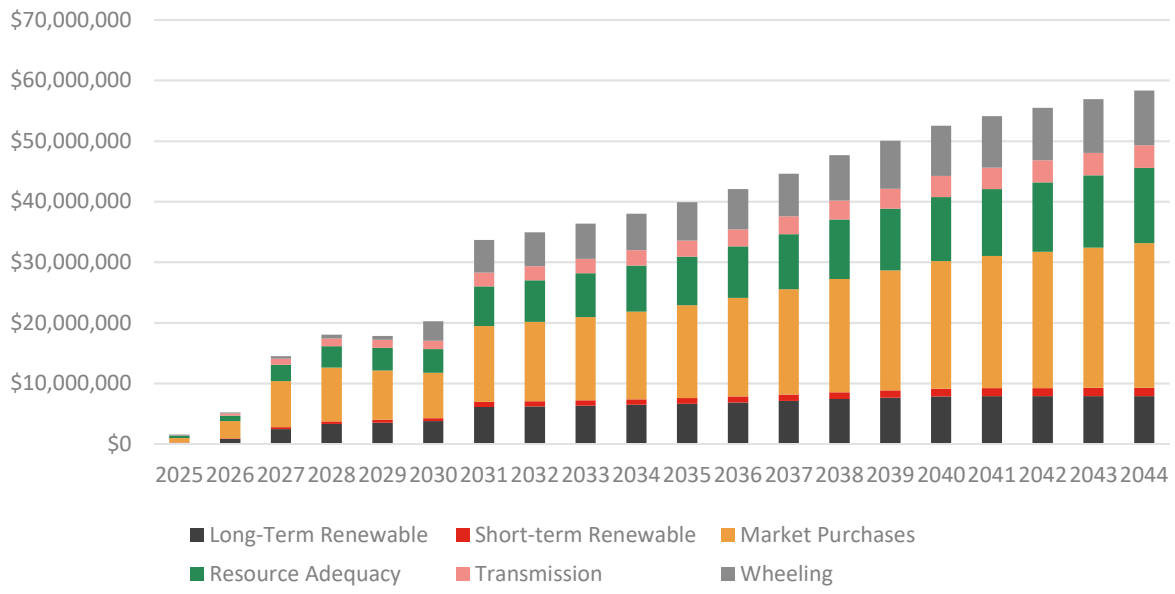
When using IID's 92kV line to deliver power, the City would pay IID's Open Access Transmission Tariff (OATT). IID's current long-term and short-term point-to-point tariff is $1.69/kW-month.[5] This cost is escalated at 2% per year and applied to the City's monthly peak demand. This cost is in addition to the CIASO costs.

Once the 230kV interconnection with the SCE system is complete with accompanying transmission lines, the Municipal Utility would pay SCE's high-voltage wheeling rate. This rate is currently $14.4157/MWh.[6] The high voltage rate is applied to the municipal utility's load in addition to the CAISO costs.

3.2.6 Summary of Power Costs

Figure 3.2 summarizes the power costs estimates.

FIGURE 3.2: CITY UTILITY POWER SUPPLY COSTS



3.3 DISTRIBUTION SYSTEM O&M

Distribution expenses include all costs to operate and maintain the distribution system including substations. Distribution O&M costs were estimated by looking at comparable preference utilities. Distribution O&M per customer and by customer class was taken from cost of service analyses from three comparable municipal utilities. These costs were then applied to the City's utility. The total Distribution

[5] http://www.oasis.oati.com/woa/docs/IID/IIDdocs/IID_OATT_Effective_12.01.2020.pdf

[6] http://www.caiso.com/Documents/WheelingAccessRatesEffectiveJan012023R3.pdf

O&M costs were then broken down into labor and equipment costs. Labor costs include a portion of salaries and benefits for personnel in the operations and engineering departments. Material and equipment costs include the cost of operating and maintaining fleet vehicles and other construction equipment.

3.4 CUSTOMER SERVICE

Customer service expenses include labor and expenses incurred to provide customer service such as billing, meter reading, customer information and advertising, records and collection. Customer service costs may vary by type of account based on usage profile or meter type. For example, a large industrial customer with a special contract for rates would require significantly more resources to bill compared with the average residential customer on a general rate schedule.

3.5 ADMINISTRATIVE & GENERAL EXPENSE

Administrative and General (A&G) expenses include all other labor and expenses necessary to run the electric utility. Labor includes personnel in billing/customer service, accounting, information systems, and management. Office supplies and equipment includes the cost of purchasing (in the case of consumables such as paper and toner) or depreciation (in the case of depreciable assets such as computers, printers, and furniture). Facilities O&M includes the cost of operating and maintaining office space to house new employees. Miscellaneous costs include other administrative and general expenses not included in the categories listed above such as maintenance and depreciation of additional modules for the City's new billing/CIS system necessary for the electric utility.

3.6 PUBLIC BENEFITS CHARGE

In accordance with Assembly Bill 1890, IID collects a 2.85% public benefits charge from its customers. The municipal utility would also collect this charge; therefore, it is included in both the revenue requirement and retail rate revenues.

3.7 PROPERTY TAXES AND FRANCHISE FEES

California law generally allows local governments to own and operate electric utility systems free of property taxes and without the need for local franchises and associated franchise fees. Currently, there is no franchise fee payment from IID to the City; the City is not compensated for IID's use of City assets. However, once the municipal utility is energized, it can collect a franchise fee through retail rates and transfer funds to the City's general fund to compensate the City for use of its facilities. Voters can approve any level of franchise fee; however, this Study assumes the fee is 8% of retail revenue

3.8 CAPITAL IMPROVEMENT PROJECTS

In addition, to the capital projects needed to create the municipal electric system previously discussed in Section 3.1, the City would need to plan for routine capital projects for regular repair and replacements. Capital improvement expenses are assumed to be equal to the annual depreciation value for current distribution assets. Capital improvement expenses begins at $0.4 million in 2025 and increases 3% annually.

3.9 NON-OPERATING EXPENSES

Non-Operating Expenses include debt service and miscellaneous revenues. These are discussed below.

3.9.1 Debt Service

It is understood that the City has challenges in obtaining bonds for this type of endeavor. However, for the sake of the financial feasibility analysis, it is assumed that bond financing can be obtained.

The bond issuance is assumed to include the following:

- Construction Costs
- Debt Service Reserve (1 year's debt service)
- Capitalized Interest (2 months debt service)
- Start-Up Costs
- O&M Reserve (3 months O&M)
- Accrued Interest (1/2 month debt service)
- Underwriters Fees (1% of Par on Bonds)
- Bond Insurance (1.25% of Total Debt Service Payments)
- Cash for Working Capital

Several of these are dependent on the size of the bond issue and the basis is shown. The Operations and Maintenance Fund and Reserve are based on the O&M level. The Fund is for the first month's O&M payments (salaries, supplies, fees) expected to be incurred in advance of receiving revenues. Bond issuers demand an O&M Reserve in case revenues are below expected levels.

The Construction costs are the costs of a new substations as described in this report. The bond would be a combination of the new substations required initially at start-up and the future 230kV interconnection with SCE and accompanying transmissions. For this Study, a single bond was assumed. However, it may be possible to separate the bonds where the initial bond covers the $13M for the new substations and all other costs described. Once load growth occurs, the City would then obtain a bond for the $57 million needed for the SCE interconnection, 230/92kV substation and 92kV transmission lines. Especially since the timing of the interconnection with SCE is dependent on the load growth and not specific time in the future.

Start-up costs are the costs of beginning utility service and may include the cost of purchasing trucks, equipment, supplies, and hiring employees. Start-up costs are estimated at $2 million.

3.9.2 Bond Issuance

Table 3.1 shows the components of the bond issue. Other than the construction cost, one of the largest components of the bond issue is the cash for working capital at $5 million. This cash is needed to pay expenses monthly where utility billing collects revenue on a 2-to-3-month lag.

TABLE 3.1: COMPONENTS OF BOND ISSUE, MILLIONS

Construction Cost	**$48.6**
Debt Service Reserve	$3.9
Capitalized Interest (2 months)	$0.4
Start-Up Costs	$2.0
O&M Reserve Fund (3 months)	$0.7
Cash for Working Capital	$5.0
Accrued Interest (1/2 month)	$0.1
Underwriter's Discount (1%)	$0.5
Bond Issuance	$0.6
Total Bond Issue	**$61.7**

Acquisition interest rates are assumed to be a taxable rate of 5%. This rate is also used for the assumed return on funds invested in the debt service reserve fund.

In the case where the City utility funds the substations and transmission upgrades, the initial bond financing is $61.7 million. The proforma analysis assumes that the initial bond includes only the portion associated with the substations. Once load growth reaches 40 MW, the bond is refinanced and includes the total amount for the SCE intertie.

3.10 ANNUAL BUDGET

The resulting budget is shown for the first 5 years of the Study in Table 3.2.

TABLE 3.2: CITY MUNICIPAL UTILITY REVENUE REQUIREMENT, MILLIONS

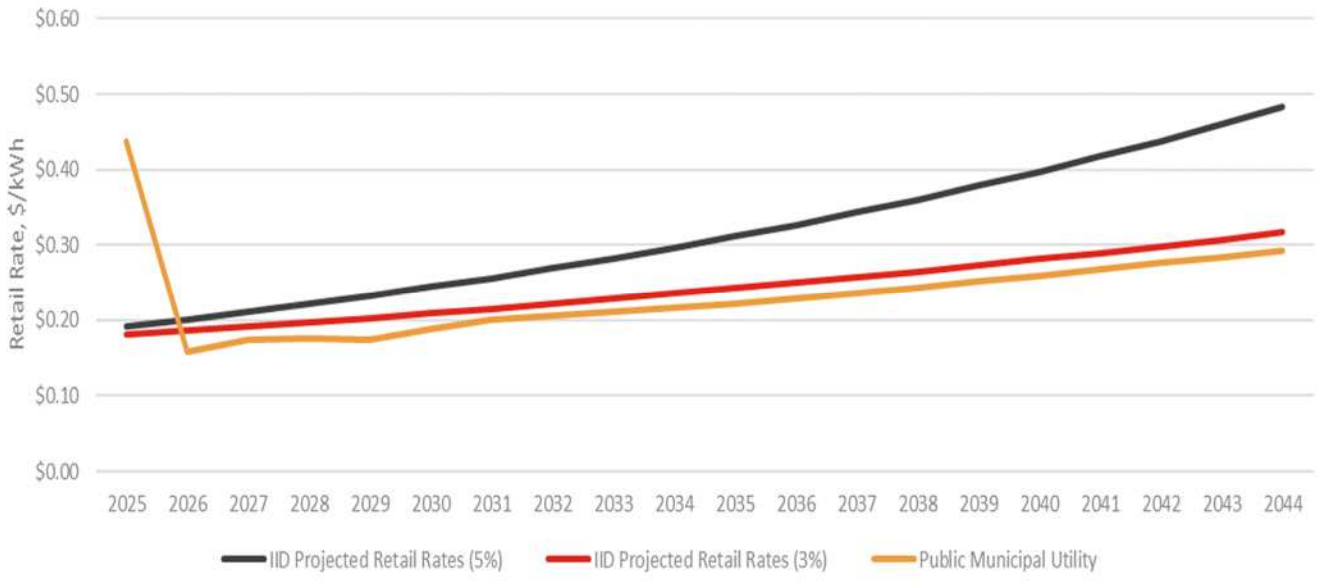
	2025	2026	2027	2028	2029
Power Supply & Transmission	$1.63	$5.29	$14.64	$18.15	$17.95
Distribution O&M	$0.70	$0.74	$1.47	$1.54	$1.62
Customer Service	$0.20	$0.21	$0.25	$0.26	$0.28
A&G	$0.20	$0.21	$0.32	$0.35	$0.38
Capital Improvement	$0.53	$0.55	$0.56	$0.58	$0.60
Debt Service	$1.89	$1.89	$1.89	$4.43	$4.43
Franchise Fee	$0.42	$0.74	$1.59	$2.10	$2.10
Taxes	$0.10	$0.10	$0.11	$0.11	$0.11
Public Benefits Charge	$0.06	$0.24	$0.66	$0.85	$0.86
Revenue Requirement	**$5.74**	**$9.96**	**$21.49**	**$28.37**	**$28.33**

4 Comparison of Results and Sensitivity Analysis

4.1 BASE RESULTS

Figure 4.1 compares the forecast retail rates under two service scenarios: IID and Public Municipal Utility. As the load grows over time, the average rate decreases for the municipal utility scenario. The City would charge rates that recover the cost of service. The cost of service by the City is expected to be much lower than service by IID, even if IID rates were to only increase 3% annually compared with 5%. In order for the City's expenses to be lower than IID retail rates, loads need to reach 55,000 MWh prior to the SCE Intertie.

FIGURE 4.1: PROJECTED RETAIL RATES, BASE LOAD FORECAST

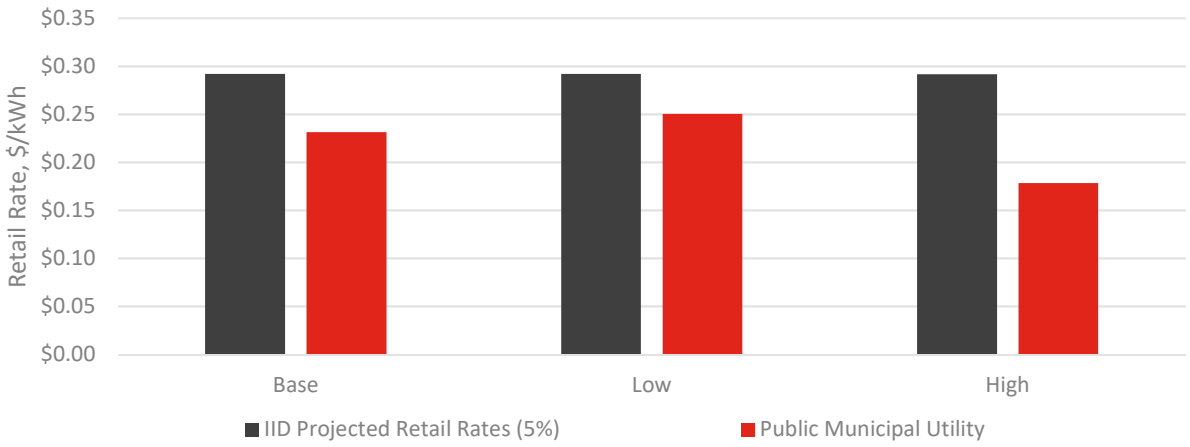


4.1.1 Load Sensitivity

Because the average retail rate for the municipal utility decreases as load increases, a sensitivity analysis is performed using the load scenarios described previously. Load estimates appear to have the largest impact on the viability of the municipal electric utility. The three load scenarios shown in Figure 4.2 are analyzed.

The projected rates assume a margin municipal rate to meet standard debt service coverages but the City could select a higher rate to dedicate revenue for program expansions including operating capital energy efficiency or other programs as determined by the City.

FIGURE 4.2: LOAD SENSITIVITY, LEVELIZED CITY UTILITY EXPENSES 2025-2044



4.1.1.1 Break-Even Analysis

As part of the load sensitivity, it is informative to evaluate very low load forecasts. At a certain load threshold, there will be a break-even point with forecast IID rates. The analysis determines the break-even point equal to the load required to charge retail rates equal to IID and recover minimum operating costs. Some years the City electric rates may exceed forecast IID rates, but on average the rates are similar.

The break-even load requirement for the greenfield utility is 30,000 MWh/year (5 MW). At this load level, the City would not need to construct the intertie with SCE and would continue to wheel through IID. If IID rates increase at 3% per year, the break-even load requirement increases to 55,000 MWh (9 MW). If peak demand exceeds 40 MW, the SCE intertie will need to be constructed.

4.1.2 Power Supply Cost Sensitivity

Power supply costs are estimated to average $81/MWh over the next 20 years (levelized cost). The sensitivity analysis evaluates lower and higher power costs and their impact on the municipal utility's choice of power supply options.

5 Risks and Challenges

5.1 WHEELING OVER IID'S 92KV LINE

EES has investigated the IID transmission system and believes there is capacity for at least 40 MW in this portion of IID transmission system. However, IID has not confirmed that it has sufficient capacity available. Further, IID determination of the available transmission capacity (ATC) takes into account the firm capacity set aside to serve peak native Load forecast commitments.[7] The fact that the City has created a greenfield municipal utility should allow access to ATC that IID may have set aside for themselves to serve the load. If, through appropriate processes, it is determined that capacity on the IID system is not available to the City, the City would need to construct the 230kV line for interconnection with SCE at the initial start-up. This would increase initial capital needs. Ultimately, investigation of IID's capacity as well as access to the capacity could delay the City from providing electric service to new customers.

If the capacity is available as predicted, there is a possibility that there will be challenges in obtaining interconnection with IID. In this case, the City would need to pursue FERC enforcement of IID's OATT. FERC Order 888 requires that any utility with capacity available, and under FERC jurisdiction, make available capacity to requested interconnections under standard tariffs. If the City needs to pursue FERC enforcement, energizing the new utility would be delayed and the costs of litigation would decrease the feasibility. Delays such as this may also have negative impacts on load growth potential.

5.2 LOAD GROWTH

Under municipalization, the City bears the full risk of load development throughout the Study period. If loads do not materialize, it will be difficult for the electric utility to cover the costs of the infrastructure investments without significantly increasing retail rates. If there are fewer customers, there is no base from which to generate income. Feasibility requires at least 30,000 MWh of annual load. The City is also incentivized for marketing to new developers, but the City may have limited resources for the marketing necessary to obtain new large customers.

In addition, historically, much of the projected load was expected to materialize from the cannabis grow industry. If alternative industrial customers replace cannabis grow footprint, the energy intensity of the loads could significantly decrease creating the risk that the minimum load is not reached. Cannabis grow operations typically use 100-200 kWh/square foot of floor space. Data centers or cryptocurrency loads are also high intensity and could create opportunities for base load customer growth. Other typical industrial uses are much lower ranging from 8-50 kWh/square foot depending on process.

5.3 BOND FINANCING

In order to begin serving customers, the City would need to finance substation and the transmission upgrades. The feasibility of obtaining the required debt financing should be evaluated in more detail.

[7] Available Transfer Capability Implementation Document (ATCID) dated 4/15/2022

The financing process may look similar to the financing process community choice aggregators pursue. Typically, the municipal utility would issue a request for proposals for start-up financing. The RFP would include background on the utility's business plan and projected loads and retail rates. Responses would be evaluated and one or more respondents selected for further analysis. The lenders would begin their due diligence process of reviewing the financials, projections, and risk analysis. In some cases, the banks require the borrower to pay the cost of a third-party review of the financials.

Ultimately, there is the risk that qualifying banks would not respond. Additionally, interest rates could be higher than expected, or banks may require significant collateral and/or lockbox arrangements to secure the borrowed funds. Since the City utility would be borrowing to support future growth, the growth projection will be a key factor in obtaining financing. All of these uncertainties together mean that the cost of financing the needed infrastructure investment could be not only higher than what is assumed in this Study, but also could be infeasible due to the current industry growth projections.

The Study does not consider the bonding capacity of the City or market interest in this type of project.

5.4 RESOURCE ADEQUACY COSTS

The Study assumes that all capacity requirements are procured through bilateral contracts. The price for RA in this Study is based on the market price benchmarks calculated by the CPUC. RA prices have increased dramatically in the past 5-6 years. Recent market transactions for RA have exceeded $50/kW-month, or nearly 4 times the price assumed in this Study.

6 Summary

Based on the results of this Study, the following observations are made:

	Considerations
Access to IID Capacity	Initial plan is to use capacity from IID's 92kV transmission. If access is denied, accelerate SCE interconnection.
Load Growth Risk	Break-even threshold is 55,000 MWh with annual 5% IID rate increases.
Change in Load Mix	Cannabis is High Density Energy Needs 100-200 kWh/sq.ft. Traditional Industrial/Commercial 8-50 kWh/sq.ft. Even with reductions in high density load, the City could likely achieve breakeven sales threshold of 55,000 MWh.
New Municipal Utility	IID can challenge new utility. Limiting to greenspace-only rather than acquisition of IID customers does not eliminate the uncertainty.
Initial Financing	$67.3 M
RPS Requirements	Purchase from interconnection with IID or SCE.
Customer Funded Distribution Lines	Customers will need to contribute 100% for distribution facilities to serve new load.
Reliability	Transmission feed radial is a weak point.
Resource Adequacy	City must rely on bilateral transactions for RA subject to price risk.

For next steps and options, see Section 1.6

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8 Glossary of Terms

AB: Assembly Bill

Ancillary Services: Those services necessary to support the transmission of electric power from seller to purchaser given the obligations of control areas and transmitting utilities within those control areas to maintain reliable operations of the interconnected transmission system.

Auto Wrecker Zone: Northern most EDZ (Economic Development Zone).

Base Case: The base case is defined as the expected case involving expected power prices and electric loads.

Bundled: Receive all their services (transmission, distribution and supply) from the Investor-Owned Utility.

California Independent System Operator (CAISO): The organization responsible for managing the electricity grid and system reliability within the former service territories of the three California IOUs.

City: City of Coachella

Firming: Firm capacity is the amount of energy available for production or transmission that can be (and in many cases must be) guaranteed to be available at a given time. Firm energy refers to the actual energy guaranteed to be available. Firming refers to the financial instrument to change non-firm power to firm power.

Greenfield: Portions within the municipal utility zone that currently do not have electric service such as vacant land.

Green Power Program: IID customer can elect to purchase up to 100% renewable energy from IID through an Energy Cost Adjustment Renewable Billing Factor.

Harrison and Polk: Two new distribution substations.

Industrial Zone: One of the Economic Development zones located between Avenue 52 and Avenue 53.

Intertie: transmission line that forms part of an interconnection.

kV: kilovolt, 1,000 volts, a unit of electrical potential.

kW: Kilowatt, equal to 1,000 watts, is measure of electric demand.

kWh: Kilowatt Hour.

Load Forecast: A forecast of expected load over some future time horizon. Short-term load forecasts are used to determine what supply sources are needed. Longer-term load forecasts are used for budgeting and long-term resource planning.

Load Factor: Ratio of actual energy consumption to maximum possible consumption based on peak electric load.

MW: Megawatt equal to 1,000 kW.

MWh: Megawatt Hours equal to 1,000 kWh.

N-1: Refers to contingency when there is a loss of any one system component to maintain electric service.

Resource Adequacy (RA): The requirement that a Load-Serving Entity own or procure sufficient generating capacity to meet its peak load plus a contingency amount (15% in California) for each month.

Renewable Portfolio Standard (RPS): The state-based requirement to procure a certain percentage of load from RPS-certified renewable resources.

Retail Rates: Rates charged by electric distribution utility for service provided to end-use customers. Retail rates may include distribution, transmission, and power supply services.

Shaping: Function that facilitate and supports the delivery of energy generation to periods when it is needed most.

Wheeling: the transportation of electricity from within an electrical grid to an electrical load outside the grid boundaries.

Wholesale Power: Large amounts of electricity that are bought and sold by utilities and other electric companies in bulk at specific trading hubs. Quantities are measured in MWs, and a standard wholesale contract is for 25 MW for a month during heavy-load or peak hours (7 am to 10 pm, Mon-Sat), or light-load or off-peak hours (all the other hours).

9 Acronyms

A&G:	Administrative and General
ARB:	Air Resource Board
ATC:	Available Transmission Capacity
ECA:	Energy Cost Adjustment
EDZ:	Economic Development Zone
ESA:	Energy Service Agreement
FERC:	Federal Energy Regulatory Commission
IID:	Imperial Irrigation District
OATT:	Open Access Transmission Tariff
O&M:	Operation and Maintenance
NERC:	North American Electric Reliability Corporation
PCC1:	Portfolio Content Category 1
PCC2:	Portfolio Content Category 2
PCC3:	Portfolio Content Category 3
RA:	Resource Adequacy
REC:	Renewable Energy Credit
RPS:	Renewable Portfolio Standard
SCE:	Southern California Edison
SCF:	Standard Cubic Foot is Defined as One Cubic Foot of Gas at 60 ^{o}F
SCPPA:	Southern California Public Power Authority
SP15:	South Path 15
TRECS:	Tradeable RECs
WREGIS:	Western Renewable Energy Generation Information System