



Folsom City Council Staff Report

MEETING DATE:	7/11/2023
AGENDA SECTION:	Consent Calendar
SUBJECT:	Resolution No. 11068-- A Resolution Authorizing the City Manager to Execute a Special Facilities and As-Available Distribution Service Agreement with Sacramento Municipal Utility District and Appropriation of Funds
FROM:	Environmental and Water Resources Department

RECOMMENDATION / CITY COUNCIL ACTION

The Environmental and Water Resources Department recommends the City Council pass and adopt Resolution No. 11068 – A Resolution Authorizing the City Manager to Execute a Special Facilities and As-Available Distribution Service Agreement with Sacramento Municipal Utility District and Appropriation of Funds.

BACKGROUND / ISSUE

The City of Folsom’s Water Treatment Plant (WTP) utilizes surface water from Folsom Lake for water supply. The WTP is designed to produce 50 million gallon per day (mgd) of potable water. The treatment processes include rapid mix, pretreatment with a conventional flocculation and sedimentation basin, and an Actiflo system for high rate clarification, a conventional sand/antracite dual media filter, and solids handling facilities. The Environmental and Water Resources Department (EWR) identifies infrastructure rehabilitation and replacement projects through water and sewer master plans, ongoing condition assessment programs, and regulatory changes. The analysis also includes projects related to the reliability or redundancy of the water treatment process.

The City is an electrical customer of the Sacramento Municipal Utilities District (SMUD) receiving service at the WTP. The City owns and maintains its own substation at the WTP and takes electric service from SMUD at 69 kV to accommodate an estimated electrical load capacity of two megawatts. Each year, the City performs routine maintenance and inspection of the 69 kV service at the WTP. To improve redundancy of electrical service at the WTP, the

EWR treatment plant staff would like to upgrade an existing 12 kV electric service to be used as a back-up source to the 69 kV service.

This resolution will authorize the City Manager to execute a Special Facilities and As-Available Distribution Service Agreement with Sacramento Municipal Utility District for backup 12 kV electric service from SMUD.

POLICY / RULE

In accordance with Chapter 2.36 of the Folsom Municipal Code, supplies, equipment, services, and construction with a value of \$70,952 or greater shall be awarded by City Council.

In accordance with Sacramento Municipal Utility District's Rule and Regulation 2, Section IV, a Special Facility is a facility or value-added services equipment requested by a customer that are in addition to or in substitution for standard facilities that SMUD would normally provide for the delivery of service at one point, through one meter, at one voltage class under its rate schedules, rules, and regulations.

ANALYSIS

Prior to the 1990's, the City was provided electrical service by SMUD utilizing a 12 kV service. As the treatment plant expanded, a new 69 kV service was required. During the transition from a 12 kV service to a 69 kV service, the City requested that the existing 12 kV service remain in place as a backup, but at that time, the City and SMUD did not execute a Special Facilities Agreement for the purpose of keeping the 12 kV service as a back-up.

Under the proposed Special Facilities and As-Available Distribution Service Agreement, the 12 kV service will be owned and operated by SMUD and will be used by the City as a backup only. During the annual maintenance and inspection of the 69 kV service, City staff has to physically disconnect the 69 kV electrical service from the treatment plant operations. Typical maintenance activities include oil samples, testing connections and cables, cleaning and load testing. These maintenance services are completed by certified electricians hired by the City.

For each of the treatment processes at the WTP there are backup generators in place in case of emergency outages. Each of these generators provide for a certain number of hours the generator can operate each year and how many hours a generator can operate for the purposes of maintenance and inspection. The current generator permit allows for up to 20 hours per year to operate for maintenance purposes and for up to 200 hours for all operations, including maintenance and emergencies. Typical maintenance operations per year are 13 hours and this results in 187 hours available for emergency purposes, which is slightly less than eight days. An emergency event is defined as interrupted service caused by an unforeseen event.

Some of the main components of the existing 69 kV service are not parts that are readily available off the shelf if that component needs to be replaced. In some cases, a component can take anywhere from several weeks to several months to acquire. Given that the operating

permit for the generator provides for less than eight days of emergency service, EWR staff recommends upgrading the 12 kV service to provide redundant and reliable electrical service from the SMUD distribution system. As part of the agreement, SMUD will upgrade the existing 12 kV facilities with new underground and overhead cables, new electrical components, and two new wood poles. The component costs, labor hours, and design time will cost \$90,909 for the capital improvements.

In addition to the capital improvements, there are three options for the monthly cost of service charges for Special Facilities. These options include a monthly lease, a 10-year renewable lease, or a one-time payment. Staff is recommending the one-time payment option as this is the least expensive option for the life of the facility at \$213,090.70, compared to \$273,236.40 for the monthly lease or \$104,636.26 for the 10-year renewal, which would have to be renewed after year 10 with costs that will likely exceed the \$104,636.26 in 2023 dollars for a second 10-year renewal. With the one-time payment option, the City would not have to pay any additional monthly service charges in the future, whereas options 1 and 2 require on-going monthly service charges for as long as the facility is in place. Under either option, the City will still have to pay the monthly usage rates when the facility is used.

FINANCIAL IMPACT

The Environmental and Water Resources Department is requesting an appropriation of \$304,000 to be appropriated in the Fiscal Year 2023-24 Water Operating Fund (Fund 520) budget. This will fund the costs of the 12 kV upgrade of \$90,909 and the one-time payment for the cost of service of \$213,090.70. Funds are available in the Water Operating Fund for this appropriation.

ENVIRONMENTAL REVIEW

This project is replacement and/or improvement of existing infrastructure with negligible or no expansion of use and therefore is categorically exempt from environmental review under the California Environmental Quality Act as noted in Title 14 – California Code of Regulations, Chapter 3 – Guidelines for Implementation of the California Environmental Quality Act, Article 19 – Categorical Exemptions, Sections 15301 (Existing Facilities), 15302 (Replacement or Reconstruction), and/or 15304 (Minor Alterations to Land).

ATTACHMENTS

1. Resolution No. 11068 – A Resolution Authorizing the City Manager to Execute a Special Facilities and As-Available Distribution Service Agreement with Sacramento Municipal Utility District and Appropriation of Funds
2. Sacramento Municipal Utility District Special Facilities and As-Available Distribution Service Agreement
3. Sacramento Municipal Utility District Service Conditions Rules and Regulation 2

Submitted,

Marcus Yasutake

Marcus Yasutake, Director

ENVIRONMENTAL AND WATER RESOURCES DEPARTMENT

ATTACHMENT 1

RESOLUTION NO. 11068

A RESOLUTION AUTHORIZING THE CITY MANAGER TO EXECUTE A SPECIAL FACILITIES AND AS-AVAILABLE DISTRIBUTION SERVICE AGREEMENT WITH SACRAMENTO MUNICIPAL UTILITY DISTRICT AND APPROPRIATION OF FUNDS

WHEREAS, the City of Folsom implements projects to improve the reliability and redundancy of water treatment operations; and

WHEREAS, the existing backup diesel generators at the treatment plant are only permitted for about eight days of emergency service; and

WHEREAS, some components of the main 69 kV electric service can take several weeks up to several months to acquire and will exceed the permitted operations of the standby generators; and

WHEREAS, the Environmental and Water Resources Department recommends upgrading a 12 kV electric service to serve as a backup to the 69 kV electric service; and

WHEREAS, the Sacramento Municipal Utility District requires a Special Facilities and As-Available Distribution Service Agreement for a facility or value-added services equipment requested by a customer that are in addition to or in substitution for standard facilities that SMUD would normally provide for the delivery of service at one point, through one meter, at one voltage class under its rate schedules, rules, and regulations; and

WHEREAS, sufficient budget was not included in the FY 2023-24 Water Operating Budget to cover the costs for this agreement as the costs and details were not known during budget development; and

WHEREAS, an appropriation in the amount of \$304,000 is needed and funds are available in the Water Operating Fund (Fund 520) for this appropriation; and

WHEREAS, the agreement will be in a form acceptable to the City Attorney;

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Folsom authorizes the City Manager to Execute a Special Facilities and As-Available Distribution Service Agreement with Sacramento Municipal Utility District in the amount of \$304,000; and

BE IT FURTHER RESOLVED that the Finance Director is authorized to appropriate an additional \$304,000 in the Water Operating Fund (Fund 520) for this agreement.

PASSED AND ADOPTED this 11th day of July 2023, by the following roll-call vote:

AYES: Councilmember(s):
NOES: Councilmember(s):

ABSENT: Councilmember(s):
ABSTAIN: Councilmember(s):

Rosario Rodriguez, MAYOR

ATTEST:

Christa Freemantle, CITY CLERK

ATTACHMENT 2



**SACRAMENTO MUNICIPAL UTILITY DISTRICT
SPECIAL FACILITIES AND AS-AVAILABLE DISTRIBUTION SERVICE AGREEMENT**

This Special Facilities and As-Available Distribution Service Agreement (“Agreement”) is entered into between the **Sacramento Municipal Utility District** (“SMUD”) and **the City of Folsom Water Treatment Plant** (“Folsom Plant”). SMUD and Folsom Plant, each, a “Party,” together, the “Parties,” agree as follows:

RECITALS

- A. Folsom Plant is a SMUD customer receiving electric service at its water treatment facility located at 194 Randall Drive, Folsom, CA 95630.
- B. Folsom Plant maintains its own substation and takes electric service from SMUD at 69kV to accommodate an estimated load of approximately 2MW.
- C. SMUD originally installed 12kV service at the Location for Folsom Plant and later in the 1990s constructed 69kV service in the area to serve the Location; at that time, Folsom Plant requested SMUD maintain the 12kV service as backup; however, the Parties never executed a Special Facilities agreement for the backup source.
- D. The 69kV substation is owned and maintained by Folsom Plant, and Folsom Plant wishes to continue to retain the existing SMUD-owned 12kV source for use during annual maintenance to its 69kV substation.
- E. The back-up 12kV source is provided on an as-available basis and is a partial backup only with a load limitation of 2 MW.
- F. The Parties desire to enter into this Agreement to address the costs and use Special Facilities.

Now therefore, in consideration of the above-mentioned recitals, the covenants herein, the Parties mutually agree as follows.

TERMS AND CONDITIONS

1. **TERM.** This Agreement shall be effective as of the date of last execution by the Parties and shall continue until terminated by either Party on at least thirty (30) days written notice.
2. **SCOPE.** SMUD shall allocate for Folsom Plant’s use certain facilities, more particularly described in Attachment A (“Special Facilities”) at an estimated total additional

cost of **\$90,909.00** over the cost of standard facilities which SMUD would typically provide or allocate for standard service in accordance with SMUD's Rates, Rules and Regulations as adopted by SMUD's Board of Directors.

SMUD's 12kV service shall be considered Special Facilities and will be owned and maintained by SMUD as an accommodation to Folsom Plant. SMUD's 12kV distribution system can provide limited service of up to 2MW for back-up maintenance purposes under this Agreement.

SMUD shall install a SMUD lock and labeling at open switch position 1 inside of customer owned and maintained cubicle. This will ensure no parallel operation between SMUD and Folsom Plant.

The 12kV service is provided on an As-Available Distribution Service pursuant to the terms of this Agreement.

3. LOCATION. The Special Facilities shall be installed or allocated at northwest corner of the property located at 194 Randall Drive, Folsom, CA 95630 State of California ("Location").

4. PAYMENT OF ESTIMATED ADDITIONAL COST.

Reserved.

5. COST OF SERVICE CHARGE. Folsom Plant shall pay to SMUD, in addition to the monthly rates and charges for electric service, the following charges under Rule 2, Option 3:

(a) **Special Facilities – Option 3**. One-time payment. Up front charge of \$213,090.70 which represents the estimated additional Rule 2 cost set forth in Section 2 of this Agreement.

6. ADJUSTMENT OF CHARGES. The annual service cost used to determine the monthly Cost of Service Charge or the Equivalent One-Time Payment shall automatically increase or decrease without formal amendment to this Agreement if SMUD's Board of Director's should subsequently amend SMUD's Rates, Rules and Regulations to provide for higher or lower percentage rates for monthly costs of service for special facilities, effective the date set forth in the amended Rates, Rules and Regulations. Thereafter, such revised annual service cost shall be used to determine the unamortized balance of the Equivalent One-Time Payment, as provided in Section 10 of this Agreement.

7. ACCESS TO LOCATION. In the event it is necessary to install or modify Special Facilities on real property owned by Folsom Plant, Folsom Plant hereby grants to SMUD:

(a) The right to install or modify, on Folsom Plant property, the Special Facilities and related equipment or materials along the shortest practical route and of sufficient width

to provide legal and safe clearance from all structures now or hereafter erected on Folsom Plant for any facilities of SMUD, all as determined in the sole discretion of SMUD; and,

(b) The right of ingress to and egress from Folsom Plant property as reasonably necessary to operate, maintain, and remove the Special Facilities.

Where formal rights of way and/or easements are required on or over Folsom Plant property or the property of some third party for the installation of the Special Facilities, Folsom Plant agrees that SMUD's obligation to install the Special Facilities is expressly conditioned on the granting, without cost to SMUD, of any and all necessary rights of way and/or easements to SMUD.

8. MODIFICATION OF SPECIAL FACILITIES. In the event it becomes necessary for SMUD, in its sole discretion, to modify or rearrange the Special Facilities, including but not limited to the conversion of overhead facilities to underground, SMUD shall notify Folsom Plant, in writing, of such necessity and shall be given the option to either terminate this Agreement in accordance with Section 10 of this Agreement, or to pay to SMUD additional special facilities charges consisting of:

(a) A special facilities termination charge for that portion of the Special Facilities, if any, which is being removed because of modification or rearrangement. Such charge shall be determined in accordance with Section 10 of this Agreement; plus,

(b) An additional Customer Advance, if any, for any new special facilities which shall be determined in the same manner as described in Section 4 of this Agreement, if applicable; plus,

(c) A revised monthly Cost of Service Charge or Equivalent One-Time Payment based on the total net estimated additional installed costs of new and remaining Special Facilities. Such revised monthly Cost of Service Charge or Equivalent One-Time Payment shall be determined in the same manner described in Sections 5 and 6 of this Agreement.

9. OWNERSHIP OF SPECIAL FACILITIES. Special Facilities provided by SMUD under this Agreement shall at all times be and remain the sole property of SMUD.

10. TERMINATION. Upon discontinuance of the use of the Special Facilities due to termination of service, termination of this Agreement, or otherwise:

(a) Folsom Plant shall pay to SMUD on demand, in addition to all past and current rates and charges, a facility termination charge to be determined using the following formula:

Facility Termination Charge = (The Estimated Total Additional Cost + The Estimated Removal Cost) - (The Estimated Salvage Value For The Special Facilities To Be Removed (as determined by SMUD in accordance with SMUD's standard accounting practices))

The Facility Termination Charge shall be reduced by the sum of the previously paid Customer Advance and the unamortized balance of the previously paid Equivalent One-Time Payment, if any. In the event the sum of the paid Customer Advance and the unamortized balance of the paid Equivalent One-Time Payment is greater than the Facility Termination Charge, SMUD will refund the difference to Folsom Plant, without interest.

(b) Within a reasonable time, SMUD shall have the right to remove any portion of the Special Facilities located on Folsom Plant Property.

(c) SMUD may, at its sole option, modify, retain, rearrange or make any use it deems appropriate of the Special Facilities located on property other than that of Folsom Plant. Where all or any portion of the Special Facilities located on property other than that of Folsom Plant are retained on such other property and used by SMUD to provide permanent service to other customers, an equitable adjustment will be made to the Facility Termination Charge.

11. AS-AVAILABLE DISTRIBUTION SERVICE. SMUD makes available an electric service, intended to provide an alternative, back-up means of providing electric service to Folsom Plant during times in which Folsom Plant performs maintenance on its 69kV substation ("As-Available Distribution Service").

(a) Subject to the conditions set forth herein and upon request by Folsom Plant, SMUD agrees to make available electric service delivered through SMUD's distribution system and the Special Facilities. Service made available shall be based upon SMUD's surplus distribution system capacity, if any. As-Available Distribution Service is conditional upon availability. SMUD will make the sole determination as to amount of surplus system distribution capacity available. Folsom Plant agrees and understands that SMUD is not reserving distribution system capacity for purposes of this Agreement.

(b) Folsom Plant shall notify SMUD as soon as it becomes aware of its interest in receiving As-Available Distribution Service. Folsom Plant shall request As-Available Distribution Service pursuant to the protocols outlined in **Attachment B**. Folsom Plant acknowledges that during storm conditions or other conditions affecting the integrity of SMUD's electric system, a Folsom Plant request shall be subordinate to the performance of work reasonably necessary to operate, maintain, repair, or restore all or part of SMUD's electric system, all as determined at SMUD's sole discretion.

(c) Upon request from Folsom Plant, SMUD shall determine whether any surplus system capacity exists and is available for use in providing As-Available Distribution Services to Folsom Plant. If SMUD determines that surplus distribution system capacity exists and is available, SMUD shall

implement As-Available Distribution Service as soon as reasonably possible and consistent with the protocols set forth in **Attachment B**. If available distribution capacity is not sufficient to meet Folsom Plant's entire electric load, Folsom Plant shall take all steps necessary to curtail or limit its electric load so as not to exceed the available distribution system capacity prior to SMUD initiating As-Available Distribution Service. SMUD may refuse to initiate or discontinue As-Available Distribution Service, without prior notice, if SMUD reasonably determines that Folsom Plant failed to sufficiently curtail or limit its electric load.

- (d) As-Available Distribution Service is subordinate to SMUD's standard distribution service and, as such, is subject to curtailment, interruption, or termination. While SMUD will use reasonable efforts to provide Folsom Plant with prior notification of its intent to curtail, interrupt, or terminate As-Available Distribution Service, SMUD reserves the right, at its sole discretion, to curtail, interrupt, or terminate such service without notice to protect the reliability or integrity of SMUD's system.
- (e) During times of As-Available Distribution Service via the back-up 12kV source, Folsom Plant shall not exceed 2MW of load. If Folsom Plant exceeds 2MW during the periods of back-up service, SMUD may, at its sole discretion, install load-limiting equipment at Folsom Plant's sole cost.
- (f) As-Available Distribution Service provided to Folsom Plant shall be subject to all of SMUD's Rates, Rules, and Regulations. SMUD's applicable rate schedule for Folsom Plant, as amended from time to time by SMUD's Board of Directors, shall be used in determining charges for the As-Available Distribution Service. However, SMUD will bill its Site Infrastructure Charge only during months in which electricity is consumed.

12. **WARRANTY.** SMUD makes no warranties or guaranties, express or implied, as to the design, installation, construction, use, operation, compatibility, power quality, reliability, maintenance or fitness for a particular purpose of the Special Facilities or As-Available Distribution Service. Further, SMUD makes no warranties or guaranties as to the provision or reliability of electric service or that such service shall be free from outages or curtailment. The parties expressly agree that Folsom Plant's charges and payments for the Special Facilities under this Agreement represent the additional cost associated with the Special Facilities and are not to be construed as guarantying any level of service or reliability.

13. **FORCE MAJEURE.** SMUD shall not be considered in default of performance of any of its obligations under this Agreement to the extent the performance of any such obligations is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of SMUD.

14. **ASSIGNMENT.** With SMUD's prior written consent which shall not be unreasonably withheld, Folsom Plant may assign this Agreement if the assignee thereof agrees in writing to perform Folsom Plant's obligations hereunder. Such assignment shall be deemed to include all of Folsom Plant's rights to any refunds which might become due upon discontinuance of the use of any Special Facilities or termination of this Agreement.

15. **ENTIRE AGREEMENT.** This Agreement constitutes the entire understanding between the parties as to the subject matter hereof and may not be modified except by mutual written agreement of the parties; provided, however, this Agreement shall at all times be subject to the SMUD's Rates, Rules and Regulations as adopted by SMUD's Board of Directors and amended from time to time.

**CITY OF FOLSOM WATER TREATMENT
PLANT**

(Folsom)

By _____

Date _____

Mailing Address

**SACRAMENTO MUNICIPAL UTILITY
DISTRICT**

(SMUD)

By _____

Date _____

Mailing Address

**Attachment A
Special Facilities**

SMUD shall make available at Folsom Plant's expense and allocate for Folsom Plant use, the following Special Facilities:

Item #1: Overhead 12kV:

Approximately 230' of 3-1/0 AAAC
3 S&C Trip Saver II Devices
1 Primary feeder riser
2 45' Wood poles
Labor hours (fully loaded) = 259
Design hours (fully loaded) = 32

Item #2: Underground 12kV:

Approximately 200' of 3-2/0 AL
Labor hours (fully loaded) = 13
Design hours (fully loaded) = 20

Total

\$90,909.00

Note:

1. These Special Facilities already exist and are in place at the Location. Per Rule and Regulation 2, the calculation of the special facilities charge is based on the replacement cost new, of the customer specific equipment.
2. The SMUD distribution system is only prepared to serve up to 2 MW using these Special Facilities. SMUD shall install a lock and labeling at the open switch position to prevent parallel operation. Folsom Plant shall coordinate with SMUD to switch service to back-up power.

Attachment B
Protocol for “As-Available Back-Up Service” to “FOLSOM PLANT”

B.1 Guidelines

The following guidelines can be modified by SMUD’s Distribution System Operators at any time to ensure safety and/or integrity of the SMUD Distribution System. In the event SMUD modifies these guidelines, SMUD will provide advance notice to FOLSOM PLANT and update this Attachment B.

SMUD personnel are only to operate SMUD equipment and FOLSOM PLANT staff are only to operate FOLSOM PLANT equipment. However, SMUD and FOLSOM WATER PLANT staff will work in conjunction with each other to ensure the following steps are followed.

The guidelines are for:

1. Planned “back-up” service for Folsom Plant during annual maintenance

1.1. For planned switching at FOLSOM PLANT, contact SMUD Strategic Account Advisor with a minimum of 48 hours advance notice.

1.2. SMUD will then determine capacity to serve back-up service and notify FOLSOM PLANT. It is the responsibility of FOLSOM PLANT to curtail load as to not exceed the capacity prior to and during the planned back-up switching. FOLSOM PLANT will be limited to 2MW during planned maintenance. SMUD reserves the right to deny the request or discontinue the planned back-up switching without notice. After capacity and load issues are agreed upon, SMUD line workers will be dispatched to FOLSOM PLANT to perform switching.

1.3 FOLSOM PLANT staff to contact SMUD Strategic Account Advisor to switch back to primary service as soon as annual maintenance is complete. SMUD Line workers will be dispatch to Folsom Plant to perform switching back to standard 69kV operation.

The process of switching will involve de-energizing the 69 kV load prior to switching to the 12 kV service. The same process will be followed when returning to the 69 kV service.

B.2 Effective Date

___Day/Month/Year___

Upon issuance of a new Attachment B by SMUD, SMUD will insert a new effective date which will replace the prior Attachment B upon such date.

ATTACHMENT 3

Service Conditions Rule and Regulation 2

I. Description of Service

Subject to conditions listed below, single-phase or three-phase service will be supplied as required by the customer in accordance with appropriate rates.

1. Voltage supplied will be designated by SMUD.
2. Single-phase service will not be supplied to customers whose panel capacity exceeds 100 kVA.
3. Three-phase service will not be supplied to motor loads of less than 7-1/2 kW, except where three-phase secondary facilities are available at applicant's service location, or where applicant for three-phase service contributes the net estimated installed cost of such facilities (exclusive of meter and service) or such part of the net estimated installed costs as SMUD may consider equitable.

Alternating current service of approximately 60 hertz frequency will be supplied at the following standard voltages:

<u>Secondary Voltages</u>		<u>Primary Voltages</u>	<u>Subtransmission</u>
<u>Single-Phase</u>	<u>Three-Phase</u>	<u>Three-Phase</u>	<u>Three-Phase</u>
120	208Y/120	12,000Δ	69,000Δ
120/240	240Δ/120	20,800Δ	
208Y/120	480Y	20,800Y/12,000	
	480Y/277		
	4160/2400Y		

SMUD will endeavor to maintain its frequency and its service voltage within reasonable limits, but does not guarantee same.

II. Conditions of Service

A. Interference with Quality of Service

If in SMUD's judgment there is an interference with the quality of service supplied to neighboring customers, resulting from the customer's noncompliance with any of the provisions of this rule, SMUD may require the customer to provide at his or her own expense such special or additional equipment as is required, or SMUD may provide such equipment if customer pays the net estimated installed cost of such equipment. In lieu of payment of such estimated net cost, the customer may, at SMUD's option, execute a contract providing for the rental of such equipment under terms and conditions satisfactory to SMUD. If customer refuses to rent, or to provide his or her own corrective equipment, or to reimburse SMUD for the cost of such additional or special equipment as is required to eliminate interference with the quality of service to neighboring customers resulting from the customer's operations, SMUD may refuse or discontinue the customer's service.

B. Phase Balancing

Where three-wire single-phase, or three-wire three-phase, or four-wire combination single-phase and three-phase service is supplied, the load must be balanced as nearly as practicable between the two sides or several phases, respectively. In no case is the load on one side of a three-wire single-phase service to be greater than twice that on the other, or the load on any one phase of a three-phase star service greater than twice that on the other phase.

C. Clear Working Space at Electrical Equipment

1. For the safe operation and maintenance of high voltage electrical equipment, an 8-foot clear area must be maintained in front of all operable sections of the equipment.
2. Corrective Action: Customer or owner shall, at the customer's or owner's expense, either correct the access or clearance infractions or pay SMUD its total estimated cost to correct the access or clearance or to relocate its facilities to a new location that is acceptable to SMUD. Customer or owner shall also be responsible for the expense to relocate any equipment that the customer or owner owns and maintains. Failure to comply with corrective measures within a reasonable time may result in discontinuance of service.

Service Conditions Rule and Regulation 2

III. Special Conditions

A. Voltage Control Within Special Limits

Where customer desires voltage control within unusually close limits, SMUD may require customer to provide at his or her own expense such special or additional equipment as required, or SMUD may provide such equipment if customer pays the net estimated installed cost of such equipment.

B. Welders

SMUD will provide service, at the applicable rate and without additional compensation, to welding equipment of the limited input type that conforms to the standards of the National Electrical Manufacturers Association (NEMA) and has a maximum input (primary) current rating not exceeding 12 amperes at 120 volts or 50 amperes at 208 or 240 volts.

Welding equipment that does not meet the standards of NEMA, or that exceeds in input rating 12 amperes at 120 volts or 50 amperes at 208 or 240 volts, will also be served at the applicable rate without additional charge, provided that service to such welders has no detrimental effect on service to neighboring customers.

C. Motor Generator Sets and Rectifiers

Motor generator sets and rectifiers shall be considered as power apparatus and shall be rated, for the purpose of determining charges, on the manufacturer's input rating of the set or, at SMUD's option, by actual test.

D. Motor Protective Devices

All motor installations shall have protective apparatus or construction within the motor to accomplish equivalent protection as follows:

1. Motors that cannot be safely subjected to full-rated voltage at startup shall be provided with a device to ensure that on failure of voltage, such motors will be disconnected from the line.
2. Suitable overload and over-current running protection shall be provided for each motor so as to disconnect the motor from the line to protect it from damage caused by overheating.
3. Phase reversal and open-phase protection is recommended on all three-phase installations and is required for such installations involving elevators, hoists, and similar equipment to disconnect motors from the line in the event of phase reversal or opening of one phase.

E. Motor Starting Limitations

1. Single-Phase

- a. Automatically controlled, single-phase motorized equipment (except as provided in paragraphs b. and c. below) shall be equipped with motors having locked-rotor currents not in excess of the following:
 - 50 amperes at 120 volts
 - 80 amperes at 208 volts
 - 100 amperes at 240 volts
- b. Manually controlled, single-phase motorized equipment (except as provided in paragraph c. below) shall be equipped with motors having locked-rotor currents not in excess of the following:
 - 100 amperes at 120 volts
 - 160 amperes at 208 volts
 - 200 amperes at 240 volts

Room air conditioners, because of their long operating cycles and infrequent starts, even though automatically controlled, will be governed by the limitations of this paragraph.

- c. Motors having locked-rotor currents in excess of those allowed by paragraphs a. and b. above may be permitted upon SMUD's written approval.

Service Conditions Rule and Regulation 2

2. Three-Phase

- a. Automatically controlled three-phase motors shall comply with all applicable NEMA electrical standards and shall have maximum locked-rotor currents not in excess of the following:

- 777 amperes at 208 volts
- 673 amperes at 240 volts
- 337 amperes at 480 volts

Maximum permissible current values listed apply to an installation of a single motor. (These values permit, in general, a 50-hp NEMA standard motor.)

- b. Manually controlled three-phase motors shall comply with all applicable NEMA electrical standards and shall have maximum locked-rotor currents not in excess of the following:

- 1554 amperes at 208 volts*
- 1346 amperes at 240 volts*
- 673 amperes at 480 volts
- 135 amperes at 2400 volts

*Operation of motors rated 60 hp or larger is not recommended at these voltages.

Maximum permissible current values listed apply to an installation of a single motor. (These values permit, in general, a 100-hp NEMA standard motor.)

- c. Three-phase motors, to be used where large loads or special conditions exist, may, upon approval of SMUD, have locked-rotor currents in excess of those allowed by paragraphs a. and b. above.
- d. Motors having maximum locked-rotor currents exceeding those stated in paragraphs a. and b. above may be operated if used in conjunction with current-limiting devices designed to limit the starting currents to the above specified maximum values.
- e. Current-limiting devices may be omitted on the smaller motors of a group installation when their omission will not result in a starting current in excess of the allowable starting current of the largest motor of the group.
- f. The customer should make certain that his or her own electrical system is capable of handling the locked-rotor currents permitted without excessive voltage drop.

F. Power Factor Correction

In the case of neon, luminous, gaseous or mercury vapor lamps or tubes, electric welders, and other devices having low power factors, the customer may be required to provide, at his or her own expense, power factor corrective equipment to increase the power factor of any such devices to not less than 90 percent.

G. Special Voltage Requirements

1. Single-phase, two-wire, 120-volt service will not be supplied where more than two 15-ampere branch circuits are connected to such service.
2. Individual three-phase motors less than 50 hp (or less than 30 hp when used for agricultural or drainage purposes) or groups of such motors less than 150 hp will generally be supplied at 208 or 240 volts.

H. Harmful Wave Form

Customer shall not operate equipment that superimposes a current of any frequency or wave form upon SMUD's system or draws current from SMUD's system of a harmful wave form, which causes interference with SMUD's operations, the quality of service to other customers, or interference to communication facilities. Harmful wave forms shall be defined as those that exceed IEEE Standard 519-1992 (IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems).

I. Transfer Switch Equipment

In the case where the customer receives power from multiple sources, SMUD shall inspect all transfer equipment before SMUD service is allowed. The customer shall design, install, operate, and maintain the transfer switch equipment according to SMUD's Protection Practices No. DPP-601 or No. DPP-602. Transfer switch equipment shall be accessible at all times to SMUD personnel.

Service Conditions Rule and Regulation 2

IV. Special Facilities

- A. SMUD normally installs only those standard facilities that it deems are necessary to provide regular service in accordance with the applicable rate schedules, rules and regulations. Where a customer requests SMUD to install special facilities and SMUD agrees to make such an installation, the additional costs thereof shall be borne by the customer, including such continuing service costs as may be applicable.
- B. Special facilities are (a) facilities or value-added services equipment requested by a customer that are in addition to or in substitution for standard facilities that SMUD would normally provide for delivery of service at one point, through one meter, at one voltage class under its rate schedules, rules and regulations; or (b) a pro rata portion of the facilities or value-added services requested by a customer, allocated for the sole use of such customer, which would not normally be allocated for such sole use. Unless otherwise provided by SMUD's applicable rates, rules and regulations, special facilities will be installed, owned, and maintained or allocated by SMUD as an accommodation to the customer only if acceptable for operation by SMUD and the reliability of service to SMUD's other customers is not impaired.
- C. Special facilities will be installed under the terms and conditions of a contract. Such contract will include, but is not limited to, the following terms and conditions:
 1. The customer shall pay a monthly cost-of-service charge for the special facilities based on the installed cost of the special facilities. Where existing facilities are allocated for a customer's use as special facilities, the customer shall pay a monthly cost-of-service charge. This monthly cost-of-service charge shall be assessed on the estimated installed cost of that portion of the existing facilities that is allocated to the customer.

Special Facilities Rates

Applied to nonstandard portion of electrical equipment, facilities, redundant service, customer-requested redundancy, vaults, or service upgrades.				
Select One:	<input type="checkbox"/> Option One		<input type="checkbox"/> Option Two	<input type="checkbox"/> Option Three
	Monthly lease with advance		10-year renewable lease	One-time payment
Average Life	Minimum Advance per \$1,000	Monthly Cost per \$1,000	Cost at beginning of each 10 th year per \$1,000	Cost per \$1,000
10-14	\$200	\$24.15	\$2,148	\$4,375
15-19	\$150	\$17.25	\$1,534	\$3,125
20+	\$100	\$12.94	\$1,151	\$2,344
Transmission 20+	\$100	\$11.64	\$1,036	\$2,109

2. All monthly service charges shall be reviewed when changes occur in SMUD's cost of providing such service.
3. The calculation of the annual special facilities charge will be based on the replacement cost new of the customer specific equipment. This includes direct labor, departmental loadings, benefit loadings, and related design work. The replacement cost new is multiplied by the annual economic carrying charge corresponding to the appropriate expected service life. This resulting value is divided by 12 to create monthly payments. This rate may be changed in response to changes in the cost of capital or fluctuations in the replacement cost new of any piece of equipment.
4. Customers selecting option one "Monthly lease with advance," will be required to pay a nonrefundable advance of no less than 10 percent of the installed cost of the new equipment as determined by SMUD. Depending on the financial viability and credit-worthiness of the firm SMUD may require up to a 75 percent advance payment. This advance in no way affects the full-cost calculation of fees and shall not reduce the monthly cost-of-service charge.
5. Commercial and residential developers will remain subject to all conditions covered in Rules 15 and 16.
6. Previously installed services that exceed standard installation will be reviewed by SMUD and the customer. The customer will elect the desired service requirements when services exceed standards. Consideration will be given for any previous customer contributions in reaching an agreeable monthly service rate for special facilities.

(End)

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to facilitate double-sided printing.*



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