



City of Seattle City Light Department

DEPARTMENT POLICY & PROCEDURE

Subject	Number <u>DPP 500 P III-412</u> Effective December 8, 1981
COGENERATION AND SMALL POWER PRODUCTIVE FACILITIES	Supersedes March 20, 1981
Approved	Department City Light
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1.0 PURPOSE

To establish City Light Procedures for implementing federal regulations which involve interconnection and purchase arrangements between the utility and qualifying cogeneration and small power production facilities as provided under Sections 201 and 210 of the federal Public Utility Regulatory Policies Act of 1978 (PURPA), Public Law 95-617.

2.0 DIVISIONS AFFECTED

- 2.1 Finance Division.
- 2.2 Customer Service Division.
- 2.3 Engineering Division.
- 2.4 Distribution Division.
- 2.5 Power Management Division.
- 2.6 Operations Division.

3.0 REFERENCES.

- 3.1 Seattle City Light, “Requirements for Electric Service Connection”, adopted August 18, 1980, or as the same may be amended or superseded. (See Section V, “Interconnection Requirements for Cogeneration/Small Power Producers”).
- 3.2 Seattle City Light, “Construction Standards”.
- 3.3 Ordinance 109218, Electric Rates and Provisions – Seattle City Light, July 26, 1980, or as the same may be amended or superseded. (Purchase Rates for Electricity Produced by Small Power/Cogeneration Facilities under 100 kw, Amendment to Ordinance 109218, to be developed.)
- 3.4 Seattle City Light, Avoided Cost Data, November, 1980, or as the same may be revised.
- 3.5 Public Utility Regulatory Policies Act, Sections 201 and 210, 1978 (PL 95-617).

4.0 POLICY.

- 4.1 The City Light Department shall encourage the development of qualified customer-owned small power and cogeneration facilities by purchasing energy and capacity that is made available to it.
- 4.2 The utility shall interconnect with qualifying cogeneration and small power facilities to make possible the purchase and purchase and sale of electricity in the utility.
 - 4.2.1 Interconnection requirements for small power/cogeneration facilities must be met before electricity can be delivered to the utility by the customer-owned generating facility.
 - 4.2.2 The costs of interconnection and service shall be assessed on the basis of appropriate City ordinances, policies and procedures and interconnection requirements.
- 4.3 The utility shall purchase electric energy and/or capacity from customer-owned generating facilities.

- 4.3.1 Purchases from facilities of under 100 kw shall be made by applicable standard rate schedules adopted by the City.
- 4.3.2 Purchases from facilities over 100 kw shall be on terms established by contract based upon the utility's published avoided costs for the purchase of energy and/or capacity and other data.
- 4.3.3 Nothing shall preclude the utility and the facility owner from negotiating a contract for a facility of any size.
- 4.4 Avoided cost data shall be made available to the public beginning in November, 1980 and shall be reviewed and/or revised at least by May 31, 1982 and at least bi-annually thereafter.
- 4.5 Provision may be made by contractual agreement for the City Light Department, at its option, to wheel the energy and/or capacity produced by a qualifying facility to any other electric utility. The agreement shall include reimbursement to City Light of the costs of providing this service.
- 4.6 The utility shall sell to any qualifying facility within the Seattle City Light service area the energy and capacity requested by that facility at applicable rate schedules as established by ordinance.
- 4.7 The qualifying facility shall indemnify and hold harmless the utility from any and all liability arising from the operation and interconnection of the cogeneration or small power production facilities.
- 4.8 The qualifying facility shall bear full responsibility for the Installation and safe operation of its interconnection facilities.

5.0 DEFINITIONS.

- 5.1 Avoided Costs. The incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility, the utility would generate itself or purchase from another source.
- 5.2 Capacity. The capability to deliver energy on demand. Capacity is measured in kilowatts (kw).

- 5.3 Capacity Costs. The costs associated with providing the capability. Capacity costs consist primarily of the capital costs of facilities used to generate and transmit this energy or the purchase of price of capacity where utility facilities are not involved.
- 5.4 Cogeneration. The sequential generation of electric energy and useful heat from the same primary energy source or fuel for industrial, commercial, heating or cooling purposes.
- 5.5 Cogeneration Facility. A facility which produces electric energy and steam or other forms of useful energy which are used for industrial, commercial, heating or cooling purposes through the sequential use of energy. To qualify as a cogeneration facility under federal regulations, ownership must be by a person not primarily engaged in the generation and sale of electricity, and certain efficiency standards and fuel use regulations apply. An electric utility is not a cogeneration facility for the purpose of this document.
- 5.6 Customer-owner. The person, firm or corporation who is a customer of the utility and generates and sells energy or capacity to the utility from a qualifying facility.
- 5.7 Electric Utility – Any public service company engaged in the generation, distribution, sale or furnishing of electricity.
- 5.8 Energy. Electric energy measured in kilowatt hours (kwh).
- 5.9 Interconnection Requirements. The requirements necessary for the protection and safety of both personnel and equipment and the integrity of the utility distribution system.
- 5.10 Purchase. The purchase of electric energy or capacity or both from a qualifying facility by an electric utility.
- 5.11 Qualifying Facility. A cogeneration facility or a small power production facility as defined by Sections 201 and 210, Public Utility Regulatory Policies Act of 1978, and Federal Energy Regulatory Commission Regulations, Part 292.201 through Part 292.207.
- 5.12 Rate. A charge made for the sale of energy, capacity or

both by the electric utility to the customer or by the customer-owner of a qualifying facility to the electric utility.

5.13 Sale. The sale of electric energy or capacity or both by an electric utility to a qualifying facility.

5.1.4 Small Power Production Facility. A facility which produces electric energy solely by the use of the following primary energy sources: biomass, waste, renewable resources, or any combination thereof. Power production capacities must be 80 Mw or less; facilities shall be located at a single site; ownership shall be a person not primarily engaged in the generation or sale of electric power.

5.15 Wheeling. The pass-through of energy and/or capacity from utility to utility.

6.0 RESPONSIBILITIES.

6.1 The customer-owner shall:

6.1.1 Provide the utility with technical information (plans and specifications) including location, type of generation, generation voltage, hours of operation, actual and projected energy and capacity output, actual and projected energy and capacity demand, and fuel types used.

6.1.2 Obtain any necessary permits and conform to all applicable, local, state and federal laws and regulations. If the facility is environmentally consequential the customer shall provide the utility with a list of such permits.

6.1.3 Furnish, install, operate and maintain in good order and repair such relays, interlocks, breakers, automatic synchronizers, and other control and protective apparatus as shall be designated by the utility for suitable operation in parallel with the utility system.

6.1.4 Furnish switching equipment as shall be designated by the utility.

- 6.15 Provide the utility access to the switching equipment at all times.
- 6.16 Test customer-owned interconnection facilities before final connection.
- 6.17 Enter into contracts for the purchase of utility supplied power and for the sale of energy and/or capacity to the utility.
 - 6.1.7.1 Provisions of the contract for purchase of utility supplied power must conform to to applicable service requirements and rate ordinance terms.
 - 6.1.7.2 Provisions of the contract for purchase of small power/cogeneration production must conform to applicable service requirements for interconnection and purchase rates.
- 6.1.8 Advise the utility of any significant equipment and/or operational changes during the term of production.
- 6.2 The Finance Division shall:
 - 6.2.1 Develop purchase rate schedules for facilities under 100 kw for adoption by ordinance.
 - 6.2.2 Propose revised purchase rate schedules for facilities under 100 kw based on avoided costs and other data.
- 6.3 The Customer Service Division shall:
 - 6.3.1 Provide information services to potential cogeneration/ small power production owners on a regular basis.
 - 6.3.2 Accept customer proposals for review and check for completeness.
 - 6.3.2.1 Submit proposals and technical plans/ specifications to the Engineering Division for review of interconnection plans and requirements.

- 6.3.2.2 Submit proposals for purchase contracts for qualifying facilities over 100 kw to the Power Management Division for negotiation.
- 6.3.2.3 Secure purchase contracts for generated electricity for all qualifying facilities under 100 kw.
- 6.3.3 Maintain records of all customer contracts.
- 6.3.4 Monitor customer consumption and sale records as required.
- 6.4 The Engineering Division shall:
 - 6.4.1 Review and comment on plans for qualifying facilities to determine interconnection requirements.
 - 6.4.2 Determine extent and cost of utility system alterations or reinforcements required as a direct result of installation or construction of qualifying facilities.
 - 6.4.3 Prepare design of interconnection service and utility system modifications.
 - 6.4.4 Coordinate review and comment by the Distribution Division.
 - 6.4.5 Verify any required equipment tests of customer-owned interconnection equipment to ensure safe operation.
- 6.5 The Distribution Division shall:
 - 6.5.1 Make utility system modifications necessary for interconnection of customer-owned cogeneration/small power equipment.
 - 6.5.2 Coordinate verification of required equipment tests by the Engineering Division.
 - 6.5.3 Maintain records of all cogeneration/small power procedures and associated switching systems.

- 6.5.4 Ensure that pertinent information is available to the Power Control Center and that safety procedures are developed.
- 6.6 The Operations Division shall:
 - 6.6.1 Review and comment on switchgear to determine the metering requirements of the utility.
 - 6.6.2 Install utility owned relays, interlocks, breakers or other protective devices which are provided by the utility for parallel operation with the customer.
- 6.7 The Power Management Division shall:
 - 6.7.1 Develop avoided cost data and make it available to the public in November, 1980.
 - 6.7.1.1 Update avoided cost data at least by May 31, 1982 and at least biannually thereafter.
 - 6.7.2 Negotiate and secure contracts for the purchase of electricity from owners of qualifying facilities of over 100 kw.
 - 6.7.3 Maintain consumption and sales records as required.

7.0 PROCEDURES.

7.1 Avoided Cost and Rate Determination.

7.1.1 The Finance Division develops rate schedules for the purchase of electricity from owners of qualifying small power/cogeneration facilities under 100 kw.

7.1.1.1 Standard rate schedules shall be regularly reviewed and revised as necessary to reflect updated avoided costs of electricity and/or capacity.

7.1.2 The Power Management Division provides data

concerning avoided cost data annually.

7.1.2.1 Avoided costs for energy must be described in cents per kwh; peak and off-peak; in annual increments and in projections of five years or more.

7.1.2.2 Avoided costs for capacity must include the capital costs of facilities used or to be used to generate and transmit electricity or an appropriate purchase price where utility owned facilities are not involved.

7.2 Contracts.

7.2.1 The Customer Service Division secures contracts for purchase of generated electricity from owners of small power/cogeneration facilities under 100 kw.

7.2.2 The Power Management Division shall negotiate contractual agreements for electricity from small power/cogeneration facility owners which are over 100 kw.

7.2.2.1 Considerations in such negotiations include but are not limited to: reliability, hours of generation and season of generation.

7.2.2.2 The negotiated rate for power purchase from facilities larger than 100 kw maybe the same as or different from the standard rate schedules adopted by the city for facilities 100 kw or less in size.

7.2.2.3 The utility may, but is not obligated to, contract with customers and other utilities for the purpose of wheeling energy and/or capacity from small power/cogeneration facilities.

7.2.2.4 Purchase accounts are established upon adoption of agreements by ordinance.

7.3 Plans and Proposals.

- 7.3.1 The owner of a facility shall prepare plans and specifications and submit them to the utility.
 - 7.3.1.1 The owner submits two sets of the plans and specifications including the interconnection facilities, protective equipment, point of metering to the Customer Service Division.
 - 7.3.1.2 The owner consults the Operations Division Meter Section to determine the type of metering and equipment required.
- 7.3.2 The Customer Service Division reviews the owner's plans and specifications for completeness and determines whether or not the owner's proposal is a qualifying facility. The documents and information concerning a potential qualifying facility are forwarded to the Engineering Division for review and comment.
 - 7.3.2.1 The Customer Service Division returns one set of marked plans and specifications to the owner.
 - 7.3.2.2 The Customer Service Division provides to the owner of the estimated costs to be borne by the owner for any system modification or interconnection.
- 7.3.3 The Engineering Division reviews the facility owner's plans and specifications for small power/cogeneration projects.
 - 7.3.3.1 The Engineering Division coordinates review and comment on the utility interconnection requirements by Distribution Division, Operates Division and Power Management Division, as applicable.
 - 7.3.3.2 The Engineering Division marks one set of plans and specifications with the utility interconnection requirements and returns to the Customer Service Division.
 - 7.3.3.3 The Engineering Division provides estimates of any system modifications or interconnection costs

to be borne by the customer and returns the information to the Customer Service Division.

7.3.4 The Operations Division Meter Section reviews and comments on switchgear to determine the type of meter or meters that will be used, type and size of instrument transformers and arranges for mounting.

7.4 Service Design and Installation.

7.4.1 The owner must design and install facilities required to interconnect with the utility.

7.4.1.1 The facility owner must furnish and install control and protective apparatus designated by the utility.

7.4.1.2 The facility owner must make provisions for all metering equipment required by the utility to measure the sale and purchase of electricity.

7.4.1.3 The facility owner must obtain all necessary permits and conform to all applicable codes, ordinances, state and federal laws and regulations.

7.4.1.4 The owner must test interconnection equipment to verify safe operation.

7.4.2 The Customer Service Division will help the owner establish installation and interconnection dates.

7.4.3 The Engineering Division designs the utility service to interconnect with the owner's generating facilities.

7.4.3.1 Utility equipment required for interconnection will be purchased by the Engineering Division.

7.4.3.2 The Engineering Division must verify adequate testing of interconnection and generating equipment before the system is energized.

7.4.4 City Light facilities shall be installed by the Distribution

Division and the Operations Division, and energized after inspection and testing has been completed.

7.5 Operations and Records.

7.5.1 The facility owner must operate and maintain interconnection facilities for which he or she is responsible.

7.5.1.1. The owner must advise the utility of any changes in the type of equipment or operations which might affect the utility.

7.5.1.2 The owner must provide projections and actual amounts of energy generated or capacity available as required by the utility.

7.5.2 The Distribution Division and Operations Division must operate, maintain and repair interconnection facilities for which the utility is responsible, including utility owned relays, breakers, meters and other control and protective devices.

7.5.3 The Customer Service Division establishes an account to include the purchase of electricity by the utility.

7.5.3.1 The Customer Service Division maintains a file record of all contracts with owners of generating facilities.

7.5.3.2 The Customer Service Division monitor records on a regular basis.

7.5.4 Records or drawings and specifications shall be maintained by the Engineering Division.

7.5.5 Records of all small power/cogeneration producers and associated switching systems shall be maintained by the Distribution Division.

7.5.5.1 Such records shall be made available to the Power Control Center.

7.5.5.2 The Distribution Division shall coordinate notification of owners or such facilities when transmission interruption becomes necessary.

7.5.6 The Power Management Division will maintain necessary records of the purchase of energy and/or capacity.

7.6 Outreach Services.

7.6.1 The Customer Service Division shall provide outreach services as well as information and advice to customers wishing to arrange for contracts with the utility for the sale of electricity produced by a qualifying facility.

8.0 APPENDICES.

8.1 Procedure Flowchart.

paid at the rate