

Title Page

MUNICIPAL LIGHT & POWER
ELECTRIC UTILITY
TARIFF

MAY 74 12:00

RECEIVED 4/20/74

Tariff No.:	
Utility Name:	<u>City of Anchorage</u> d/b/a Municipal Light & Power
Nature of Services:	Electric Utility
Area Served:	Area authorized by Certificate No. 121
Effective Date:	
Address:	<u>1200 E. First Ave.</u> Anchorage, Alaska 9950.
Utility Manager:	Carroll A. Oliver

Cancelling

Sheet No. _____

RECEIVED

APR 30 1974

State of Alaska
Public Utilities CommissionTARIFF INDEXLISTING OF MAPS,
RULES & REGULATIONSSHEET
NUMBER

Rule No: 1.	Scope of Rules and Regulations	10
	1.1 Adoption	10
	1.2 Applicability	10
	1.3 Compliance with Federal and State Law	10, 11
	1.4 Waiver or Modification of Regulations	11
	Reserved	12
2.	Nature and Types of Services Offered	13
	2.1 Electric Service	13
	2.2 Permanent Service	13, 14
	2.3 Temporary Services	14
	Reserved	15
3.	Extension of Service	16
	3.1 Feasibility	16
	3.2 Extensions in Subdivisions	16
	3.3 Contribution for Low-Income Extensions	17
	Reserved	18
4.	Liability of ML&P	19
	4.1 Irregularity or Failure of Service	19
	4.2 Interruptions for Repairs or Modifications	19
	4.3 Customer's Equipment	19, 20
	4.4 Consequential Damages	20
	Reserved	21
5.	Technical Provisions	22
	5.1 Metering	22
	5.2 Meter Testing	22
	5.3 Protective Equipment	23
	5.4 Non-Standard Tolerances	23
	5.5 Compliance with Codes	23
	5.6 Major Increases in Load	24
	5.7 Damage Produced by Increased Load	24
	5.8 Undesirable Load Characteristics	24, 25
	Reserved	26
6.	Service Conditions	27
	6.1 Application for Service	27

Effective: MAY 26 1974Issued by: Municipal Light & Power Department

City of Anchorage

By: Carroll A. OliverTitle: Utility Manager*Carroll A. Oliver*

Cancelling

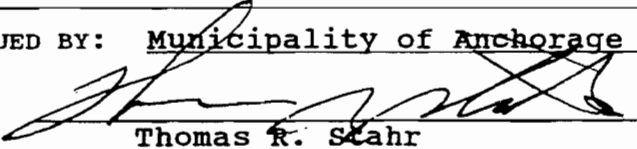
RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

6.2	Service Contracts	27	
6.3	Term of Service	28	
6.4	Easements or Rights-of-Way Required	28	
6.5	Access to Customer's Premises	28, 29	
6.6	Connection Charge	29	
6.7	Establishment of Credit	29	
6.8	Deposits	29.1	(C)
6.8.1	Interest on Deposits	30, 31	(N)
6.9	Deposit Not to Affect Regular Collection Practices	31	
6.10	Protection of ML&P Property and Facilities	31, 32	
6.11.1	Disconnection of Service	32, 32.1	(N)
6.11.2	Notification Policy	32.1-32.4	(N)
6.11.3	Landlord/Tenant Notice	32.5, 32.6	(N)
6.11.4	Limitations on Disconnections	32.6, 32.7	(N)
6.11.5	Disconnection for Tampering with or Failure to Protect Property	32.7	(C)
6.12	Connection to Other Systems	33	
6.13	Permits	33	
6.14	Establishment of Rates for Services	34	(C)
6.15	Resale of Electricity	35	(C)
6.16	Service Complaints	35, 36	
	Reserved	37	
7.	BILLING AND COLLECTION	38	
7.1	Net Rates	38	
7.2	Billing	38	
7.3	Delivery of Bills	38, 39	
7.4	Payment of Bills	39	
7.5	Delinquent Bills	39	
7.6	Dishonored Checks	39, 40	
7.7	Re-connection of Service	40	
7.8	Combined Billing	40	
7.9	Estimated Billing	40	
7.10	Adjustment of Bills for Meter Error	41	
7.11	Disputed or Erroneous Bills	42	
7.12	Change of Occupancy	42	
7.13	Automatic Landlord Agreement	42, 43	
7.14	Primary Metering Discount	43	
7.15	Constant Billing for Electric Heat	43	
	Reserved	44, 45	
8.	SERVICE CONNECTIONS	46	
8.1	General Requirements	46	
8.2	Location and Installation of Meters	46, 47	
8.3	Primary Facilities	47	
8.4	Overhead Service	47	
8.5	Underground Service	47, 48, 48.1	
8.6	Services to Multi-Occupant Buildings	48.2, 49	

Tariff Advice No. 223-121 Effective: June 13, 1997ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & PowerBY:  TITLE: General Manager
Thomas R. Stahr

Canceling

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**MUNICIPAL LIGHT & POWER**

8.7	Service to Trailer Courts	49,50	
8.8	Three Phase Service	50	
	Reserved	51	
9.	Relocation or Conversion of Facilities	52	
9.1	Relocation of Facilities	52	
9.2	Conversion of Overhead to Underground Facilities	52,53	
10.	Net Metering	54	(N)
10.1	Eligibility	54	
10.2	Interconnection	54	
10.3	Application	54	
10.4	Metering	54	
10.5	Billing and Charges	54.1	
10.6	Demand and Capacity Information	54.1	(N)
11.	Definitions	55	(T)
11.1	Applicability of Definitions	55	
11.2	Access, Accessible	55	(C)
11.3	Central Business District	55	
11.4	City	55	
11.5	Class of Service	55	
11.6	Cost	56	
11.7	Delivery Point	56	
11.8	Demand	56	
11.9	Eligible Customer Generation System	56	(N)
11.10	Energy	56	
11.11	Ganged Service Equipment	56	
11.12	ML&P	57	
11.13	Net Metered Generation	57	(N)
11.14	Peak demand	57	
11.15	Premise	57	
11.16	Primary Service	57	
11.17	Raceway	57	
11.18	Salvage	57	
11.19	Secondary Service	58	
11.20	Service Conductors	58	
11.21	Service Equipment	58	
11.22	Single Family Dwelling	58	
11.23	Tariff	58	
11.24	Temporary Service	58	(T)
	Reserved	59 - 70	(C)

Tariff Advice No. 308-121Effective: January 14, 2011Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: James M. Posey Title: General Manager

Canceling**RECEIVED****AUG 15 2016****MUNICIPAL LIGHT & POWER**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

12. Forms	71	
12.1 Sample Bills	71,72	
12.2 Disconnect Notice	73,74	
12.3 Reserved	75,76	
12.4 Vacant Meter Notice	77,78	
Rate Schedules		
Schedule of Fees and Charges	100	
Schedule 01 – Fuel and Purchased Power Cost Adjustment	101, 101.1 – 101.3	
Schedule 01 – Gas Cost Rate Adjustment History	101.4 – 101.6.2	
Schedule 02 – Regulatory Cost Charge	101.7	
Schedule 11 – Residential Service	102	
Reserved	103 – 103.6	
Schedule 12 – Residential Service with Water Heating – Discontinued	104	
Schedule 13 – Residential Water Heating Service - Discontinued	105	
Schedule 14 – Experimental Time-Of-Day General Service - Discontinue	106	
Reserved	107	
Schedule 21 – General Service – Small	108	
Schedule 22 – General Service – Large at Secondary Voltage	109, 110	
Schedule 23 – General Service – Large at Primary Voltage	111, 112	
Schedule 25 – Replacement Energy Service – AWWU	112.1	
Schedule 26 – Economic Development Incentive Rate	112.2 – 112.5	
Schedule 27 – Interruptible Power At Secondary Voltage	112.6 – 112.9	
Schedule 28 – Net Requirements Service At Secondary Voltage	112.10 – 112.12	(N)
Schedule 29 – Net Requirements Service At Primary Voltage	112.13 – 112.15	(N)
Schedule 31, 32, and 33 – General Service – Seasonal At Secondary Voltage	113 – 113.2	
Schedule 34, 35, and 36 – General Service – Seasonal At Primary Voltage	114 – 114.2	
Schedule 24 – Commercial Water And Space Heating Service - Discontinued	115	
Schedule 41–45 – Area Lighting Service	116, 117	
Schedule 81–96 – Area Lighting Service	118, 118.1	
Schedule 71-80 – Street Lighting Service	119	
Schedule 60-64 – Street Lighting Service	120	
Schedule 500 – Cogeneration And Small Power Production Contract Service	121	
Special Contract Conditions	122	
Schedule 600 – Economy Energy Service For Resale	123, 124	
Schedule 700 – Interruptable Service – Fort Richardson At Primary Voltage	125, 126	
Reserved	127 – 129	
Schedule 750 – Interruptable Service – Elmendorf At Primary Voltage	130	
Schedule 760 – Limited All Requirements Service At Primary Voltage	131 – 132.1	
Schedule 770 – Partial Requirements Service At Primary Voltage	133 – 135.1	
Reserved	136 - 138	
Schedule 780 – Seasonal Replacement Service At Primary Voltage	139 - 142	
Appendix A – Interconnection and Operating Requirements For Non-Utility Generation Up to 5,000 kVa	143	

Tariff Advice No. 352-121Effective: September 29, 2016Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Mark A. JohnstonTitle: General Manager

RCA No. 121 3rd Revision Sheet No. 6
Cancelling
2nd Revision Sheet No. 6

RECEIVED

OCT 24 2002

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

MAPS

ML&P's certificated service area is delineated on the map located on Tariff Sheet No. 7.

The ML&P service area description contained in the sixth Revision of Certificate of Public Convenience and Necessity, No. 121 is as follows:

DESCRIPTION OF SERVICE AREA:

T13N	R4W	Sections:	13, that portion of 23 generally east of the the centerline of the Alaska right of way, and 24
T13N	R3W	Sections:	Those portions of 6 through 10, and 12 not included within the boundaries of a military reservation; 15 through 22, and 27 through 30
T13N	R2W	Sections:	That portion of 7 not included within the boundaries of a military reservation

(All the above with reference to the Seward Meridian)

In addition, the following customer locations are being served within the Elmendorf (T)
Air Force Base and Fort Richardson areas:

1. Municipality of Anchorage d/b/a Anchorage Water & Wastewater Utility Ship Creek Dam Waterline, from the Ship Creek Filtration Plant to the Ship Creek Dam
2. 716 Steel Road, State of Alaska Elmendorf Fish Hatchery
3. 2800 Post Road, Elmendorf Air Force Base Guard House
4. 3000 Post Road, Elmendorf Air Force Base Golf Course
SE of EAFB Post Road Gate, Elmendorf Air Force Base Golf Cart Storage Facility
5. 2651 Post Road, State of Alaska d/b/a Alaska Railroad Load Center
3301 Post Road, State of Alaska d/b/a Alaska Railroad Signal Light
6. 4005 McPhee Avenue, Anchorage School District Mountain View Elementary School

Pursuant to U-00-79 (9)
Tariff Advice No. _____

Effective: May 21, 2001

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY: Michael J. Scott

TITLE: General Manager

1st Revision Sheet No. 6.1

NOV 16 2007

MUNICIPAL LIGHT & POWER

James M. Posey

APUC No. 121 Original Sheet No. 8

Cancelling

Sheet No. 8

RECEIVED

OCT 31 1991

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Pursuant to U-90-6(2)

Tariff Advice No. _____ Effective: July 17, 1991

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Thomas R. Stahr
Thomas R. Stahr

TITLE: General Manager

APUC No. 121 Original Sheet No. 9

Cancelling

Sheet No. 9

RECEIVED

OCT 31 1991

State of Alaska
Public Utilities Commission

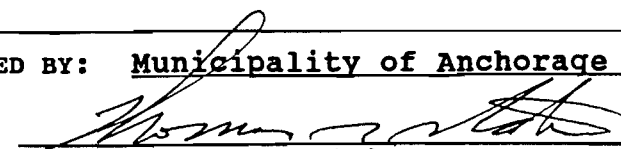
MUNICIPAL LIGHT & POWER

RESERVED

Pursuant to U-90-6(2)

Tariff Advice No. _____ Effective: July 17, 1991

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

Cancelling

Sheet No.

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

1. SCOPE OF RULES AND REGULATIONS

1.1 Adoption.

These rules and regulations were adopted for use by the City of Anchorage, d/b/a Municipal Light & Power Department, hereinafter referred to as "ML&P", by Resolution No. 17R74 enacted by the City Council of the City of Anchorage, to be effective on the 9th day of April, 1974.

Copies of these rules and regulations, together with rate schedules and pertinent business and contract forms, are available at ML&P offices at 1200 East First Avenue, Anchorage, Alaska.

1.2 Applicability.

These rules and regulations apply to all service rendered or facilities constructed or installed by ML&P unless specifically provided otherwise in a special contract approved by the Alaska Public Utilities Commission.

1.3 Compliances with Federal and State Law.

The ML&P electrical generation and distribution system will be operated in accordance with applicable federal and state law and in compliance with rules and regulations promulgated by other

MAY 26 1974

Effective:

Issued by: Municipal Light & Power Department
City of Anchorage

By:

Carroll G. Olson

Title:

Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

authorities having jurisdiction over the operations of ML&P.

1.4 Waiver or Modification of Regulations.

These rules and regulations may not be waived by an officer, agent or employee of the City of Anchorage. Nor may they be modified, amended or changed in any way without first being submitted to the Electric Utility Commission for their recommendations, and approved by the City Council of the City of Anchorage and the Alaska Public Utilities Commission.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Canolf G. Oliver Title: Utility Manager

APUC

PSC No. 121

Original

Sheet No. 12

RECEIVED

Cancelling

Sheet No. _____

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By: Carroll A. Oliver Title: Utility Manager

Carroll A. Oliver

Cancelling

Sheet No.

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

2. NATURE AND TYPES OF SERVICES OFFERED

2.1 Electric Service.

ML&P provides sixty-hertz alternating current, either single or three phase, at available standard voltages. Voltage, frequency and wave form are regulated to conform to the standard practices of the electric utility industry. ML&P will construct, operate and maintain the facilities necessary to deliver electrical energy to the delivery point unless otherwise provided in this tariff.

2.2 Permanent Service.

When the nature of the customer's facilities provides ML&P with reasonable assurance that the premises will take electric service permanently and continuously and where unusually large expenditures will not be required of ML&P to serve the premises in relation to anticipated revenues, ML&P will provide the facilities necessary to serve the customer at its expense.

When reasonable assurance does not exist that the customer to be served will be permanent or where unusual expenditures are necessary to supply service because of the location, size or character of the applicant's installation, facilities will be constructed only if the applicant makes an adequate contribution

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By:

Carroll G. Oliver

Title:

Utility Manager

Cancelling

Sheet No.

APR 26 1974

State of Alaska
Public Utilities Commission

toward the cost of the facilities, guarantees continued payment of bills for electric service or makes other satisfactory arrangements that will provide ML&P with sufficient security to warrant the investment and expense involved.

2.3 Temporary Services.

Temporary service will be provided by ML&P if the applicant makes a payment sufficient to cover the cost of the installation and removal of the necessary facilities less the salvage value of materials returned to stock. The cost of installation and removal will include material, labor, equipment, payroll cost and overhead. These charges will be in addition to any required meter deposit and the energy and demand charges accumulated through the use of electric energy as determined pursuant to the applicable rate schedule.

Following receipt of an application for temporary service, ML&P will prepare an estimate of the applicable installation and removal costs. Prior to the commencement of installation the applicant shall submit an advance payment equal to the estimated cost and shall agree to pay the difference between the actual costs, as ascertained after removal of the temporary service, and the estimated cost. If actual cost is less than the estimate, ML&P will refund the excess to the customer.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of Anchorage

By:

Carroll G. Oliver

Title:

Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll A. Oliver Title: Utility Manager

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

3. EXTENSION OF SERVICE

3.1 Feasibility.

ML&P will construct the facilities necessary to extend service to any customer within its certificated service area if the extension of service is economically feasible. An overhead line extension will be considered economically feasible if the cost of the extension does not exceed five times the estimated gross annual income that will be derived from the sale of electricity delivered over the extension. An underground line extension will be considered economically feasible if the customer agrees to reimburse ML&P for the cost of necessary conduit, vaults, clearing, trenching and backfill for the extension and the remaining cost to ML&P does not exceed five times the gross annual income estimated by the Utility to be derived from the sale of electricity delivered over the extension.

3.2 Extensions in Subdivisions.

Line extensions into an area that is being subdivided for residential construction which contemplates the installation of an integrated electrical system to serve an entire subdivision, or a portion of a subdivision being developed in stages, will be constructed only pursuant to a written agreement between the developer and ML&P. Copies of the forms of agreement utilized by ML&P are filed with this tariff.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll A. Oliver Title: Utility Manager

RECEIVED

Cancelling

Sheet No. _____

APR 26 1974

State of Alaska
Public Utilities Commission3.3 Contribution for Low-Income Extensions.

If ML&P determines that the cost of the line extension to be borne by ML&P, other than extensions involving the total system within a new subdivision, will exceed five times the estimated gross annual revenue, ML&P will make the extension if the customer executes a written contract guaranteeing that the gross income derived from the line extension over a five-year period of time will meet or exceed the cost to ML&P of the line extension. The contract shall provide for monthly payment by the customer of the charges and fees for services furnished over the line, or one-sixtieth (1/60) of the construction cost borne by ML&P, whichever is greater. If additional customers apply for service from the line extension, service will be provided to them only upon execution of an agreement to incur a minimum monthly billing based on an equal apportionment of the one-sixtieth (1/60) of the costs among the total number of customers receiving service from the extension. All the contracts so executed shall terminate on a date five (5) years after the first connection to service.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. OliverTitle: Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carol G. OliverTitle: Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

4. LIABILITY OF ML&P

4.1 Irregularity or Failure of Service.

ML&P will exercise reasonable diligence to furnish and deliver a regular and continuous supply of electric energy to the customer but will not be liable for damages caused by interruptions, shortages, irregularities or failures due to accident or conditions beyond the control of ML&P.

4.2 Interruptions for Repairs or Modifications.

ML&P reserves the right to temporarily suspend the delivery of electric service when necessary for the purpose of making a repair, modification or improvement to the system. If not precluded by emergency conditions, ML&P will make a reasonable effort to give notice to the customer, either through the use of public media or individual communications. Repairs or improvements will be completed expeditiously and, insofar as it is feasible, the work will be performed at times that will cause the least inconvenience to the customer.

4.3 Customer's Equipment.

The customer's electrical equipment and facilities shall conform and be installed in compliance with this tariff and with applicable federal, state, borough and city statutes, ordinances

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. Oliver Title: Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

and regulations. ML&P does not give an expressed or implied warranty as to the adequacy, safety or other characteristics of a structure, equipment, wire, conduit, appliance or device owned, installed or maintained by the customer or leased by the customer from third parties, by virtue of its inspection or non-rejection of the facilities or equipment. When inconsistencies exist between the installation standards established by the above referenced codes, the most stringent standards shall be applied.

4.4 Consequential Damages.

ML&P disclaims liability for any injury, casualty or damage resulting from the supply or use of electricity or from the presence or operation of ML&P structures, equipment, wires, conduit, appliances or devices on the customer's premises, except injuries or damages resulting directly from the negligence of ML&P, its officers or employees.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of Anchorage

By:

Carroll A. Oliver

Title:

Utility Manager

Cancelling

Sheet No.

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll A. Oliver Title: Utility Manager

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

5. TECHNICAL PROVISIONS

5.1 Metering.

The quantity of electrical energy and electrical demand shall be determined by the registration of the electric meters provided by ML&P unless otherwise provided for in the rate schedules. When the service exceeds 200 amperes or 480 volts, ML&P will provide instrument transformers for metering. The customer shall install the instrument transformers in a sealable enclosure and shall furnish and install all necessary meter sockets and raceways. ML&P will install the wiring from the instrument transformers to the meter sockets in raceways provided by the customer.

5.2 Meter Testing.

Upon request by a customer, ML&P will test an electric meter if its accuracy is questioned. If the test results demonstrate that the meter varies from the standard tolerance, the test will be performed at the expense of the utility. If the meter does not vary from the standard tolerance, a charge will be made to the customer requesting the test in accordance with the Schedule of Fees and Charges. The meter test will be conducted during normal business hours in the presence of the customer or other representative appointed by him if requested by the customer.

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By:

Carroll A. Oliver

Title:

Utility Manager

APR 26 1974

State of Alaska
Public Utilities Commission

5.3 Protective Equipment.

The customer is responsible for providing suitable protective devices for the equipment on his premises. The customer shall protect equipment with special service requirements from potentially harmful conditions, including, but not limited to, single-phase operation of equipment requiring three-phase service or under-and-over voltage conditions.

5.4 Non-Standard Tolerances.

If a customer requires a degree of regulation of the characteristics of the electrical service greater than that normally furnished by ML&P, the customer is responsible for obtaining, installing and maintaining the required regulating equipment.

5.5 Compliance with Codes.

ML&P may refuse to connect with or render service to an applicant if the applicant has not complied with pertinent national, state and local building and safety codes, regulations and ordinances relating to the installation and maintenance of his electrical wiring and equipment. ML&P may require a certificate of approval from the authority having jurisdiction to secure compliance with the building and safety codes, regulations and ordinances prior to connecting with or rendering service to the applicant.

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By:

Carroll G. Oliver

Title:

Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission5.6 Major Increases in Load.

A customer planning an increase in or modification of his equipment or facilities that will increase his peak demand by 20% or more shall notify ML&P in writing of the proposed increase in service requirements. The written notice, which shall be delivered sufficiently in advance of the increase or modification to enable ML&P to make necessary changes in its facilities to accommodate the increased load, shall state the amount, character and the expected time period during which the increased service will be required. New facilities required to meet increased demand shall be constructed under the conditions applicable to service extensions.

5.7 Damage Produced by Increased Load.

A customer who increases his load and fails to provide ML&P with the written notice required by section 5.6 shall be liable for injury to any person and damage to equipment or facilities owned or operated by ML&P or other customers of ML&P, resulting from the load increase. Damages to ML&P facilities and equipment will be repaired by ML&P and charged to the customer.

5.8 Undesirable Load Characteristics.

ML&P may refuse or discontinue service to a customer

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. Oliver Title: Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

installation if the installation has load characteristics that may cause excessive voltage fluctuations, loss of service or damage to the facilities of ML&P or other customers. ML&P may require, as a condition of service, that a customer install, at his own expense, equipment that will eliminate the undesirable load characteristics. Undesirable load characteristics include, but are not limited to, unbalanced load between phases, unacceptable variations from unity power factor and unusual demand fluctuations produced by the customer's equipment. A customer planning to install electric welders or motors larger than five (5) horsepower should consult ML&P before making the installation.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. Oliver Title: Utility Manager

APUC

APUC No. 121

Original

Sheet No. 26

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By: Carroll G. Oliver Title: Utility Manager

RECEIVED

Cancelling

Sheet No. _____

APR 26 1974

State of Alaska
Public Utilities Commission

6. SERVICE CONDITIONS

6.1 Application for Service.

A person desiring electrical service from ML&P shall complete and sign a standard service application form at the Utility Customer Service office of the City of Anchorage. If a person who has failed to complete an application or sign an agreement for service accepts service delivered by ML&P, he shall be obligated to pay for the service in accordance with the appropriate rate schedule and must abide by these rules and regulations. The furnishing of service by the utility may not be construed as a waiver of the requirement for completing and signing an application or satisfying other requirements established by these rules and regulations.

6.2 Service Contracts.

If ML&P is required to incur expenses to provide the service applied for by the customer that are excessive in relation to the anticipated revenues, the applicant may be required to execute a contract, as provided for in section 3.3, guaranteeing a specified minimum monthly or annual revenue for a designated period of time.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. Oliver Title: Utility Manager

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

6.3 Term of Service.

Unless otherwise specified in a written contract for service, the minimum term for which service will be rendered is thirty (30) days. A customer taking service for less than this minimum term will be billed for the minimum monthly charge specified under the applicable rate schedule.

6.4 Easements or Rights-of-Way Required.

ML&P will construct, own, operate and maintain electrical facilities only within the rights-of-way of public streets, roads or highways which it has a legal right to occupy or on public or private property across which easements or right-of-way satisfactory to ML&P may be obtained without cost or condemnation. As a condition of service, ML&P may require the execution of an easement or easements providing suitable right-of-way for the construction and maintenance of the distribution lines from which the consumers premise is served.

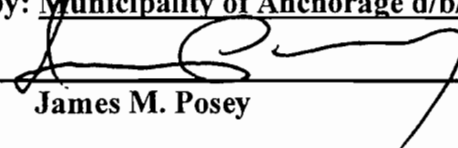
6.5 Access to Customer's Premises.

A properly identified employee of ML&P shall have access to its equipment and to any required electric interconnection equipment on the premises of the customer at all (8760 hours/year) times. Except as required for the safe and efficient operation of its facilities, ML&P will endeavor to avoid accessing the customers' premises at unusual or disruptive times.

(C)

If a customer fails to provide required access, the customer will be notified of the denial of access and will be given a reasonable time to remedy the access problem, consistent with the nature of the problem (e.g. safety hazard, emergency, non-emergency, etc.). Failure to remedy the access problem within the time specified may result in disconnection of service in accordance with section 6.11.2.

(C)

Tariff Advice No. 308-121Effective: January 14, 2011Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy:  Title: General Manager
James M. Posey

RECEIVED

DEC 3 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

6.6 Connection Charge.

(D)

Each customer shall be assessed a charge for initial connection to electrical service at each location which electrical facilities have been extended in compliance with this Tariff. This charge shall be due and payable within 15 days of the customer's initial connection. The customer will be charged for each additional connection or disconnection requested by the customer at an existing service location. If a customer's service is disconnected pursuant to Rules 5.5, 6.11 or 7.7 a reconnection charge shall be assessed. The customer shall be entitled to final disconnection from electrical service without charge at each service location.

6.7 Establishment of Credit.

Electrical service will not be provided by ML&P to a person or firm that is delinquent for service of the same classification (residential or business) previously rendered at the same or a different address, until arrangements have been made to liquidate the delinquent account.

Tariff Advice No. 308-121Effective: January 14, 2011Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: 

James M. Posey

Title: General Manager

APUC No. 121 1st Revision Sheet No. 29.1

Cancelling

Original Sheet No. 29.1

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

6.8. Deposits.

To insure the payment of all charges due for its services, an applicant or customer may be required to make a deposit when (T) applying for service in an amount set forth in the Schedule of (T) Fees and Charges. ML&P may require a separate deposit for each (N) meter installed. (N)(D)

(D)

ML&P shall issue to an applicant a written receipt for the (N) amount of the deposit and a description of ML&P's terms and conditions in the effective tariff for the refund of deposits. ML&P shall not require a customer to produce a deposit receipt in order to receive a refund of a deposit that is reflected on ML&P records.

ML&P shall offer a deferred payment agreement to residential customers for deposits in cases where economic hardship is demonstrated.

ML&P shall waive or refund a residential deposit within ninety (90) days if the applicant has previously established a good payment record with an electric utility by receiving comparable service for not less than twelve (12) consecutive months from that utility within the past two (2) years without delinquency in payment during the last twelve (12) consecutive months of service. If the service was provided by a utility other than ML&P, written verification will be required. (N)

(D) Deleted material from Section 6.7 previously published on Original of Sheet 29.1

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: Thomas R. Stahr TITLE: General Manager

Cancelling

1st Revision Sheet No. 30

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

Any deposit held, plus any accrued interest, shall be refunded (N)
within thirty (30) days after the earlier of:

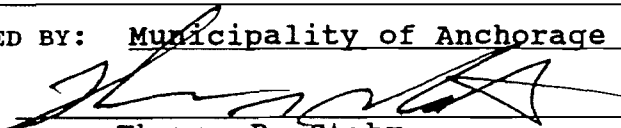
- (1) Twelve (12) months continuous service if the customer has not been past due in payment more than two (2) times, has not been delinquent in payment in the last six (6) months, and is not past due at review; or
- (2) Termination of service or disconnection of service to the extent the amount of deposit exceeds any balance due ML&P for electric service, late fees, finance charges, and any claims for damage or destruction of ML&P owned property. (N)

ML&P may require a customer, as a condition for continued service, to make a deposit or increase the amount of deposit at any time the customer becomes delinquent in payment or ML&P (N)
determines that the charges billed against the customer would warrant the increase. The amount of the total deposit shall not (N)
exceed that set forth in the Schedule of Fees and Charges. (N)

6.8.1 Interest on Deposits.

ML&P shall pay interest on deposits over \$100.00 at the time of (N)
deposit refund. The deposit shall be placed in an interest bearing account. At the time of deposit refund the interest paid shall be calculated using the current interest rate that ML&P earns on utility deposits. This rate shall be applied over the term that the deposit is retained by ML&P. If delinquent payments result in interruption of service, ML&P shall not pay interest on a deposit for the first 12 months after re- (N)

(D) Deleted material from Section 6.8 previously published on 1st Revision of Sheet 30.

Tariff Advice No. 223-121 Effective: June 13, 1997ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & PowerBY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 1st Revision Sheet No. 31

Cancelling

Original Sheet No. 31

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

establishment of service. The customer's interest earnings and (N)
deposit refund may together be applied as credit on a customer's (N)
bill. (N)

6.9 Deposit Not to Affect Regular Collection Practices.

A deposit remitted in compliance with the requirements of these (D)
rules and regulations does not relieve an applicant or customer
from the obligation to pay bills promptly when due, nor does it
constitute a waiver or modification of rules providing for (T)
discontinuance of service for nonpayment of any sum due ML&P for
service rendered. ML&P may discontinue service to any customer
failing to pay current bills, as provided in Rule 7.5,
Delinquent Bills, without regard to the fact that the customer (T)
has made a deposit with ML&P to secure payment of those bills or
has furnished ML&P with a guarantee in writing for the bills.

6.10 Protection of ML&P Property and Facilities.

Appliances, devices or facilities provided at the expense of
ML&P are the property of ML&P and may be removed by it at any
time on the termination of an agreement for its maintenance or
the discontinuance of service. To protect its equipment and
service ML&P may seal the switch or other device, equipment or
facilities located on the customer's premises to prevent access
by unauthorized persons.

The customer is responsible for the safekeeping of the property

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 1st Revision Sheet No. 32

Cancelling

Original Sheet No. 32

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

of ML&P on its premises and shall take all reasonable precautions against damage to or unlawful interference with the facilities. The customer shall not connect to, interfere with or alter the conductor, meters, seals or other facilities used in connection with rendering electric service or permit connection to, interference with, or alteration by any person other than an authorized agent or employee of ML&P. The customer shall pay for any damage to ML&P's property. If ML&P determines it to be necessary to protect its property or other individuals, the customer shall install, at his expense, suitable protective or security devices designated by ML&P on the customer's premises.

6.11.1 Disconnection of Service.

Service shall be discontinued only in accordance with the rules and regulations established in Rule 6.11.2, Notification Policy. The right to disconnect service for cause, as contained in this tariff, shall be exercised whenever and as often as the cause shall occur. Neither delay nor omission on the part of ML&P to enforce this rule at any time shall be deemed to waive its right to enforce this rule at another time.

ML&P may discontinue any or all electric services of the same classification (for example residential, general service, etc.) being provided to a customer, at the same or different locations, if a customer permits a bill to become delinquent.

(L) Section 6.11 previously published on Original of Sheet 32 and 33 has been renumbered as 6.11.5 and relocated to Original of Sheet 32.7.

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY: Thomas R. Stahr TITLE: General Manager

SEP 30 2010...

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

Service discontinued in accordance with the rules and regulations established in this tariff shall be restored within three (3) working days of correction of the cause of disconnection.

6.11.2 Notification Policy.

- A. **By Request:** If a customer either in person, in writing, or by telephone requests that service be disconnected, ML&P shall hold that customer responsible for all services up to the later of the date the disconnection is to be made or three working days after ML&P is notified of the request for disconnect.
- B. **Without Notice:** Service may be disconnected without advance written notice in the following situations:
- (1) An immediate hazard exists which threatens the safety or health of the customer or the general population or ML&P's personnel or facilities. For purposes of this subsection, connection to another electrical system, except as allowed in Section 6.12 of this tariff, constitutes an immediate hazard threatening the safety of ML&P's personnel;
- (2) ML&P has evidence of meter tampering or fraud by the customer. Tampering with meters is prohibited by ML&P. Theft of service is a criminal offense under Alaska Law (AS 11.46.200). In addition to statutory penalties, the user will be responsible to pay all outstanding bills, connect fees, deposits and charges for electric service (see Section 6.11.5 Disconnection for Tampering with or Failure To Protect Property); or
- (3) A customer has failed to comply with the curtailment procedures imposed by ML&P during emergency supply shortages.
- C. **With Notice:** ML&P may commence disconnection procedures in accordance with Section D., Notice Requirements, for any of the following reasons:

Tariff Advice No. 308-121

Effective: December 30, 2010

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

James M. Posey

APUC No. 121 Original Sheet No. 32.2
Cancelling
Sheet No. _____

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

- (1) Failure of the customer to pay for utility service within (N) 40 days after initial rendering of the bill unless the customer has entered into a deferred payment agreement;
- (2) Failure of the customer to fulfill the terms of a deferred payment agreement;
- (3) Failure of the customer to meet or maintain ML&P's deposit requirement;
- (4) Knowing and continued failure of the customer to provide reasonable access to ML&P's meter, equipment, or property;
- (5) Necessity of ML&P to comply with an order or regulation of any governmental agency with proper jurisdiction, or
- (6) Customer breach of a special contract between ML&P and customer for utility service.

D. Notice Requirements: The following notice requirements apply to service disconnections permissible under Section C., With Notice:

- (1) ML&P shall, at least fifteen (15) days before the scheduled date of disconnection, mail or deliver to the customer a written notice of ML&P's intent to disconnect service.
- (2) A customer may specify that a third party be served with a copy of the delinquent notice in the event of imminent discontinuance of the customer's service. A copy of the termination notice shall be forwarded to any third party designated by the customer on the service application. The existence of a third party to be notified does not relieve the customer of the responsibilities contained within this (N)

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: 

Thomas R. Stahr

TITLE: General Manager

APUC No. 121 Original Sheet No. 32.3
Cancelling
Sheet No. _____

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

tariff nor does it change the time of final notice and (N)
discontinuance of service.

- (3) In the case where service is to be disconnected for non-payment, the notice shall advise the customer of the availability of utility representatives empowered to review the charges and rectify any errors to avoid the possibility of disconnect.
- (4) Not less than three working days prior to disconnection, ML&P shall attempt personal contact with the customer either by telephone or by visit of an authorized ML&P representative to the premises. If by telephone: ML&P shall attempt to make contact no less than three times at various periods in the day or make other reasonable attempts to contact the customer. If by visit to the premises: ML&P's authorized representative shall hand-deliver a "Shut-Off Notice" to the customer or, if no personal contact is possible, leave the notice in a prominent place.
- (5) Within 10 days after the date specified on a "Shut-Off Notice", ML&P may, without further notice, disconnect service to a customer between the daily business hours of 8:00 a.m. on Monday to 5:00 p.m. on Thursday. Service may not be disconnected on a Friday or a day preceding a holiday.

(N)

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 Original Sheet No. 32.4

Cancelling

Sheet No. _____

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

- (6) If ML&P has been informed that a residence is occupied by a person who is seriously ill, elderly, handicapped, or dependent on life support systems, ML&P shall, at least 30 days before the scheduled date of disconnection, mail or deliver to the customer a written notice of ML&P's intent to disconnect service. In any case in which ML&P is notified after issuance of a termination notice that a customer's residence is occupied by a person who is seriously ill, elderly, handicapped, or dependent on life support systems, ML&P shall extend the disconnection date by 15 days and notify the customer of the extension. (N)
- (7) If a customer fails to comply with the terms of a deferred payment agreement, ML&P may disconnect service after providing written or telephone notice at least three (3) working days before disconnection.
- (8) ML&P may remove any or all of its property installed on a customer's premises upon disconnection of service.
- (9) ML&P shall restore service within three working days after correction of the conditions that resulted in the disconnection. Correction includes execution of a deferred payment agreement. If service is restored during a period other than regular working hours at the customer's request, ML&P shall impose an after-hours charge for reconnection, in accordance with the Schedule of Fees and Charges. (N)

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 Original Sheet No. 32.5
Cancelling
Sheet No. _____

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

6.11.3 Landlord/Tenant Notice.

(N)

If ML&P knows that a landlord/tenant relationship exists the following provisions apply in disconnection of service situations:

- A. Where the tenant is the customer of ML&P: ML&P shall notify the landlord in writing at least fifteen (15) days before the scheduled date of the tenant's disconnection. The landlord will have the option of subscribing for the service provided at the tenant's premises when the tenant has not corrected the situation which has made the premises subject to disconnection.
- B. Where the landlord is the customer of ML&P: ML&P shall notify the tenant in writing at least fifteen (15) days before the scheduled date of the landlord's disconnection. The tenant will have the option of subscribing for the service provided at the landlord's premises when the landlord has not corrected the situation which has made the premises subject to disconnection.

ML&P shall not attempt to recover from a landlord amounts due ML&P from the tenant, or recover from a tenant amounts owed by the landlord, nor will payment of such amounts be a condition of extending service to the applicant. However, if the applicant has an outstanding balance to ML&P for service to that service address, payment of this balance and all associated late charges, delinquent payment fees, finance charges, and any (N)

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 Original Sheet No. 32.6
Cancelling
Sheet No. _____

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

claims for damage or destruction of ML&P owned property will be (N)
required before service will be extended to the applicant,
whether a landlord or a tenant. ML&P shall require a deposit as
set forth in the Schedule of Fees and Charges.

ML&P may disconnect service to the premises if the landlord or
tenant, as the case may be, declines to subscribe for service or
arrange for payment of the delinquency where applicable.
Service shall be disconnected within fifteen (15) days of the
mailing of the notification of the option of subscribing for
service.

C. For master metered premises where the landlord is the
customer of ML&P: ML&P shall, at least fifteen (15) days
before the scheduled date of disconnection of the landlord,
give each tenant known by ML&P to be served through the
master meter notice of the pending disconnection.

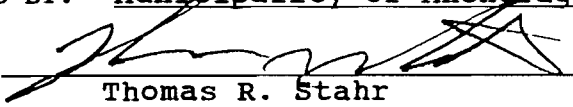
6.11.4 Limitations on Disconnections.

ML&P shall not disconnect service to a customer for any of the
following reasons:

- (1) delinquency in payment for services rendered to a prior
customer at the premises where service is being provided,
except in the instance where the prior customer continues
to reside on the premises;
- (2) failure of the customer to pay for services or equipment
not regulated by the Alaska Public Utilities Commission; (N)

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 Original Sheet No. 32.7

Cancelling

Sheet No. _____

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

- (3) nonpayment of a bill related to another class of service at a different service location; (N)
- (4) failure of the customer to pay disputed charges on the delinquent account, provided that the customer complies with ML&P's tariffed rules on customer bill disputes, and the dispute remains under investigation by ML&P or by the APUC; however, a customer shall pay any undisputed amount, and ML&P may proceed to disconnect service in accordance with this rule for failure to pay any undisputed amounts; or
- (5) the customer is unable to pay the full delinquent amount due, qualifies for a deferred payment agreement, and is in compliance with a signed, or is in the process of timely negotiating a deferred payment agreement. (N)

6.11.5 Disconnection for Tampering with or Failure To Protect Property. (D)

In accordance with Rule 6.11.2, Notification Policy, service may be discontinued by ML&P at any time to prevent fraudulent use or to protect ML&P's property. Theft of service is a criminal offense under Alaska Law (AS 11.46.200). If seals placed on ML&P equipment or facilities are damaged or removed, ML&P shall discontinue service to the customer until such time as satisfactory assurance has been provided that the equipment or facilities will be free from future tampering. In addition to statutory penalties, the user will be responsible to pay all outstanding bills, connect fees, deposits and charges for electric service. (N)

(L) Section 6.11.5 previously published as Section 6.11 on Original of Sheet 32 and 33.

Tariff Advice No. 223-121

Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: _____

Thomas R. Stahr

TITLE: General Manager

Canceling

RECEIVED**AUG 15 2016****MUNICIPAL LIGHT & POWER****STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA****6.12 Connections to other Systems****6.12.1 Connections to other Systems**

ML&P will deny service to or disconnect service to or disconnect its service from any premises or facility that is connected to another electrical system except:

- (1) stand-by power from the customer's own generating equipment;
- (2) net metered generation as provided under Rule 10 of this tariff; (T)
- (3) partial requirements service under Rate Schedules 770 or 780; (N)
- (4) service under Rate Schedules 28 or 29; or (N)
- (5) as is otherwise provided by special contract. (C, L)

A customer's stand-by electrical system must meet the following requirements and the requirements of Rule 6.12.2 through 6.12.7. The customer's stand-by electrical system shall be connected through a transfer switch that is approved by ML&P under section 6.12. For purposes of Section 6.12, a "stand-by electrical system" is an electrical system that is used to supply electricity to a customer premises when utility service is not available. The transfer switch must be of a design that will ensure that backfeed into ML&P's electrical system will be prevented. ML&P shall make the sole determination as to whether or not a stand-by electrical system installation meets ML&P's requirements and provides an appropriate level of protection against backfeed to its electrical system. (N)

6.12.2 Manual Transfer Switches (Open Transition)

Manual transfer switches shall be of the double-throw, open-transition type. Key-type interlock systems employing key cylinders and locking bolts, and ratcheting or pivoting plates that externally connect two independent circuit breakers in a break-before-make scheme do not satisfy the requirements of subsection 6.12.1, 6.12.2, and 6.12.3, and will not be allowed. (N)

6.12.3 Automatic Transfer Switches (Open Transition)

Automatic transfer switches shall be the open transition type except as provided in 6.12.5. Automatic transfer switches must provide for manual transfer of customer load. Automatic transfer switches shall have both mechanical and electrical interlocks to prevent parallel operation of the customer's stand-by electrical system with ML&P's electrical system.

6.12.4 Modifying or Overriding Transfer Switches (Open Transition)

ML&P will deny service to or disconnect its service from any premises or facility with a stand-by electrical system that is found to have any modifications to a transfer switch, unless such modifications have been approved in writing by ML&P.

Tariff Advice No. 351-121Effective: September 29, 2016Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Mark A. Johnston Title: General Manager

RECEIVED

OCT 06 2008

STATE OF ALASKA
 REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

6.12.5 Parallel Operation (Closed Transition)

(T)(L1)

Stand-by electrical systems intended for parallel operation (closed transition) shall not be installed without prior written approval from ML&P. Subsequent to written approval by ML&P, and prior to the system being made operational, the customer shall schedule with ML&P a time for initial inspection and testing of the closed transition transfer switch and stand-by electrical system. Parallel operation shall be allowed only for maintenance and testing of stand-by electrical systems and must be scheduled with and approved in advance by ML&P.

(T)(L1)

6.12.6 Transfer Switch Approval

(N)

Transfer switches, both open transition and closed transition, for use with stand-by electrical systems shall be approved by ML&P prior to installation. ML&P shall require a one-line electrical diagram of the proposed installation showing the normal source (utility power), the alternate source (stand-by power), and an accurate depiction of the transfer switch employed. ML&P will also require the generator manufacturer's specific ratings and capacities for the unit proposed, the transfer switch manufacturer's specific ratings and capacities for the transfer switch proposed, and a detailed description of transfer switch operation. If the transfer switch is intended for parallel operation (closed transition type), the customer shall also provide specifications of all interconnecting equipment including, circuit protection (protective relays), instrumentation, measurement, and control equipment.

6.12.7 Prohibited Transfer Equipment

Meter socket adapter transfer devices are prohibited for use on ML&P's system.

(N)

6.13 Permits

(L2)

ML&P may require the customer to obtain for ML&P any special permits or licenses required for access to install and maintain its service facilities and carry out its contract or service obligation with the customer. A special permit or license is one that ML&P would not acquire or hold in the normal course of its business.

(L2)

(L1) Section 6.12.5 was previously in Section 6.12 on Sheet No. 33

(L2) Section 6.13 was previously on Sheet No. 33

Tariff Advice No. 296-121

Effective: December 4, 2008

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

APUC No. 121 1st Revision Sheet No. 34

Cancelling

Original Sheet No. 34

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

6.14 Establishment of Rates for Services.

At the time the customer applies for service, ML&P personnel (T) (L₁) shall advise the customer of the most economical class of service available and assist the customer in making an informed choice if alternate classes of service are available. If more (T) (L₁) than one rate schedule could be applied, the applicant shall designate in writing the schedule upon which the service and rate will be based. If a customer receiving service desires to change the designation of the rate schedule to another schedule applicable to the service being rendered, the customer shall notify ML&P in writing and the change in schedule shall be effective commencing with the period following the next regular meter reading. A customer shall not be allowed to make more than one change in designation of applicable rate schedule during any one-year period unless a new schedule is made effective or the customer's operating conditions have changed permanently in a manner that would warrant a change in the schedule.

Unless otherwise provided, the rates established by this tariff for each class of service are based upon a supply of service to one entire premises through a single delivery and metering point. Service furnished to the same customer at other points of consumption shall be separately metered and billed at the rate applicable to the consumption at each delivery point.

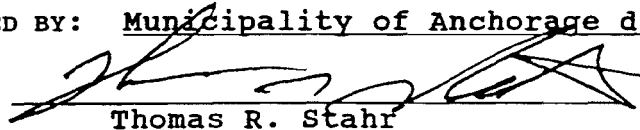
(L1) Section 6.14 previously published on 1st Revision of Sheet 33. (L2)

(L2) Section 6.15 previously published on Original of Sheet 34 has been relocated to 2nd Revision of Sheet 35.

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Thomas R. Stahr

TITLE: General Manager

RECEIVED

SEP 04 2008

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

6.15 Resale of Electricity.

A customer shall not sell any of the electric energy furnished by ML&P unless the customer holds a valid certificate of public convenience and necessity issued by the Regulatory Commission of Alaska for retail distribution of electric energy and the customer has executed a contract with ML&P, or is accepting service under a schedule, which specifically authorizes the resale of electricity. This rule does not prohibit a customer from sub-metering for purposes of apportioning costs among tenants, provided the service location meets the terms set forth in Rule 8.6 or 8.7

(C)

(C)

6.16 Service Complaints.

A customer may file a complaint with ML&P concerning the adequacy of the electric service provided or the failure of ML&P to comply with the rules and regulations or Rate Schedules established by this tariff. A service complaint may be filed only by a customer, or an authorized representative, who is directly affected by the action or inaction that is the subject of the complaint.

A service complaint may be oral or written and directed to the attention of the General manager of ML&P at 1200 East First Avenue, Anchorage, Alaska, 99501-1685. If the General Manager of ML&P requests, the complaint shall be reduced to writing and signed by the customer or an authorized representative. It shall set forth the name, address, and telephone number of the

Tariff Advice No. TA295-121Effective: October 20, 2008Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: James M. PoseyTitle: General Manager

APUC No. 121 2nd Revision Sheet No. 36

Cancelling

1st Revision Sheet No. 36

RECEIVED

APR 15 1997

ALASKA PUBLIC
UTILITIES COMM.

MUNICIPAL LIGHT & POWER

complaining party; the nature of the complaint; supporting facts, including pertinent dates; and the remedy requested. ML&P shall investigate the complaint and respond to the customer in writing within ten (10) working days after receipt. (T) Complaints that are not resolved by ML&P to the satisfaction of (D) the customer may be presented to the Alaska Public Utilities Commission in compliance with their filed regulations. The (N) APUC's mailing address and telephone number is 1016 W. 6th Avenue, Anchorage, Alaska, 99501; 276-6222. ML&P shall retain records of service complaints for at least two years. (N)

Tariff Advice No. 223-121 Effective: June 13, 1997

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY: Thomas R. Stahr TITLE: General Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. Oliver Title: Utility Manager

RECEIVED

JUL 21 2011

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

7. **BILLING AND COLLECTION**

7.1 **Net Rates.**

Electric energy will be sold only at rates established in this tariff unless another rate is provided for in a special contract filed with, and approved by, the Public Utilities Commission.

7.2 **Billing**

Customer meters will be read by ML&P at intervals approximating Thirty (30) days. Normally, each meter will be read on or about the same date each month, and bills will be prepared based on these readings. The length of the actual billing period may vary due to workload, intervening weekends or holidays, or other circumstances. No adjustment will be made to billings to compensate for minor variations in meter reading periods.

7.3 **Delivery of Bills**

Bills will be mailed to each customer on a monthly basis to the premises supplied with electricity or to another address specified in writing by the customer. Bills will be mailed at approximately the same time each month, and the failure to receive a billing will not relieve the customer of the obligation to pay for the service rendered. A customer who has not received a bill for a period of forty-five (45) days shall notify the Customer Service office of ML&P. (L)

Customers may elect to receive electronic bill notifications in lieu of printed paper bills. Customers electing this option will be sent notification by e-mail on the same day on which paper bills are mailed. E-mail notifications will contain a link to the Customer Service Portal (<http://billing.mlandp.com/oscp/>) where customers can log on and access their bill and payment options. (N)

Customers electing electronic billing will not receive paper bills. Electronic bills will be deemed rendered on the day that the bill has been posted on the Customer Service Portal and the e-mail notification has been sent. Failure to receive an e-mail notification of billing will not relieve a customer of the obligation to pay for the service rendered. A customer who has not received an e-mail notification of billing for a period of forty-five (45) days shall notify the Customer Service office of ML&P.

Customers can enroll in electronic billing on the Customer Service Portal, or by telephone at (907) 279-7671. Customers electing electronic billing will receive a one time credit of five dollars (\$5.00) on the first bill following their electronic billing enrollment. (N)

Tariff Advice No. TA 315-121

Effective:

SEPTEMBER 15, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: 

James M. Posey

Title: General Manager

RECEIVED

AUG 15 2016

MUNICIPAL LIGHT & POWERSTATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**7.4 Payment of Bills.**

Utility bills for services rendered by ML&P will specify the date that the bill is due, which may not be less than twenty-five (25) days after billing date. A bill that is not paid in full on or before the due date is past due. If payment is not received by the next billing date, a late fee will be assessed as established in the Schedule of Fees and Charges. However, a late fee will be charged no earlier than twenty-five (25) days after the billing date. A late fee will be assessed one time only on a given past due amount and no late fee shall be assessed on past due late fees.

7.5 Delinquent Bills.

ML&P may discontinue any or all electric services being provided to a customer, at the same or different locations, if a customer permits a bill to become delinquent. Any bill not paid within forty (40) days of the billing date is considered delinquent. If litigation is commenced to collect a delinquent bill a sum equal to five (5%) of the outstanding balance will be added as a penalty, and the billing, less the penalty, shall accrue interest at the rate of eight percent (8%) per annum from the due date until payment.

7.6 Dishonored Checks

If a check presented in payment of any charge established by this tariff is dishonored for any reason, the person presenting the check will be assessed an additional charge established in the Schedule of Fees and Charges except when a check is honored the first time it is redeposited. If more than one check presented by an individual is dishonored, that customer may be denied the privilege of paying for services by personal check, and may thereafter be required to pay in cash or by other means approved by ML&P.

7.7 Re-connection of Service.

If a customer has had service discontinued for non-payment of bills, ML&P may refuse to furnish service to the customer at the same or any other location until all charges due to ML&P, including applicable re-connection charges specified in the Schedule of Fees and Charges, have been paid and satisfactory assurance given to ML&P that future bills will be paid promptly.

*Section 7.8 Relocated to Sheet 39.1

(L)
—
—
—
(L)Tariff Advice No. TA 352-121Effective: September 29, 2016Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Mark A. Johnston Title: General Manager

RECEIVED

AUG 26 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

7.8 Combined Billing.

(L)

The rates set forth in the individual rate schedules are based upon the supply of service to one member through one meter on one premises and service measured through two or more meters on the same premises will not be combined for billing purposes except in the following instances:

(C)

1. When two or more service connections are necessary to provide service at the least expense to ML&P.

2. When two or more service connections are necessary to render proper and reliable service without undue interruption.

Upon request of an applicant, ML&P may install more than one meter, but in such instances the bill for service through each meter will be computed separately and billed in accordance with the applicable rate schedule.

(C)

* Section 7.8 is relocated from Sheet 39.

Tariff Advice No. TA 352-121

Effective: September 29, 2016

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mark A Johnston Title: General Manager

RECEIVED

JUL 21 2011

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

MUNICIPAL LIGHT & POWER

7.9 Estimated Billing.

If ML&P is unable to read a meter at the usual or scheduled time, due to locked premises, weather conditions, road conditions, presence of dangerous animals or other circumstances, ML&P will bill the customer based upon the estimated consumption and adjust the account in accordance with the next subsequent meter reading.

7.10 Adjustment of Bills for Meter Error.

If a meter test, conducted for any reason, reveals that the meter is more than two percent (2%) fast, ML&P will refund to the customer the overcharge based on the corrected meter readings for the period in which the meter was in use, not exceeding three (3) months. If it can be established that the error was due to some cause, the date of which can be fixed, the overcharge will be computed back to but not beyond that date.

If a meter test reveals that a meter for commercial or industrial service registers more than two percent (2%) slow, ML&P will render a bill for electricity consumed but not covered by bills previously rendered for a period not to exceed three (3) months. If the cause of the error can be definitely established and the actual date on which the error commenced can be determined, the correction to be made will cover the actual period.

If a meter test reveals that a meter of residential service is not registering or is registering less than seventy-five percent (75%) of the actual consumption, an average bill or a bill for the electricity actually consumed but not included in the previous billings will be rendered for a period not to exceed three (3) months.

7.11 Disputed or Erroneous Bills.

A customer who is unable to obtain an informal adjustment of a billing that he believes to be erroneous or excessive may file a written complaint with ML&P as provided in section 6.16 of these Rules and Regulations.

7.12 Change of Occupancy.

A customer who is listed on ML&P's records as the person or entity responsible for electric consumption at a specific location shall give reasonable notice of a contemplated change in occupancy, specifying the date on which service is to be discontinued. If the customer fails to provide the required notice, he will be charged for electric service furnished to the premises until ML&P is provided with adequate notice of change of occupancy.

Tariff Advice No. TA 315-121

Effective: SEPTEMBER 15, 2011

~~Issued by: Municipality of Anchorage d/b/a Municipal Light & Power~~

By: James M. Posey Title: General Manager

RECEIVED

JUL 21 2011

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

MUNICIPAL LIGHT & POWER

7.13 Automatic Landlord Agreement.

The owner of rental property may execute an agreement with ML&P providing for the automatic continuance of service in the owner's name during periods of vacancy or payment by the owner for service when rented if the owner so chooses. It shall be the owner's responsibility to notify ML&P whenever the electric service is to be transferred out of the owner's name.

The owner will be billed as specified in the applicable rate schedule for regular customers of the same class whenever the electric service has not been transferred into the tenant's name. The owner shall be charged an initial connection charge as provided in Rule 6.6, but shall not be charged for renter's connections and disconnections. The automatic landlord agreement shall be terminated upon the owner's request, whenever ownership of the property changes, or pursuant to Rules 5.5, 6.11, or 7.7. In case of reconnection after disconnection pursuant to Rules 5.5, 6.11, or 7.7, a reconnection charge shall be assessed pursuant to Rule 6.6. The automatic landlord account becomes delinquent due to non-payment of bills.

(L)

7.14 Primary Metering Discount.

This Rule is cancelled.

7.15 Constant Billing.

When electricity is used as a main source of heat for a private residence or commercial establishment, the customer may request a constant billing based on the estimated average monthly consumption over a one-year period, as determined by ML&P. The account will be adjusted on July 1 of each year or at the termination of service, to reflect the actual consumption.

(L)

Tariff Advice No. TA 315-121

Effective: SEPTEMBER 15, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

RCA No. 121 2nd Revision Sheet No. 42

Canceling

1st Revision Sheet No. 42

RECEIVED

JUL 21 2011

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

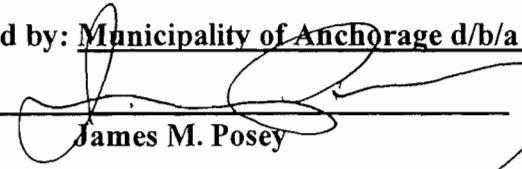
MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. TA 315-121

Effective: SEPTEMBER 15, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:  Title: General Manager

James M. Posey

RCA No. 121 4th Revision Sheet No. 43

Canceling

3rd Revision Sheet No. 43

RECEIVED

JUL 21 2011

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. TA 315-121

Effective: SEPTEMBER 15, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: 

James M. Posey

Title: General Manager

APUC

APUC

No. 121

Original

Sheet No. 44

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By: Carroll A. Oliver Title: Utility Manager

APUC

RESERVED

No. 121

Original

Sheet No. 45

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By: Carroll G. Oliver Title: Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

8. SERVICE CONNECTIONS

8.1 General Requirements.

The customer shall own, install, operate and maintain the service equipment, other than the metering equipment, and all wiring and electrical facilities on the customer's side of the service equipment.

8.2 Location and Installation of Meters.

Prior to wiring a building or structure, or performing any electrical construction for a new service or change in service, the customer shall request ML&P to designate the location of the customer service equipment. The service equipment shall be on the side of the building closest to the service pole or the origin of the underground service conductor, unless aesthetic factors dictate otherwise. ML&P will not be obligated to provide service to a structure at a point not designated by ML&P and a customer who proceeds without the designation of location may be required to modify the wiring or other construction to provide for service equipment at a location subsequently designated by ML&P. The metering equipment may not be placed in a locked area. The customer shall, at his own expense, extend his wiring for a new and approved meter location whenever the existing meter has become inaccessible or potentially inaccessible for

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of Anchorage.By: Canaff G. OliverTitle: Utility Manager

Cancelling

Sheet No.

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

inspection, reading and testing.

8.3 Primary Facilities.

Loads in excess of 50 kilowatts of demand may require primary facilities for adequate service. If primary service is required, the customer will be required to provide space on his property at no cost to ML&P for the transformers, switches, regulators and other equipment necessary to serve the load. The space provided may be outdoors for pad-mount transformers or in a vault inside a building in accordance with ML&P's detailed service specifications.

8.4 Overhead Service.

ML&P will own, install, operate and maintain the overhead service necessary to connect the customer's service equipment to ML&P's distribution facilities. A permanent overhead service will not be provided where ML&P's distribution facilities are underground.

8.5 Underground Service.

Where ML&P's distribution facilities are underground, and in the Central Business District, underground services are required. A customer may obtain an underground service connection to ML&P's overhead distribution system on request. An underground service

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. Oliver Title: Utility Manager

Cancelling

ORIGINALSheet No. 48RECEIVED
MAR 12 1979State of Alaska
Public Utilities Commission

may consist of cables buried directly in the earth, if later excavation for repair or replacement of the service is not objectionable. Where the customer desires to minimize the risk of future excavation on his property, or where the service crosses public sidewalks, streets or alleys, the service conductors shall be installed in buried conduits.

1. ML&P will furnish, connect and maintain, at its expense, all service conductors, except that where the customer's service entrance equipment utilizes bus duct for the connection to ML&P's transformer(s), the customer shall furnish and install the bus duct and shall make the connection to the transformer(s). The customer shall give notice to ML&P in case of a fault or failure of the service entrance bus way (bus duct). The method of connection shall be as specified by ML&P. In the case of a fault or failure in the service entrance bus way (bus duct), the customer shall be liable for necessary repairs. ML&P will disconnect the primary feed to the transformer immediately upon receiving notice of such a fault and reconnect upon receiving notice that the fault or failure has been repaired.

Tariff Advice No. 9-121Effective: MAR 23 1979Issued by: Municipal Light and Power Department
Municipality of AnchorageBy: Thomas R. Stahl Title: Utility Manager

Cancelling

Sheet No. 48.1

RECEIVED
MAR 12 1979State of Alaska
Public Utilities Commission

2. The customer shall reimburse ML&P for the cost of all T
pavement, cutting, thawing, removal and replacement T
performed by ML&P. T
3. ML&P shall perform at its expense all excavation, N
trenching and backfilling for underground service N
connections. N
4. Where the service requires the installation of conduit C
on, within, or under the customer's building, the C
customer shall make the installation, terminating the C
conduit clear of the building where it is accessible C
to ML&P. The conduit size and type shall be as spe- C
cified by ML&P. ML&P will install all other conduit C
required for the service. C
5. An underground service will not be installed in frozen N
ground unless the customer agrees to reimburse ML&P N
for the cost of thawing and related expenses. In N
general, if an application for underground service is N
received after September 1 and before spring of the N
following year, the service will be installed in fro- N
zen ground and the customer will be liable for the N
consequent expenses. N

9-121

Tariff Advice No. _____

Effective: MAR 23 1979

Municipal Light and Power Department
Issued by: Municipality of AnchorageBy: Thomas R. Stahr Title: Utility Manager

APUC No. 1215th RevisionSheet No. 48.2

Cancelling

4th Revision48.2

Sheet No.

RECEIVED

MAY 16 1986

State of Alaska

Public Utilities Commission

MUNICIPAL LIGHT & POWER

8.51 Underground Locate Service

ML&P will commence to furnish a locate in accordance with Anchorage Municipal Code Section 26.90.030 within regular business hours after receipt of a request for locate service in the designated area. Those requesting underground locate service will be charged on the following basis:

1. ML&P will provide up to thirty (30) underground locates per month per requester at no charge provided locates are made during normal working hours of 7:00 a.m. to 3:00 p.m. Locates required after normal working hours will be billed at the overtime rate.
2. Underground locates in excess of thirty (30) locates per month will be charged at ML&P direct labor cost plus equipment cost.
3. Utilities providing more than thirty (30) underground locates per month for ML&P shall be given credit, on an hour for hour basis, against any amount due under this section.
4. One locate visit shall be counted for each field visit by an ML&P locator regardless of final markings. Additional locates shall be counted on the occasion where vehicle transportation is required of all locate equipment or locate equipment requires relocation to further transmit a signal. Any locate effort exceeding forty (40) minutes in duration shall be counted as one locate. Each additional forty (40) minute interval shall be counted as an additional locate.
5. If locate service encompasses excavation work which will require more than one day to complete the person or entity requesting the locate shall provide to ML&P a schedule of the excavation work for which locate service is to be provided.
6. Billing for charges under this section shall be monthly, and shall be due and payable within 10 days of receipt.
7. ML&P may allow the requestor of locate service to contract with a contractor approved by ML&P to locate ML&P's cable at the requestor's own expense and risk.
- L. Material formerly shown on Original Sheet 48.2, see Original Sheet No. 48.3

Pursuant to U-83-97(12)

Tariff Advice No. 145-121Effective: April 29, 1986Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Title: General Manager

APUC No. 121

1st Revision

Sheet No. 48.3

Cancelling

Original

Sheet No. 48.3**RECEIVED****SEP 17 1985**

State of Alaska

Public Utilities Commission

8.6 Services to Multi-Occupant Buildings

Except as specified below, ML&P will install an individual meter to measure the energy consumption attributable to each residential and commercial unit in a multiple occupancy building if construction (for the purpose of this section, is defined as begins when the footing are poured) of the building was begun after December 31, 1982.

1. Individual meters are not required:

a. For transient multi-occupant buildings including, but not limited to, hotels, motels, dormitories, rooming houses, hospitals, nursing homes;

b. For commercial unit space which is subject to alteration with changes in tenants as evidenced by temporary, construction of non load-bearing walls or floors separating the commercial unit spaces;

c. Where alternative renewable energy resources are used in connection with central heating, ventilating, and air conditioning systems; and

d. In common building areas such as hallways, elevators, reception areas, and water pumping facilities.

The customer must arrange the wiring of a multi-occupant building so that the wiring for all stores, apartments, or other individual units will terminate at a common point or points designated by

Pursuant to Order No. 7, U-83-97

Tariff Advice No. 75-121Effective: August 23, 1985Issued by: Municipality of Anchorage d/b/a Municipal Light and PowerBy: 

Thomas R. Stahr

Title:

General Manager

Cancelling

OriginalSheet No. 49**RECEIVED****OCT 21 1982**

State of Alaska

Public Utilities Commission

ML&P. Multiple points of delivery or metering on the same premises may not be utilized without the prior written consent of ML&P.

Prior to the installation of a meter, the meter bases in multiple metered buildings shall be permanently identified in a manner which will designate the store, apartment or other unit being metered and the class of service contemplated. Once identified, the meter will be read to measure consumption according to the original identification and ML&P will not be responsible for any billing errors due to improperly identified meter bases unless prior written notice has been provided to ML&P of the change of identification.

8.7 Service to Trailer Courts.

ML&P will furnish and install the distribution system necessary to provide metered electric service to each space in a trailer court. The trailer court owner shall grant easements necessary to construct the distribution system and shall provide the necessary service equipment and wiring on the load side of the service equipment in accordance with ML&P's detailed service specifications. ML&P will provide and install the necessary meters in ganged service equipment provided and installed (L)

L-Material previously shown on Original Sheet No. 48.2.

Material formerly shown on Original Sheet No. 49, see First Revised Sheet No. 50.

Tariff Advice No. 52-121

Effective:

NOV 15 1982

Issued by:

Municipal Light & Power Department
Municipality of AnchorageBy: 

Title:

General Manager

RECEIVED
OCT 21 1982
State of Alaska
Public Utilities Commission

by the owner. If the owner desires underground distribution facilities he shall reimburse ML&P for the cost of clearing, trenching, backfill and conduit for the underground facilities. (L)

As an alternative to the foregoing, a trailer court owner may elect to take electric service at a single delivery point under the appropriate general service rate schedule. If this election is made, the owner shall install, operate and maintain all electrical facilities on the load side of the point of delivery. The owner may not meter or bill separately for the electricity furnished to individual tenants.

The above alternative method does not apply to trailer courts where construction was begun after December 31, 1982. For the purpose of this section, mobile home parks for travel trailers with electric hook-ups for motor vehicles are not included.

8.8 Three-Phase Service.

Three-phase service will not be provided to a customer if the connected load is less than 5 horsepower unless three-phase service is immediately available on existing circuits.

L-Material formerly shown on Original Sheet No. 49.

Tariff Advice No. 52-121

Effective: NOV 15 1982

Issued by: Municipal Light & Power Department

Municipality of Anchorage

By: [Signature] Title: General Manager

APUC

~~APUC~~

No. 121

Original

Sheet No. 51

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

RESERVED

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage.

By: Carroll G. Oliver Title: Utility Manager

Cancelling

Sheet No.

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

9. RELOCATION OR CONVERSION OF FACILITIES

9.1 Relocation of Facilities.

ML&P will relocate any portion of its facilities on request if the relocation will not interfere with, or increase the cost of, service to its customers. The party requesting the relocation shall execute a written agreement to pay the cost of relocation, which shall be calculated as the cost of constructing and installing the new facilities, plus the cost of removing the replaced facilities, less the accrued depreciation and salvage value of the replaced facilities. Service conductors and equipment will be relocated at the sole cost and expense of the requesting party. Relocations at the request of the Alaska Department of Highways will be performed in accordance with applicable laws of the State of Alaska.

9.2 Conversion of Overhead to Underground Facilities.

ML&P will convert overhead facilities to underground facilities on request. The customers requesting the conversion shall pay the cost of the conversion which shall be calculated as the cost of constructing and installing the new facilities, plus the cost of removing the overhead facilities, less the accrued depreciation and salvage value of the overhead facilities. Service conductors and equipment will be converted at the sole cost and

Effective: MAY 26 1974

Issued by: Municipal Light & Power Department
City of Anchorage

By:

Carroll G. Oliver

Title:

Utility Manager

Cancelling

Sheet No. _____

RECEIVED

APR 26 1974

State of Alaska
Public Utilities Commission

expense of the customer. Written agreements shall be executed prior to the commencement of a conversion project.

Written agreements will not be required for conversion of overhead facilities to underground facilities in a special improvement district created by the City of Anchorage for that purpose under the provisions of chapter 3.08 of the City of Anchorage Municipal Code, copies of which are filed with this tariff.

Conversion of facilities within the Central Business District will be performed at no cost to the customer.

Effective: MAY 26 1974Issued by: Municipal Light & Power Department
City of AnchorageBy: Carroll G. Oliver Title: Utility Manager

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

10. NET METERING

(N)

10.1 Eligibility. A retail customer may interconnect and operate in parallel an eligible customer generation system on the customer's side of the utility's meter in accordance with this rule.

(a) Eligible customer generation systems will not be permitted to interconnect with the utility's system if allowing the eligible customer generation system to be connected to the utility's system would result in the total nameplate capacity, as defined in 3 AAC 50.949(16), of all net metered generation exceeding 1.5 percent of the utility's average retail demand during the prior calendar year as set forth in Section 10.6.

(b) The utility may refuse to allow a customer to connect, or to maintain connected, net metered generation if the customer sells electric energy to the utility under a contract that allows the customer to collect more than the non-firm power rate per kilowatt-hour set forth in Rate Schedule 500 of this tariff for the electric energy sold.

(c) Subject to any required regulatory approvals, the utility may refuse to allow a customer to connect an eligible customer generation system if such refusal is reasonably necessary to address system stability constraints or other operational issues.

10.2 Interconnection. Net metered generation must be connected to the customer's facilities in accordance with the applicable requirements of Appendix A to this tariff, "*Interconnection and Operating Requirements For Non-Utility Generation Up to 5,000 kVA.*"

10.3 Application. Prior to connecting an eligible customer generation system, a customer shall submit a completed Interconnection *Application for Non-Utility Generation: Class A-Net Facilities* included in Appendix A.

10.4 Metering. The meter used by the utility to measure the quantity of electrical energy and electrical demand for billing purposes shall be capable of accurately measuring the flow of electric energy both to and from the utility's system, so that the "net electric energy", as defined in 3 AAC 50.949(17), over any billing period can be accurately determined. The utility may install, at the utility's expense, additional metering that directly measures the output of the net metered generation. If the utility elects to install such metering, the customer and the utility shall agree on a meter location that provides the utility with reasonable access to the additional metering.

(N)

Tariff Advice No. 308-121

Effective: December 30, 2010

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

Title: Regulatory Affairs Division Manager

Canceling

Original Sheet No. 55

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

11. DEFINITIONS (T)

11.1 Applicability of Definitions. (T)

The definitions in this rule are applicable to the terms as used anywhere within this tariff unless the context in which the term is used clearly indicates another or different definition should be applied.

11.2 Access, Accessible. (T)

Access means capability of being reached quickly for operating, reading, repairing, removing, testing, inspecting, or installing meters, transformers, switches, conductors, electrical enclosures, and related equipment without requiring those for whom access is required to climb over or remove obstacles, to unlock doors, to dismantle fences or gates, and so forth. Accessible equipment is not guarded by architectural enhancements, dogs, elevation, locks, parked vehicles, structures, or other impediments. (C)

11.3 Central Business District. (T)

"Central Business District" means the area bounded by Second Avenue, Ninth Avenue, L Street and Gambell Street.

11.4 City. (T)

"City" means the City of Anchorage.

11.5 Class of Service. (T)

"Class of Service" means the type of service rendered by ML&P to a customer under a particular rate schedule.

December 30, 2010

Tariff Advice No. 308-121

Effective: . -

Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: 

James M. Posey

Title: General Manager

RCA No. 121 1st Revision Sheet No. 56

Canceling

Original Sheet No. 56

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

11.6 Cost.

(T)

"Cost" means the total cost to ML&P to construct and install a facility or provide a service, including administrative and material overhead and all payroll costs.

11.7 Delivery Point.

(T)

"Delivery Point" means the point at which the customer accepts delivery of electricity, and is normally located where the customer's service equipment and the ML&P system are connected.

11.8 Demand.

(T)

"Demand" means the average rate of energy use for an interval of fifteen (15) minutes, measured in kilowatts (kw).

11.9 Eligible Customer Generation System.

(N)

"Eligible Customer Generation System" means a generation system operated and either owned or leased by customer that complies with requirements of 3 AAC 50.920 and therefore is eligible for interconnection under the net metering provisions of this tariff.

(N)

11.10 Energy

(T)

"Energy" means electrical energy measured in kilowatt hours (kwh).

11.11 Ganged Service Equipment.

(T)

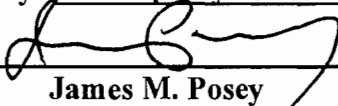
"Ganged Service Equipment" means an assembly of two or more individual service equipments with their line sides connected to a common bus.

December 30, 2010

Tariff Advice No. 308-121

Effective:

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:  Title: General Manager

James M. Posey

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

11.12 ML&P.

(T)

"ML&P" means the Municipal Light & Power Department of the City of Anchorage. When the term is used in the context of the exercise of discretion or authority relating to engineering or service decisions, "ML&P" means the utility manager or his authorized designee. When the term "ML&P" is used in relation to billings, deposits, credit and applications for service, it means the Utility Customer Service Section of the Department of Finance of the City of Anchorage.

11.13 Net Metered Generation.

(N)

"Net Metered Generation" means an eligible customer generation system or systems that are interconnected with and operate in parallel with the utility's system in accordance with net metering provisions of this tariff.

(N)

11.14 Peak demand.

(T)

"Peak demand" means the maximum rate of energy use, measured in kilowatts.

(T)

11.15 Premise.

(T)

"Premise" means the real property of the customer in a single location being served by ML&P.

11.16 Primary Service.

(T)

"Primary Service" means the conductors and equipment necessary to supply the customer with electricity at the available primary voltages of 2400; 4160; 7200; 12,470 or 34,500 volts.

11.17 Raceway.

(L) (T)

"Raceway" means a channel for holding wires, cables, or busbars, which is designed expressly and used solely for that purpose.

11.18 Salvage Value.

(L) (T)

"Salvage Value" means the value of retired facilities and equipment as estimated by ML&P

December 30, 2010

Tariff Advice No. 308-121

Effective:

Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: 

James M. Posey

Title: General Manager

RCA No. 121 1st Revision Sheet No. 58
Canceling
Original Sheet No. 58

RECEIVED

OCT 13 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

11.19 Secondary Service.

(T)

"Secondary Service" means service at available voltage of less than 2,400 volts.

11.20 Service Conductors.

(T)

"Service Conductors" means the supply conductors which extend from the street main or from transformers to the service equipment on the premises being supplied with service.

11.21 Service Equipment.

(T)

"Service Equipment" means the necessary equipment to control and meter the electric energy furnished by ML&P at its point of delivery to the customer.

11.22 Single Family Dwelling.

(L)(T)

"Single Family Dwelling" means a building or portion of a building designed or used primarily for occupancy by not more than one family for living and sleeping purposes.

11.23 Tariff.

(T)

"Tariff" means the rate schedules, rules and regulations and other documents filed as a tariff with the Alaska Public Utilities Commission.

11.24 Temporary Service.

(L)(T)

"Temporary Service" means service provided on an interim basis during a construction phase or any other service provided by use of facilities which cannot be reused or continued as permanent facilities and must be removed when the temporary need has ceased. The duration of the service will not be considered as a controlling factor in the determination of whether a service is temporary in nature.

**For 11.17 Raceway and 11.18 Salvage Value formerly published on Original Sheet No. 58, See 1st Revision Sheet No. 57.

Tariff Advice No. 308-121

Effective:

JANUARY 14, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

RCA No. 121 1st Revision Sheet No. 59

Canceling

Original Sheet No. 59

RECEIVED

DEC 3 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

(D)

(RESERVED)

(N)

**For 11.22 Single Family Dwelling, 11.23 Tariff, and 11.24 Temporary Service,
formerly located on Original Sheet No. 59, See 1st Revision of Sheet No. 58.

(N)

(N)

Tariff Advice No. 308-121

Effective: January 14, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: 

James M. Posey

Title: General Manager

APUC No. 121 First Revision _____ Sheet No. 60

Cancelling

Original Sheet No. 60

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 61

Cancelling

Original Sheet No. 61

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 62

Cancelling

Original

Sheet No. 62

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:

Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 63

Cancelling

Original Sheet No. 63

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:

Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 64

Cancelling

Original Sheet No. 64

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

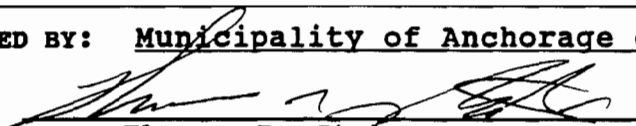
MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 65
Cancelling
Original Sheet No. 65

RECEIVED

APR 06 1994

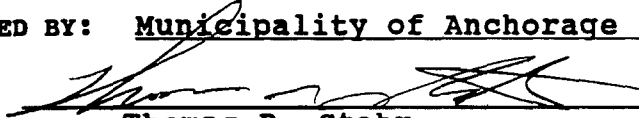
State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 66

Cancelling

Original Sheet No. 66

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

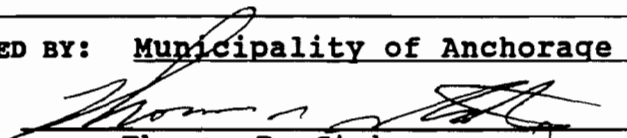
RESERVED

Tariff Advice No. 197-121

Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 67

Cancelling

Original Sheet No. 67

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Thomas R. Stahr

TITLE:

General Manager

APUC No. 121 First Revision Sheet No. 68

Cancelling

Original Sheet No. 68

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121

Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: 

Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 69

Cancelling

Original Sheet No. 69

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 70

Cancelling

Original Sheet No. 70

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

RCA No. 1213rd Revision
CancelingSheet No. 712nd RevisionSheet No. 71**RECEIVED**

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**MUNICIPAL LIGHT & POWER****12.1 Sample Bill**

positiveENERGY

**Municipal Light and Power
Customer Service**1120 E. First Avenue, Downtown
Service: 907.263.5340 Credit: 907.263.5200
www.MLandP.com
E-mail us at: askmlp@muni.org

BILL DATE	DUE DATE
03/09/10	04/03/10
TOTAL DUE	126.02

3735

(C)

SERVICE MAY BE DISCONTINUED IF PAST DUE BALANCE
IS NOT PAID WITHIN 25 DAYS OF BILL DATE

ACCOUNT NUMBER	SERVICE ADDRESS	CYCLE	METER NUMBER	LOCATION NUMBER	RATE			
123456	Customer Address	210	88888888	7777777777	RESIDENTIAL			
FROM	TO	NO. DAYS	READING PREVIOUS	READING PRESENT	BILL TYPE	MULTIPLIER	KWH USAGE	CHARGES
02/05/10	03/09/10	32	59744	60843	0	1	1099	
ENERGY CALCULATION								
1099 KWH X 0.09476 =								104.14
CUSTOMER CHARGE =								6.56
TOTAL ENERGY								110.70
COST OF POWER ADJUSTMENT								
1099 KWH X 0.011270								12.39
REGULATORY COST CHARGE								
1099 KWH X 0.000432								0.47
MOA, 2% UNDERGROUND SURCHARGE								2.46
COMPARISONS								
CURRENT BILLING PERIOD	DAYS SERVICE	TOTAL USAGE	AVG. USAGE/DAY	COST PER DAY	TOTAL DUE			
PREVIOUS BILLING PERIOD	0	0	0	0	126.02			
SAME PERIOD LAST YEAR	0	0	0	0	126.02			
Your Electricity Use Over The Last 12 Months								
1101 734 367 0								
N A M J J A S O N D J F M								

PLEASE DETACH AND RETURN THIS PORTION WITH PAYMENT

AK009008



positiveENERGY

Municipal Light and Power
P O Box 196094
Anchorage, AK 99519-6094
ADDRESS SERVICE REQUESTED

ACCOUNT NUMBER
123456

BILL DATE	BALANCE FORWARD
03/09/10	0.00
DUE DATE	CURRENT BILL
04/03/10	126.02
AMOUNT PAID	TOTAL DUE
	126.02

Payments accepted at
1120 East First Ave. 7:30 am - 5:30 pm Monday-FridayML&P (Example)
1200 E 1ST Ave
Anchorage, AK 99501-1658

00001260230 70000020891601 1000012602

Tariff Advice No. 308-121Effective: January 14, 2011Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: James M. PoseyTitle: General Manager

SEP 30 2010

STATE OF ALASKA
 REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

12.1 Sample Bill (Cont'd)

Municipal Light & Power *Payments accepted at*
 1120 East First Ave. 7:30 am - 5:30 pm Monday- Friday

Anchorage Water & Wastewater Utility
 3000 Arctic Blvd. 7:30 am - 5:30 pm Monday - Friday

Paying Your Bill

Please pay your bill by the due date printed on the front. This date does not extend the date that any previous balance was due. To maintain satisfactory credit, there can be no more than two past due payments in any 12-month period.

If you cannot pay your bill by the due date, please contact our Credit Department. ML&P will consider payment arrangements appropriate to individual circumstances. Possible sources of financial assistance for residential customers are listed below.

Agencies For Assistance

State of Alaska
 Heating Assistance Program
 400 Willoughby Avenue, Suite 301
 Juneau, AK 99801-1700
 (907) 465-3058
 (800) 470-3058

Catholic Social Services
 3710 E 20th Ave.
 Anchorage, AK 99508
 (907) 276-5590

Delinquent Bills

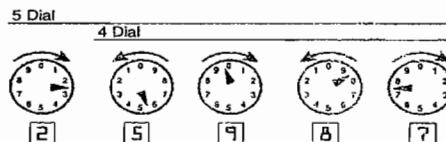
ML&P may discontinue service after giving notice if you have not paid your bill or have failed to re-establish credit. If your service is disconnected for non-payment, you will be required to pay all bills outstanding and a reconnect charge. A deposit may also be necessary before service is restored.

Disputed Bills

If you have any questions regarding your current bill, please call our Customer Service office listed above. We may not be able to respond to requests written on the remittance. Please use a separate sheet of paper and include your name, address, phone and account numbers and briefly state your question. We will respond to your concern within 10 days of receipt of your letter. If after following the above procedures you feel ML&P's policies have not been followed correctly, you may contact the Regulatory Commission of Alaska, 701 W 8th Ave, Ste 300, Anchorage, Alaska or by telephone locally at 276-6222 or outside the Anchorage area, 1-800-390-2762.

Moving?

Please notify ML&P at least five days in advance when requesting a disconnection of service. A customer may be held responsible for all services provided at the premise until the date of termination.



How To Read Your Meter

Each number shown on the above dials or digital displays represents its respective number place. When a pointer is between two numbers or exactly on a number, record the lower number. Subtract the previous reading from the current reading and you can calculate the kilowatt-hours you have used.

Definitions

KWH: This abbreviation stands for kilowatt-hour, a standard measure of electricity. To determine kWh used: watts X hours of use / 1000 = kWh. For example: 100 watt lamp X 20 hours = 2000. 2000 / 1000 = 2 kWh.

Demand Billed: The demand billed shall be the greater of: (a) the demand read times your multiplier which shows the largest load your service required for any 15-minute period during this billing cycle or (b) 80% of the maximum demand recorded during the preceding 11 months.

Multiplier: A number by which your meter reading is multiplied to determine actual kilowatt demand and kilowatt-hours used.

Cost of Power Adjustment: A billing adjustment reflecting fluctuations in ML&P's cost of generation and purchased power (cost of power). This adjustment is the difference between the per kilowatt-hour cost of power that is included as part of the regular energy charge and ML&P's current cost of power.

Regulatory Cost Charge: ML&P collects a utility tax for the Regulatory Commission of Alaska. This charge is calculated per unit of kilowatt-hours used.

Customer Charge: A flat charge designed to recover costs associated with meter reading, billing and collections, and maintenance of meters.

Bill Type: 0 Regular 1 Estimated 2 Minimum Estimated
 3 Minimum 4 Final 5 Prorated
 6 Prorated Minimum 7 Budget 8 Contract

Other Services

LANDLORD AGREEMENTS
 LETTERS OF CREDIT
 DRIVE-UP WINDOW
 TRADE-A-TREE

Payment Options

ELECTRONIC FUNDS TRANSFER
 VISA and MASTERCARD
 BUDGET BILLING
 DEBIT CARDS

CHANGE OF MAILING ADDRESS:

 ZIP: _____ PHONE: _____

|||||
 MUNICIPAL LIGHT AND POWER
 PO BOX 196094
 ANCHORAGE AK 99519-6094

MLP

Tariff Advice No. 308-121

Effective: January 14, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: _____

James M. Posey

Title: General Manager

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

12.2 Disconnect Notice

(T)

(C)

MUNICIPAL LIGHT & POWER
1120 EAST STANLEY AVENUE ANCHORAGE, AK 99501
PHONE: 273-5200 FAX: 273-5200

DISCONNECT

Service	Rate	Notes
Electricity		
Gas		

IMPORTANT INFORMATION
See reverse side

Customer Name: _____
Service Address: _____
Posted by initials: _____
Date Posted: _____
Start Date: _____

(C)

Tariff Advice No. 308-121

Effective: January 14, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

Canceling

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

12.2 Disconnect Notice (Cont'd)

(T)

(C)

Contact the ML&P Credit office at 263-5200.
Monday - Friday, 7:30 a.m. - 5:30 p.m. JL

1) You believe the billing is incorrect or want to confirm a previous payment.

2) You wish to apply for a deferred payment plan if a hardship exists.

3) You wish to provide written verification by a physician that the occupant is seriously ill, elderly, disabled or dependent on life support systems, which could delay disconnect.

If you do not believe that a dispute has been properly resolved, please contact the:

REGULATORY COMMISSION OF ALASKA
701 W. 8th Ave., Ste 300
Anchorage, AK 99501
(907) 276-6222

Heating Assistance is designed to help low-income households pay their electric bills. Information may be obtained from the following source:

State of Alaska (907) 485-3058
Heating Assistance
400 W. Willoughby, Ste 301
Juneau, AK 99801-1731

PROPERTY APPEARS TO BE:

☐ Occupied
☐ Vacant
☐ Unknown

Name and telephone number of Realtor:

(C)

Tariff Advice No. 308-121Effective: January 14, 2011Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: James M. Posey Title: General Manager

RCA No. 121 3rd Revision Sheet No. 75

Canceling

2nd Revision Sheet No. 75

RECEIVED

DEC 3 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

(D)

(Reserved)

(N)

Tariff Advice No. 308-121

Effective: January 14, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: 

James M. Posey

Title: General Manager

RCA No. 121 3rd Revision Sheet No. 76

Canceling

2nd Revision Sheet No. 76

RECEIVED

DEC 3 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

(D)

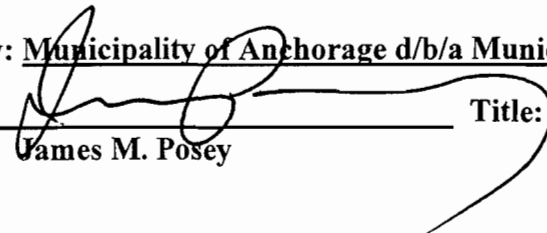
(Reserved)

(N)

Tariff Advice No. 308-121

Effective: January 14, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:  Title: General Manager
James M. Posey

Canceling

RECEIVED

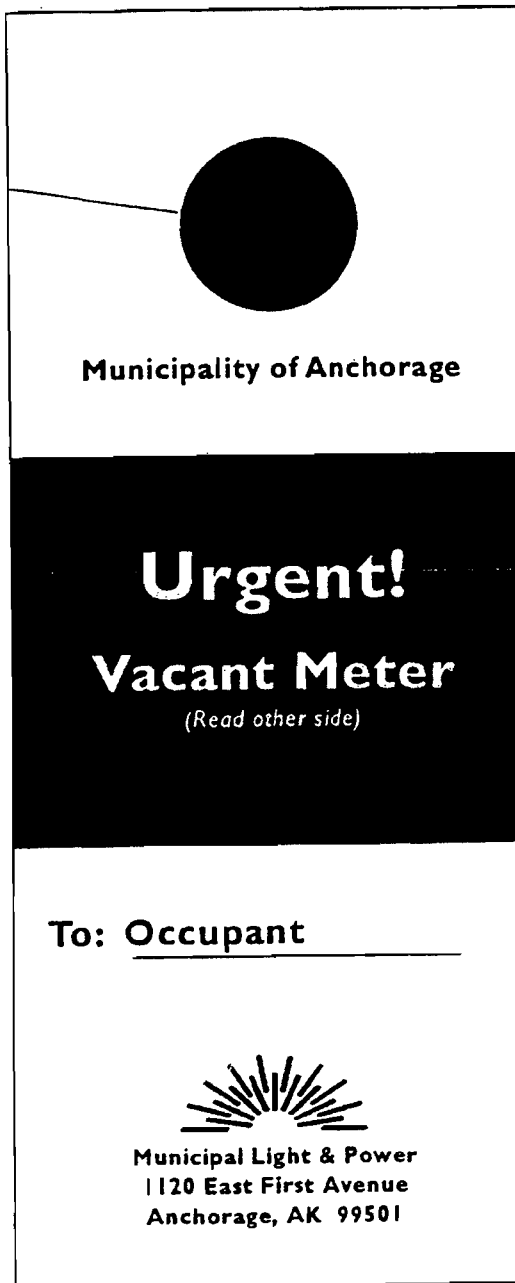
DEC 3 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

12.4 Vacant Meter Notice.

(T)



Tariff Advice No. 308-121

Effective: January 14, 2011

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: 
James M. Posey

Title: General Manager

RCA No. 121 4th Revision Sheet No. 78

Canceling

3rd Revision Sheet No. 78

RECEIVED

SEP 30 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

(Reserved)

(D)

**** Current Vacant Meter Notice has no side 2****

Tariff Advice No. 308-121

Effective: December 30, 2010

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: 

James M. Posey

Title: General Manager

APUC No. 121 First Revision Sheet No. 79

Cancelling

Original

Sheet No. 79

RECEIVED

APR 06 1994

MUNICIPAL LIGHT & POWER

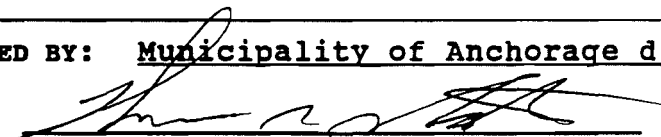
State of Alaska
Utilities Commission

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 80

Cancelling

Original

Sheet No. 80

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121

Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:

Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 81

Cancelling

Original Sheet No. 81

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 82

Cancelling

Original Sheet No. 82

RECEIVED

APR 06 1994

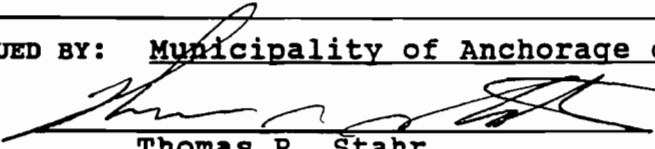
State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 83

Cancelling

Original Sheet No. 83

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commissioner

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 84

Cancelling

Original Sheet No. 84

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: Thomas R. Stahr TITLE: General Manager

APUC No. 121 First Revision Sheet No. 85

Cancelling

Original Sheet No. 85

RECEIVED

APR 06 1994

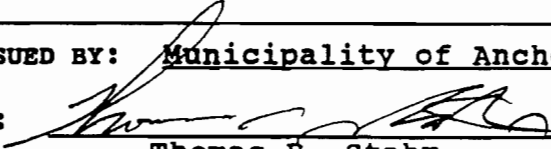
State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 86

Cancelling

Original Sheet No. 86

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 87

Cancelling

Original Sheet No. 87

RECEIVED

APR 06 1994

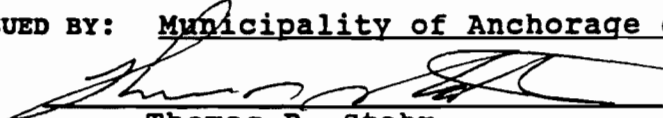
State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 88

Cancelling

Original

Sheet No. 88

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

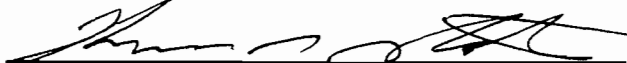
MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:



Thomas R. Stahr

TITLE:

General Manager

APUC No. 121 First Revision Sheet No. 89

Cancelling

Original

Sheet No. 89

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 90

Cancelling

Original Sheet No. 90

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

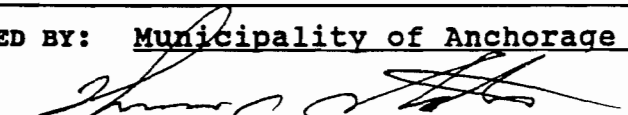
MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 91

Cancelling

Original Sheet No. 91

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

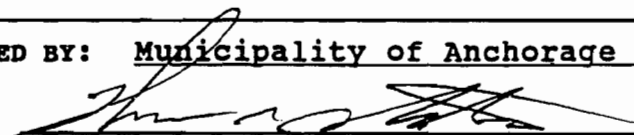
MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 92

Cancelling

Original Sheet No. 92

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

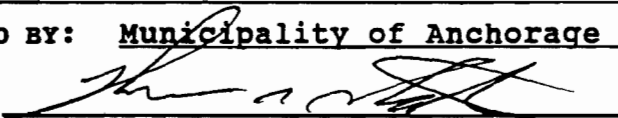
MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:


Thomas R. Stahr

TITLE: General Manager

APUC No. 121 First Revision Sheet No. 93

Cancelling

Original Sheet No. 93

RECEIVED

APR 06 1994

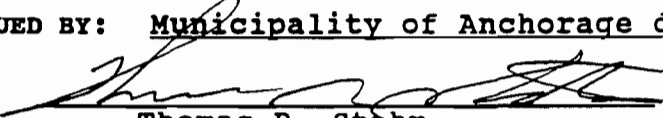
State of Alaska
Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 94

Cancelling

Original Sheet No. 94

RECEIVED

APR 06 1994

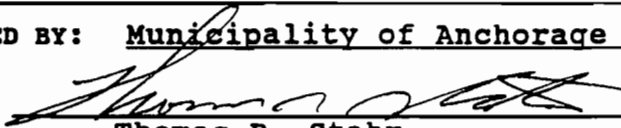
State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 95

Cancelling

Original Sheet No. 95

RECEIVED

APR 06 1994

MUNICIPAL LIGHT & POWER

State of Alaska
Public Utilities Commission

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision Sheet No. 96

Cancelling

Original

Sheet No. 96

RECEIVED

APR 06 1994

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

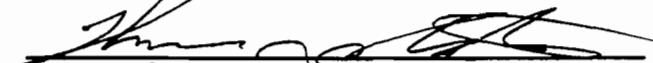
RESERVED

Tariff Advice No. 197-121

Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:


Thomas R. Stahr

TITLE:

General Manager

APUC No. 121 First Revision Sheet No. 97

Cancelling

Original Sheet No. 97

RECEIVED

APR 06 1994

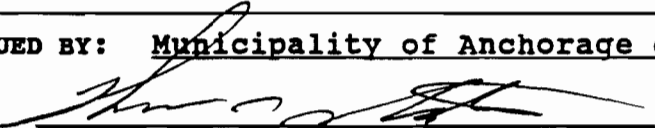
State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

APUC No. 121 First Revision _____ Sheet No. 98

Cancelling

Original Sheet No. 98

RECEIVED

APR 06 1994

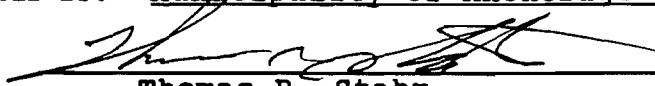
State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. 197-121 Effective: April 15, 1994

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  TITLE: General Manager
Thomas R. Stahr

RCA No. 121 3rd Revision Sheet No. 99
Cancelling

2nd Revision Sheet No. 99

RECEIVED

APR 12 2006

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

**SPECIAL CONTRACT TO WHICH ML&P IS A PARTY
3 AAC 48.380(26)**

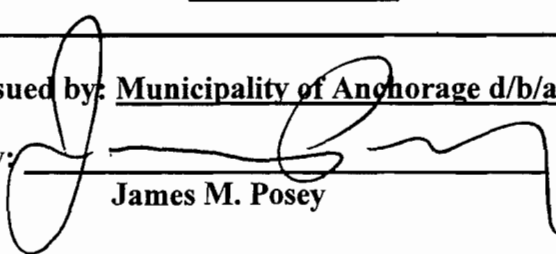
**THE FOLLOWING IS A LISTING PURSUANT TO 3 AAC 48.370(26), OF ALL SPECIAL
CONTRACTS TO WHICH ML&P IS A PARTY:**

1. Agreement Between the United States Army and the Municipality of Anchorage
d/b/a Municipal Light and Power for Interruptible Service dated December 2, 1981.
2. Agreement Between the United States Air Force and the Municipality of Anchorage
d/b/a Municipal Light & Power for Interruptible Service dated October 27, 1981.
3. Agreement Between Anchorage Sand & Gravel Co., Inc. and the Municipality of
Anchorage d/b/a Municipal Light & Power for Interruptible Power Service dated
April 26, 1999.
4. Agreement Between the Anchorage School District and the Municipality of (N)
Anchorage d/b/a Municipal Light & Power for Interconnection and Operation of (N)
Standby Generators dated February 3, 2006. (N)

Tariff Advice No. TA 279 - 121

Effective: April 20, 2006

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:  Title: General Manager
James M. Posey

RCA No. 121 10th Revision Sheet No. 100

Canceling

9th Revision Sheet No. 100**RECEIVED****JAN 21 2014****MUNICIPAL LIGHT & POWER****STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA****SCHEDULE OF FEES AND CHARGES**

<u>Rule</u>	<u>Fee or Charge</u>	<u>Amount</u>
5.2	Meter Test.....	\$55.00
6.6	Connection of Existing Facilities during regular business hours	
	7:30 A.M. - 5 P.M. M-F Cycle Read.....	\$16.00
	Read Only.....	\$30.00
	Physical Cut-In.....	\$37.00
6.6	Connection of Existing Facilities outside regular business hours	
	5 P.M.-10 P.M. M-F.....	\$95.00
	10 P.M.- 7:30 A.M. M-F.....	\$200.00
	Weekends and Holidays.....	\$200.00
	Scheduled Service Disconnect/Reconnect By Line Crew (During Regular Business Hours).....	\$175.00
6.7	Deposit:	
	The amount of deposit for all customer classes, per meter, (C) meter, will be 1.5 times the estimated average monthly bill (C) at that location.	
7.4	Late Payment Assessment, Schedules 11 and 21.....	\$ 2.00
	Late Payment Assessment, Schedules 22 and 23:One percent (1%) on past due amount.	
7.6	Dishonored check fee.....	\$25.00
8.51	Underground locate Service, above monthly limit, at cost of labor, plus equipment Locator or contractor fees:	
	Daytime.....	\$36.00/hr
	Nights, weekends, holiday (double time).....	\$57.00/hr
	Equipment/truck.....	\$3.00/hr

**OTHER MATERIALS AND SERVICE CHARGES NOT ITEMIZED ON THIS SHEET ARE
BILLED AT ACTUAL COST.**

Tariff Advice No. TA335-121

Effective: March 7, 2014Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Daniel W. Kendall

Daniel W. Kendall, Acting

Title: General Manager

RCA No. 121 98th Revision Sheet No. 101
 Cancelling
97th Revision Sheet No. 101

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULE 01
FUEL AND PURCHASED
POWER COST ADJUSTMENT

A. Applicability

The rates in all filed rate schedules shall be subject to adjustment by the applicable Fuel and Purchased Power Cost Adjustment defined on Tariff Sheet 101.2, Tariff Sheet 101.2.1 and Tariff Sheet 101.3.1, and calculated on Tariff Sheet 101.3 and 101.3.2. (T)

B. Fuel and Purchased Power Cost Adjustment

The base cost/kWh of fuel and purchased power is defined on Tariff Sheet 101.2.1 and equals \$0.00000/kWh for retail customers. Billings to customers will be increased (or decreased) to reflect the amount by which the weighted average estimated cost of power (fuel plus purchased power less profits received through the sale of economy energy) per kWh sold is greater than or less than the base cost in accordance with the procedure set forth in Tariff Sheet 101.2.

C. Fuel and Purchased Power Cost Balance Account

ML&P shall maintain a Fuel and Purchased Power Cost Balance Account (1847/2531) commencing July 1, 1986, which balance thereafter shall reflect the sum of the debit and credit entries described as follows:

- (1) A debit entry equal to the actual purchased power and consumed fuel costs for retail customers for each month.
- (2) A credit entry equal to the total number of kWh of energy sold to retail customers during each month multiplied by the sum of the base cost (E.7) plus the adjustment factor applied (E.8) for the retail classes.
- (3) A debit entry equal to the amount paid to any interruptible ENSTAR customer pursuant to Commission ordered sharing of the costs of interruptions. Any amount so included in the determination of Power Cost Adjustment shall first have been reported to the Commission at least 30 days prior to the filing of such determination of Power Cost Adjustment.
- (4) A credit entry equal to the actual amount of profits earned from economy energy transactions for each month of the quarterly analysis.
- (5) A debit entry equal to Alaska Intertie related expenses charged to account 5650-7509.

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Anna C. Henderson Title: Regulatory Affairs Division Manager

RCA No. 121 51st Revision Sheet No. 101.1
 Cancellling
50th Revision Sheet No. 101.1

RECEIVED
APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

D. Revision of the Power Cost

(1) By the first day of each quarter ML&P will, by Tariff Advice Letter, file supporting information to evidence the balance in the Fuel and Purchased Power Cost Balance account and the development of the average fuel and purchased power costs per kWh sold for the ensuing quarter. Supporting information to be filed includes:

(a) Calculation of the Fuel and Purchased Power Cost Adjustment Factor as detailed on Tariff Sheet 101.2. This calculation shall include:

(i) A schedule calculating the estimated kWh of retail energy to be sold in the ensuing quarter (F.5).

(ii) A schedule of the estimated cost of retail energy that will be generated and purchased in the ensuing quarter (F.1).

(iii) Invoices and/or other documentation to substantiate the fuel, fuel storage, and purchased power costs of the most recent quarter for which actual data is available. Such documentation shall include transfers from the Electric Fund to the Gas Fund to account for fuel usage for the quarter.

(b) The actual monthly average heat rate for thermal generation for the most recent quarter for which actual data is available.

(c) Calculation of the Fuel and Purchased Power Cost Adjustment Factor for Service at Primary Voltage and Fuel and Purchased Power Cost Adjustment for Service at Secondary Voltage as detailed on Tariff Sheet No. 101.3.1.

(N)
(N)
(N)

(2) The revised Power Cost Adjustment may be implemented immediately upon filing subject to subsequent Commission approval, and will be effective for all billings subsequent to the revision date. Revision dates will coincide with the beginning of a monthly billing cycle.

Tariff Advice No. TA366-121

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Title: Manager, Regulatory Affairs
Anna C. Henderson

RCA No. 121 Original Sheet No. 101.1.1
Canceling

Sheet No. 101.1.1

RECEIVED

MAR 27 2012

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

E. Determination of Cost of Stored Gas

ML&P shall maintain an inventory Account, 1511, Gas In Storage, whose balance shall be (N)
the sum of:

1. Debit entries for the acquisition costs of all gas acquired or produced for placement in storage. Acquisition cost of purchased gas shall be all amounts invoiced and paid to the supplier of the gas. Acquisition cost of gas produced by ML&P shall be the Transfer Price effective at the time that the gas is placed in storage.
2. Debit entries for the cost of transportation of the gas from the point of acquisition to the CINGSA storage facility.
3. Debit entries for all CINGSA charges incurred not including Reservation Charges, and Capacity Charges under Rate Schedule FSS, and any charges associated with withdrawal of gas from storage.
4. Credit entries for the Cost of Stored Gas withdrawn from storage. Average Cost of Stored Gas in any month shall be the balance in Account 1511 at the end of the previous month divided by the volume, in Mcf, of Gas In Storage at the end of the same month. Cost of Stored Gas withdrawn from storage shall be the sum of the product of the Average Cost of Stored Gas multiplied by the volume of gas withdrawn from storage, plus CINGSA charges associated with withdrawal of the gas from storage.

(N)

Tariff Advice No. TA 318-121

Effective: May 3, 2012

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey

Title: General Manager

RCA No. 121 49th Revision Sheet No. 101.2

Cancelling

48th Revision Sheet No. 101.2**RECEIVED****JAN 04 2018**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**MUNICIPAL LIGHT & POWER****F. Determination of Cost of Power Adjustment: (Methodology)**

(1) Estimated Costs of Fuel and Purchased Power for the Quarter Beginning _____:

Sources	Est. Quantities (A)	Avg Cost/Mcf (B)	Total = (A*B) (C)
---------	------------------------	---------------------	----------------------

a) Natural Gas:

Stored Gas	_____ Mcf	\$ _____/Mcf	\$ _____
Hilcorp	_____ Mcf	\$ _____/Mcf	\$ _____
CEA	_____ Mcf	\$ _____/Mcf	\$ _____
ConocoPhillips	_____ Mcf	\$ _____/Mcf	\$ _____
Cook Inlet Energy	_____ Mcf	\$ _____/Mcf	\$ _____
AIX Energy	_____ Mcf	\$ _____/Mcf	\$ _____
Furie	_____ Mcf	\$ _____/Mcf	\$ _____
ML&P	_____ Mcf	\$ _____/Mcf	\$ _____
Total Natural Gas	_____ Mcf	\$ _____/Mcf	\$ _____

(N)

Gas Storage Reservation	_____ Mcfd	\$ _____/Mcfd	\$ _____
Gas Storage Capacity	_____ Mcf	\$ _____/Mcf	\$ _____
Transportation (Variable)	_____ Mcf	\$ _____/Mcf	\$ _____

b) Purchased Power:

Bradley Lake	_____ MWh		\$ _____
Bradley Wheeling	_____ MWh	\$ _____/MWh	\$ _____
Bradley Capacity	_____ MWh	\$ _____/MWh	\$ _____
Spinning Reserve ¹	_____ MWh	\$ _____/MWh	\$ _____

c) Fuel Oil: _____ GAL \$ _____/GAL \$ _____

d) Intertie Expense: _____ \$ _____

e) Economy Energy Purchases _____ MWh \$ _____/MWh \$ _____

f) Cogen/Small Power Purch _____ MWh \$ _____/MWh \$ _____

Total Cost of Fuel and Purchased Power [Total of a) through f), above] \$ _____

(2) Profits From Economy Energy Sales: (\$ _____) (L)

(3) Cost of Power Clearing Account Balance: (L)

Actual Balance as of _____ / _____ / _____ \$ _____

Estimated Balance as of _____ / _____ / _____ Under (Over) Recovery \$ _____

(5) Estimated Retail Sales (kWh) _____ kWh

(6) Average Cost of Power [(4) / (5)] \$ _____/kWh

(7) Base Cost of Power \$ _____/kWh

(8) Cost of Power Adj [(6) - (7)] \$ _____/kWh

¹ 2011 Intertie AgreementTariff Advice No. TA 363-121Effective: February 20, 2018Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Mark Johnston Title: General Manager

RCA No. 121 2nd Revision Sheet No. 101.2.1
Cancelling

1st Revision Sheet No. 101.2.1

RECEIVED

MAR 27 2012

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

G. Determination of Base Cost of Power:

(T)

Base Cost of Power is \$0.00000/kWh

Tariff Advice No. TA 318-121

Effective: May 3, 2012

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

AUG 14 2020STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**MUNICIPAL LIGHT & POWER****F. Determination of Cost of Power Adjustment:**(1) Estimated Costs of Fuel and Purchased Power for the Quarter Beginning October 1, 2020:

Sources	Est. Quantities (A)	Avg Cost/Mcf (B)	Total = (A*B) (C)	
a) Natural Gas:				
Stored Gas	0 Mcf	\$0.00/Mcf	\$0.00	
Hilcorp - Interruptible	690,000 Mcf	\$7.8500/Mcf	\$5,416,500	(I)
CEA	0 Mcf	\$0.00/Mcf	\$0.00	
ConocoPhillips	0 Mcf	\$0.00/Mcf	\$0.00	
Cook Inlet Energy	0 Mcf	\$0.00/Mcf	\$0.00	
AIX Energy	0 Mcf	\$0.00/Mcf	\$0.00	
Furie	0 Mcf	\$0.00/Mcf	\$0.00	
ML&P	1,029,598 Mcf	\$2.44668/Mcf	\$2,519,097	(R)
Total Natural Gas	1,719,598 Mcf	\$4.61480/Mcf	\$7,935,597	(I)
Gas Storage Reservation	30,000 Mcfd	\$5.1685/Mcfd	\$155,055	
Gas Storage Capacity	1,500,000 Mcf	\$0.07050/Mcf	\$105,750	
Transportation (Variable)	1,495,269 Mcf	\$0.60845/Mcf	\$909,799	(I)
b) Purchased Power:				
Bradley Lake	21,190 MWh	340,422/Month	\$1,021,266	(R)
Bradley Wheeling	21,190 MWh	\$8.90/MWh	\$188,591	(R)
Bradley Wheeling (HEA)			\$22,074	(R)
Bradley Capacity	0 MWh	\$0.00/MWh	\$0.00	
Spinning Reserve ¹	0 MWh	\$0.00/MWh	\$0.00	
c) Fuel Oil:	1932 GAL	\$1.553/Gal	\$3,000	(I)
d) Intertie Expense:			\$61,587	
e) Economy Energy Purchases	0 MWh	\$0.00/MWh	\$0.00	
f) Cogen/Small Power Purch	0 MWh	\$0.00/MWh	\$0.00	
Total Cost of Fuel and Purchased Power [Total of a) through f), above]			\$10,402,719	(I)
(2) Profits From Economy Energy Sales:			(\$675,000)	
(3) Cost of Power Clearing Account Balance				
Actual Balance as of <u>6/30/2020</u>			(\$1,767,671)	(I)
Estimated Balance as of <u>09/30/2020</u> Under (Over) Recovery			\$142,944	(I)
(4) Total (1), (2), (3), above			\$9,870,663	(I)
(5) Estimated Retail Sales (kWh)			245,711,056/kWh	(I)
(6) Average Cost of Power [(4) / (5)]			\$0.04017/kWh	(I)
(7) Base Cost of Power			\$0.00/kWh	
(8) Cost of Power Adj [(6) - (7)]			\$0.04017/kWh	(I)

¹ 2011 Intertie Agreement**Pursuant to U-19-085(18)**Tariff Advice No. TA 378-121Effective: October 1, 2020Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Anna C. HendersonTitle: General Manager

RCA No. 121 Original Sheet No. 101.3.1
 Cancelling
 Sheet No. 101.3.1

RECEIVED

MAY 08 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

J. Determination of COPA for Service at Primary Voltage (COPAprimary) and COPA for Service at Secondary Voltage (COPAsecondary):

N

- (1) Primary Loss Factor: _____
- (2) Secondary Loss Factor: _____
- (3) Sales at Primary Voltage (*prior quarter*): _____
- (4) Sales at Secondary Voltage (*prior quarter*): _____
- (5) Total Sales [(3) + (4)]: _____
- (6) Feeder Input for Sales at Primary Voltage [(3) / (1 - (1))]: _____
- (7) Feeder Input for Sales at Secondary Voltage: [(4) / (1 - (2))]: _____
- (8) Total Feeder Input [(6) + (7)]: _____
- (9) COPA Normalization Factor [(5) / (8)]: _____
- (10) COPAprimary [(COPA * (9) / (1 - (1))]: _____
- (11) COPAsecondary [COPA * (9) / (1 - (2))]: _____

N

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Title: Regulatory Affairs Division Manager
 Anna Henderson

RCA No. 121 10th Revision Sheet No. 101.3.2

Cancelling

9th Revision Sheet No. 101.3.2**RECEIVED****AUG 14 2020**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**MUNICIPAL LIGHT & POWER**J. Determination of COPA for Service at Primary Voltage (COPAprimary) and COPA for Service at Secondary Voltage (COPAssecondary):

(1)	Primary Loss Factor:	0.0025
(2)	Secondary Loss Factor:	0.0196
(3)	Sales at Primary Voltage (<i>quarter ending June 2020</i>):	52,368,825
(4)	Sales at Secondary Voltage (<i>quarter ending June 2020</i>):	157,921,198
(5)	Total Sales [(3) + (4)]:	210,290,023
(6)	Feeder Input for Sales at Primary Voltage [(3) / (1 - (1))]:	52,500,075
(7)	Feeder Input for Sales at Secondary Voltage [(4) / (1 - (2))]:	161,078,333
(8)	Total Feeder Input [(6) + (7)]:	213,578,409
(9)	COPA Normalization Factor [(5) / (8)]:	0.98460
(10)	COPAprimary [(COPA * (9) / (1 - (1))]:	0.03965
(11)	COPAssecondary [COPA * (9) / (1 - (2))]:	0.04034

Pursuant to **U-19-085(18)**
Tariff Advice No. TA 378-121Effective: October 1, 2020Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Anna C. Henderson Title: General Manager

Cancelling

Sheet No. 101.4

RECEIVED
SEP 19 1986
 State of Alaska
 Public Utilities Commission

MUNICIPAL LIGHT & POWER

GAS COST RATE ADJUSTMENT HISTORY

DATE	GCRA
August 1, 1979	0.1656
September 1, 1979	0.2399
October 1, 1979	0.1548
November 1, 1979	0.0484
December 1, 1979	-0-
January 1, 1980	(0.0102)
February 1, 1980	0.0873
March 1, 1980	0.1066
April 1, 1980	0.1044
May 1, 1980	0.0805
June 1, 1980	0.1540
July 1, 1980	0.1915
August 1, 1980	0.0598
September 1, 1980	0.0493
October 1, 1980	0.0806
November 1, 1980	0.0494
December 1, 1980	0.1270
January 1, 1981	0.3480
February 1, 1981	0.2078
March 1, 1981	0.2059
April 1, 1981	0.3097
May 1, 1981	0.3553
June 1, 1981	0.3599
July 1, 1981	0.3656
August 1, 1981	0.3644
September 1, 1981	0.1955
October 1, 1981	0.1948
November 1, 1981	0.1907
December 1, 1981	0.1846
January 1, 1982	0.0017
February 1, 1982	0.0016
March 1, 1982	0.0016
April 1, 1982	0.0015
May 1, 1982	0.0015
June 1, 1982	0.0014
July 1, 1982	(0.0240)
August 1, 1982	(0.0241)
September 1, 1982	(0.0239)
October 1, 1982	(0.0237)
November 1, 1982	0.0318
December 1, 1982	0.0320
January 1, 1983	0.0328
February 1, 1983	0.5562
March 1, 1983	0.5610

L - This material previously shown on 45th revised Sheet 101.1

Pursuant to Order #U-86-83 (1)

Tariff Advice No. 147-121

Effective:

SEP 13 1986

Issued by: Municipal Light and Power Department
Municipality of Anchorage

By: Thomas R. Stahr Title: General Manager

Cancelling

RECEIVED**MAR 24 1989**

State of Alaska

Public Utilities Commission

MUNICIPAL LIGHT & POWER**GAS COST RATE ADJUSTMENT HISTORY**

DATE	GCRA
April 1, 1983	0.5597
May 1, 1983	0.5567
June 1, 1983	0.5501
July 1, 1983	0.5404
August 1, 1983	0.6180
September 1, 1983	0.6380
October 1, 1983	0.6609
November 1, 1983	0.6826
December 1, 1983	0.6567
January 1, 1984	0.6583
February 1, 1984	0.6458
March 1, 1984	0.6249
April 1, 1984	0.6204
May 1, 1984	0.5552
June 1, 1984	0.5555
July 1, 1984	0.5554
August 1, 1984	0.5631
September 1, 1984	0.5581
October 1, 1984	0.8062
November 1, 1984	0.7872
December 1, 1984	0.7824
January 1, 1985	0.7834
February 1, 1985	0.7968
March 1, 1985	0.7823
April 1, 1985	0.8127
May 1, 1985	0.8264
June 1, 1985	0.8365
July 1, 1985	0.8407
August 1, 1985	0.8424
September 1, 1985	0.8326
* October 1, 1985	0.6926
November 1, 1985	0.8441
December 1, 1985	0.8367
* January 1, 1986	0.8012
February 1, 1986	1.1049
* March 1, 1986	1.1068
April 1, 1986	1.1080
May 1, 1986	1.2228
June 1, 1986	1.2554

FUEL AND PURCHASED POWER COST ADJUSTMENT

DATE	FPPCA
August 1, 1986 - October 30, 1986	1.520¢/kWh
November 1, 1986 - March 31, 1987	1.656¢/kWh
April 1, 1987 - June 30, 1987	0.860¢/kWh
July 1, 1987 - September 30, 1987	0.839¢/kWh
October 1, 1987 - December 31, 1987	0.807¢/kWh
January 1, 1988 - March 31, 1988	1.162¢/kWh
April 1, 1988 - June 30, 1988	0.961¢/kWh
July 1, 1988 - September 31, 1988	0.609¢/kWh
October 1, 1988 - December 31, 1988	1.450¢/kWh
January 1, 1989 - March 31, 1989	2.133¢/kWh

(N)

* Includes Refund to Customer Pursuant to Docket U-84-1

Tariff Advice No. 169-121

Effective: April 1, 1989

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:

Thomas R. Stahr

Title:

General Manager

Cancelling

38th Revision Sheet No. 101.6.

RECEIVED

AUG 17 1999

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

FUEL AND PURCHASED POWER COST ADJUSTMENT

DATE	COPA
April 1, 1989 - June 30, 1989	2.046c/kWh
July 1, 1989 - June 30, 1990	1.832c/kWh
July 1, 1990 - September 30, 1990	1.357c/kWh
October 1, 1990 - December 31, 1990	0.336c/kWh
January 1, 1991 - March 31, 1991	1.406c/kWh
April 1, 1991 - June 30, 1991	1.253c/kWh
July 1, 1991 - September 30, 1991	1.220c/kWh
October 1, 1991 - November 30, 1991	0.704c/kWh
December 1, 1991 - March 31, 1992	0.454c/kWh
April 1, 1992 - June 30, 1992	0.595c/kWh
July 1, 1992 - September 30, 1992	0.783c/kWh
October 1, 1992 - December 31, 1992	0.460c/kWh
January 1, 1993 - March 1993	0.451c/kWh
April 1, 1993 - June 30, 1993	0.679c/kWh
July 1, 1993 - September 30, 1993	0.590c/kWh
October 1, 1993 - December 31, 1993	0.489c/kWh
January 1, 1994 - March 31, 1994	0.284c/kWh
April 1, 1994 - June 30, 1994	0.290c/kWh
July 1, 1994 - September 30, 1994	0.310c/kWh
October 1, 1994 - December 31, 1994	0.419c/kWh
January 1, 1995 - March 31, 1995	0.424c/kWh
April 1, 1995 - April 30, 1995	0.427c/kWh
May 1, 1995 - June 30, 1995	(0.342c)/kWh
July 1, 1995 - September 30, 1995	(0.309c)/kWh
October 1, 1995 - December 31, 1995	(0.491c)/kWh
January 1, 1996 - March 31, 1996	(0.267c)/kWh
April 1, 1996 - June 30, 1996	(0.226c)/kWh
July 1, 1996 - September 30, 1996	(0.342c)/kWh
October 1, 1996 - December 31, 1996	(0.367c)/kWh
January 1, 1997 - March 31, 1997	(0.329c)/kWh
April 1, 1997 - June 30, 1997	(0.285c)/kWh
July 1, 1997 - December 31, 1997	(0.284c)/kWh
January 1, 1998 - March 31, 1998	(0.557c)/kWh
April 1, 1998 - June 30, 1998	(0.552c)/kWh
July 1, 1998 - September 30, 1998	(0.542c)/kWh
October 1, 1998 - December 31, 1998	(0.545c)/kWh
January 1, 1999 - March 31, 1999	(0.551c)/kWh
April 1, 1999 - June 30, 1999	(0.248c)/kWh
July 1, 1999 - September 30, 1999	(0.258c)/kWh (C)

Tariff Advice No. TA 238-121 Effective: October 1, 1999ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Meera KohlerTITLE: General Manager

RECEIVED

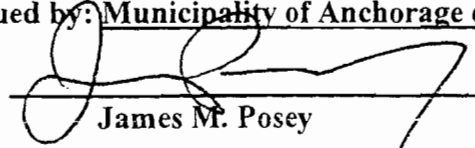
FEB 13 2008

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

FUEL AND PURCHASED POWER COST ADJUSTMENT
(Continued)

<u>DATE</u>	<u>COPA</u>
October 1, 1999 - December 31, 1999	(0.431)¢/kWh
January 1, 2000 - March 31, 2000	(0.518)¢/kWh
April 1, 2000 - June 30, 2000	(0.509)¢/kWh
July 1, 2000 - September 30, 2000	(0.835)¢/kWh
October 1, 2000 - December 31, 2000	(0.692)¢/kWh
January 1, 2001 - March 31, 2001	(0.616)¢/kWh
April 1, 2001 - June 30, 2001	(0.743)¢/kWh
July 1, 2001 - September 30, 2001	(0.816)¢/kWh
October 1, 2001 - December 31, 2001	(0.266)¢/kWh
January 1, 2002 - March 31, 2002	(0.700)¢/kWh
April 1, 2002 - June 30, 2002	(0.269)¢/kWh
July 1, 2002 - September 30, 2002	(0.609)¢/kWh
October 1, 2002 - December 31, 2002	(0.621)¢/kWh
January 1, 2003 - March 31, 2003	(0.469)¢/kWh
April 1, 2003 - June 30, 2003	(0.897)¢/kWh
July 1, 2003 - September 30, 2003	(0.226)¢/kWh
October 1, 2003 - December 31, 2003	0.287¢/kWh
January 1, 2004 - March 31, 2004	0.676¢/kWh
April 1, 2004 - June 30, 2004	0.683¢/kWh
July 1, 2004 - September 30, 2004	0.572¢/kWh
October 1, 2004 - December 31, 2004	0.420¢/kWh
January 1, 2005 - March 31, 2005	0.178¢/kWh
April 1, 2005 - June 30, 2005	0.668¢/kWh
July 1, 2005 - September 30, 2005	0.870¢/kWh
October 1, 2005 - December 31, 2005	(0.030)¢/kWh
January 1, 2006 - March 31, 2006	(0.311)¢/kWh
April 1, 2006 - June 30, 2006	(0.372)¢/kWh
July 1, 2006 - September 30, 2006	(1.611)¢/kWh
October 1, 2006 - December 31, 2006	(1.707)¢/kWh
January 1, 2007 - March 31, 2007	(1.457)¢/kWh
April 1, 2007 - June 30, 2007	(1.498)¢/kWh
July 1 - September 30, 2007	(1.026)¢/kWh
October 1 - December 31, 2007	(1.126)¢/kWh
January 1 - March 31, 2008	(0.655)¢/kWh

Tariff Advice No. TA 291-121Effective: April 1, 2008Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy:  Title: General Manager
James M. Posey

RCA No. 121 33rd Revision Sheet No. 101.6.2
Cancelling

32nd Revision Sheet No. 101.6.2

RECEIVED

JUL 01 2016

MUNICIPAL LIGHT & POWER

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

FUEL AND PURCHASED POWER COST ADJUSTMENT

(Continued)

<u>DATE</u>	<u>COPA</u>
April 1, 2008 – June 30, 2008	\$(0.00543)
July 1, 2008 – September 30, 2008	\$0.00329
October 1, 2008 – December 31, 2008	\$(0.00389)
January 1, 2009 – March 31, 2009	\$0.00270
April 1, 2009 – June 30, 2009	\$0.01766
July 1, 2009 – September 30, 2009	\$0.01959
October 1, 2009 – December 31, 2009	\$0.02009
January 1, 2010 – March 31, 2010	\$0.01127
April 1, 2010 – June 30, 2010	\$0.02930
July 1, 2010 – September 30, 2010	\$0.01815
October 1, 2010 – December 31, 2010	\$0.02079
January 1, 2011 – March 31, 2011	\$0.02760
April 1, 2011 – June 30, 2011	\$0.02758
July 1, 2011 – September 30, 2011	\$0.01683
October 1, 2011 – December 31, 2011	\$0.01927
January 1, 2012 – March 31, 2012	\$0.03599
April 1, 2012 – June 30, 2012	\$0.02782
July 1, 2012 – September 30, 2012	\$0.00497
October 1, 2012 – December 31, 2012	\$0.02235
January 1, 2013 – March 31, 2013	\$0.01917
April 1, 2013 – June 30, 2013	\$0.03506
July 1, 2013 – September 30, 2013	\$0.02974
October 1, 2013 – December 31, 2013	\$0.03531
January 1, 2014 – March 31, 2014	\$0.03326
April 1, 2014 – June 30, 2014	\$0.03842
July 1, 2014 – September 30, 2014	\$0.04723
October 1, 2014 – December 31, 2014	\$0.04175
January 1, 2015 – March 31, 2015	\$0.04190
April 1, 2015 – June 30, 2015	\$0.04362
July 1, 2015 – September 30, 2015	\$0.05468
October 1, 2015 – December 31, 2015	\$0.04510
January 1, 2016 – March 31, 2016	\$0.04445
April 1, 2016 – June 30, 2016	\$0.05517
July 1, 2016 – August 14, 2016	\$0.06129

(T)

Pursuant to U-16-060(2)/U-16-073(1)
Tariff Advice No. TA 350-121

Effective: August 15, 2016

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Anna Henderson Title: Regulatory Affairs Division Manager

16th Revision **Sheet No.** **101.6.3**

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

By: Anna C. Henderson Title: General Manager

RCA No. 121 37th Revision Sheet No. 102
Cancelling

Cancelling

36th Revision Sheet No. 102

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULE 11

RESIDENTIAL SERVICE

Applicable to:

Single-family dwellings, for domestic and household purposes.

Character of Service:

Single phase 60 Hertz alternating current at 120/240 volts or 120/208Y volts,
3-wire, as available.

Monthly Rate:

Customer Charge:	\$13.62	(I)
------------------	---------	-----

Energy Charge: 15.274 cents per kWh (I)

Minimum Monthly Charge: The customer charge of \$13.62 (I)

Conditions:

This schedule may be applied to a home occupation conducted in the single-family dwelling by the family members if the demand and energy consumption created by the business is less than and incidental to the demand and energy consumption of the residential load.

Fuel and Purchased Power Cost Adjustment: The foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Numbers 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/
Anna Henderson

Title: Regulatory Affairs Division Manager

RCA No. 121 11th Revision Sheet No. 103

Cancelling
10th Revision Sheet No. 103

RECEIVED

SEP 8 2000

MUNICIPAL LIGHT & POWER

State of Alaska
Regulatory Commission of Alaska

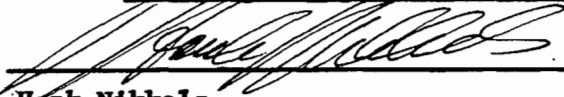
RESERVED FOR FUTURE USE

D

D

Tariff Advice No. 246-121 Effective: September 29, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:  TITLE: Acting General Manager
Hank Nikkels

RCA No. 121 3rd Revision Sheet No. 103.1

Cancelling

2nd Revision

Sheet No. 103.1

RECEIVED

SEP 8 2000

MUNICIPAL LIGHT & POWER

State of Alaska
Regulatory Commission of Alaska

RESERVED FOR FUTURE USE

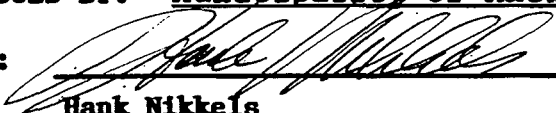
D

D

Tariff Advice No. 246-121 Effective: September 29, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 3rd Revision Sheet No. 103.2

Cancelling
2nd Revision Sheet No. 103.2

RECEIVED

SEP 8 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

D

D

Tariff Advice No. 246-121 **Effective:** September 29, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:  **TITLE:** Acting General Manager
Hank Nikkels

RCA No. 121 3rd Revision Sheet No. 103.3

Cancelling

2nd Revision Sheet No. 103.3

RECEIVED

SEP 8 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

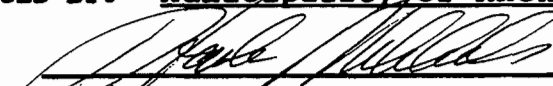
D

D

Tariff Advice No. 246-121 Effective: September 29, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 3rd Revision Sheet No. 103.4

Cancelling

2nd Revision Sheet No. 103.4

RECEIVED

SEP 8 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

D

D

Tariff Advice No. 246-121 **Effective:** September 29, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 3rd Revision Sheet No. 103.5

Cancelling

2nd Revision Sheet No. 103.5

RECEIVED

SEP 8 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

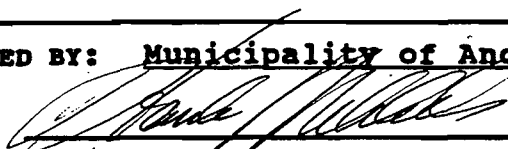
D

D

Tariff Advice No. 246-121 Effective: September 29, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:



Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 3rd Revision Sheet No. 103.6

Cancelling

2nd Revision Sheet No. 103.6

RECEIVED

SEP 8 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

D

D

Tariff Advice No. 246-121 **Effective:** September 29, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Hank Nikkels
Hank Nikkels

TITLE: Acting General Manager

RECEIVED
JUN 1 1977

State of Alaska
Public Utilities Commission

SCHEDULE 12
RESIDENTIAL SERVICE
WITH WATER HEATING
(continued)

D
D

This schedule is cancelled.

T

Pursuant to Order No. 15, U-76-11

Tariff Advice No. 5-Supp. 2

Effective:

JUN 28 1977

Issued by: Municipal Light & Power Department
Municipality of Anchorage

By: [Signature] Title: Utility Manager

6th Revision
Cancelling

Sheet No.

5th Revision

Sheet No. 105

RECEIVED
JUN 1 1977

State of Alaska
Public Utilities Commission

SCHEDULE 13
RESIDENTIAL WATER HEATING SERVICE

D
D

This schedule is cancelled. Separate
metering for Schedule 13 service is
discontinued and energy used for water
heating is included in service rendered
under Schedule 11.

T
T
T
T
T

Pursuant to Order No. 15, U-76-11

JUN 28 1977

Tariff Advice No. 5-Supp. 2

Effective

Municipal Light & Power Department

Issued by: Municipality of Anchorage

[Signature] Utility Manager

APUC No. 121 23rd Revision Sheet No. 106

Cancelling

22nd Revision Sheet No. 106

RECEIVED

AUG 15 1990
State of Alaska

Public Utilities Commission

MUNICIPAL LIGHT & POWER

SCHEDULE 14
EXPERIMENTAL TIME-OF-DAY
GENERAL SERVICE

D
D
D

This schedule is cancelled

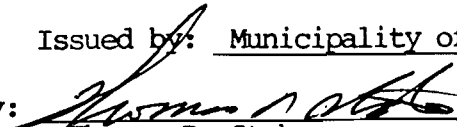
T

Pursuant to U-89-8(5)
Tariff Advice No. _____

Effective: October 1, 1990

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:


Thomas R. Stahr

Title: General Manager

APUC No. 121

5th Revision

Sheet No. 107

Concilling

4th Revision

Sheet No. 107

RECEIVED

DEC 3 1976

State of Alaska
Public Utilities Commission

RESERVED

Pursuant To
Docket U-76-11 Order No 10

Tariff Advice No. 5

Effective: OCT 26 1976

Issued by: Municipal Light and Power Department
Municipality of Anchorage

By: Thomas R. Stahr Title: Utility Manager
Thomas R. Stahr

RCA No. 121 37th Revision Sheet No. 108
 Cancelling
36th Revision Sheet No. 108

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 21
GENERAL SERVICE - SMALL**

Applicable to:

Any class of service which does not qualify for a residential rate schedule and where the demand does not exceed twenty (20) kilowatts (kW) for three consecutive months.

Character of Service:

Single or three-phase 60 Hertz alternating current at 120/240, 120/208Y, 208Y/120, 240/120 or 480Y/277 volts as available.

Monthly Rate:

Customer Charge:	\$30.46	(I)
Energy Charge:	11.878 cents per kWh	(R)
Minimum Monthly Charge:	The customer charge of \$30.46	(I)

Fuel and Purchased Power Cost Adjustment: The energy charge of the foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Numbers 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

By: /s/ _____ **Title:** Regulatory Affairs Division Manager
Anna Henderson

APUC No. 121 8th Revision

Sheet No. 110

Concilling
7th Revision

Sheet No. 110

RECEIVED

AUG 11 1982
State of Alaska

Public Utilities Commission

SCHEDULE 22
GENERAL SERVICE - LARGE
AT SECONDARY VOLTAGE
(Continued)

D
D
D
D

This Schedule is Cancelled

Pursuant to Order No. 5, Docket U-82-27.

Tariff Advice No. 45-121

Effective: SEP 29 1982

Issued by: Municipal Light and Power
Municipality of Anchorage

By: Thomas R. Stahr Title: Utility Manager
Thomas R. Stahr

RCA No. 121 34th Revision Sheet No. 111
 Cancelling
33rd Revision Sheet No. 111

RECEIVED
APR 20 2018
STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 23
GENERAL SERVICE - LARGE
AT PRIMARY VOLTAGE**

Applicable to:

Any class of service with a demand exceeding twenty (20) kilowatts (kW) for three consecutive months and metered at Primary voltage.

Character of Service:

Three phase 60 Hertz alternating current at 4160Y/2400, 12470Y/7200, or 34500Y/19900 volts as available.

Monthly Rate:

Customer Charge:	\$619.42	(I)
Demand Charge:	\$43.10 per kW of billing demand	(I)
Energy Charge:	0.488 cents per kWh	(R)
Minimum Monthly Charge:	The customer charge of \$619.42	(I)

Conditions:

1. Demand is determined by using the maximum average rate of energy use for any 15 minute interval.
2. The billing demand shall be the greater of the following:
 - a. The recorded maximum demand for the month, or
 - b. Eighty percent (80%) of the maximum demand recorded during the preceding eleven (11) months, or
 - c. The contract demand, under a special contract for a customer with on-site generation.
3. Demand charges for self-generating customers may not be calculated based upon demand required to resynchronize and return the customer's self-generating output to parallel operation with the utility as measured during the one-hour period after power to a self-generating customer is restored following a forced outage that originates on the utility's side of the meter, and affects service to the self-generating customer.
4. The customer shall furnish, install, operate and maintain all electrical facilities on the load side of his service equipment.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: **Regulatory Affairs Division Manager**

RCA No. 121 13th Revision Sheet No. 112
 Cancelling
12th Revision Sheet No. 112

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULE 23
GENERAL SERVICE - LARGE
AT PRIMARY VOLTAGE
(Continued)

4. Customers renting transformers from ML&P under this schedule prior to September 29, 1982 may continue to rent them for 11.74 cents per month per KVA of transformer capacity. A customer electing to discontinue renting transformers from ML&P shall, at his expense, deliver the transformer(s) to ML&P's transformer yard at 1200 East First Avenue, Anchorage.

5. ML&P will not rent transformers to new customers or customers with changed service requirements after September 29, 1982.

6. Primary metering will normally not be available unless the customer requires primary voltage for his distribution system. After October 1, 1990, customers requesting primary metering will execute a contract to take the service specified for minimum five year period. If a customer terminates the service prior to completing five (5) years of service, he shall pay ML&P for unrecovered capital investment in an amount equal to the difference between gross revenues received to date and the cost of ML&P's associated capital investment.

Fuel and Purchased Power Cost Adjustment: The foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Number 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)

Tariff Advice No. 357-121

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mark A. Johnston Title: General Manager

RCA No. 121 11th Revision Sheet No. 112.1
 Cancelling

10th Revision Sheet No. 112.1

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 25
REPLACEMENT ENERGY SERVICE - AWWU**

Applicable to:

The Municipality of Anchorage, d/b/a/ Anchorage Water and Wastewater Utility ("AWWU"), solely for the purpose of AWWU providing replacement energy to the Eklutna Power Project as compensation for the diversion of water from the Eklutna Power Project to the Eklutna Water Project.

Character of Service:

Replacement energy service will be provided to AWWU, with such energy to be received at the Eklutna Power Project through displacement by means of an adjustment to ML&P's monthly allotment of delivered energy from the Eklutna Power Project.

Monthly Rate:

Energy Charge: 2.561 cents per kWh (R)

Minimum Monthly Charge: None

Conditions:

The quantity of replacement energy for which ML&P bills AWWU under this schedule shall be equal to the quantity of displaced energy which ML&P supplied to the Eklutna Power Project through an adjustment to ML&P's monthly allotment of delivered energy.

Fuel and Purchased Power Cost Adjustment: The foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Numbers 101.3 and 101.3.2. (T)

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Title: Regulatory Affairs Division Manager
 Anna Henderson

RCA No. 121 3rd Revision Sheet No. 112.2
Cancelling

2nd Revision Sheet No. 112.2

RECEIVED

APR 26 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 26
ECONOMIC DEVELOPMENT INCENTIVE RATE**

THIS SCHEDULE HAS BEEN CANCELLED

Tariff Advice No.
305-121

Effective: June 11, 2010

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

RCA No. 121 1st Revision Sheet No. 112.3
Cancelling

Original Sheet No. 112.3

RECEIVED

APR 26 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 26
ECONOMIC DEVELOPMENT INCENTIVE RATE**

THIS SCHEDULE HAS BEEN CANCELLED

Tariff Advice No.
305-121

Effective: June 11, 2010

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:  Title: General Manager
James M. Posey

RCA No. 121 1st Revision Sheet No. 112.4
Cancelling

Original Sheet No. 112.4

RECEIVED

APR 26 2010

MUNICIPAL LIGHT & POWER

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

SCHEDULE 26
ECONOMIC DEVELOPMENT INCENTIVE RATE

THIS SCHEDULE HAS BEEN CANCELLED

Tariff Advice No.
305-121

Effective: June 11, 2010

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: James M. Posey Title: General Manager

RCA No. 121 1st Revision Sheet No. 112.5
Cancelling

Original Sheet No. 112.5

RECEIVED

APR 26 2010

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

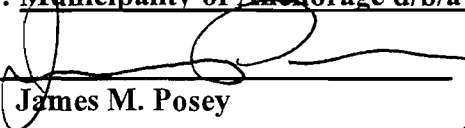
**SCHEDULE 26
ECONOMIC DEVELOPMENT INCENTIVE RATE**

THIS SCHEDULE HAS BEEN CANCELLED

Tariff Advice No.
305-121

Effective: June 11, 2010

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:  Title: General Manager
James M. Posey

RCA No. 121 Original Sheet No. 112.6

Cancelling

Sheet No. 112.6

RECEIVED

AUG 27 1999

MUNICIPAL LIGHT & POWER

State of Alaska
Regulatory Commission of Alaska

SCHEDULE 27
INTERRUPTIBLE POWER AT SECONDARY VOLTAGE

Applicable to:

Customers with expected peak loads of at least 100 kW, subject to the limitations described below, taking service through facilities installed entirely at customer expense, or taking service through facilities which have been in continuous use for a period of 60 consecutive months prior to the customer taking service under Schedule 27.

Availability:

Only 10 MW of capacity is available for service under this rate schedule. Service is available for up to 10 MW of peak load. Service will not be available to new customers under this Schedule if the sum of the expected peak loads of all customers taking service under this schedule including the expected peak load of the customer making application exceeds 10 MW. For purposes of this determination, expected peak loads of existing customers taking service under Schedule 27 will be deemed to be the higher of the highest historical load of the customer or the peak load declared by the customer when he/she first applied for the service, unless the utility has credible specific evidence that the customer's peak load will differ from this level.

Term of Service and Waiting List Provisions:

Customers denied service under Schedule 27 because the sum of expected peak loads would exceed 10 MW may have their names placed on a waiting list (the "Schedule 27 waiting list"). As service becomes available due to discontinuation of service to existing customers, service will be offered to customers on the schedule 27 waiting list, in the same order as the customers were added to the waiting list, until all available service has been taken by new customers, or all customers on the Schedule 27 waiting list have been offered service.

Customers initially taking service under Schedule 27 may reserve service for a term of up to ten years. Customers with less than 5 years' remaining term may extend their term to up to five years from date of extension.

Tariff Advice No. TA 236-121 Effective: September 24, 1999

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Meera Kohler

TITLE: General Manager

RCA No. 121 Original Sheet No. 112.7
Cancelling Sheet No. 112.7

RECEIVED

AUG 27 1999

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

ML&P will require customers taking service under Schedule 27 to designate the expected peak load and the periods during which they will take service each year. ML&P may refuse to grant an extension of the service term to any customer if there is a waiting list at the time of the request and the customer has not met one of the following conditions:

- (1) during the 12 months prior to the request the customer has taken an amount of energy equal to 4% of the greater of the product of the number of hours in the customer's designated service period and the customer's designated peak load, or the product of the number of hours in the customer's designated service period and the customer's maximum historical peak load, or
- (2) during the 24 months prior to the request the customer has taken an amount of energy equal to 8% of the greater of the product of the number of hours in the customer's designated service period for the two years and the customer's designated peak load, or the product of the number of hours in the customer's designated service period for the two years and the customer's maximum historical peak load.

A customer taking service under Schedule 27 may modify his/her designated service one time during any 12 month period *provided that* such modification does not result in an increase in expected peak load for Schedule 27, as defined above, to more than 10 MW for any period.

A customer may modify his/her designated peak load one time during any 12 month period *provided that* such modification does not result in an increase in expected peak load for Schedule 27, as defined above, to more than 10 MW for any period *and provided further that* such modification does not reduce the customer's expected peak load to a level below 100 kW. For a reduction in designated peak load, the customer will be required to present credible evidence to ML&P that his/her peak load will not exceed the new designation.

Tariff Advice No. TA 236-121 Effective: September 24, 1999

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By:

Meera Kohler

TITLE: General Manager

RCA No. 121 8th Revision Sheet No. 112.8
 Cancelling
7th Revision Sheet No. 112.8

RECEIVED
APR 20 2018
STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**RATE SCHEDULE 27
INTERRUPTIBLE POWER AT SECONDARY VOLTAGE
(CONTINUED)**

Character of Service:

Single or three phase 60 Hertz alternating current at 120/240, 240/120, 208Y/120, or 480Y/277 volts, as available.

Monthly Rate:

Customer Charge:	\$92.61	(I)
Demand Charge:	None	
Energy Charge:	37.673 cents per kWh	(I)
Minimum Monthly Charge:	The customer charge of \$92.61	(I)

Special Terms and Conditions:

1. Service under Schedule 27 is interruptible at any time without notice at the utility's discretion. After each interruption, ML&P will restore service as quickly as possible provided that service to customers taking service under any rate schedule other than Schedules 27, 600, 700, and 750 is not adversely affected.
2. The Utility may install, at customer expense, automatic load shedding equipment which will disconnect the customer's loads if system frequency falls below 59.7 Hertz.
3. The Utility may install, at customer expense, remote relaying equipment which will allow the Utility's dispatchers to disconnect the customer's loads by operation of the relay from the dispatch center.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

RCA No. 121 2nd Revision Sheet No. 112.9
Cancelling

1st Revision Sheet No. 112.9

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

RATE SCHEDULE 27
INTERRUPTIBLE POWER AT SECONDARY VOLTAGE
(CONTINUED)

4. The utility may install, at customer expense, all necessary remote metering equipment and information display to allow the Utility's dispatchers to know what the customer's loads are at any time and to know what the total interruptible load on the system is at any time.
5. ML&P will not be obligated to acquire, install, or purchase generating capacity or contract for wholesale power to serve any customer taking service under this rate schedule. ML&P will design, construct, or install any facilities deemed necessary to serve any customer taking service under this rate schedule only if the customer agrees to pay, in advance, the cost of these facilities.

Fuel and Purchase Power Cost Adjustment: The energy charge of the foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power, as described on Sheet No. 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: **June 1, 2018**

Issued by: **Municipality of Anchorage d/b/a Municipal Light & Power**

By: **Mark A. Johnston** Title: **General Manager**

RCA No. 121 1st Revision _____ Sheet No. 112.10
Canceling
Original _____ Sheet No. 112.10

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 28
NET REQUIREMENTS SERVICE
AT SECONDARY VOLTAGE**

Applicable to:

Any customer that is otherwise eligible for service under, and satisfies the conditions of, Schedule 22 and that is partly served by on-site generation owned by the customer, where such generation has a nameplate capacity greater than 25 kW but not greater than 5,000 kW, and completed all procedures in Section 207 of ML&P's Interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVa.

Character of Service:

Single or three phase 60 Hertz alternating current at 120/240, 240/120, 208Y/120 or 480Y/277 volts as available.

Monthly Rate:

Customer Charge:	\$92.61	(I)
Demand Charge:	\$44.53 per kW of billing demand	(I)
Energy Charge:	0.498 cents per kWh	(R)
Minimum Monthly Charge:	The customer charge of \$92.61	(I)

Conditions:

1. Demand is determined by using the maximum average rate of energy supplied by ML&P for any 15 minute interval.
2. The billing demand shall be the greater of the following:
 - a. The recorded maximum demand supplied by ML&P for the month, or
 - b. Eighty percent (80%) of the maximum recorded demand supplied by ML&P during the preceding eleven (11) months, or
 - c. The contract demand, under a special contract.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

RCA No. 121 Original Sheet No. 112.11
Canceling

Sheet No. _____

RECEIVED

AUG 26 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 28
NET REQUIREMENTS SERVICE
AT SECONDARY VOLTAGE
(Continued)**

N

Customer shall discontinue parallel operation when requested by ML&P, in accordance with prudent utility practice, for the reasons stated in Section 504 of ML&P's Interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVA. During any such period of discontinuation, ML&P shall be obligated to serve customer's entire load. ML&P shall not use the provision of additional service due to such discontinuation as a basis for applying demand charge in Condition 2.a or 2.b.

3. Upon completion of Section 207, procedure E, of ML&P's Interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVa, or a later date agreed to by the parties, ML&P will serve the requirements of the customer, net of the power provided by the customer's generation, but the maximum demands recorded prior to the initial commencement of the operation of the customer's generation will be disregarded for purposes of applying the demand charge Condition 2.b.

4. All energy and per kWh charges shall be applied to all kWh supplied by ML&P during the billing period.

5. Service is provided subject to ML&P's rules and regulations.

6. The maximum demand will be measured by a meter or indicator furnished and installed by ML&P on a meter base furnished and installed by the customer.

7. The customer will make a reasonable effort to maintain unity power factor. Demand charges will be adjusted for customers with 50 kW or more of measured demand to correct for average power factors lower than 90% and may be similarly adjusted for other customers as ML&P deems necessary. Such adjustments will be made by increasing the measured demand 1% for each 1% by which the average power factor is less than 90% lagging.

8. Customer's generation must at all times comply with all applicable provisions of ML&P's Interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVa and preliminary and final letters of agreement entered into pursuant to Sections 206 and 207.

N

Tariff Advice No. 352-121

Effective: September 29, 2016

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mark A. Johnston Title: General Manager

RCA No. 121 1st Revision Sheet No. 112.12
Cancelling
Original Sheet No. 112.12

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 28
NET REQUIREMENTS SERVICE
AT SECONDARY VOLTAGE
(Continued)**

9. Customer shall use the electric output of customer's generation only to serve part of customer's electric loads, and shall not sell or otherwise provide electric capacity or energy to others. Absent prior approval by ML&P, electric output from customer's generation shall not flow into ML&P's electric system and ML&P may require customer, at customer's expense, to install equipment and/or comply with operational procedures as ML&P reasonably determines is necessary to prevent such flows into ML&P's electric system. Any such flows that result from an approved installation that meets the applicable requirements of ML&P's Interconnection Standards and Institute of Electrical Engineering (IEEE) standards are allowed.

Fuel and Purchased Power Cost Adjustment: The energy charge of the foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power, as described on Tariff Sheet Numbers 101.3 and 101.3.2.

(T)

Tariff Advice No. 366-121

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

RECEIVED

AUG 26 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 29
NET REQUIREMENTS SERVICE
AT PRIMARY VOLTAGE
(Continued)**

N

Customer shall discontinue parallel operation when requested by ML&P, in accordance with prudent utility practice, for the reasons stated in Section 504 of ML&P's Interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVA. During any such period of discontinuation, ML&P shall be obligated to serve customer's entire load. ML&P shall not use the provision of additional service due to such discontinuation as a basis for applying demand charge in Condition 2.a or 2.b.

3. Upon completion of Section 207, procedure E, of ML&P's interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVa, or a later date agreed to by the parties, ML&P will serve the requirements of the customer, net of the power provided by the customer's generation, but the maximum demands recorded prior to the initial commencement of the operation of the customer's generation will be disregarded for purposes of applying the demand charge Condition 2.b.

4. All energy and per kWh charges shall be applied to all kWh supplied by ML&P during the billing period.

5. Service is provided subject to ML&P's rules and regulations.

6. The maximum demand will be measured by a meter or indicator furnished and installed by ML&P on a meter base furnished and installed by the customer.

7. The customer will make a reasonable effort to maintain unity power factor. Demand charges will be adjusted for customers with 50 kW or more of measured demand to correct for average power factors lower than 90% and may be similarly adjusted for other customers as ML&P deems necessary. Such adjustments will be made by increasing the measured demand 1% for each 1% by which the average power factor is less than 90% lagging.

8. The customer, at the customer's expense, shall furnish, install and maintain switches, transformers, regulators and other necessary equipment on the customer's premises.

9. Customer's generation must at all times comply with all applicable provisions of ML&P's Interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVa and preliminary and final letters of agreement entered into pursuant to Sections 206 and 207.

N

Tariff Advice No. 352-121

Effective: September 29, 2016

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mark A. Johnston

Title: General Manager

Cancelling

RECEIVED

JUN 21 2001

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

SCHEDULE 31, 32, AND 33
GENERAL SERVICE - SEASONAL
AT SECONDARY VOLTAGE

Applicable to:

Any class of service which meets all of the following criteria will be billed under Schedule 31, 32, or 33. Whether a customer is on Schedule 31, 32, or 33 depends upon the timing of the summer peak activity and the customer's specific billing cycle.

1. The customer has provided reasonable assurance that its loads will be consistent with criteria #2-6 listed below, and the customer has no billing history during the prior 11 months which is inconsistent with those criteria. (C)
2. Annual demand peak occurring during the specified summer season.
3. Monthly peak demand of no greater than 20 kilowatts (kW) recorded during each month of the specified winter season.
4. Monthly peak demands of greater than 20 kilowatts (kW) recorded during at least three months of the specified summer season.
5. Peak demand for the specified winter season no greater than fifty percent (50%) of the peak demand for the specified summer season.
6. Metered at secondary voltage.

Character of Service:

Single or three phase 60 Hertz alternating current at 120/240, 120/208Y, 208Y/120, 240/120, or 480Y/277 volts as available.

The winter season and summer season shall be defined by the billing months identified in one of the following seasonal schedules:

Schedule 31	Winter Season:	October through April
	Summer Season:	May through September
Schedule 32	Winter Season:	November through May
	Summer Season:	June through October
Schedule 33	Winter Season:	November through April
	Summer Season:	May through October

Tariff Advice No. TA253-121Effective: August 6, 2001ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Michael J. Scott

Michael J. Scott

TITLE: General Manager

RCA No. 121 3rd Revision Sheet No. 113.2
Cancelling

2nd Revision Sheet No. 113.2

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULES 31, 32 AND 33
GENERAL SERVICE - SEASONAL
AT SECONDARY VOLTAGE
(CONTINUED)

4. ML&P will monitor the level of metered demand during each of the billing periods during the specified winter season, and if ML&P should determine that demand exceeds 20 kilowatts (kW), then it will move customer billing from the Seasonal Rate Schedule to Rate Schedule 22 beginning with the next billing period. ML&P will provide the customer with written notification of the change in billing within five days of the meter read and no later than seven days before the next bill is rendered. Once moved from the Seasonal Rate Schedule, customer billing shall not be moved back to this schedule until such time that the customer reestablishes a demand pattern which meets the criteria on Tariff Sheet No. 113, or until ML&P determines that the customer's operating conditions have changed in a manner which would warrant such a change.

Fuel and Purchased Power Cost Adjustment: The foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Number 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: **June 1, 2018**

Issued by: **Municipality of Anchorage d/b/a Municipal Light & Power**

By: **Anna C. Henderson** Title: **Regulatory Affairs Division Manager**

RCA No. 121 8th Revision Sheet No. 114

Cancelling

7th Revision Sheet No. 114

RECEIVED

JUN 21 2001

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

**SCHEDULE 34, 35, AND 36
GENERAL SERVICE - SEASONAL
AT PRIMARY VOLTAGE**

Applicable to:

Any class of service which meets all of the following criteria will be billed under Schedule 34, 35, or 36. Whether a customer is on Schedule 34, 35, or 36 depends upon the timing of the summer peak activity and the customer's specific billing cycle.

1. The customer has provided reasonable assurance that its loads will be consistent with criteria #2-6 listed below, and the customer has no billing history during the prior 11 months which is inconsistent with those criteria. (C)
2. Annual demand peak occurring during the specified summer season.
3. Monthly peak demands of no greater than 20 kilowatts (kW) recorded during each month of the specified winter season.
4. Monthly peak demands of greater than 20 kilowatts (kW) recorded during at least three months of the specified summer season.
5. Peak demand for the specified winter season no greater than fifty percent (50%) of the peak demand for the specified summer season.
6. Metered at Primary voltage. (C)

Character of Service:

Single or three phase 60 Hertz alternating current at 4160Y/2400, 12470Y/7200, or 34500Y/19900 volts as available.

The winter season and summer season shall be defined by the billing months identified in one of the following seasonal schedules:

Schedule 34	Winter Season:	October through April
	Summer Season:	May through September
Schedule 35	Winter Season:	November through May
	Summer Season:	June through October
Schedule 36	Winter Season:	November through April
	Summer Season:	May through October

Tariff Advice No. TA253-121

Effective: August 6, 2001

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Michael J. Scott
Michael J. Scott

TITLE: General Manager

RCA No. 121 2nd Revision Sheet No. 114.2
 Cancelling

1st Revision Sheet No. 114.2

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULES 34, 35, AND 36
GENERAL SERVICE - SEASONAL
AT PRIMARY VOLTAGE
(CONTINUED)

4. ML&P will monitor the level of metered demand during each of the billing periods during the specified winter season, and if ML&P should determine that demand exceeds 20 kilowatts (kW), then it will move customer billing from the Seasonal Rate Schedule to Rate Schedule 23 beginning with the next billing period. ML&P will provide the customer with written notification of the change in billing within five days of the meter read and no later than seven days before the next bill is rendered. Once moved from the Seasonal Rate Schedule, customer billing shall not be moved back to this schedule until such time that the customer reestablishes a demand pattern which meets the criteria on Tariff Sheet No. 114 or until ML&P determines that the customer's operating conditions have changed in a manner which would warrant such a change.

Fuel and Purchased Power Cost Adjustment: The foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Number 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: **June 1, 2018**

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Anna C. Henderson Title: Regulatory Affairs Division Manager

Cancelling

5th Revision Sheet No. 115

RECEIVED
JUN 1 1977

State of Alaska
Public Utilities Commission

SCHEDULE 24
COMMERCIAL WATER
AND SPACE HEATING SERVICE

D
D

This schedule is cancelled.

T

Separate metering for Schedule 24

T

service is discontinued and energy

T

used for water and space heating is

T

included in service rendered under

T

the applicable General Service

T

Schedule (21, 22 or 23).

T

Pursuant to Order No. 115 U-76-11

Tariff Advice No. 5-Supp. 2

Effective: JUN 28 1977

Municipal Light & Power Department

Issued by: Municipality of Anchorage

By: [Signature] Title: Utility Manager

RCA No. 121 11th Revision Sheet No. 117
 Cancelling

10th Revision Sheet No. 117

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULES 41-45
AREA LIGHTING SERVICE
(Continued)**

3. As of October 1, 1990, ML&P will no longer install new mercury vapor luminaries. Upon maintenance replacement, existing mercury vapor luminaries shall be replaced with the next lower wattage high pressure sodium luminaire and the customer shall be billed at the appropriate rate schedule.

4. A customer may elect to construct lighting facilities and ML&P shall connect and maintain such facilities following inspection and approval by ML&P for service under these schedules.

Fuel and Purchased Power Cost Adjustment: Charges set forth under "Monthly Rate", above are subject to adjustments to recover the cost of power, as described on Tariff Sheet 101.3 and 101.3.2 (T)

For such and other purposes, the number of kilowatt hours to be incorporated in billing and other records, delivered monthly to each luminaire served hereunder, shall be determined to be the product of the fixture input wattage and the operating hours per month. The operating hours are determined monthly by reading a master photo-electric cell. Fixture input wattage is taken as 1.069 times the lamp wattage rating.

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Anna C. Henderson Title: Regulatory Affairs Division Manager

APUC No. 121 12th Revision Sheet No. 118

Cancelling

11th Revision Sheet No. 118

RECEIVED

AUG 15 1990

State of Alaska

Public Utilities Commission

MUNICIPAL LIGHT & POWER

SCHEDULES 81-96
AREA LIGHTING SERVICE

D
D

Schedules 81-96 formerly found on this page have been
cancelled.

T
T

Pursuant to U-89-8(5)

Tariff Advice No. _____

Effective: October 1, 1990

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:

Thomas R. Stahr

Title:

General Manager

APUC No. 121 1st Revision Sheet No. 118.1

Cancelling

Original Sheet No. 118.1

RECEIVED

AUG 15 1990
State of Alaska

Public Utilities Commissio

MUNICIPAL LIGHT & POWER

SCHEDULES 81-96
AREA LIGHTING SERVICE
(Continued)

D

D

Schedules 81-96 formerly found on this page have been
cancelled.

T

T

Pursuant to U-89-8(5)

Tariff Advice No. _____

Effective: October 1, 1990

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: _____

Thomas R. Stahr

Title: General Manager

APUC No. 121 22nd Revision Sheet No. 119

Cancelling

21st Revision Sheet No. 119

RECEIVED

AUG 15 1990
State of Alaska

Public Utilities Commissio

MUNICIPAL LIGHT & POWER

SCHEDULES 71-80
STREET LIGHTING SERVICE

D
D

Schedules 71-80 formerly found on this page have been
cancelled.

T
T

Pursuant to U-89-8(5)

Tariff Advice No. _____

Effective: October 1, 1990

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By:

Thomas R. Stahr

Title: General Manager

RECEIVED
APR 20 2018
STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULES 60-64
STREET LIGHTING SERVICE

Applicable to:

Lighting by pole-mounted luminaries of public thorough-fares under the jurisdiction of governmental agencies.

Character of Service:

Under these schedules, ML&P will supply energy to and maintain an unmetered streetlight luminaire owned by ML&P.

Monthly Rates:

<u>Schedule</u>	<u>Watts</u>	<u>Rate</u>	
60	150	\$37.78	(I)
61	175	\$39.74	(I)
62	250	\$44.81	(I)
63	400	\$55.69	(I)
64	1000	\$101.61	(I)

Conditions:

1. The luminaries or street lighting system shall be equipped with automatic controls to turn the lights on at dusk and off at dawn.
2. These rates are based upon installation of luminaries on existing ML&P wood poles and connection to existing overhead service conductors. When new installations are requested, the cost shall be paid to ML&P as a contribution in aid of construction in accordance with Section 3.3.
3. As of October 1, 1990, ML&P will no longer install new mercury vapor luminaries. Upon maintenance replacement, existing mercury vapor luminaries shall be replaced with the next lower wattage of high pressure sodium luminaire and the customer shall be billed at the appropriate rate schedule.
4. When the customer requires a change out from mercury vapor luminaries to sodium vapor luminaries, an amount equal to the cost of the change out and the new luminaire shall be paid to ML&P in advance of construction in accordance with tariff Section 3.4.

Fuel and Purchased Power Cost Adjustment: Charges set forth under "Monthly Rate", above are subject to adjustment to recover the Cost of Power, as described on Tariff Sheet Number 101.3 (T) and 101.3.2. (T)

For such and other purposes, the number of kilowatt hours to be incorporated in billing and other records, as delivered monthly to each luminaire served hereunder, shall be determined by the product of the fixture input wattage and the operating hours per month. The operating hours are determined monthly by reading a master photo-electric cell. Fixture input wattage is taken as 1.069 times the lamp wattage rating.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

APUC No. 121Original

Sheet No.

122

Cancelling

Sheet No.

RECEIVED**MAY 10 1983**

State of Alaska

Public Utilities Commission

Conditions:

The qualifying facility will be required to enter into a written Special Contract with ML&P prior to interconnection of ML&P and qualifying facilities. This Special Contract shall contain all applicable terms and conditions which must be met and complied with by the qualifying facility. The Special Contract will be subject to the approval of the APUC.

Tariff Advice No. 60

Effective:

MAY 19 1983

Issued by:

Municipality of Anchorage
Municipal Light & Power

By:

Title:

General Manager

Cancelling

123

Sheet No.

MUNICIPAL LIGHT & POWER

RECEIVED

MAR 06 1987

State of Alaska
Public Utilities CommissionSCHEDULE 600
ECONOMY ENERGY SERVICE FOR RESALE

Applicable to:

Any utility signatory to the Alaska Intertie Agreement having generation capacity readily available to assume its load upon termination of the transaction.

Character of Service:

ML&P will schedule delivery of economy energy at its Plant 2 115KV Bus in accordance with the Alaska Intertie operating procedures. Sales of economy energy are interruptable upon ML&P's sole discretion.

Conditions of Service:

Transactions of economy energy are on a "when, as and if" available from ML&P's generating resources to purchaser to enable the reduction of output from the purchasing utility's available generating resources.

ML&P may supply energy up to the capacity of the power source or fuel available for such supply, subject to the judgment of ML&P that such supply of energy will not impair or jeopardize service to other customers, including other electric systems.

Delivery may be terminated by ML&P upon reasonable notice to the purchaser.

For the purposes of spinning reserve determinations, economy energy shall be considered to have been generated on the purchaser's system.

Price Determination:

A. Purchaser's Decremental Costs include the cost of fuel, operating labor and maintenance which would have been incurred to generate the next unit of energy required at the time of transaction and which is avoided by the purchase of economy energy from ML&P. Decremental costs include the cost avoided by

Pursuant to U-86-11(5)/U-86-16(5)

Tariff Advice No. _____

Effective: March 1, 1987Issued by: Municipality of Anchorage d/b/a Municipal Light & PowerBy: Thomas R. Stahr

Thomas R. Stahr

Title: General Manager

APUC No. 121 2nd Revision Sheet No. 124

Cancelling

1st Revision Sheet No. 124

RECEIVED

OCT 22 1990

State of Alaska

Public Utilities Commission

MUNICIPAL LIGHT & POWER

start up and operation of a generating unit or units. The decremental cost of a unit to be shut down as a result of the transaction is the average cost of power during the period of the transactions if no economy energy was transferred. The decremental costs per megawatt hour for any particular transaction shall be the total of such costs divided by the megawatt hours scheduled for receipt. In situations where the purchaser would have incurred replacement fuel costs which are higher than the costs of an existing fuel supply, replacement costs shall be utilized.

B. ML&P's Incremental Costs include the cost of fuel, operating labor and maintenance, and the costs of additional transmission system losses to generate and deliver to Plant 2. Incremental costs also include the cost of starting and operating any generating unit which is required as a result of supplying such energy. The incremental cost per megawatt hour for any particular transaction shall be the total of such costs divided by the megawatt hours scheduled for delivery. In situations where ML&P will incur replacement fuel costs which are higher than the cost of its existing fuel supply, replacement costs shall be utilized.

C. Wheeling Costs are the sum of any transmission service charges paid by the purchaser for delivery over the Alaska Intertie or intervening utility systems.

The Margin shall be one half of the quantity of: Purchaser's Decremental Cost (A) minus Incremental Cost (B) minus Wheeling Costs (C). A different amount may be agreed upon prior to the transaction; however, the negotiated price must be within the range limited by producer's incremental cost and purchaser's decremental cost. C N N

Margin = $[\frac{1}{2}(A-B-C)]$, unless a different value is negotiated as described above. C

Billing:

Economy Energy transactions will be billed monthly and will be the sum of ML&P's Incremental cost per MWH plus margin multiplied against the MWH of scheduled delivery.

Bills will be increased 1% per month on amounts unpaid after 25 calendar days from the date the bill is rendered.

Pursuant to U-87-67(8)

Tariff Advice No. _____

Effective: October 22, 1990

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Thomas R. Stahr
Thomas R. Stahr

Title: General Manager

RCA No. 121 14th Revision Sheet No. 125
 Cancellling
13th Revision Sheet No. 125

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 700
INTERRUPTIBLE SERVICE - FORT RICHARDSON
AT PRIMARY VOLTAGE**

Applicable to:

Fort Richardson, a U.S. Army installation, solely for the purpose of wholesale interruptible power sales.

Character of Service:

Three phase 60 Hertz alternating current at 34500Y/19900 volts.

Monthly Rate:

Energy Charge: 7.245 cents per kWh (I)

Minimum Monthly Charge: None

Conditions:

1. This service shall be fully interruptible at ML&P's discretion. Fort Richardson shall provide its own firm capacity in case of interruption.
2. Fort Richardson shall maintain a minimum of 90% power factor while taking service from ML&P. If Fort Richardson fails to maintain this power factor in any given billing period, a power factor penalty of .005 cents per kilowatt-hour shall be assessed for that billing period.
3. Fort Richardson shall coordinate any installation or settings of load shedding equipment affecting this service with ML&P.
4. Rates for this interruptible service shall be based upon direct costs and the fully allocated cost of service excluding demand-allocated costs. Rates established under this rate schedule may be modified only upon the filing of a general rate increase by ML&P.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

RCA No. 121 4th Revision Sheet No. 126
 Cancelling
3rd Revision Sheet No. 126

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 700
INTERRUPTIBLE SERVICE - FORT RICHARDSON
AT PRIMARY VOLTAGE
(CONTINUED)**

5. Upon reaching annual kWh sales of 7,454,650 (the amount required for the recovery of annual capital costs approved in TA 206-121), Fort Richardson may elect to be billed at rates based upon the same determination utilized for economy energy transactions as described on ML&P's Tariff Sheet No. 123.
6. If, in response to a specific request to do so by the customer, ML&P starts an idle turbine for the purpose of serving the customer's load, the customer will be required to pay, in addition to the Energy Charge specified above, the actual cost of starting the turbine. Prior to starting the turbine, ML&P will notify the customer of the start cost and confirm the customer's request to start the turbine.

Fuel and Purchased Power Cost Adjustment: The foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Number 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Anna C. Henderson Title: Regulatory Affairs Division Manager

APUC No. 121 Original Sheet No. 127
Cancelling _____ Sheet No. _____

RECEIVED

MAY 17 1995

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. TA 208-121 Effective: June 30, 1995

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mary Ann Pease TITLE: General Manager
for Thomas R. Stahr

APUC No. 121 Original Sheet No. 128
Cancelling _____ Sheet No. _____

RECEIVED

MAY 17 1995

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. TA 208-121 Effective: June 30, 1995

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mary Ann Pease TITLE: General Manager
for Thomas R. Stahr

APUC No. 121 Original Sheet No. 129
Cancelling
Sheet No. _____

RECEIVED

MAY 17 1995

State of Alaska
Public Utilities Commission

MUNICIPAL LIGHT & POWER

RESERVED

Tariff Advice No. TA 208-121 Effective: June 30, 1995

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mary Ann Base TITLE: General Manager
for Thomas R. Stahr

RCA No. 121 9th Revision Sheet No. 130
 Cancelling
8th Revision Sheet No. 130

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 750
INTERRUPTIBLE SERVICE - ELMENDORF
AT PRIMARY VOLTAGE**

Applicable to:

Elmendorf, a U.S. Air Force installation, solely for the purpose of interruptible bulk power sales.

Character of Service:

Three phase 60 Hertz alternating current at 34500Y/19900 volts.

Monthly Rate:

Energy Charge: 8.428 cents per kWh (I)

Minimum Monthly Charge: None

Conditions:

1. This service shall be fully interruptible at ML&P's discretion. Elmendorf shall provide its own firm capacity in case of interruption.
2. Elmendorf shall coordinate any installation or settings of load shedding equipment affecting this service with ML&P.
3. If, in response to a specific request to do so by the customer, ML&P starts an idle turbine for the purpose of serving the customer's load, the customer will be required to pay, in addition to the Energy Charge specified above, the actual cost of starting the turbine. Prior to starting the turbine, ML&P will notify the customer of the start cost and confirm the customer's request to start the turbine.

Fuel and Purchased Power Cost Adjustment: The foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power, as described on Tariff Sheet Numbers 101.3 and 101.3.2. (T)

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

RCA No. 121 9th Revision Sheet No. 131
Cancelling

Cancelling

8th Revision
Sheet No. 131

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULE 760
LIMITED ALL REQUIREMENTS SERVICE AT PRIMARY VOLTAGE

Applicable to:

Any Customer to whom ML&P is authorized to provide service but is not obligated to provide service (except pursuant to Schedule 700, 750, 760, 770, or 780) and whose peak load in any 12 month period is at least 10 MW. Availability of this service may be terminated by the utility by giving twelve (12) months' advance written notice to the authorized representatives of all customers then taking service and prompt written notice to all persons with pending applications for service under this schedule 760. Copies of such notices shall also be provided to the Regulatory Commission of Alaska.

Character of Service:

Three phase 60 Hertz alternating current at 34500Y/19900 volts

Monthly Rate:

Customer Charge:¹	\$668.42	(I)
-------------------------------------	-----------------	------------

Demand Charge: \$45.43 per kW of Billing Demand (I)

Energy Charge: 0.488 cents per kWh (R)

Minimum Monthly Charge: The customer charge of \$688.42¹

Definitions:

- 1. Metered Demand is the maximum average rate of energy use for any 15 minute interval in the billing period.**

¹ If the customer is taking service under more than one rate schedule at a single meter, only one customer charge shall apply.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

Cancelling

OriginalSheet No. 132

RECEIVED

AUG 3 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

SCHEDULE 760 CONTINUED

2. Billing Demand is the greater of the following:

- a. The recorded maximum demand for the month, or
- b. 70% of the highest Metered Demand recorded during the preceding eleven (11) months.

Conditions:

1. ML&P may require the customer to enter into a special contract with ML&P that specifies the term of Service and the parties' respective rights upon termination of service. Any such special contract will not become effective until approved by the Regulatory Commission of Alaska ("RCA").

2. Service is for 100% of the customer's requirements. All power generated by the customer's generation facilities must be sold either to the utility or to a third party to whom the power may be delivered. In providing service pursuant to this Rate Schedule 760, ML&P is not committed to purchase power from the customer or to wheel such power to any third party. Any purchase or wheeling arrangements between ML&P and the customer related to power generated by the customer's generation facilities will be by mutually acceptable contract and independent of this Rate Schedule.

3. Operating Reserves: The customer will be responsible for all billing demands arising as a consequence of forced outages of the customer's generation facilities, *provided that* the customer and ML&P may, by mutual agreement, enter into an operating reserve sharing arrangement which will relieve the customer of responsibility for billing demands arising as a consequence of the initial 2 hours of any forced outage or failure of a supplier other than ML&P to deliver power in consideration of which the customer shall provide Operating Reserves to ML&P meeting the following conditions:

- a. The customer and ML&P must be interconnected in a manner which, in the sole opinion of ML&P, will make it technically feasible for the customer to supply operating reserves to ML&P.

Pursuant to U-99-139(5)

Tariff Advice No. TA 245-121

Effective Sept. 14, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & PowerBY: 

Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 2nd Revision
 Cancelling

Sheet No. 132.1

1st Revision

Sheet No. 132.1

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 760
(CONTINUED)**

b. The customer must supply to ML&P operating reserves, as defined in ADDENDUM NO. 1 TO THE ALASKA INTERTIE AGREEMENT dated December 23, 1985 and, in particular, SECTIONS A-1.1 *et seq.*, B-2.1 *et seq.*, and B-2.2 *et seq.* which provisions are, by this reference, incorporated herein and made a part of this rate schedule, in an amount that constitutes the same percentage of the customer's generation output as ML&P's operating reserve obligation is of its generation output.

4. The customer may terminate its service under this rate schedule by giving 30 days' advance written notice to ML&P. However, service under Schedule 760 may not be resumed within 12 months of termination by the customer.

Fuel and Purchased Power Cost Adjustment: The energy charge of the foregoing monthly rate is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Number 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: **June 1, 2018**

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Anna C. Henderson Title: Regulatory Affairs Division Manager

RCA No. 121 9th Revision Sheet No. 133
 Cancelling
8th Revision Sheet No. 133

RECEIVED
APR 20 2018
STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

**SCHEDULE 770
PARTIAL REQUIREMENTS SERVICE AT PRIMARY VOLTAGE**

Applicable to:

Any customer to whom ML&P is authorized to provide service but is not obligated to provide service (except pursuant to Schedule 700, 750, 760, 770, or 780) and whose peak load in any 12 month period is at least 10 MW. Availability of this service may be terminated by the utility by giving twelve (12) months' advance written notice to the authorized representatives of all customers then taking service and prompt written notice to all persons with pending applications for service under this Schedule 770. Copies of such notices shall also be provided to the Regulatory Commission of Alaska.

Character of Service:

Three phase 60 Hertz alternating current at available transmission or sub-transmission voltage (34500Y/19900 volts or above).

Monthly Rate:

Customer Charge: ¹	\$668.42	(I)
Baseload Demand Charge:	\$39.66 per kW of Baseload Demand	(I)
Peaking Demand Charge:	\$39.66 per kW of Peaking Demand	(I)
Energy Charge:	0.488 cents per kWh	(R)
Minimum Monthly Charge:	The customer charge of \$668.42 plus the product of Baseload Demand multiplied by the Baseload Demand Charge specified above. ¹	

¹ If the customer is taking service under more than one rate schedule at a single meter, only one customer charge shall apply.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

CancellingOriginalSheet No. 134**RECEIVED**

AUG 3 2000

State of Alaska
Regulatory Commission of Alas**MUNICIPAL LIGHT & POWER****SCHEDULE 770 CONTINUED****Definitions:**

1. Metered Total Demand is the maximum average rate of energy use measured over any 15 minute interval during the applicable billing month. C
2. Billing Total Demand for any billing month is the greater of (1) Metered Total Demand or (2) 70% of the highest Metered Total Demand recorded during the previous 11 billing months. N
3. Baseload Demand is the demand level designated by the customer as Baseload Demand pursuant to paragraph 2 of the Conditions set forth below.
4. Peaking Demand for any billing month is the arithmetic difference derived by subtracting Baseload Demand from Billing Total Demand for such month, or zero, whichever is greater. N

Conditions:

1. ML&P may require the customer to enter into a special contract with ML&P that specifies the term of Service and the parties' respective rights upon termination of service. Any such special contract will not become effective until approved by the Regulatory Commission of Alaska ("RCA"). C
2. The customer must apply for service on a form to be provided by the utility, and in such application, designate the Baseload Demand under this Rate Schedule. The customer may modify the Baseload Demand one time in any 12 month period by providing written notice to ML&P 30 days prior to the effective date of the change. The Baseload Demand may be modified more than one time in a 12 month period if the modification is mutually agreed upon and has no adverse effect on ML&P or its other customers. C

Pursuant to U-99-139(5)

Tariff Advice No.TA 245-121Effective Sept. 14, 2000**ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power****BY:****Hank Nikkels****TITLE: Acting General Manager**

RECEIVED

AUG 3 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

SCHEDULE 770 CONTINUED

3. The customer may meet its requirements in excess of Baseload Demand through any combination of power purchases from non utility power suppliers and utilities which are authorized by the RCA to make such sales, and power generated by its own facilities. The customer shall provide ML&P with a schedule of its planned generation and purchases from suppliers other than ML&P for each hour of the following day no later than 12:00 noon each day. The customer shall promptly notify ML&P of any changes to such schedule and, except in an emergency, shall not change such schedule for any hour later than 15 minutes prior to the start of that hour.

4. In providing service pursuant to this Rate Schedule, ML&P is not committed to wheel power from any third party to the customer. Any wheeling or ancillary service arrangements between ML&P and the customer related to power purchased by the customer from third-party generation facilities will be by mutually acceptable contract, which must be approved by the RCA prior to taking effect, and independent of this Rate Schedule. The customer will be solely responsible for arranging provision of any wheeling or other services related to such purchase.

5. Operating Reserves: The customer will be responsible for all billing demands arising as a consequence of forced outages of the customer's generation facilities or of failures of power suppliers other than ML&P to deliver power, *provided that* the customer and ML&P may, by mutual agreement, enter into an operating reserve sharing arrangement which will relieve the customer of responsibility for billing demands arising as a consequence of the initial 2 hours of any forced outage or failure of a supplier other than ML&P to deliver power, in consideration of which the customer shall provide Operating Reserves to ML&P meeting the following conditions:

- a. The customer and ML&P must be interconnected in a manner which, in the sole opinion of ML&P, will make it technically feasible for the customer to supply operating reserves to ML&P.

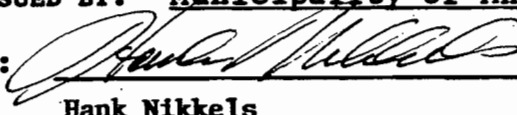
Pursuant to U-99-139(5)

Tariff Advice No. TA 245-121

Effective Sept. 14, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 2nd Revision Sheet No. 135.1
 Cancelling
1st Revision Sheet No. 135.1

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULE 770 CONTINUED

- b. The customer must supply to ML&P operating reserves, as defined in ADDENDUM NO. 1 TO THE ALASKA INTERTIE AGREEMENT dated December 23, 1985 and, in particular, SECTIONS A-1.1 *et seq.*, B-2.1 *et seq.*, and B-2.2 *et seq.* which provisions are, by this reference, incorporated herein and made a part of this rate schedule, in an amount that constitutes the same percentage of the customer's generation output as ML&P's operating reserve obligation is of its generation output.
7. The customer may terminate its service under this rate schedule by giving 30 days' written notice to ML&P. However, service under Schedule 770 may not be resumed within 12 months of termination by the customer.

Fuel and Purchased Power Cost Adjustment: The Energy Charge is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Number 101.3 and 101.3.2.

(T)

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: **June 1, 2018**

Issued by: **Municipality of Anchorage d/b/a Municipal Light & Power**

By: **Anna C. Henderson** Title: **Regulatory Affairs Division Manager**

RCA No. 121 1st Revision Sheet No. 136

Cancelling

Original

Sheet No. 136

RECEIVED

SEP 13 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

D

D

Pursuant to U-99-139(5)
Tariff Advice No. 245-121

Effective Sept. 14, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Hank Nikkels
Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 1st Revision Sheet No. 137

Cancelling

Original

Sheet No. 137

RECEIVED

SEP 13 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

D

D

Pursuant to U-99-139(5)

Tariff Advice No. 245-121

Effective Sept. 14, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:

Bank Nikkels

TITLE: Acting General Manager

RCA No. 121 1st Revision Sheet No. 138

Cancelling
Original Sheet No. 138

RECEIVED

SEP 13 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

RESERVED FOR FUTURE USE

D

D


Pursuant to U-99-139(5)

Tariff Advice No. 245-121

Effective Sept. 14, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:


Hank Nikkels

TITLE: Acting General Manager

RECEIVED

APR 20 2018

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULE 780
SEASONAL REPLACEMENT SERVICE AT PRIMARY VOLTAGE

Applicable to:

Any customer to whom ML&P is authorized to provide service but is not obligated to provide service (except pursuant to Schedule 700, 750, 760, 770, or 780), and whose peak load in any 12 month period is at least 10 MW, for the purpose of replacing customer owned generation units during maintenance outages during the Summer Season, May through October. Availability of this service may be terminated by the utility by giving twelve (12) months' advance written notice to all customers who are then taking service or whose applications for service pursuant to Condition No. 2 below have been accepted by the utility, and prompt written notice to all persons with pending applications for service, under this Schedule 780. Copies of such notices shall also be provided to the Regulatory Commission of Alaska.

Character of Service:

Three phase 60 Hertz alternating current at available transmission or subtransmission voltage (34500Y/19900 volts or above).

Monthly Rate:

Customer Charge:¹	\$668.42	(I)
-------------------------------------	-----------------	------------

Replacement Capacity Charge: \$39.66 per kW of Replacement Capacity (I)

Excess Demand Charge: **The Peaking Demand Charge under Rate Schedule 770 then in effect**

Energy Charge: 0.488 cents per kWh (R)

Minimum Monthly Charge: The customer charge of \$688.42 plus the Product of Replacement Capacity multiplied By the Replacement Capacity Charge specified above.¹

¹ If the customer is taking service under more than one rate schedule at a single meter, only one customer charge shall apply.

Pursuant to U-16-094(10)/U-17-008(14)

Effective: June 1, 2018

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: /s/ Anna Henderson Title: Regulatory Affairs Division Manager

AUG 3 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

SCHEDULE 780 CONTINUED

Definitions:

1. Metered Total Demand is the maximum average rate of energy use measured over any 15 minute interval during the applicable billing month.
2. Billing Total Demand for any month is the greater of (1) Metered Total Demand or (2) Replacement Capacity.
3. Replacement Capacity is the demand level designated by the customer as Replacement Capacity pursuant to paragraph 2 of the Conditions set forth below.
4. Excess Demand is equal to Billing Total Demand less Replacement Capacity, or zero, whichever is greater.

N
C
C

Conditions:

1. ML&P may require the customer to enter into a special contract with ML&P that specifies the term of service and the parties' respective rights upon termination of service. Any such special contract will not become effective until approved by the Regulatory Commission of Alaska ("RCA").
2. The customer must apply for service on a form to be provided by the utility, and in such application, designate the Replacement Capacity under this Rate Schedule. Replacement Capacity must be designated for a period of not less than 1 month and not more than 3 months, and no part of the period may fall outside of the May through October summer season. ML&P may accept or reject the customer's designation of Replacement Capacity and will notify the customer of its decision to accept or reject within 7 days of receiving the customer's application. If ML&P accepts the customer's designation, ML&P shall provide and the customer shall

C
C

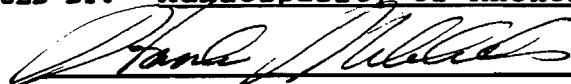
Pursuant to U-99-139(5)

Tariff Advice No. TA 245-121

Effective Sept. 14, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY:



Hank Nikkels

TITLE: Acting General Manager

RECEIVED

AUG 3 2000

State of Alaska
Regulatory Commission of Alaska

MUNICIPAL LIGHT & POWER

SCHEDULE 780 CONTINUED

purchase the designated Replacement Capacity pursuant to this rate schedule. The customer may unilaterally reduce the Replacement Capacity one time in any 12 month period by providing 30 days' prior written notice to ML&P. The customer may designate multiple purchases of Replacement Capacity, which ML&P may accept or reject independently of each other. C

3. The customer may meet its requirements in excess of the Replacement Capacity through any combination of power purchases from non utility power suppliers and utilities which are authorized by the RCA to make such sales, and power generated by its own facilities. The customer shall provide ML&P with a schedule of its planned generation and purchases from suppliers other than ML&P for each hour of the following day no later than 12:00 noon each day. The customer shall promptly notify ML&P of any changes to such schedule and, except in an emergency, shall not change such schedule for any hour later than 15 minutes prior to the start of that hour. C

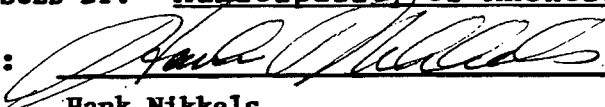
4. In providing service pursuant to this Rate Schedule, ML&P is not committed to wheel power from any third party to the customer. Any wheeling or ancillary service arrangements between ML&P and the customer related to power purchased by customer from third-party generation facilities will be by mutually acceptable contract, which must be approved by the RCA prior to taking effect, and independent of this Rate Schedule. The customer will be solely responsible for arranging provision of any wheeling or other services related to such purchase. L

5. Operating Reserves: The customer will be responsible for all billing demands arising as a consequence of forced outages of the customer's generation facilities or of failures of power suppliers other than ML&P to deliver power, *provided that* the customer and ML&P may, by mutual agreement, enter into an operating reserve sharing arrangement which will relieve the customer of responsibility for billing demands arising as a consequence of the initial 2 hours of any forced outage or failure of a supplier other than ML&P to deliver power in consideration of which the L

Pursuant to U-99-139(5)
Tariff Advice No. TA 245-121

Effective Sept. 14, 2000

ISSUED BY: Municipality of Anchorage d/b/a Municipal Light & Power

BY: 
Hank Nikkels

TITLE: Acting General Manager

RCA No. 121 3rd Revision Sheet No. 142
 Cancelling
2nd Revision Sheet No. 142

RECEIVED

DEC 30 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

MUNICIPAL LIGHT & POWER

SCHEDULE 780

(CONTINUED)

customer shall provide Operating Reserves to ML&P meeting the following conditions:

- a. The customer and ML&P must be interconnected in a manner which, in the sole opinion of ML&P, will make it technically feasible for the customer to supply operating reserves to ML&P.
- b. The customer must supply to ML&P operating reserves, as defined in ADDENDUM NO. 1 TO THE ALASKA INTERTIE AGREEMENT Dated December 23, 1985 and, in particular, SECTIONS A-1.1 *et seq.*, B-2.1 *et seq.*, and B-2.2 *et seq.* which provisions are, by this reference, incorporated herein and made a part of this rate schedule, in an amount that constitutes the same percentage of its generation output as ML&P's operating reserve obligation constitutes of ML&P's generation output.

Fuel and Purchased Power Cost Adjustment: The Energy Charge is subject to adjustment on a kilowatt hour basis to recover the cost of power as described on Tariff Sheet Number 101.3 and 101.3.2. (T)

Pursuant to U-16-094(10)/U-17-008(14)
Tariff Advice No. 357-121

Effective: **June 1, 2018**

Issued by: **Municipality of Anchorage d/b/a Municipal Light & Power**

By: Mark A. Johnston Title: General Manager

Canceling

RECEIVED

AUG 15 2016

MUNICIPAL LIGHT & POWER

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Appendix A

Interconnection and Operating Requirements for Non-Utility Generation Up to 5,000 kVa

(Sections 111-114 Revised September, 2016)

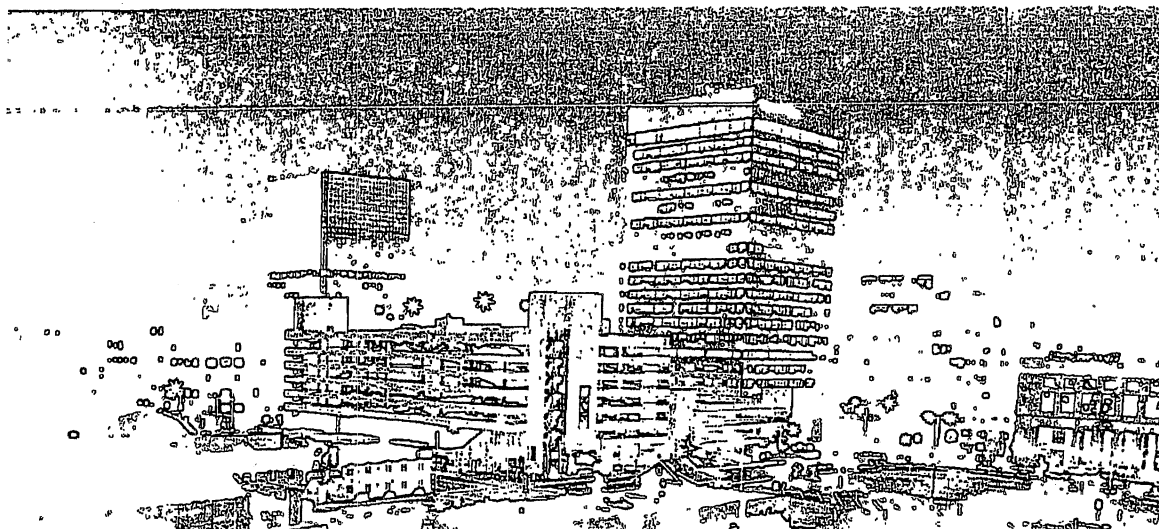
(N)

Tariff Advice No. 351-121

Effective: September 29, 2016

Issued by: Municipality of Anchorage d/b/a Municipal Light & Power

By: Mark A. Johnston Title: General Manager



Interconnection and Operating Requirements For Non-Utility Generation Up to 5,000 kVA

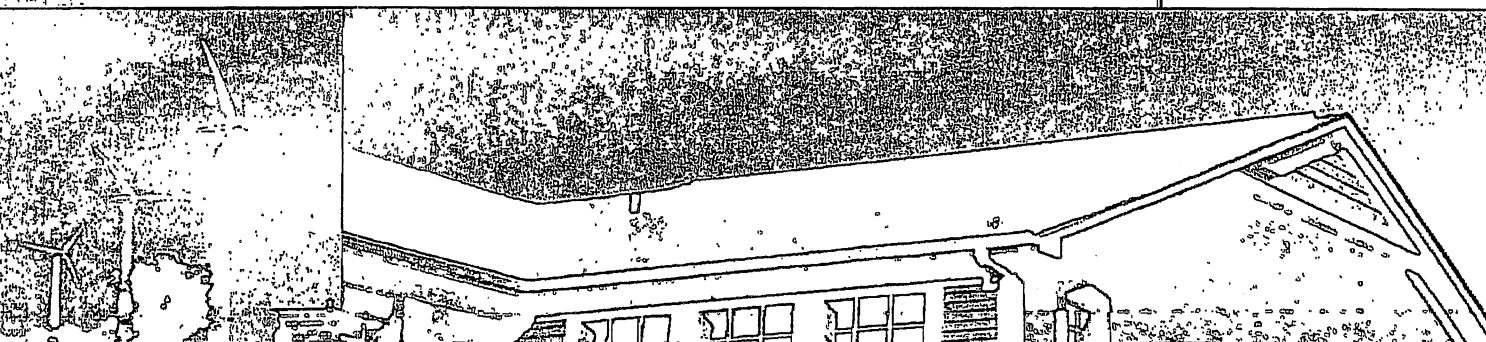
2010 EDITION

<http://www.mlandp.com>

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**



RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

**MEETING ANCHORAGE'S ENERGY CHALLENGES
WITH EFFICIENCY AND NEW TECHNOLOGY**

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

MUNICIPAL LIGHT & POWER

Interconnection and Operating Requirements For Non-Utility Generation Up to 5,000 kVA

2010 EDITION

Municipality of Anchorage

Dan Sullivan
Mayor

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**FOREWARD**

Interconnection of non-utility generating equipment with ML&P's electric power system involves many complex technical and operational issues. Non-utility owned generators span a wide range of sizes and electrical characteristics, and electrical distribution system design varies from that required to serve the residential customer to that needed to serve the large commercial customer. With so many variations possible, it is very challenging to create an interconnection standard that fits all generation interconnection situations.

In establishing a non-utility generation interconnection standard, two important issues that must be addressed are safety and reliability.

The first and most important issue is safety of the general public and of ML&P's employees working on the electrical systems. This standard establishes the technical requirements that must be met to ensure the safety of the general public and of ML&P's employees. Typically, designing an interconnection system for the safety of the general public will also provide protection for the interconnected equipment.

The second issue is reliability; the non-utility generation system must be designed and interconnected in such a way that system reliability and service quality for all customers connected to ML&P's electric power system are not compromised.

ML&P will strive to maintain quality of service and the safety of the general public, customers, and employees, while facilitating interconnection of non-utility generation equipment where possible.

James M. Posey
General Manager
Municipal Light & Power

MUNICIPAL LIGHT & POWER DEPARTMENT DIRECTORY

1200 East 1st Avenue
Anchorage, Alaska 99501
(907) 279-7671 (24 hrs)

Line Extension Coordinator (new service applications)
7:30 a.m. to 4:00 p.m., Monday through Friday
263-5212

Customer Service Division (billing and account information)
8:00 a.m. to 5:30 p.m., Monday through Friday
263-5340

Engineering Division
7:00 a.m. to 3:30 p.m., Monday through Friday
263-5228

Operations Division
7:00 a.m. to 3:30 p.m., Monday through Friday
263-5279

Metering Section
7:00 a.m. to 3:30 p.m., Monday through Friday
263-5252

ADDITIONAL IMPORTANT TELEPHONE NUMBERS

Municipality of Anchorage, Development Services, Building Safety
General Information and Permits 343-8347
To request an inspection for a project with a permit 343-8300
To fax a request for an inspection for a project with a permit 249-7777
Inspection Help Line 343-7962
Lead Electrical Inspector 343-8316

Locate Call Center of Alaska, Inc.
Anchorage Area (907) 278-3121
Statewide (800) 478-3121

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

Municipal Light & Power Service Area

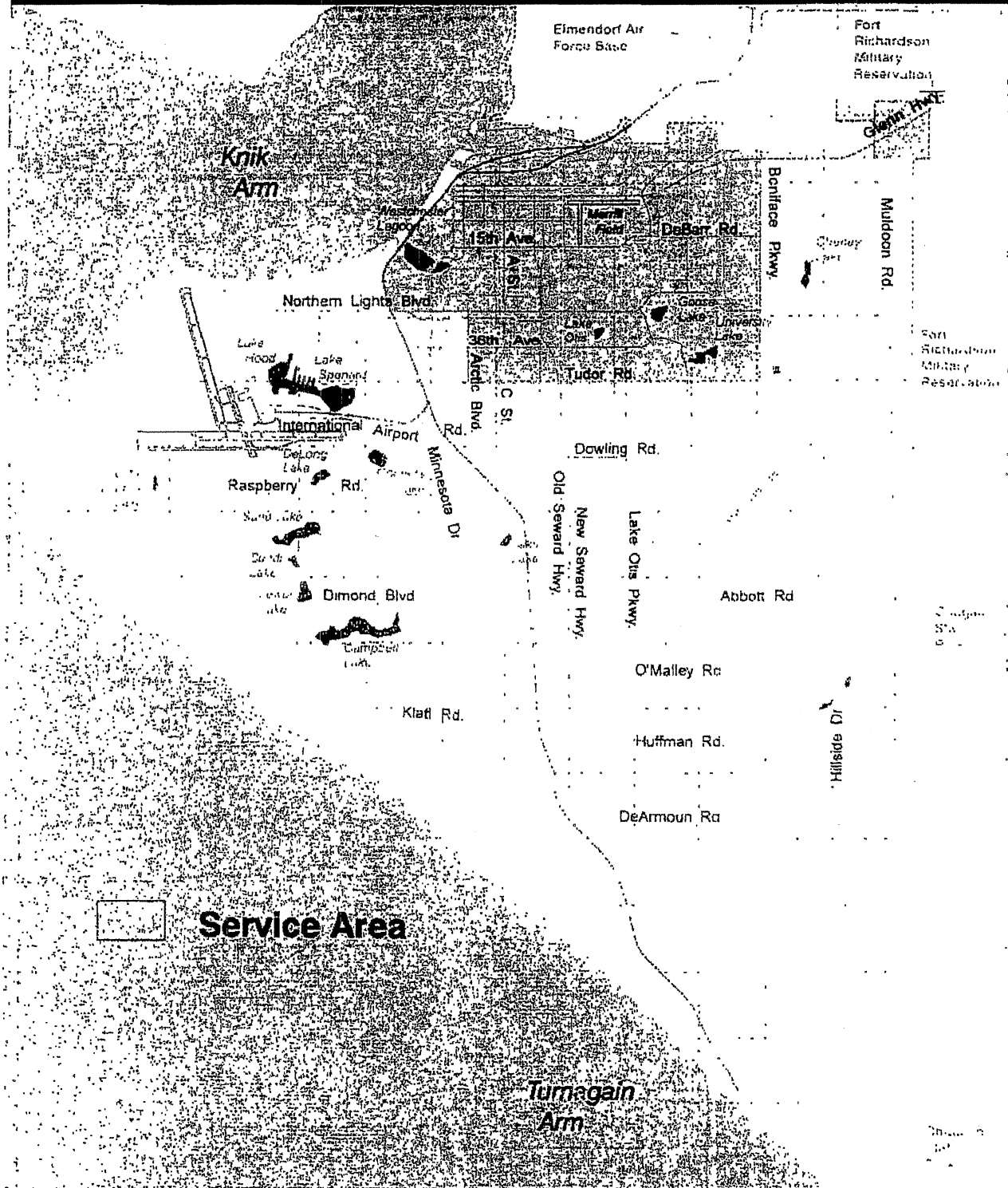


Table of Contents

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

Section 100 - General Information.....	1
101 Format and Organization	1
102 Operational Policy for Interconnected Non-Utility Generation	2
103 Transfer of Ownership	3
104 Relocation of Non-Utility Generation Equipment	3
105 Access to Producer's Premises	3
106 Separate Operation.....	3
107 Parallel Operation	4
108 Islanding.....	4
109 Classification of Non-Utility Generation Installations	5
110 Class A - NET Facilities	5
111 Class A Facilities.....	6
112 Class B Facilities.....	6
113 Class C Facilities	6
114 Class D Facilities	7
 Section 200 - Application Process	 8
201 Objectives	8
202 Process Review and Responsibilities	8
203 Cost Reimbursement	8
204 Step 1: Preliminary Coordination and Application.....	9
205 Step 2: Application Processing	10
206 Step 3: Interconnection Design Review and Coordination.....	11
207 Step 4: Construction, Inspection, and Acceptance	12
 Section 300 - General System Design Requirements.....	 13
301 Design Documentation and Information.....	13
302 Protective Systems and Equipment.....	14
303 ML&P System Modifications	15
304 Standard System Voltages	15
305 Induction Generators	16
306 Power Converter Systems	16
307 Compliance with Nationally Recognized Standards	16
308 Compliance with Codes and Ordinances.....	17

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

Table of Contents

Section 400 - Equipment Specifications and Design Requirements.....	18
401 Introduction and Overview	18
402 General Metering Requirements.....	18
403 Generator Output Metering Requirements.....	18
404 Interconnection Paralleling Device Requirements	19
405 Interconnection Disconnect Device Requirements	19
406 Interconnection Transformers	21
407 Protection and Control Devices	22
408 Over/Under Voltage Protection.....	24
409 Over/Under Frequency Protection	25
410 Synchronization Protection	26
411 Telemetry and Monitoring Requirements.....	26
412 Operational Data Logging	27
413 Export Power Control Equipment.....	27
414 Protection & Control System Testing Conformance	27
415 Equipment Requirements - Class A - NET Facilities	28
416 Equipment Requirements - Class A Facilities	34
417 Equipment Requirements - Class B Facilities	40
418 Equipment Requirements - Class C Facilities.....	48
419 Equipment Requirements - Class D Facilities.....	56
420 Voice and Data Communications.....	64
 Section 500 - Interconnected Operating Requirements	 66
501 General Operating Requirements	66
502 Insurance Requirements	66
503 Approval for Parallel Operation.....	66
504 Discontinuance of Parallel Operation.....	67
505 Islanded Operations.....	67
506 Voltage Levels & Fluctuations.....	67
507 Voltage Regulation and Reactive Power Requirements	68
508 Generator Droop Requirements.....	68
509 Harmonics.....	68
510 Power Factor Requirements	69

Table of Contents

511 Coordination with the ML&P Protective System	69
512 Interconnection Equipment Maintenance.....	70
513 Protective Systems Functional Testing.....	70

Appendices

Appendix A. Application for Interconnection: Class A - NET Facilities.....	71
Appendix B. Application for Interconnection: Class A and B Facilities	74
Appendix C. Application for Interconnection: Class C and D Facilities	77
Appendix D. Codes and Standards	82
Glossary.....	85

Figures

Figure A-1 NET: Typical Secondary System Interconnection - Class A - NET Facilities	32
Figure A-2 NET: Typical Metering Diagram - Class A - NET Facilities	33
Figure A-1: Typical Secondary System Interconnection - Class A Facilities.....	38
Figure A-2: Typical Metering Diagram - Class A Facilities.....	39
Figure B-1: Typical Secondary System Interconnection - Class B Facilities.....	46
Figure B-2: Typical Primary System Interconnection - Class B Facilities	47
Figure C-1: Typical Secondary System Interconnection - Class C Facilities	54
Figure C-2: Typical Primary System Interconnection - Class C Facilities	55
Figure D-1: Typical Secondary System Interconnection - Class D Facilities	62
Figure D-2: Typical Primary System Interconnection - Class D Facilities	63

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

101 Format and Organization

ML&P recognizes the desire of some customers to generate their own electricity on-site while maintaining an electrical connection with the ML&P electric power system. Other customers may want to construct and operate non-utility generation facilities and connect it to the area electric power system. These requirements contain the design parameters, equipment specifications, and technical operating parameters for interconnecting non-utility generation to the ML&P electric power system. Summaries for each section of this document are presented below.

General Information - Section 100

Section 100 provides an overview of ML&P's operating policy regarding proposals for interconnecting non-utility generation with the ML&P electric power system. This section contains key information regarding operational concepts and characteristics for both separate operating and parallel operating systems. To help customers understand ML&P's classification system, this section also provides general descriptions and definitions of the different classes of interconnected non-utility generation, as defined for the purposes of these requirements.

Process and Application Procedures - Section 200

Section 200 sets forth the step-by-step process through which specific requirements for safe and reliable interconnection is determined and implemented. While each proposal will be unique in its characteristics, this section provides the applicant with an understanding of how applications are processed, how specific interconnection requirements are assessed, the process by which projects are coordinated with ML&P, and the means to obtain authorization for interconnected operation. Applications for interconnection are included as appendices to these requirements.

System Design Requirements - Section 300

Section 300 describes necessary information on design documentation as well as required drawings for interconnecting non-utility generation. Also, included is information regarding protective systems, ML&P electric power system information, and general information on induction generators and on power converter systems. Finally, Section 300 provides information on national and local standards, codes, and compliance requirements.

Generation and Interconnection Equipment Specifications - Section 400

Section 400 addresses equipment specifications and design requirements for interconnecting non-utility generation facilities with the ML&P electric power system. Included in Section 400 are specific requirements for each class of non-utility generating facilities.

Generation and Interconnection Operating Requirements - Section 500

Section 500 contains information on general operating requirements, the specifics of parallel operation, and islanded operations. Also addressed in Section 500 are details regarding insurance, voltage levels, voltage regulation, reactive power, harmonic distortion, system protection coordination, functional testing, and equipment maintenance.

102 Operational Policy for Interconnected Non-Utility Generation

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

ML&P's policy is to assist its customers with the installation and operation of non-utility generation resources intended to operate in parallel with the ML&P electric power system, provided this can be done without adverse effects to ML&P's other customers, personnel, equipment, or system operations.

The purpose of ML&P's interconnection procedures is to provide a thorough but expedient method by which the applicant can be authorized to safely and reliably interconnect with the ML&P electric power system.

In these requirements, interconnection is defined as the electrical connection of non-utility generation facilities with the ML&P electric power system, either directly to ML&P's facilities, or through the customer's load. As used in this document, non-utility generation is defined as any electrical generation source not owned or operated by ML&P. Non-utility generating facilities can be classified as either separate or parallel operating systems. Separate operation denotes operating generation without the capability of sending power to, or receiving power from the ML&P system. Parallel operation is the condition where non-utility generation operates while electrically connected to the ML&P system; under this condition, electric power can flow either from the ML&P system to the non-utility facility or vice versa.

Within these requirements, the term "producer" is used to refer to the owner(s) of non-utility generating facilities, or agents acting on their behalf, who have been authorized by ML&P to interconnect and operate generation in parallel with the ML&P electric power system. Also in these requirements, an "applicant" is defined as an individual or party who has applied for the interconnection of non-utility generation with the ML&P electric power system.

The operation of non-utility generation in parallel with the electrical supply grid poses important safety concerns for ML&P personnel and equipment, and poses safety and reliability concerns for ML&P's customers and the general public. Accordingly, any interconnected non-utility generating facility must meet all applicable federal, state, and local safety codes and regulations, in addition to the specific details contained in these requirements. ML&P strongly recommends (and in some cases, may require) that those applying for interconnection obtain the services of an engineering professional, expert in the design of wiring and protection systems, including control and protection systems for generating equipment interconnected with electric grids.

Electrical distribution systems are inherently complex; each proposal to interconnect to the system will be unique in geographic location, operational characteristics, and impact to the electrical grid. All proposals must therefore be analyzed to determine the specific technical operating criteria and utility interface requirements.

ML&P requires general liability insurance for all non-utility generation facilities. Refer to Section 502 for specific details regarding insurance coverage. Proof of insurance is required before ML&P will authorize connection and operation of non-utility generating equipment.

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

103 Transfer of Ownership

A producer's non-utility generation facility is transferrable to other parties only after ML&P has been notified and the party receiving the non-utility generation facility has executed a final letter of agreement with ML&P. If transfer of ownership takes place prior to execution of a letter of agreement with the party receiving ownership, the non-utility generating equipment will be disconnected from ML&P's electric power system.

104 Relocation of Non-Utility Generating Equipment

Once an applicant executes a final letter of agreement to operate non-utility generating equipment, authorization to operate that equipment only extends to the location or premises stated in the application. If a producer (owner) relocates non-utility generating equipment to another location or premises, a new application must be submitted and a subsequent final letter of agreement be executed prior to interconnecting with ML&P's electric power system.

105 Access to Producer's Premises

A properly identified employee of ML&P shall have access to the premises of the producer at all times. Except as required for the safe and efficient operation of its facilities, ML&P will endeavor to avoid accessing the producer's premises at unusual or disruptive times.

If a producer fails to provide required access, the producer will be notified of the denial of access and will be given time to remedy the access problem consistent with the nature of the problem (e.g. safety hazard, emergency, non-emergency, etc.). Failure to remedy the access problem within the time specified may result in disconnection of electric service until such time as access is restored.

The requirement for access to a producer's premises applies to all classes and subclasses of non-utility generation installations. Refer to the glossary on page 85 for the definition of "Access".

106 Separate Operation

The information contained in interconnection and operating requirements generally does not apply to "separate operating" non-utility generating systems. Typically, separate operating systems are small emergency generating units for residential use or certain uninterruptible power systems (UPS), which do not energize the ML&P system in their normal course of operation.

Within the context of these requirements, a "separate operating" system is defined as a generating system which has no capability to connect and operate in parallel with the ML&P system. Generally, a separate system is comprised of power generating equipment and switching apparatus located on the owner's site or property, which are designed and intended for use as an emergency, stand-by, or stand-alone power system. ML&P requires that these systems transfer load (either from the ML&P system to the customer's separate system, or vice-versa) via open-transition switching.

Section 100 - General Information

For separate systems, which utilize open-transition switching, the specifications in these requirements do not apply. Standards and specifications for such systems can be found in ML&P's Electric Service Requirements. Open-transition switching is accomplished by employing either an automatic or manual transfer switch which does not allow the customer's generation equipment to be electrically connected with the ML&P system (i.e., breaks contact with one source before the making contact with the other). Open-transition switching ensures that the customer's generation equipment will be electrically disconnected prior to transferring the customer's load to or from the ML&P supply and electrical system.

Most uninterruptible power supply (UPS) systems do not specifically meet the separate system criteria. However, if they are not capable of back feed into the ML&P system, they can be classified as a separate system. If back feed is possible for such a system, it must meet ML&P's requirements for parallel operation. If there is a question about whether the applicant has a separate system, ML&P will review the transfer scheme and advise as to whether it meets the open-transition requirements. This review may include approval of drawings and equipment specifications, as well as field inspection of the transfer equipment.

107 Parallel Operation

Parallel operation is defined as a condition where non-utility generation operates while electrically connected to the ML&P electric power system. Under this condition, electric power can flow from the ML&P system to the producer's facility or from the producer's facility into the ML&P system. In other words, bi-directional (two-way) power flow between the two systems is possible under this operating condition.

For the parallel operation of a non-utility generation facility, the interconnection must be implemented in such a way that system disturbances do not result in portions of the ML&P system becoming islanded with the producer's facility.

108 Islanding

Within the context of these requirements, islanded or islanding operation denotes the condition where the producer's generation energizes a portion of the ML&P electric power system that has become electrically separated from the rest of ML&P's system. For safety and quality reasons, no producer may island any portion of the ML&P system, unless given express approval and authorization by ML&P (see Section 504: Islanded Operations).

Significant concerns exist regarding the possible dangers to which ML&P personnel may be exposed under islanded conditions. ML&P's line crews must have the assurance that any section of the ML&P system is de-energized prior to work and will not be re-energized until there is confirmation that they are physically clear of the system. Under an islanded condition, ML&P cannot provide assurance to its personnel that all portions of the island are de-energized.

Another important concern is the responsibility ML&P has to deliver electrical service within the proper ranges (voltage, frequency, etc.) to its customers. If a portion of the ML&P system were to become islanded and energized by non-ML&P generation, ML&P would not be able to control the quality, safety, and integrity of the electrical service delivered to its customers.

AUG 15 2016

109 Classification of Non-Utility Generation InstallationsSTATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

In order to evaluate proposed interconnections to its electrical power system, ML&P has developed four (4) classes of non-utility generators identified as Class A, B, C, and D and a subclass for net-metered generators identified as Class A - NET. This classification system is based on the generators' potential to affect the grid and follows industry-accepted methodology. Criteria for classification includes the maximum capacity of the facility (output capacity in kVA), the type of generating system and its characteristics (synchronous generator, induction generator, power converter system, etc.), the stiffness ratio of the facility in relation to the ML&P electrical system, and system electrical characteristics at the point of interconnection.

Stiffness ratio is a measure used to determine the potential impact of non-utility generating equipment on the system at the point of interconnection. The stiffness ratio is the ratio of the available electric system fault current at the point of interconnection to the maximum rated current of the producer's facility. Used throughout the industry, this ratio indicates the capability of a particular generator to influence system voltages and operating characteristics. For any given point on the electric power system, the higher the ratio, the lower the probability that the producer may contribute to system disturbances or adversely affect nominal system voltage levels. Refer to IEEE Std. 1547.2-2008, Part 3.1.7 and 3.1.8 for details on stiffness ratio.

To obtain the minimum interconnection equipment requirements associated with a particular class of facility, please refer to the applicable requirements in Section 400.

110 Class A - NET Facilities

Non-utility generator installations of 25 kVA output or less, where the system stiffness ratio is at least 100, and which qualify under State of Alaska Net Metering Standards (3 AAC 50.900 - 50.949) and rule 10 of ML&P's effective tariff, are Class A - NET installations. Eligibility for the Class A - NET classification can be found in the State of Alaska Net Metering Standards, 3 AAC 50.920. Interconnection requirements for Class A - NET installations are typically the least difficult of all the classes.

In general, a Class A - NET installation is a small on-site power supply facility and is not expected to affect ML&P's primary electrical distribution feeder devices. Class A - NET installations are usually not capable of significantly altering local voltages on adjacent distribution facilities, and the relatively small capacity generators are not capable of supporting large islands on the primary electrical system.

Class A - NET installations may be connected to the producer's load(s) so that all, or a portion of the producer's non-utility generation equipment can serve the producer's load(s) which would normally be served by ML&P.

AUG 15 2016

111 Class A Facilities

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Non-utility generator installations of 25 kVA output or less, where the system stiffness ratio is at least 100, are Class A installations. Interconnection requirements for Class A installations are typically the least difficult of all the classes.

In general, Class A installations are small on-site power supply applications and are not expected to affect ML&P primary electrical distribution feeder devices. Class A installations are usually not capable of significantly altering local voltages on adjacent distribution facilities, and the relatively small capacity generators are not capable of supporting large islands on the primary electrical system.

(D)
|
(D)

112 Class B Facilities

Non-utility generator installations from 25 kVA to 100 kVA, where the stiffness ratio is at least 50, are Class B installations.

As with Class A installations, the probability of interference with ML&P customers and electrical distribution system equipment is relatively low, but the risk is sufficient to warrant additional interconnection requirements. Class B installations generally do not significantly influence primary electrical feeder devices, but can alter primary and/or secondary voltages.

(D)
|
(D)

113 Class C Facilities

Non-utility generator installations from 100 kVA to 1,000 kVA, where the stiffness ratio is at least 30, are Class C installations. The larger capacity of Class C facilities (relative to Classes A and B), and the consequent potential to island large sections of the ML&P electric system is of much greater concern. In addition, Class C installations can significantly influence primary feeder devices and operations.

(D)
|
(D)

(Revised September, 2016)

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

114 Class D Facilities

Non-utility generator installations from 1,000 kVA to 5,000 kVA, where the stiffness ratio is at least 20, are Class D installations. Installations of this size and available fault contribution can present a major risk to system safety and operations. The effect on ML&P's system voltage and equipment, whether constant or transient, can be serious. Due to the capacity of Class D facilities, islanding is a major concern. Class D installations require detailed and careful system studies to determine the amount and degree of interconnection and interface requirements, as they are capable of having a major influence on the ML&P connecting feeder(s), adjacent feeders, and substations.

(D)
—
(D)

(Revised September, 2016)

201 Objectives

This portion of the interconnection requirements contains an overview of the process and procedures necessary to interconnect producer-owned generation with the ML&P system. It also provides both administrative and technical guidelines to assist the applicant in obtaining interconnection with the ML&P electrical system in an efficient and consistent manner.

A producer intending to operate generation in parallel with the ML&P system must complete an "Application for Non-Utility Generation." The time required to complete the application process generally depends on the complexity of the proposed project. The applicant must provide ML&P with a complete design package, so that ML&P may classify the generating system, review the interconnection facilities, and analyze the impact of the proposed interconnection on the ML&P system. Projects using previously submitted designs, which have been satisfactorily "type-tested", usually move through the process steps more quickly. Several of the process steps may be satisfied with an initial application, depending on the detail and completeness of the application and supporting documentation submitted by the applicant. However, proposed, type-tested systems do not eliminate the requirement that the applicant provide ML&P with a complete design package.

202 Process Review and Responsibilities

The following description of the process and application procedures is designed to help the applicant understand the information required and the steps necessary to enable ML&P to review the applicant's proposal and provide authorization for interconnection in a reasonable and expeditious manner.

203 Cost Reimbursement

ML&P will estimate its costs related to the applicant's proposed interconnection, excluding the cost of additional metering for net metering consumers. The applicant shall be responsible for full payment of the costs ML&P would not have incurred but for the applicant's interconnection.

AUG 15 2016

204 Step 1: Preliminary Coordination & Application

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Procedure	Description	Estimated Duration
A. Initial Communication	<p>The initial communication may be as brief and informal as a general inquiry via telephone, to a scheduled appointment with ML&P for general discussion and submittal of an initial application.</p> <p>To schedule an appointment, contact the Service Extension Coordinator in ML&P's Engineering Division.</p>	The initial communication typically takes one (1) day.
B. Data Collection	<p>From the initial communication, or subsequent meetings with ML&P, the applicant should have a clear definition of the required technical data and information regarding the proposed interconnection. To help expedite application processing, ML&P will also provide guidance as to whether both the initial and final applications should be submitted before commencement of application processing.</p> <p>Please note that additional information may become required during Step 2: Application Processing. If required, ML&P will coordinate with the applicant, in an expedient manner, to resolve any additional information issues.</p>	Data collection duration is variable, depending on the project and/or class of the proposed facility.
C. Application Submittal and Review	<p>When the applicant files the completed application, ML&P will perform a brief review of the application to determine if any additional information is required.</p> <p>The applicant shall be responsible for payment of any processing fees, as determined by ML&P Engineering, to cover ML&P's administrative costs.</p> <p>Within five business days of receiving the application(s), ML&P will respond in writing, via letter or e-mail, to the applicant, noting receipt of the application. If no discrepancies are noted, application processing will begin upon receipt of processing fees from the applicant.</p>	Application submittal and review typically takes five (5) business days.

Section 200 - Application Process

205 Step 2: Application Processing

Procedure	Description	Estimated Duration
A. Application Processing for Class A and B Facilities	Application processing generally involves: a) Payment of processing fees (see Step 1, C). b) Performance of system analyses and studies, as required, to assess specific interconnection requirements and system modifications; c) Determination of facility-specific operating parameters. d) Assessment of any specific requirements in addition to the general requirements outlined in the interconnection requirements.	Application processing for Class A and Class B facilities typically does not exceed thirty (30) calendar days.
B. Application Processing for Class C and D Facilities	Application processing generally involves: a) Payment of processing fees (see Step 1, C). b) Performance of system analyses and studies, as required, to assess specific interconnection requirements and system modifications; c) Determination of facility-specific operating parameters; d) Determination of specific telemetry and control requirements; e) Review and assessment of applicable code and standards issues associated with the proposed interconnection.	Application processing for Class C and Class D facilities typically does not exceed forty-two (42) calendar days.
C. Response to Application	ML&P will provide a written response regarding the proposed interconnection. This will include notice of any facility-specific interconnection requirements, and will address any outstanding issues or cost items, for which the applicant may be responsible.	ML&P's written response to the application typically does not exceed seven (7) calendar days after application processing is complete.

RECEIVED

AUG 15 2016

206 Step 3: Interconnection Design Review & Coordination

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Procedure	Description	Estimated Duration
A. Submit a Draft of the Final Design	The applicant shall develop a draft of the final interconnection design based on the information in ML&P's Response to Application and submit it to ML&P for review and coordination to develop the final design.	Duration is variable and dependent upon the applicant.
B. Final Design Review and Coordination	<p>This procedure involves ML&P's review and coordination of the submitted final design.</p> <p>If system modifications are necessary to accommodate the proposed interconnection, an ML&P work order will be initiated to perform these modifications. A preliminary cost estimate will be provided to the applicant prior to finalization of the work order design.</p> <p>After ML&P approves the final interconnection design, a preliminary letter of agreement can be executed between the applicant and ML&P. Once a preliminary letter of agreement is signed, construction may proceed.</p>	Duration is variable and dependent upon the scope of the project.

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

Section 200 - Application Process

207 Step 4: Construction, Inspection, and Acceptance

Procedure	Description	Estimated Duration
A. Preliminary Letter of Agreement	With ML&P's approval of the applicant's final design and written agreement that the applicant will bear all costs associated with ML&P system modifications, ML&P will authorize construction of the interconnection via a preliminary letter of agreement. This agreement will allow the applicant to proceed with construction and to perform subsequent testing to ensure that the interconnection is safe, adequate, and reliable.	Duration is variable and dependent upon both parties.
B. Construction and Final Inspection	The applicant may proceed with interconnection facility construction, coordinating with ML&P for periodic inspections, and final facility inspection. Periodic inspections (and final inspection) will be performed at the discretion of ML&P to ensure that the interconnection facilities meet the specifications of the approved final design.	Duration is variable and dependent upon both parties.
C. Final Acceptance and Cost Reconciliation	Following the completion of interconnection facility construction, ML&P will proceed with functional acceptance testing of the interconnection facilities, as necessary, to ensure that the protection system set points, synchronizing capabilities, and power quality are acceptable under the full range of facility operating characteristics. Prior to executing a final letter of agreement, the applicant shall reimburse ML&P for all costs associated with application processing, and/or system modification work orders.	Duration is variable and dependent upon both parties.
D. Proof of Insurance	The applicant shall provide ML&P with proof of general liability insurance.	Duration is dependent upon the applicant.
E. Final Letter of Agreement	With completion of a final letter of agreement and cost reconciliation, the final agreement allowing connection and operation of the facility may be executed between the applicant and ML&P.	Duration is variable and dependent upon both parties.

AUG 15 2016

301 Design Documentation and Information

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

For ML&P review and reference purposes, the producer shall submit the following information and design documentation with the interconnection application(s) (Refer to Appendix A, Appendix B, or Appendix C: Applications for Interconnection). For smaller class facilities, some submittal requirements may be waived at ML&P's discretion. All of the producer's interconnection final design plans and drawings shall be sealed by an electrical engineer, registered and recognized as a Professional Engineer in the State of Alaska.

A. One-Line Diagram

This is an electrical drawing with sufficient detail to show the major elements of the facility electrical connections, interconnection and protective equipment, and point of interconnection to the ML&P electric power system. The diagram must include the following where applicable:

- Generating equipment
- Conductor types, sizes, and bus electrical ratings
- Apparatus KVA and voltage ratings
- Metering points and instrument transformers (as applicable)
- Interconnection transformer
- Relays and circuit breakers/interrupting devices
- Switchgear (as applicable)
- Utility device and map point at the point of interconnection

B. Three-Line Diagram (as required)

This electrical drawing shall represent all three phases and neutral connections of the interconnected facility circuits, showing potential transformer (PT) and current transformer (CT) ratios and details of their configuration, including relays, meters, and test switches.

C. Relay, Metering, and Telemetry Functional Drawing

This diagram shall indicate the functions of the individual relays, metering, and Telemetry equipment, if any. For smaller generator installations such as some Class A and Class A - NET facilities, the one-line diagram and the functional diagram may be combined.

D. Paralleling Device Control Drawings

These drawings shall show the conditions, relays, and instrument transformers that cause all switches and/or circuit breakers applied to the interconnecting facility to open or close. The source of power for each control and/or protective device shall be clearly indicated in the drawings. Control drawings for Class A and Class A - NET facilities may be incorporated in the one-line diagram.

E. Facility Grounding Drawings

These drawings shall indicate ground wire sizes, bonding, and connections, as well as the number, size, and type of electrodes, and spacing. The producer's grounding scheme shall conform to IEEE Std. 1547, Part 4.1.2: Integration with Area EPS Grounding.

In addition to the above, the producer shall provide to ML&P any additional design information or documents pertaining to the interconnected facility, as requested.

302 Protective Systems and Equipment

Control and protection designs for facilities proposed to operate in parallel with the ML&P system must be approved by ML&P prior to approval for interconnection with the ML&P electric power system.

The specific design of the protection system depends on the generator type, size, and other site-specific considerations. The producer shall meet ML&P requirements, and all designs and equipment shall conform to the National Electrical Code, the National Electrical Safety Code, IEEE standards, and all federal, state, local, and municipal codes. Refer to Section 307 for a list of applicable nationally recognized standards.

When proposing protective devices for the protection of the ML&P system, the applicant shall submit a single-line drawing of this equipment to ML&P for approval of the interconnection protective functions and equipment (see Section 301: Design Documentation and Information). Any changes required by ML&P must be made prior to final acceptance, and ML&P must be provided with dated copies of the final drawings. **To eliminate unnecessary costs and delays, the final design should be submitted to, and approved by ML&P prior to ordering equipment and the commencement of construction.**

ML&P will approve only those portions of the producer's system designs, which apply to the interconnection with, and protection of, the ML&P system. ML&P may comment on other areas, which appear to be incorrect or deficient, but will not assume responsibility for the correctness of protection pertaining to the producer's system.

In order to gain approval for interconnected operation, at the completion of construction, the producer shall demonstrate to ML&P conformance to the testing specifications and requirements contained in IEEE Standards 1547 and 1547.1 for all protective and control systems associated with the producer's interconnection equipment. The producer shall provide documentation of test results, protective relay settings, and control system settings to ML&P.

RECEIVED

AUG 15 2016

303 ML&P System Modifications

Any modification to the ML&P electric grid, such as the installation of additional equipment, reconductoring of all or a portion of the connecting ML&P line, or reconfiguration of ML&P protection systems necessary to permit parallel operation with the ML&P electric distribution system, will be performed by ML&P.

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Where such ML&P system modifications are required to allow interconnection of the producer's facilities, ML&P will perform these modifications, at the producer's expense, providing all necessary labor, materials, and equipment.

304 Standard System Voltages

ML&P's standard system voltages conform to ANSI C84.1 standards, and are outlined as follows. All distribution circuits, both secondary and primary, are effectively grounded. Specific voltage requirements and limits for the producer's generating equipment are described in Section 5: Interconnected Operating Requirements.

- Distribution Secondary Voltages:
 - Single-phase, 120/240 volts, 3-wire
 - Single-phase, 240/480 volts, 3-wire
 - Three-phase, 120/208 volts, 4-wire, grounded wye
 - Three-phase, 277/480 volts, 4-wire, grounded wye
- Distribution Primary Voltages:
 - Single-phase, 7200 volts
 - Three-phase, 2,400/4,160 volts, 4-wire, grounded wye
 - Three-phase, 7,200/12,470 volts, 4-wire, grounded wye
 - Three-phase, 19,920/34,500 volts, 4-wire, grounded wye
- Transmission Voltages:
 - 34,500 volts, three-phase
 - 115,000 volts, three-phase

Section 300 - General System Design Requirements**305 Induction Generators**

Induction generators require varying amounts of reactive electric power (VARs) in order to produce real electric power (watts). Due to this consumption (or absorption) of VARs, induction generators inherently operate at leading power factors. The producer shall provide all reactive support or compensation required to maintain power factors within the limits specified in Section 509: Power Factor Requirements, when operating in parallel with the ML&P electric power system. Reactive support for required power factor correction may be provided by the producer's installation of ML&P approved reactive compensation devices, or through contractual agreement with ML&P to provide ancillary services to the producer.

306 Power Converter Systems

Reactive power supply requirements for converter systems are similar to those for induction generators, and the general guidelines discussed in Section 305 apply.

ML&P requires that power converter systems conform to the requirements contained in IEEE Standard 1547 and 1547.1, and that such systems for interconnected generation sources meet the recommended limits for current, voltage, and harmonic distortion contained in IEEE Std. 519, Sections 10 and 11. If the producer's converter system(s) is found to interfere with the ML&P electric grid, ML&P customers, or other power producers, the producer may be required to install adequate electrical filtering to bring the voltage and current outputs to acceptable levels. Converters that have been tested and certified by an independent laboratory, such as Underwriters' Laboratories (UL), to be non-islanding, and meet the recommended limits contained in IEEE Std. 519, Sections 10 and 11, may be interconnected to the ML&P system without modifications or further certifications.

For units rated less than 100 kW, it is acceptable to have the frequency and voltage protective functions built into the electronics of the converter only if the set points of those functions meet IEEE Standard 1547 criteria, are tamperproof, and can be easily and reliably tested. Acceptability, conformance with IEEE 1547 criteria, and ease and reliability of testing will be determined by ML&P.

307 Compliance with Nationally Recognized Standards

ML&P requires that all non-utility generation capable of electrical connection to the ML&P electric power system comply with the applicable and pertinent sections of the following nationally recognized codes and standards:

- IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems
- IEEE 1547.1 Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems
- IEEE 1547.2 Application Guide for IEEE 1547
- IEEE 1547.3 Guide for Monitoring, Information Exchange, and Control of Distributed Resources Interconnected with Electric Power Systems
- IEEE 929 Recommended Practice for Utility Interface of Photovoltaic (PV) Systems

AUG 15 2016

RECEIVED

Section 300 - General System Design Requirements

- IEEE 519 Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems
- UL 1741 Standard for Inverters, Converters, Controllers, and Interconnection System Equipment for use with Distributed Energy Resources

Compliance with UL 1741 for inverters, converters, controllers, and interconnection system equipment used with non-utility generators shall be by means of the manufacturer's nameplate information or other manufacturer documentation approved by ML&P. Field evaluation and subsequent listing of such equipment is not acceptable.

308 Compliance with Codes and Ordinances

Construction of new or remodeled installations must conform to current and applicable provisions of the National Electrical Code (NEC), the National Electrical Safety Code (NESC), federal, state, and municipal codes, regulations and ordinances, the ML&P Tariff, and ML&P's Electric Service Requirements. ML&P personnel are not authorized to waive federal, state or municipal regulations.

When additions, changes, or modifications to premise wiring occurs in conjunction with the installation of interconnected non-utility generating equipment, a current MOA electrical inspection shall be required prior to interconnection.

Information and/or questions about the National Electrical Code should be directed to the Municipality of Anchorage, Development Services, Building Safety Plan Review Engineer, or to the Lead Electrical Inspector.

Where there is a conflict between ML&P's Tariff and this book, the Tariff shall take precedence. Codes, ordinances, and regulations are available from several sources. ML&P's Tariff is available for customer inspection at ML&P's office.

Section 400 - Equipment Specifications and Design Requirements**401 Introduction and Overview**

This section outlines minimum interconnection requirements for each class of producer-owned facilities. At a minimum, ML&P requires that all of the producer's interconnection equipment and facilities meet the requirements contained within IEEE Std. 1547, Part 4.1: General Requirements. This section also provides general descriptions of the components, including functionality, purpose, and responsibilities of both the producer and ML&P regarding ownership, installation, and maintenance. Specific requirements for each classification of producer-owned interconnected generation equipment can be found in Sections 415 through 419.

402 General Metering Requirements

ML&P requires "Bi-directional metering" for all classes of non-utility generation installations. Bi-directional metering enables ML&P to accurately measure and record the real energy flows (watt-hours) delivered to and received from a producer's facility. ML&P will provide all meters used for revenue purposes at its expense. ML&P's bi-directional meters will have measurement capability that includes a separate register for delivered power and a separate register for received power. Depending upon the specific application, ML&P's meters may also include the following:

- Demand measurement
- Load Profile recording
- Time-of-use registers
- Reactive (VAR) measurement

It is the producer's responsibility to provide, install, and maintain all facilities necessary to accommodate ML&P's metering. Necessary facilities include service entrance equipment such as meter sockets, meter disconnect devices, CT cabinets, service termination enclosures, and related equipment.

All service entrance equipment must comply with the most recent edition of ML&P's Electric Service Requirements.

403 Generator Output Metering Requirements

ML&P requires the separate measurement of the output of non-utility generating equipment for all classes of facilities except for Class A - NET facilities. Separate measurement of a generator's output may require a generator output meter in addition to the bi-directional meter.

In most cases, the bi-directional meter installed at the point of interconnection will meet the requirement for generator output metering. However, depending on the design and configuration of a producer's facilities, a separate metering point for generator output metering may be required.

When required, the generator output meter shall measure the output of the producer's generator ahead of any loads connected to the generator.

ML&P will provide the generator output meter when required; the producer shall provide all necessary metering and service equipment related to the generator output meter (i.e. meter sockets, CT cabinets, etc).

AUG 15 2016

RECEIVED

Section 400 - Equipment Specifications and Design Requirements

404 Interconnection Paralleling Device Requirements

The term "interconnection paralleling device" as used in these requirements is defined as the switchgear or circuit breaker, which is controlled by the producer's interconnection control system. An interconnection paralleling device is part of the producer's facilities and establishes the physical electrical connection for parallel operation with the ML&P electric power system.

ML&P requires approved switchgear or circuit breaker(s) (paralleling devices) to allow separation of the producer's generating equipment from the ML&P electric power system during system disturbances.

Paralleling devices must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection as required by IEEE Std. 1547, Part 4.1.8.3.

Paralleling devices for all classes must have sufficient interrupting capacity to interrupt the maximum available fault current at a particular location.

405 Interconnection Disconnect Device Requirements

The term "interconnection disconnect device" as used in these requirements is defined as a manually operated switch for the exclusive use of ML&P to physically isolate non-utility generating equipment from ML&P's electric power system. For the purposes of these requirements, the term "external disconnect switch" or "EDS" is synonymous with the term "interconnection disconnect device".

ML&P requires the producer to install a manual interconnection disconnect device as a means of electrically isolating the producer's non-utility generating facility from the ML&P system and establishing working clearances for maintenance and repair work in accordance with ML&P safety rules and practices.

The manual interconnection disconnect device shall be lockable and readily accessible by ML&P personnel as required by Section 105, and provide visible verification of disconnection from ML&P's electric power system.

The manual interconnection disconnect device shall be located on the ML&P side of the producer's generating equipment. The producer shall furnish and install the device and assume ownership and maintenance responsibilities. Only devices specifically approved by ML&P shall be used.

The manual interconnection disconnect device shall be physically located at a location approved by ML&P for ease of access and visibility to ML&P personnel. The disconnect device shall be identified with an ML&P-designated device number.

The manual interconnection disconnect device shall not be used by the producer to make or break parallels between the ML&P system and the producer's generator(s). The device enclosure and operating handle (when present) must be kept locked at all times by ML&P.

A power-operable interconnection disconnect device may be used on Class C and Class D facilities under some circumstances with approval from ML&P. Where a power-operable disconnect device is used, it shall have manual over-ride capability in the event of a supply failure or equipment malfunction.

An interconnection disconnect device is required for all classes of non-utility generation facilities.

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**Section 400 - Equipment Specifications and Design Requirements**

The manual interconnection disconnect device shall be placed between the producer's non-utility generating equipment and ML&P's metering equipment.

ML&P strongly recommends that the interconnection disconnect device for Class A - NET facilities be placed between the non-utility generating equipment and the producer's loads. However, at the producer's option, the manual interconnection disconnect device may be placed between the producer's interconnection paralleling device and ML&P's metering equipment. Those Class A - NET facilities that place the interconnection disconnect device between the producer's generating equipment and the producer's loads enable utility service to continue serving those loads in some cases where the generating equipment must be separated from the producer's loads and/or ML&P's system.

Interconnection disconnect devices shall meet the following minimum requirements:

- The disconnect device shall be placed near the facility metering at an approved location;
- The disconnect device shall be externally operable without exposing the operator to contact with live parts and, if power-operable, of a type that can be opened manually in the event of a supply failure;
- The disconnect device shall provide a visible-break indication, showing whether switch contacts are in the open or closed position;
- The disconnect device shall be rated not less than the anticipated load and available fault current;
- The disconnect device shall be rated for the voltage of the circuit on which it is installed;
- Disconnect devices energized from both sides shall have markings indicating that all contacts of the disconnect equipment may be energized;
- The disconnect device shall be gang-operated, opening all un-grounded conductors;
- The disconnect device shall be housed in an enclosure suitable for the location as determined by ML&P;
- The disconnect device shall be lockable in both the open and closed positions by means of a padlock with a shackle diameter of 5/16 inches or greater.

AUG 15 2016

RECEIVED

Section 400 - Equipment Specifications and Design Requirements

406 Interconnection Transformers

The function of an interconnection transformer is to interconnect a producer's non-utility generation facilities to the ML&P electric power system.

A dedicated interconnection transformer is defined in these requirements as a transformer that is dedicated to serving a producer's facility exclusively; no other ML&P customers shall be connected to a dedicated interconnection transformer.

One purpose of a dedicated interconnection transformer is to minimize any adverse impacts to ML&P's customers which may result from parallel operation of non-utility generation facilities. When power quality problems or service interruptions related to non-utility generation facilities develop and affect other ML&P customers, a dedicated interconnection transformer may be required.

Class A - NET, Class A, and Class B installations do not usually require a dedicated interconnection transformer. However, each application for interconnection to ML&P's system will be evaluated on an individual basis. Under certain circumstances, a dedicated interconnection transformer may be required on Class A -NET, Class A, and Class B installations; examples of such circumstances include but are not limited to the following:

- The producer's total rated generating capacity is at or above the rating of the existing ML&P transformer serving the producer's facilities.
- The producer's electrical system characteristics differ from ML&P's standard system voltages and configurations (Refer to Section 304: Standard System Voltages).
- The producer's facility adversely impacts the quality of power delivered to adjacent customers on ML&P's system (Refer to Section 500: Interconnected Operating Requirements).

Class C and D facilities require a dedicated interconnection transformer in all cases. Where the installation of a dedicated interconnection transformer is required, the producer shall be responsible for all labor and material costs associated with the installation. Where an ML&P transformer already exists and serves no customers other than the producer's facilities, an additional interconnection transformer may not be required.

In those circumstances where the producer provides the dedicated interconnection transformer and when circumstances require the non-utility generator to be out of service, the producer shall disconnect the interconnection transformer from the ML&P electric power system.

Section 400 - Equipment Specifications and Design Requirements**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA****407 Protection and Control Devices**

Certain protective functions and control equipment are necessary to ensure both the safety and the reliability of the ML&P electric power system. While the producer is responsible for the installation and maintenance of such equipment, it should be noted that the required equipment outlined in this section applies only to the protection of the ML&P system, not the producer's facilities. Typically, the minimum protective and control equipment requirements for all classifications of producer-owned facilities are as follows:

1. Paralleling Device (controlled switchgear and/or circuit breaker)
2. Anti-Islanding Protective Functions
 - a) Overvoltage Protective Relaying
 - b) Under-voltage Protective Relaying
 - c) Over-frequency Protective Relaying
 - d) Under-frequency Protective Relaying
3. Synchronization Protection:
 - a) Synchronous Generators: Automatic Synchronizing with Relay Supervision
 - b) Induction Generators: Speed Matching Relaying
 - c) Power Converter Systems: Conform to IEEE Standard 1547, Parts 4.1.3 and 5.1.2.C.

Due to the impact that large facilities can have on the ML&P system, additional requirements may be necessary for such facilities, including but not limited to:

1. System Fault Protection Functions
 - a) Ground Overcurrent Protective Relaying
 - b) Phase-fault Protective Relaying
2. Transfer Trip Capability
3. Export Power Control Equipment
 - a) Voltage Regulator/Power Factor Controller
 - b) Direct Digital Control (ML&P SCADA Control)
 - c) Power System Stabilizer

Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

RESERVED

Section 400 - Equipment Specifications and Design Requirements

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

408 Over/Under Voltage Protection

The table below applies to all classes of non-utility generation equipment. However, clearing times may represent maximum clearing time or default clearing time, depending upon the base rating of the generation equipment.

The producer's over-voltage and under-voltage interconnection protective functions shall detect voltage at the point of interconnection, and shall open the paralleling device within the times specified in the table below, if the voltage is within the stated ranges.

Voltage Range [V] (% of nominal voltage ^a)	Clearing Time ^b (seconds)
$V < 50\%$	0.16
$50\% \leq V < 88\%$	2.00
$110\% < V < 120\%$	1.00
$V \geq 120\%$	0.16

^a Nominal system voltages stated in ANSI Std. C84.1-1995, Table 1.

^b Maximum clearing time for generators with base ratings up to 30 kW, for base ratings greater than 30 kW, time represents default clearing time.

Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

409 Over/Under Frequency Protection

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

For Class A - NET and Class A facilities, the producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified in the table below, if the frequency is within the stated ranges.

Frequency Range [f] (Hz)	Maximum Clearing Time (seconds)
$f > 60.5$	0.16
$f < 59.5$	0.16

For Class B facilities, the producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified in the table below, if the frequency is within the stated ranges.

Generator Base Rating	Frequency Range [f] (Hz)	Clearing Time ^a (seconds)
≤ 30 kW	$f > 60.5$	0.16
	$f < 59.5$	0.16
> 30 kW	$f > 60.5$	0.16
	$f < \{59.8 - 57\}$	Adjustable 0.16 to 300 ^b
	$f < 57$	0.16

^a For generators with base ratings up to 30 kW, maximum clearing times; for base ratings greater than 30 kW, default clearing times.

^b ML&P shall provide specific clearing times for each producer interconnection.

For Class C and D facilities, the producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified in the table below, if the frequency is within the stated ranges.

Frequency Range [f] (Hz)	Clearing Time ^a (seconds)
$f > 60.5$	0.16
$f < \{59.8 - 57\}$	Adjustable 0.16 to 300 ^b
$f < 57$	0.16

^a Default clearing times.

^b ML&P shall provide specific clearing times for each producer interconnection.

Section 400 - Equipment Specifications and Design Requirements**410 Synchronization Protection**

For parallel operation, the Producer's facilities shall meet the requirements pertaining to synchronization specified within IEEE Std. 1547, Parts 4.1.3 and 5.1.2. Specific equipment requirements are as follows:

a) Synchronous Generator Interconnection

Synchronous generators operated in parallel with the ML&P electric system are required to have automatic relay supervision (ANSI Device No. 25) to verify synchronism for permissive closure of the interconnection circuit breaker. Manual synchronizing systems are not approved for interconnected operation with the ML&P system.

b) Induction Generator Interconnection

Due to the 'slip' inherent to induction generators, synchronous operation cannot be precisely maintained when operating in parallel with the ML&P system. Therefore, ML&P requires that speed-matching relaying (ANSI Device No. 15) be utilized, set to permit breaker (or contactor) closing when generator speed is maintained above 95 percent of the ML&P system synchronous speed at the point of interconnection.

c) Power Converter Interconnection

Power converter systems that produce a fundamental voltage before the paralleling device is closed are capable of stand-alone operation, thus shall be tested to meet the requirements as outlined in IEEE Std. 1547, Part 5.1.2.A. All other power converter based systems shall meet the requirements contained in IEEE 1547, Part 5.1.2.C.

411 Telemetry and Monitoring Requirements

Telemetry generally involves the communication of measured outputs from the producer's generating facility to ML&P. This can include variables such as the status of equipment and controller functions, as well as plant output data (voltage, real and reactive power, power quality, etc.). Typically, variables are transmitted with the aid of a communication channel that permits the measurement to be interpreted at a distance from the primary detector.

- a) Class A - NET facilities do not require data telemetry.
- b) Class A and B facilities do not require data telemetry in most cases.
- c) Classes C and D facilities do require telemetering of data to include interconnection status, power flows (real and reactive power), voltage, and frequency.
- d) For specific telemetering requirements for Class C and D facilities, refer to Interconnection Equipment Requirements by Class.

AUG 15 2016

STATE OF ALASKA

REGULATORY COMMISSION OF ALASKA

412 Operational Data Logging

Class A - NET facilities are not required to have operational data logging equipment. Class A and B facilities do not require operational data logging, but when such data is available or maintained by the producer, it shall be provided to ML&P upon request.

Class C and D facilities may require data logging. When required, the producer shall provide a seven (7) day digital data logger. For specific parameter recording requirements, refer to Section 418 for Class C facilities and Section 419 for Class D facilities.

Typically, operational data logs include recorded information on generating unit operations such as the following:

- Key operational parameters such as voltage, real and reactive power, frequency, etc;
- Protective equipment operations (circuit breaker trips, protective relay targets, etc.);
- Time and nature of communications with ML&P Dispatch personnel.

413 Export Power Control Equipment

Class A - NET facilities are not required to have export power control equipment.

In most cases, export power control equipment will not be necessary for Class A and B facilities.

Where a producer and ML&P formulate a power purchase agreement for export power from the producer's facility, special control equipment may be necessary depending upon the specific performance terms of the agreement.

Class C and D facilities may export substantial amounts of power into ML&P's electric power system, and as a result, these classes of facilities may require export power control equipment. This equipment may include Voltage Regulation Control, Power Factor Controllers, and Power System Stabilizers, as necessary. ML&P shall determine when such equipment is necessary. Refer to the specific requirements for Class C in Section 418 and for Class D in Section 419 for further information.

414 Protection & Control System Testing Conformance

In all cases, the producer's protective relay and control systems associated with the interconnection shall adhere to the requirements contained in IEEE Std. 1547.1

In order to allow performance and verification of functional testing as required, these systems shall have accessible sensing inputs or testing terminal blocks, or acceptable equivalents as determined by ML&P.

Section 400 - Equipment Specifications and Design Requirements**415 Class A - NET Equipment Requirements****A. Application of Minimum Requirements for Class A - NET Facilities**

This subsection addresses the general minimum interconnection equipment necessary for Class A - NET facilities. Specific requirements for each individual facility may vary, depending on factors such as location of the interconnection, the number and proximity of adjacent ML&P customers, and the characteristics of the facility interconnecting to the ML&P system. ML&P has developed minimum requirements based on the following assumptions as to the characteristics of ML&P's system and the producer's facilities at the point of interconnection:

1. The total capacity of all producer-owned non-utility generating equipment installed on, or proposed to be installed on, the interconnecting ML&P feeder, will be less than 10 percent of the average annual hourly peak demand (kVA) for that feeder.
2. Interconnections to ML&P's electric power system will be made at ML&P's standard secondary voltages on individual secondary circuits.
3. The producer will install non-utility generating equipment with a total capacity rating of 25 kVA or less.
4. Class A - NET installations are limited to single-phase, network, or three-phase services rated at 200 amps or less, utilizing self-contained metering equipment.

Where proposed interconnections fall outside of the above parameters, modifications to the minimum requirements will be necessary in order to maintain the safety, reliability, and operational performance of the ML&P system.

B. Metering Requirements for Class A - NET Facilities

Class A - NET installations require a residential combination meter panel and service disconnect meeting the requirements of Service Equipment Specification E-601 for residential applications or a combination safety socket panel with test-block bypass and service disconnect meeting the requirements of Service Equipment Specification E-602 for non-residential applications. ML&P will use a single meter with bi-directional measurement capability. Generator output metering is not required on Class A - NET facilities, except that ML&P reserves the right to require generator output metering at ML&P's expense.

C. Interconnection Paralleling Devices for Class A - NET Facilities

A paralleling device is required for Class A - NET facilities. ML&P requires approved switchgear or circuit breaker(s) (paralleling devices) to allow separation of the producer's generating equipment from the ML&P electric power system during fault conditions. The paralleling device establishes the physical electrical connection for parallel operation with the ML&P electric power system. Paralleling devices must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection as required by IEEE Std. 1547, Part 4.1.8.3.

AUG 15 2016

D. Interconnection Disconnect Devices for Class A - NET Facilities

A manual interconnection disconnect device is required for Class A - NET facilities. Refer to Section 405 for details on interconnection disconnect devices.

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Refer to Section 405 for options regarding switch placement on Class A - NET facilities.

E. Interconnection Transformers for Class A - NET Facilities

Class A - NET installations usually do not require a dedicated interconnection transformer. Refer to Section 406 for details on interconnection transformers.

F. Protection and Control Devices for Class A - NET Facilities

Refer to Section 407 for details regarding protection and control devices. The general interconnection protective and control requirements for Class A - NET installations are as follows:

1. Paralleling Device

- a. An ML&P-approved circuit breaker is required to allow separation of the producer's generation equipment from the ML&P system during fault conditions.
- b. This device must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection and must have sufficient interrupting capacity to interrupt the maximum available fault current at its location.

2. Over/Under Voltage Protection

- a. The producer's over-voltage and under-voltage interconnection protective functions shall detect voltage at the point of interconnection, and shall open the paralleling device within the times specified, if the voltage is within the stated ranges.
- b. Refer to Section 408 for over/under voltage protection details.

3. Over/Under Frequency Protection

- a. The producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified, if the frequency is within the stated ranges.
- b. Refer to Section 409 for over/under frequency protection details.

Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

G. Synchronization Protection for Class A - NET Facilities

Refer to Section 410 for synchronization protection related to Class A - NET facilities.

H. Ground-Fault Protection for Class A - NET Facilities

In general, Class A - NET facilities may interconnect to ML&P's electric power system without the provision of ground-fault protection which limits contributions to ground faults on ML&P's system. However, in accordance with IEEE 1547, Part 4.2.1, the producer's interconnection equipment shall demonstrate the ability to cease energization of, and disconnect from, ML&P's electric power system under fault conditions.

I. Phase-Fault Protection for Class A - NET Facilities

In general, Class A - NET facilities may interconnect to ML&P's electric power system without the provision of phase-fault protection which limits contributions to phase-to-phase faults or three-phase faults on ML&P's system. However, in accordance with IEEE 1547, Part 4.2.1, the producer's interconnection equipment shall demonstrate the ability to cease energization of, and disconnect from, ML&P's electric power system under fault conditions.

J. Telemetry and Monitoring for Class A - NET Facilities

ML&P will not require telephone or data line service at the metering point for Class A - NET facilities.

ML&P will not require power quality monitoring for Class A - NET facilities.

K. Operational Data Logging for Class A - NET Facilities

ML&P will not require operational data logging for Class A - NET facilities.

L. Export Power Control Equipment for Class A - NET Facilities

ML&P will not require export control equipment for Class A - NET facilities.

Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

M. Equipment Summary for Class A - NET Facilities

Following is an interconnection equipment requirements summary for Class A - NET facilities

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

- Bi-directional Metering: Required
- Generator Output Metering: Not Required
- Paralleling Device: Required
- Manual Interconnection Disconnect Device: Recommended but not required
- Dedicated Interconnection Transformer: Normally not required, but may depend on specific facility characteristics
- Under-voltage Protection: Required
- Over-voltage Protection: Required
- Under-frequency Protection: Required
- Over-frequency Protection: Required
- Ground-fault Protection: Not required, but must meet IEEE 1547, Part 4.2.1
- Transfer Trip Capability: Not Required
- Phase-fault Protection: Not Required
- Telemetry Capability: Not Required
- Power Quality Monitoring: Not Required
- Voice and Data Communication Capability: Required in the form of a 24-hour contact phone number
- Operational Data Logging: Not Required
- Export Power Control Equipment: Not Required
- Automatic Synchronizing w/ Relay Supervision: Required for facilities with synchronous and similar type generators; may be required for facilities with power converters
- Speed Matching Relaying: Required for facilities with induction generators

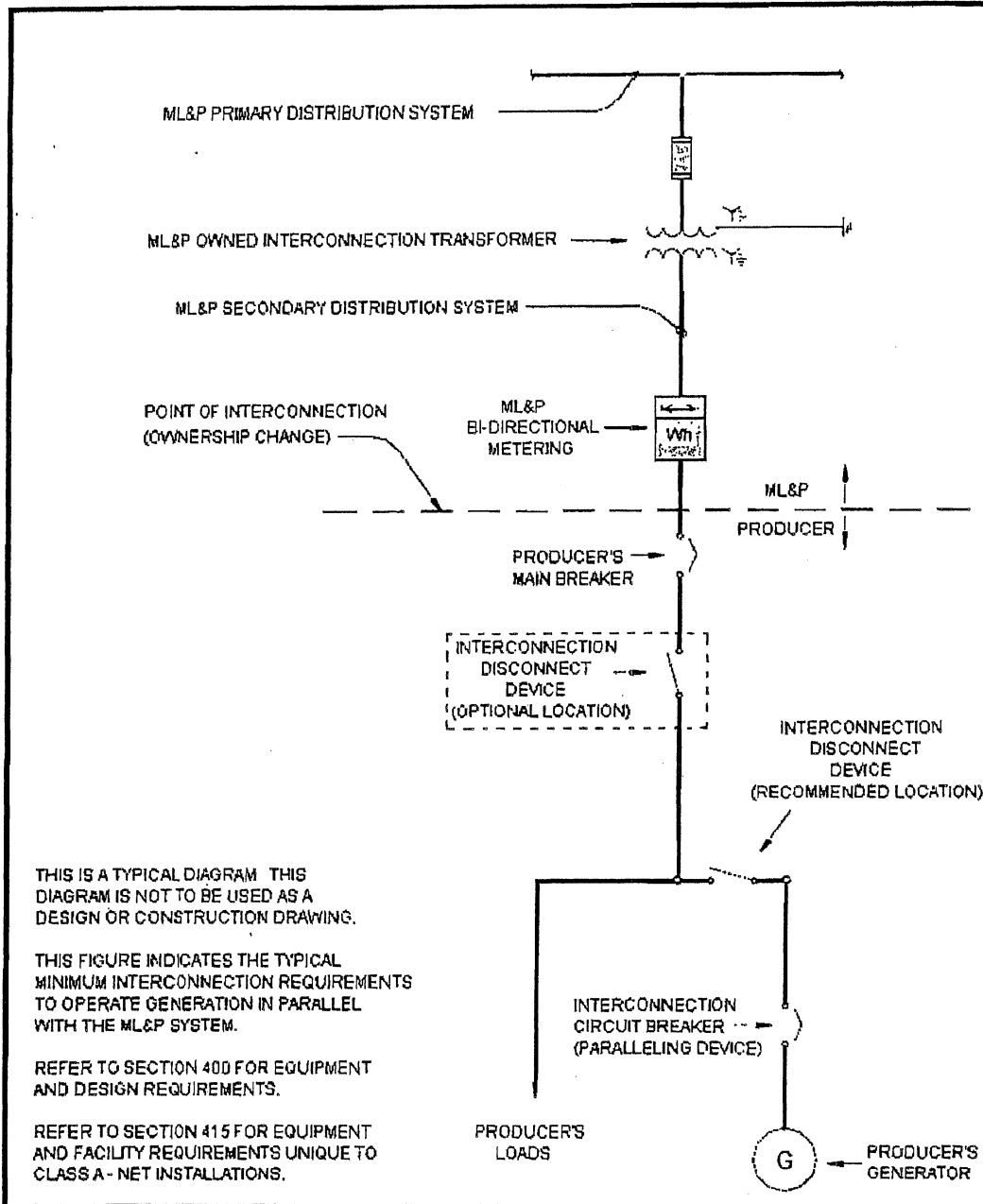


FIGURE A-1 NET

TYPICAL SECONDARY SYSTEM INTERCONNECTION
CLASS A - NET FACILITIES (25 kVA AND LESS)



DRAWING NUMBER MLP_FIG-A-1NET

SHEET 1 OF 1

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Section 400 - Equipment Specifications and Design Requirements

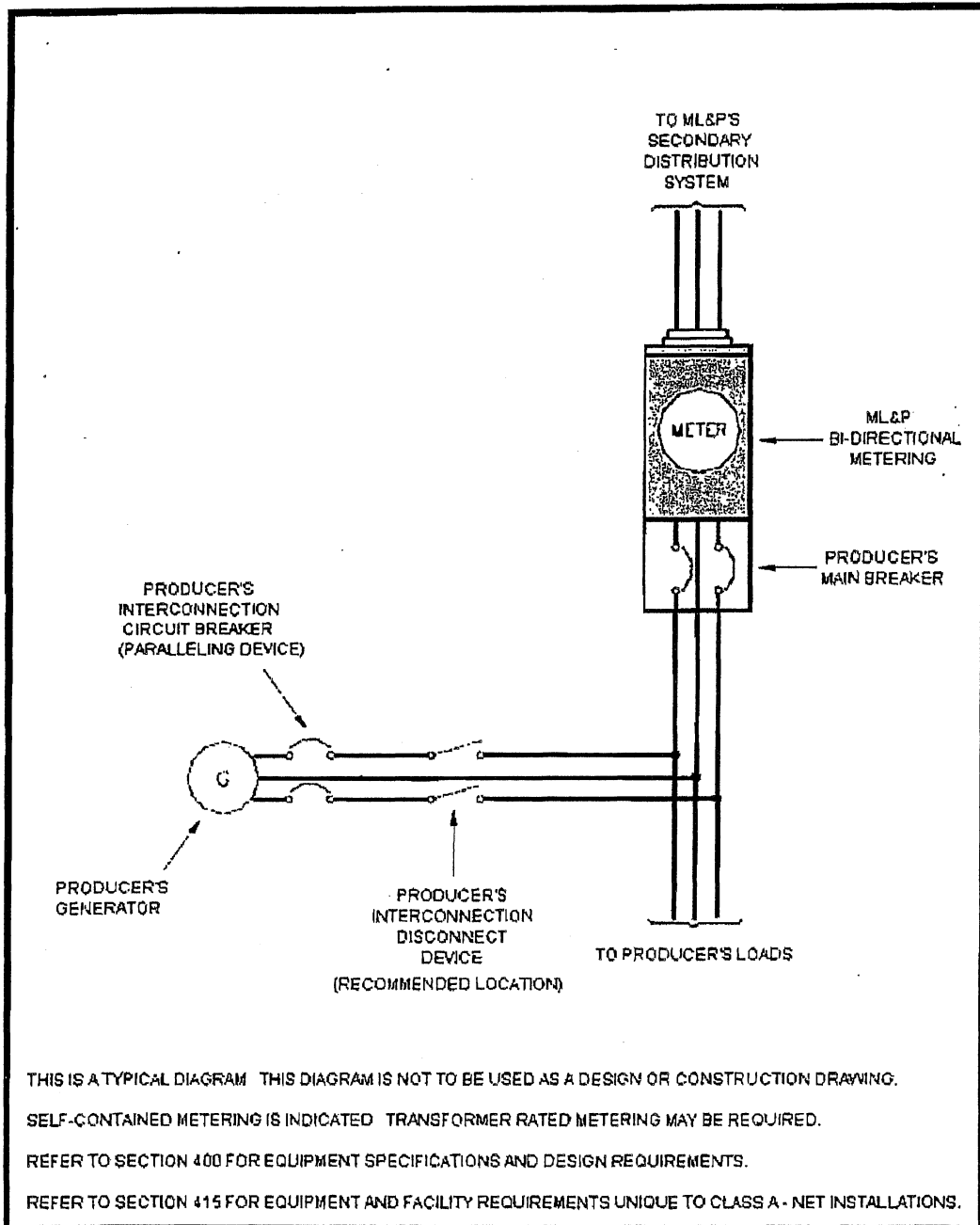


FIGURE A-2 NET

TYPICAL METERING DIAGRAM
CLASS A - NET FACILITIES (25 KVA AND LESS)

DRAWING NUMBER MLP_FIGA-2NET

SHEET 1 OF 1

416 Class A Equipment Requirements

A. Application of Minimum Requirements for Class A Facilities

This subsection addresses the general minimum interconnection equipment necessary for Class A facilities. Specific requirements for each individual facility may vary, depending on factors such as location of the interconnection, the number and proximity of adjacent ML&P customers, and the characteristics of the facility interconnecting to the ML&P system. ML&P has developed minimum requirements based on the following assumptions as to the characteristics of ML&P's system and the producer's facilities at the point of interconnection:

1. The total capacity of all producer-owned non-utility generating equipment installed on, or proposed to be installed on, the interconnecting ML&P feeder, will be less than 10 percent of the average annual hourly peak demand (kVA) for that feeder.
2. Interconnections to ML&P's electric power system will be made at ML&P's standard secondary voltages on individual secondary circuits.
3. The producer will install non-utility generating equipment with a total capacity rating of 25 kVA or less.
4. Class A installations are limited to single-phase, network, or three-phase services rated at 200 amps or less, utilizing self-contained metering equipment.

Where proposed interconnections fall outside of the above parameters, modifications to the minimum requirements will be necessary in order to maintain the safety, reliability, and operational performance of the ML&P system.

B. Metering Requirements for Class A Facilities

Bi-directional metering and generator output metering is required on the producer's generating facilities. In most cases, the bi-directional meter will meet the requirement for generator output metering. However, under some circumstances separate generator output metering may be required. Refer to Section 402 for details on general metering requirements and Section 403 for details on generator output metering requirements. Consult with ML&P regarding metering requirements for a specific non-utility generating facility.

C. Interconnection Paralleling Devices for Class A Facilities

A paralleling device is required for Class A facilities. ML&P requires approved switchgear or circuit breaker(s) (paralleling devices) to allow separation of the producer's generation equipment from the ML&P electric power system during fault conditions. The paralleling device establishes the physical electrical connection for parallel operation with the ML&P electric power system.

Paralleling devices must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection as required by IEEE Std. 1547, Part 4.1.8.3.

AUG 15 2016

D. Interconnection Disconnect Devices for Class A Facilities

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

A manual interconnection disconnect device is required for Class A facilities. Refer to Section 405 for details on interconnection disconnect devices.

E. Interconnection Transformers for Class A Facilities

Class A installations usually do not require a dedicated interconnection transformer. Refer to Section 406 for details on interconnection transformers.

F. Protection and Control Devices for Class A Facilities

Refer to Section 407 for details regarding protection and control devices. The general interconnection protective and control requirements for Class A installations are as follows:

1. Paralleling Device

- a. An ML&P-approved circuit breaker is required to allow separation of the producer's generating equipment from the ML&P system during fault conditions.
- b. This device must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection and must have sufficient interrupting capacity to interrupt the maximum available fault current at its location.

2. Over/Under Voltage Protection

- a. The producer's over-voltage and under-voltage interconnection protective functions shall detect voltage at the point of interconnection, and shall open the paralleling device within the times specified, if the voltage is within the stated ranges.
- b. Refer to Section 408 for over/under voltage protection details.

3. Over/Under Frequency Protection

- a. The producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified, if the frequency is within the stated ranges.
- b. Refer to Section 409 for over/under frequency protection details.

G. Synchronization Protection for Class A Facilities

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

Refer to Section 410 for synchronization protection related to Class A facilities.

H. Ground-Fault Protection for Class A Facilities

In general, Class A facilities may interconnect to ML&P's electric power system without the provision of ground-fault protection which limits contributions to ground faults on ML&P's system. However, in accordance with IEEE 1547, Part 4.2.1, the producer's interconnection equipment shall demonstrate the ability to cease energization of, and disconnect from, ML&P's electric power system under fault conditions.

I. Phase-Fault Protection for Class A Facilities

In general, Class A facilities may interconnect to ML&P's electric power system without the provision of phase-fault protection which limits contributions to phase-to-phase faults or three-phase faults on ML&P's system. However, in accordance with IEEE 1547, Part 4.2.1, the producer's interconnection equipment shall demonstrate the ability to cease energization of, and disconnect from, ML&P's electric power system under fault conditions.

J. Telemetry and Monitoring for Class A Facilities

ML&P will not require telephone or data line service at the metering point for Class A facilities.

ML&P will not require power quality monitoring for Class A facilities.

K. Operational Data Logging for Class A Facilities

ML&P will not require operational data logging for Class A facilities.

L. Export Power Control Equipment for Class A Facilities

ML&P will not require export control equipment for Class A facilities.

Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

M. Equipment Summary for Class A Facilities

Following is an interconnection equipment requirements summary for Class A facilities

- Bi-directional Metering: Required
- Generator Output Metering: Required, refer to Section 403
- Paralleling Device: Required
- Manual Interconnection Disconnect Device: Required
- Dedicated Interconnection Transformer: Normally not required, but may depend on specific facility characteristics
- Under-voltage Protection: Required
- Over-voltage Protection: Required
- Under-frequency Protection: Required
- Over-frequency Protection: Required
- Ground-fault Protection: Not required, but must meet IEEE 1547, Part 4.2.1
- Transfer Trip Capability: Not Required
- Phase-fault Protection: Not Required
- Telemetry Capability: Not Required
- Power Quality Monitoring: Not Required
- Voice and Data Communication Capability: Required in the form of a 24-hour contact phone number
- Operational Data Logging: Not Required
- Export Power Control Equipment: Not Required
- Automatic Synchronizing w/ Relay Supervision: Required for facilities with synchronous and similar type generators; may be required for facilities with power converters
- Speed Matching Relaying: Required for facilities with induction generators

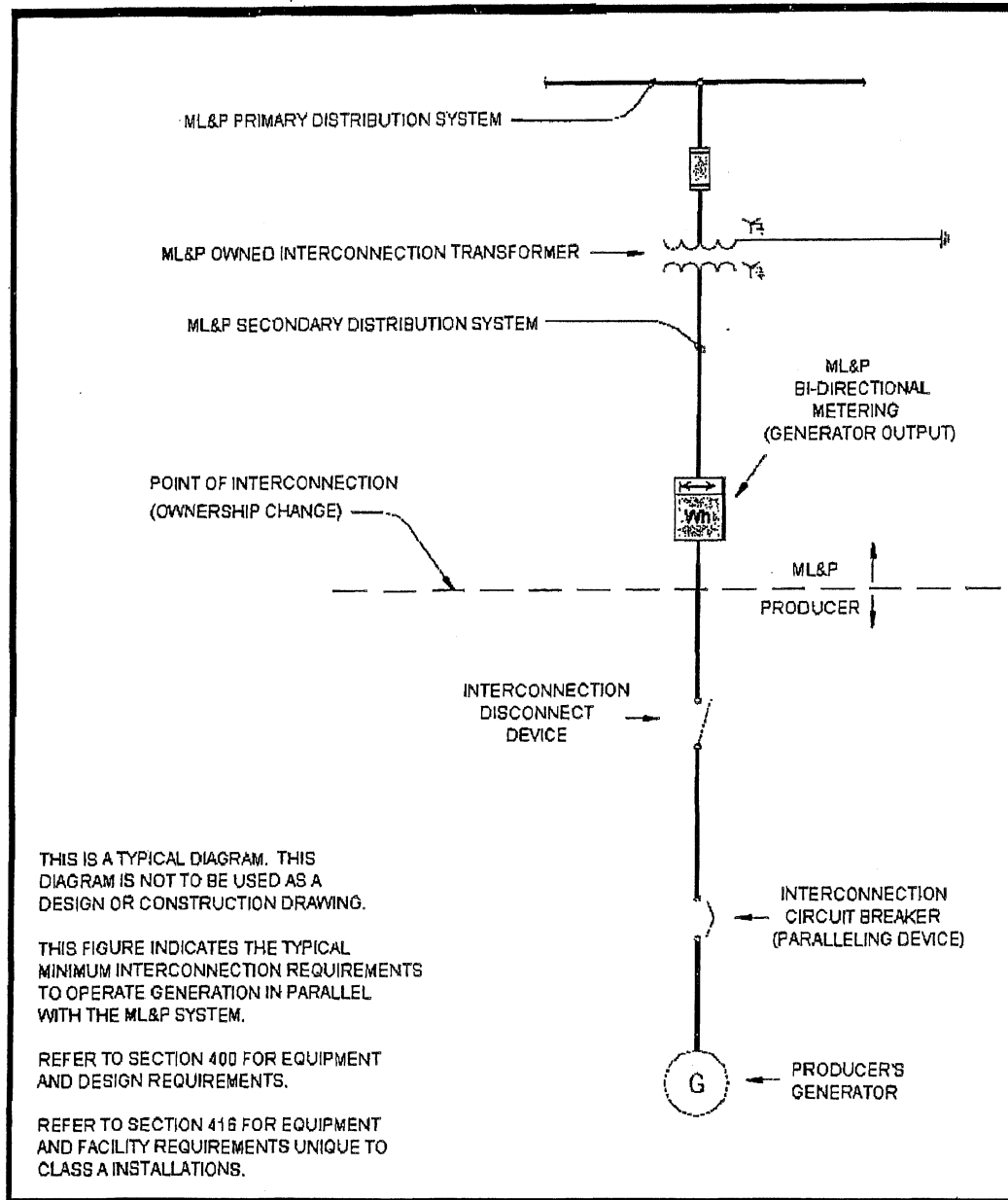


FIGURE A-1

TYPICAL SECONDARY SYSTEM INTERCONNECTION
CLASS A FACILITIES (25 KVA AND LESS)

DRAWING NUMBER MLP_FIGA-1

SHEET 1 OF 1

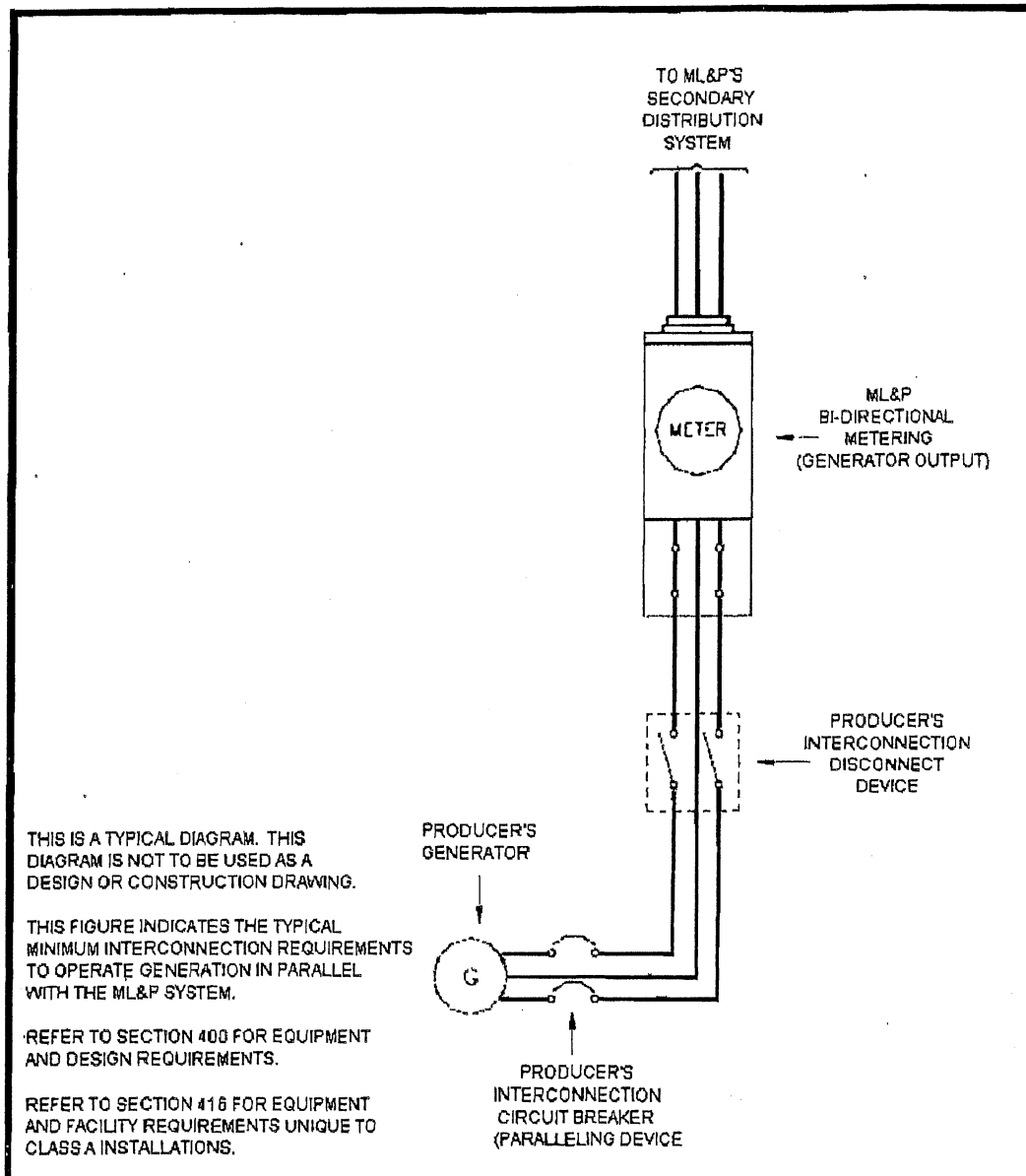


FIGURE A-2

**TYPICAL METERING DIAGRAM
CLASS A FACILITIES (25 kVA AND LESS)**

DRAWING NUMBER MLP_FIG-A-2

SHEET 1 OF 1

417 Class B Equipment Requirements

A. Application of Minimum Requirements for Class B Facilities.

This subsection addresses the general minimum interconnection equipment necessary for Class B facilities. Specific requirements for each individual facility may vary, depending on factors such as location of the interconnection, the number and proximity of adjacent ML&P customers, and the characteristics of the facility interconnecting to the ML&P system. ML&P has developed minimum requirements based on the following assumptions as to the characteristics of ML&P's system and the producer's facilities at the point of interconnection:

1. The total capacity of all producer-owned non-utility generating equipment installed on, or proposed to be installed on, the interconnecting ML&P feeder, will be less than 15 percent of the average annual hourly peak demand (kVA) for that feeder.
2. Interconnections to ML&P's electric power system will be made at ML&P's standard secondary voltages on individual secondary circuits.
3. The producer will install non-utility generating equipment with a total capacity rating no less than 25 kVA and no greater than 100 kVA.

Where proposed interconnections fall outside of the above parameters, modifications to the minimum requirements will be necessary in order to maintain the safety, reliability, and operational performance of the ML&P system.

B. Metering Requirements for Class B Facilities

Bi-directional metering and generator output metering is required on the producer's generating facilities. In most cases, the bi-directional meter will meet the requirement for generator output metering. However, under some circumstances separate generator output metering may be required. Refer to Section 402 for details on general metering requirements and Section 403 for details on generator output metering requirements. Consult with ML&P regarding metering requirements for a specific non-utility generating facility.

C. Interconnection Paralleling Devices for Class B Facilities

A paralleling device is required for Class B facilities. ML&P requires approved switchgear or circuit breaker(s) (paralleling devices) to allow separation of the producer's generation equipment from the ML&P electric power system during fault conditions. The paralleling device establishes the physical electrical connection for parallel operation with the ML&P electric power system.

Paralleling devices must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection as required by IEEE Std. 1547, Part 4.1.8.3.

AUG 15 2016

D. Interconnection Disconnect Devices for Class B Facilities

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

A manual interconnection disconnect device is required for Class B facilities. Refer to Section 405 for details on interconnection disconnect devices.

E. Interconnection Transformers for Class B Facilities

Generally, Class B installations do not require a dedicated interconnection transformer for interconnecting the producer's generating equipment. However, under certain conditions, the utilization of a dedicated transformer may be required. Examples of such conditions would include the following:

1. The producer's total generating equipment capacity rating is at or above the capacity rating of the existing ML&P transformer serving the Producer's facilities.
2. The Producer's electrical system characteristics differ from ML&P's standard system voltages and configurations (Refer to Section 304: Standard System Voltages).

Where the installation of a new dedicated interconnection transformer is required, the producer shall be responsible for all associated labor and material costs.

F. Protection and Control Devices for Class B Facilities

Refer to Section 407 for details regarding protection and control devices. The general interconnection protective and control requirements for Class B installations are as follows:

1. Paralleling Device

- a. An ML&P-approved circuit breaker is required to allow separation of the producer's generating equipment from the ML&P system during fault conditions.
- b. This device must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection and must have sufficient interrupting capacity to interrupt the maximum available fault current at its location.

2. Over/Under Voltage Protection

- a. The producer's over-voltage and under-voltage interconnection protective functions shall detect voltage at the point of interconnection, and shall open the paralleling device within the times specified, if the voltage is within the stated ranges.
- b. Refer to Section 408 for over/under voltage protection details.

3. Over/Under Frequency Protection

- a. The producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified, if the frequency is within the stated ranges.
- b. Refer to Section 409 for over/under frequency protection details.

Section 400 - Equipment Specifications and Design Requirements**G. Synchronization Protection for Class B Facilities**

For parallel operation, the producer's facilities shall meet the synchronization requirements specified in IEEE Std. 1547, Parts 4.1.3 and 5.1.2. Specific equipment requirements are as follows:

1. Synchronous Generator Interconnection

- a) Synchronous generators operated in parallel with the ML&P electric system are required to have automatic relay supervision (ANSI Device No. 25) to verify synchronism for permissive closure of the interconnection circuit breaker.
- b) Manual synchronizing systems are not approved for interconnected operation with the ML&P system.

2. Induction Generator Interconnection

- a) Due to the "slip" inherent to induction generators, synchronous operation cannot be precisely maintained when operating in parallel with the ML&P system. Therefore, ML&P requires that speed-matching relaying (ANSI Device No. 15) be utilized, set to permit breaker (or contactor) closing when generator speed is maintained above 95 percent of the ML&P system synchronous speed at the point of interconnection.

3. Power Converter Interconnection

- a) Power converter systems that produce a fundamental voltage before the paralleling device is closed are capable of stand-alone operation and as a result they shall be tested to meet the requirements as outlined in IEEE Std. 1547, Part 5.1.2.A.
- b) All other power converter based systems shall meet the requirements contained in IEEE 1547, Part 5.1.2.C.

H. Ground-Fault Protection for Class B Facilities

In general, Class B facilities with a total generating capacity less than 40 kVA may interconnect to ML&P's electric power system without the provision of ground-fault protection which limits contributions to ground faults on ML&P's system. However, in accordance with IEEE 1547, Part 4.2.1, the producer's interconnection equipment shall demonstrate the ability to cease energization of, and disconnect from, ML&P's electric power system under fault conditions.

Class B facilities with a total generating capacity greater than 40 kVA may be required to provide ground-fault protection (ANSI Device 51N), depending upon the possible fault current contribution from the producer's facilities to ground faults on ML&P's system. The requirement will be determined by ML&P on a case-by-case basis.

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

I. Phase-Fault Protection for Class B Facilities

In general, Class B facilities with a total generating capacity less than 40 kVA may interconnect to ML&P's electric power system without the provision of phase-fault protection which limits contributions to phase-to-phase or three-phase faults on ML&P's system. However, in accordance with IEEE 1547, Part 4.2.1, the producer's interconnection equipment shall demonstrate the ability to cease energization of, and disconnect from, ML&P's electric power system under fault conditions.

Class B facilities with a total generating capacity greater than 40 kVA may be required to provide voltage-restrained overcurrent relaying (ANSI Device No. 50/51V), or impedance relaying (ANSI Device No. 21), for phase-fault protection. The requirement will be determined by ML&P on a case-by-case basis.

J. Telemetry and Monitoring for Class B Facilities

ML&P will not require telephone or data line service for meter telemetry at the metering point for Class B facilities under most circumstances. However, when telemetry is required, the line may be shared or dedicated and monthly charges for the telephone or data line shall be paid by the producer.

ML&P will not require power quality monitoring for Class B facilities under most circumstances. However, when ML&P determines that there is either the possibility of, or an indication that the output from the producer's facility can adversely affect the standard performance of the ML&P electric power system, including the quality of power delivered to ML&P customers, power quality monitoring will be required.

K. Operational Data Logging for Class B Facilities

Under most circumstances, ML&P will not require the installation of operational data logging equipment for Class B facilities. However, as available or maintained by the producer, such logs shall be made available to ML&P upon request.

L. Export Power Control Equipment for Class B Facilities

Under most circumstances, ML&P will not require the installation of control equipment for the purpose of exporting power. In certain cases, depending upon the specific contractual agreement between ML&P and the producer, additional control equipment may be necessary to control the amount and quality of the power exported. Such cases will be reviewed on an individual basis.

Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

M. Equipment Summary for Class B Facilities

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

Following is an interconnection equipment requirements summary for Class B facilities

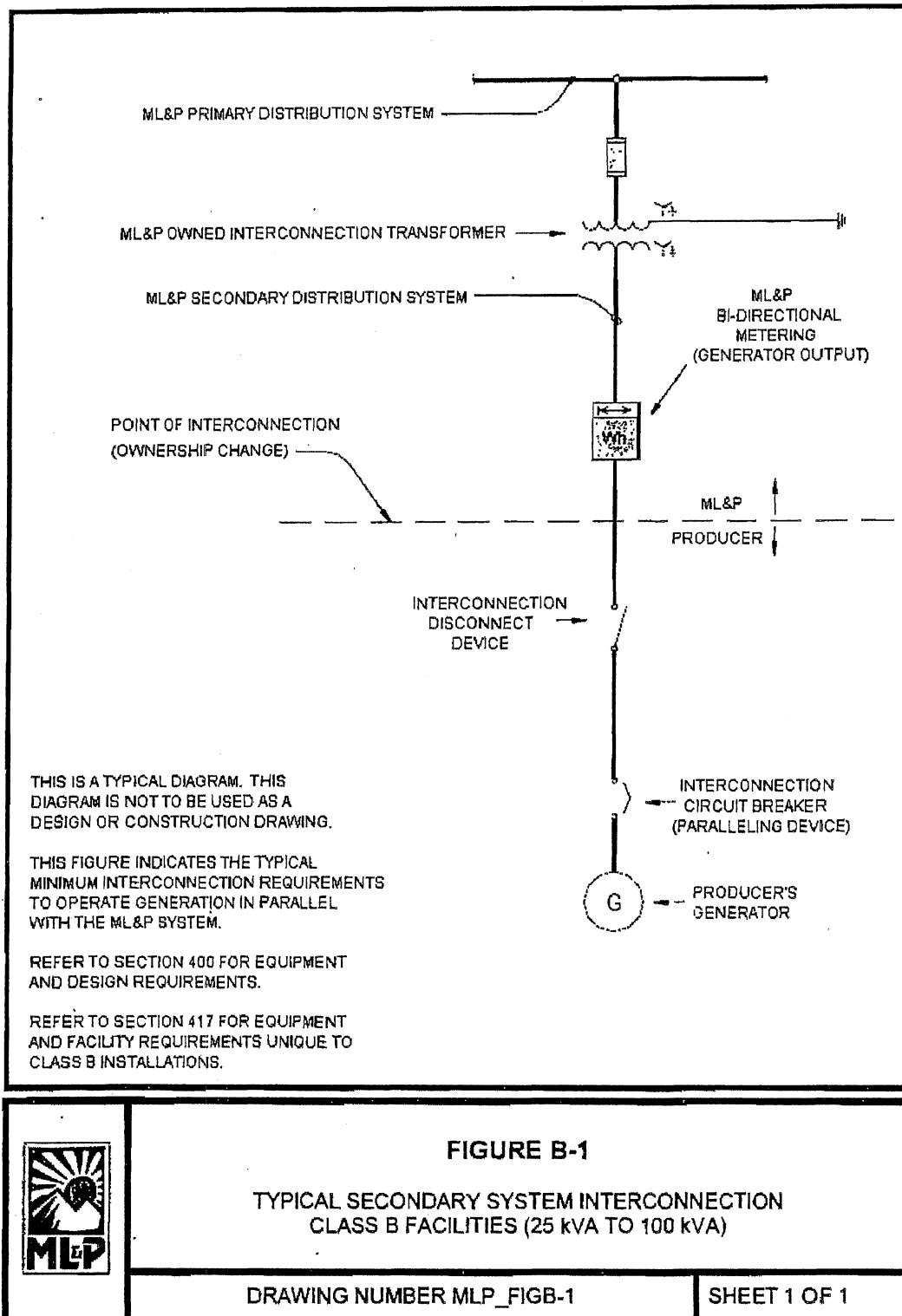
- Bi-directional Metering: Required
- Generator Output Metering: Required, refer to Section 403
- Paralleling Device: Required
- Manual Interconnection Disconnect Device: Required
- Dedicated Interconnection Transformer: Normally not required, but may depend on specific facility characteristics
- Under-voltage Protection: Required
- Over-voltage Protection: Required
- Under-frequency Protection: Required
- Over-frequency Protection: Required
- Ground-fault Protection: Generally not required for installations rated 40 kVA and lower. However, specific requirements will be determined on a case-by-case basis
- Transfer Trip Capability: Not Required
- Phase-fault Protection: Not Required
- Telemetry Capability: Typically not required for power converters. However, specific requirements will be determined on a case-by-case basis
- Power Quality Monitoring: May be required; will be determined on a case-by-case basis
- Voice and Data Communication Capability: Voice communications required, data communications not required
- Operational Data Logging: Not Required
- Export Power Control Equipment: May be required; will be determined on a case-by-case basis
- Automatic Synchronizing w/ Relay Supervision: Required for facilities with synchronous and similar type generators; may be required for facilities with power converters
- Speed Matching Relaying: Required for facilities with induction generators

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

RESERVED



Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

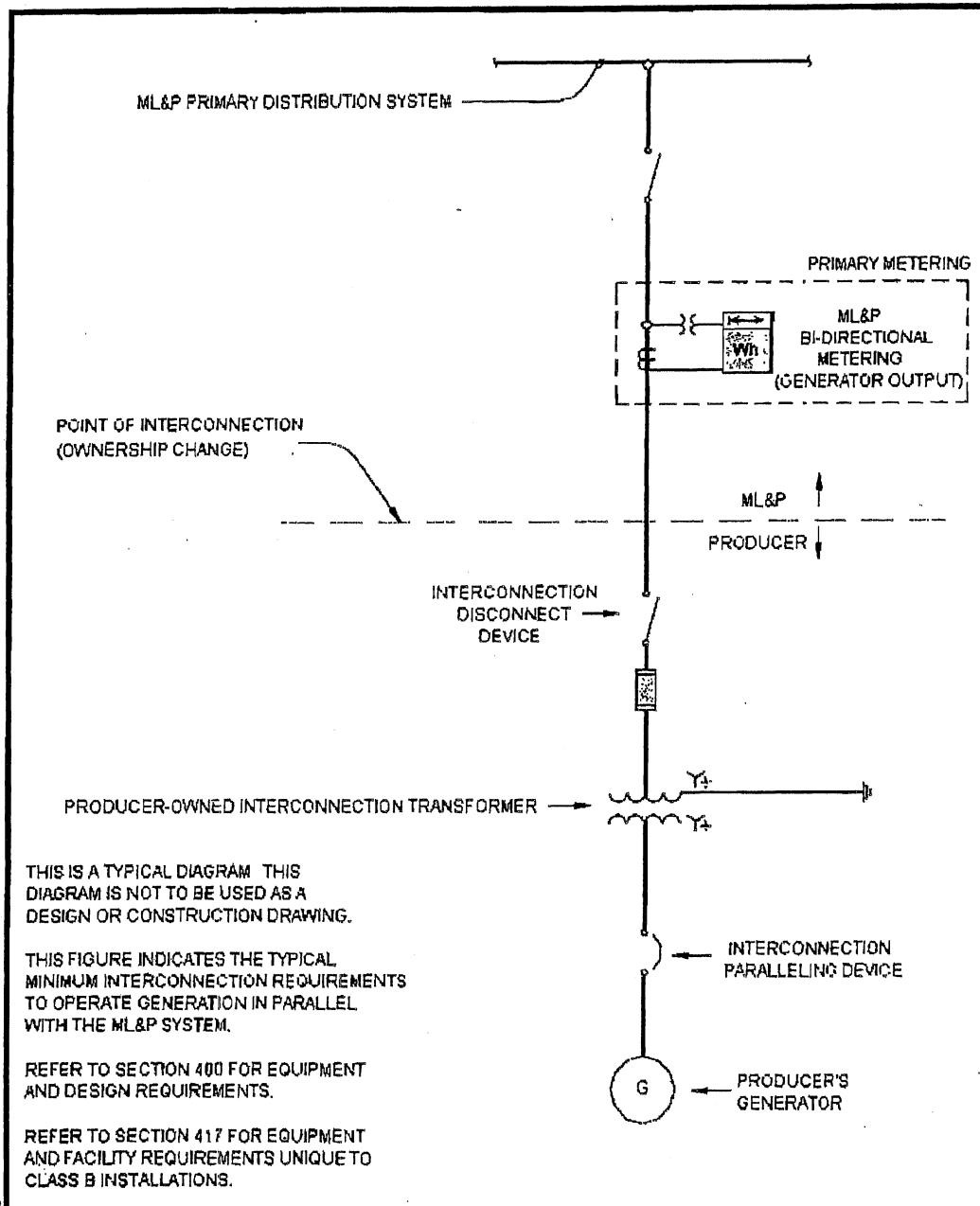


FIGURE B-2

**TYPICAL PRIMARY SYSTEM INTERCONNECTION
CLASS B FACILITIES (25 kVA TO 100 kVA)**

DRAWING NUMBER MLP_FIGB-2

SHEET 1 OF 1

Section 400 - Equipment Specifications and Design Requirements**418 Equipment Requirements - Class C Facilities****A. Application of Minimum Requirements for Class C Facilities**

This subsection addresses the general minimum interconnection equipment necessary for Class C facilities. Specific requirements for each individual facility may vary, depending on factors such as location of the interconnection, the number and proximity of adjacent ML&P customers, and the characteristics of the facility interconnecting to the ML&P system. ML&P has developed minimum requirements based on the following assumptions as to the characteristics of ML&P's system and the producer's facilities at the point of interconnection:

1. The total capacity of all producer-owned non-utility generating equipment installed on, or proposed to be installed on, the interconnecting ML&P feeder, will be less than 20 percent of the average annual hourly peak demand (kVA) for that feeder.
2. Interconnections to ML&P's electric power system will be made at ML&P's standard secondary voltages on individual secondary circuits.
3. The producer will install non-utility generating equipment with a total capacity rating no less than 100 kVA and no greater than 1,000 kVA.

Where proposed interconnections fall outside of the above parameters, modifications to the minimum requirements will be necessary in order to maintain the safety, reliability, and operational performance of the ML&P system.

B. Metering Requirements for Class C Facilities

Bi-directional metering and generator output metering is required on the producer's generating facilities. In most cases, the bi-directional meter will meet the requirement for generator output metering. However, under some circumstances separate generator output metering may be required. Refer to Section 402 for details on general metering requirements and Section 403 for details on generator output metering requirements. Consult with ML&P regarding metering requirements for a specific non-utility generating facility.

C. Interconnection Paralleling Devices for Class C Facilities

A paralleling device is required for Class C facilities. ML&P requires approved switchgear or circuit breaker(s) (paralleling devices) to allow separation of the producer's generation equipment from the ML&P electric power system during fault conditions. The paralleling device establishes the physical electrical connection for parallel operation with the ML&P electric power system.

Paralleling devices must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection as required by IEEE Std. 1547, Part 4.1.8.3.

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

D. Interconnection Disconnect Devices for Class C Facilities

A manual interconnection disconnect device is required for Class C facilities. Refer to Section 405 for details on interconnection disconnect devices.

E. Interconnection Transformer for Class C Facilities

ML&P requires a dedicated interconnection transformer be used to interconnect all Class C installations to the ML&P electric power system.

In cases where an existing ML&P transformer serves the producer at the proposed point of interconnection, that transformer may serve as the dedicated interconnection transformer, provided the following conditions are met:

1. The Producer's maximum generating capacity (kVA) does not exceed the nominal rating of the transformer.
2. No other ML&P customers are served by the existing transformer.

Where the installation of a new dedicated interconnection transformer is required, the producer shall be responsible for all associated labor and material costs.

F. Protection and Control Devices for Class C Facilities

Refer to Section 407 for details regarding protection and control devices. The general interconnection protective and control requirements for Class C installations are as follows:

1. Paralleling Device

- a. An ML&P-approved circuit breaker is required to allow separation of the producer's generating equipment from the ML&P system during fault conditions.
- b. This device must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection and must have sufficient interrupting capacity to interrupt the maximum available fault current at its location.

2. Over/Under Voltage Protection

- a. The producer's over-voltage and under-voltage interconnection protective functions shall detect voltage at the point of interconnection, and shall open the paralleling device within the times specified, if the voltage is within the stated ranges.
- b. Refer to Section 408 for over/under voltage protection details.

3. Over/Under Frequency Protection

- a. The producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified, if the frequency is within the stated ranges.
- b. Refer to Section 409 for over/under frequency protection details.

Section 400 - Equipment Specifications and Design Requirements**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA****G. Synchronization Protection for Class C Facilities**

For parallel operation, the producer's facilities shall meet the synchronization requirements specified in IEEE Std. 1547, Parts 4.1.3 and 5.1.2. Specific equipment requirements are as follows:

1. Synchronous Generator Interconnection

- c) Synchronous generators operated in parallel with the ML&P electric system are required to have automatic relay supervision (ANSI Device No. 25) to verify synchronism for permissive closure of the interconnection circuit breaker.
- d) Manual synchronizing systems are not approved for interconnected operation with the ML&P system.

2. Induction Generator Interconnection

- b) Due to the "slip" inherent to induction generators, synchronous operation cannot be precisely maintained when operating in parallel with the ML&P system. Therefore, ML&P requires that speed-matching relaying (ANSI Device No. 15) be utilized, set to permit breaker (or contactor) closing when generator speed is maintained above 95 percent of the ML&P system synchronous speed at the point of interconnection.

3. Power Converter Interconnection

- c) Power converter systems that produce a fundamental voltage before the paralleling device is closed are capable of stand-alone operation and as a result they shall be tested to meet the requirements as outlined in IEEE Std. 1547, Part 5.1.2.A.
- d) All other power converter based systems shall meet the requirements contained in IEEE 1547, Part 5.1.2.C.

H. Ground-Fault Protection for Class C Facilities

Ground-fault Protection is required for all Class C facilities. This type of protection senses phase-to-ground faults on the ML&P electric power system and initiates tripping of the interconnection paralleling device in order to prohibit continuous contribution to such faults by the producer's generating equipment.

Ground overcurrent relaying (ANSI Device No. 51N) is required for ground-fault protection.

The producer shall provide an appropriate ground-fault protection scheme and coordinate with ML&P regarding trip settings. Prior to authorization for interconnected operation, ML&P will review and approve the ground fault protection scheme and trip settings.

I. Phase-Fault Protection for Class C Facilities

Phase-fault Protection is required for all Class C facilities. This type of protection senses phase-to-phase faults or three-phase faults on the ML&P electric power system and initiates tripping of the interconnection paralleling device in order to prohibit continuous contribution to such faults from the producer's generating equipment.

Voltage-restrained overcurrent relaying (ANSI Device No. 50/51V), or impedance relaying (ANSI Device No. 21), is required for phase-fault protection.

The producer shall provide an appropriate phase-fault protection scheme and coordinate with ML&P regarding trip settings. Prior to authorization for interconnected operation, ML&P will review and approve the phase-fault protection scheme and trip settings.

J. Telemetry and Monitoring for Class C Facilities

A telephone or data line service at the metering point is required for ML&P's meter telemetry. This line may be shared or dedicated; monthly charges shall be paid by the producer.

Power quality monitoring shall be required in cases where ML&P determines that a potential for, or an indication that, the output from the producer's facility may adversely affect the standard performance of ML&P's electric power system or the quality of power delivered to other ML&P customers.

Depending upon specific requirements, the monitoring system may be required to detect and record such disturbances as wave form distortions, electrical noise, voltage sags or swells, frequency deviations, and harmonic distortions. The requirement for power quality monitoring will be determined by ML&P on a case-by-case basis.

K. Operational Data Logging for Class C Facilities

All Class C generating facilities are required to have and maintain a seven (7) day digital data logger which records volts, watts, VARs, frequency, and the status of key system informational elements, including relay targets and interconnection circuit breaker trip operations. The data logger shall provide a standard time stamp for tracked variables, including date and time of day (HH:MM:SS). ML&P will have the right to review these logs, especially when analyzing system disturbances.

L. Export Power Control Equipment for Class C Facilities

In cases where the producer and ML&P formulate a power purchase agreement, the following equipment may be necessary in accordance with the terms of the specific contract:

1. Voltage Regulator/Power Factor Controller

- a. The producer may be required to utilize either an approved voltage regulator or power factor controller in order to control voltage within specified limits.

Section 400 - Equipment Specifications and Design RequirementsSTATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

- b. Where a voltage regulator is utilized for this purpose, it must be capable of maintaining the nominal ML&P interconnection point voltage under steady-state conditions, without hunting, and within ± 0.5 percent of the required set point (as directed by ML&P).
- c. Where a power factor controller is utilized, it must be capable of maintaining the power factor setting within ± 1.0 percent, at full load, at any point between 90 percent lagging and 95 percent leading. For export power to ML&P's electric power system, a power factor of 1.0 is generally preferred.
- d. The producer's generation may be required to follow a ML&P specified voltage or VAR schedule on an hourly, daily, or seasonal basis depending on the specific terms of a power purchase contract.
- e. The producer shall coordinate with ML&P Power Dispatch Center for specific operational instructions and issues.

2. Direct Digital Control

- a. Direct digital control (supervisory control) of unit output from ML&P's Power Dispatch Center may be required if the unit is to be dispatchable by ML&P under agreement.

3. Power System Stabilizer

- a. A power system stabilizer (PSS) control system may be required to provide necessary stability to the electrical system when system power oscillations occur.
- b. The necessity of a PSS will depend on the generator capacity and characteristics, the location of the interconnection to the ML&P system, and the system voltage level at the point of interconnection.

Section 400 - Equipment Specifications and Design Requirements

M. Equipment Summary for Class C Facilities

Following is an interconnection equipment requirements summary for Class C facilities

- Bi-directional Metering: Required
- Generator Output Metering: Required, refer to Section 403
- Paralleling Device: Required
- Manual Interconnection Disconnect Device: Required
- Dedicated Interconnection Transformer: Required
- Under-voltage Protection: Required
- Over-voltage Protection: Required
- Under-frequency Protection: Required
- Over-frequency Protection: Required
- Ground-fault Protection: Required
- Transfer Trip Capability: Not Required
- Phase-fault Protection: Required
- Telemetry Capability: Required
- Power Quality Monitoring: May be required; will be determined on a case-by-case basis
- Voice and Data Communication Capability: Required
- Operational Data Logging: Required, refer to Section 418, subsection K
- Export Power Control Equipment: May be required; will be determined on a case-by-case basis
- Automatic Synchronizing w/ Relay Supervision: Required for facilities with synchronous and similar type generators; may be required for facilities with power converters
- Speed Matching Relaying: Required for facilities with induction generators

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

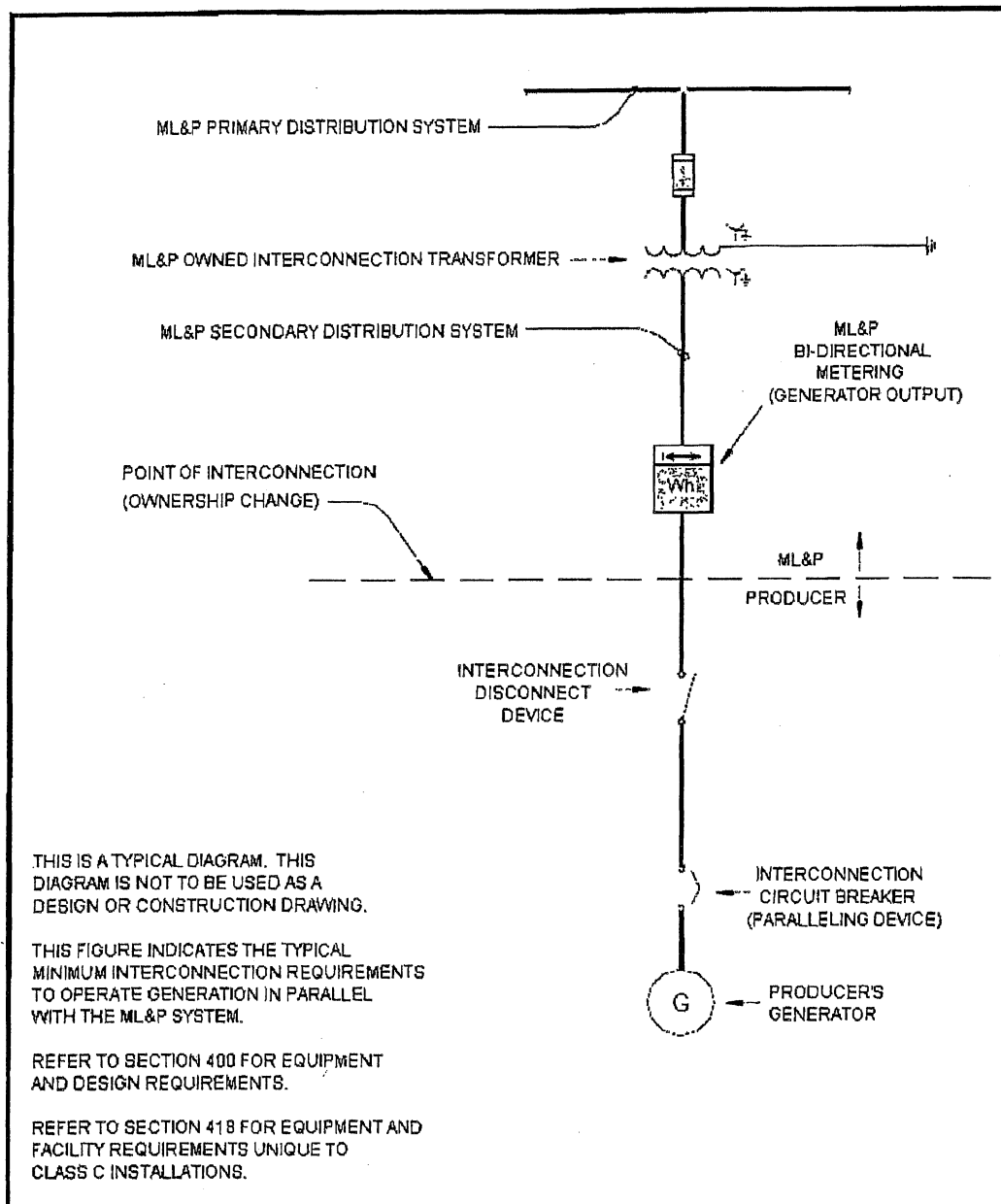


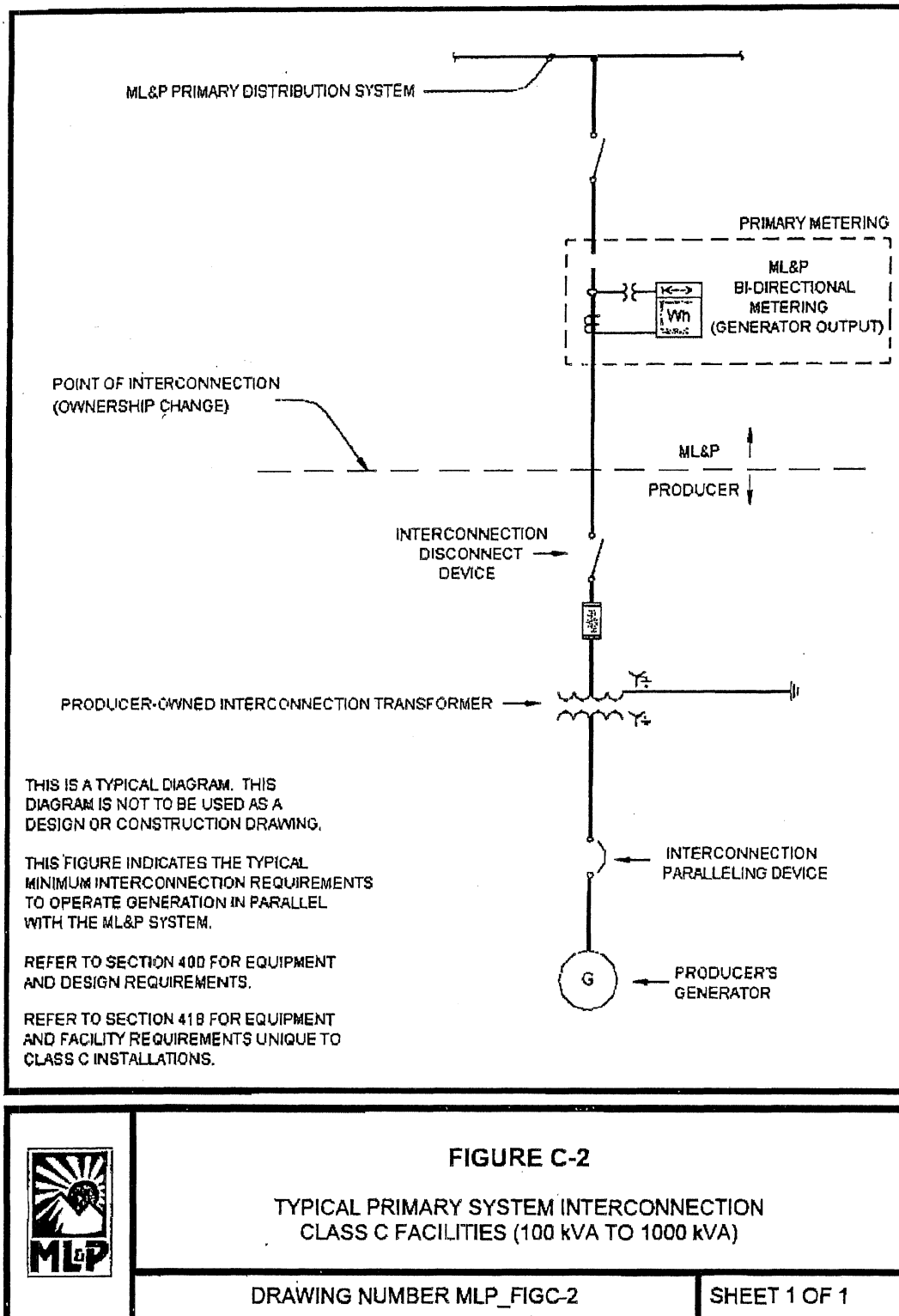
FIGURE C-1

TYPICAL SECONDARY SYSTEM INTERCONNECTION
CLASS C FACILITIES (100 kVA TO 1000 kVA)

DRAWING NUMBER MLP_FIGC-1

SHEET 1 OF 1

Section 400 - Equipment Specifications and Design Requirements



Section 400 - Equipment Specifications and Design Requirements**419 Equipment Requirements - Class D Facilities****A. Application of Minimum Requirements for Class D Facilities**

This subsection addresses the general minimum interconnection equipment necessary for Class D facilities. Specific requirements for each individual facility may vary, depending on factors such as location of the interconnection, the number and proximity of adjacent ML&P customers, and the characteristics of the facility interconnecting to the ML&P system. ML&P has developed minimum requirements based on the following assumptions as to the characteristics of ML&P's system and the producer's facilities at the point of interconnection:

1. The total capacity of all producer-owned non-utility generating equipment installed on, or proposed to be installed on, the interconnecting ML&P feeder, will be less than 25 percent of the average annual hourly peak demand (kVA) for that feeder.
2. Interconnections to ML&P's electric power system will be made at ML&P's standard distribution level primary voltages of 2.4/4.16 kV, 7.2/12.47 kV, or 19.9/34.5 kV.
3. The producer will install non-utility generating equipment with a total capacity rating no less than 1,000 kVA and no greater than 5,000 kVA.

Where proposed interconnections fall outside of the above parameters, modifications to the minimum requirements will be necessary in order to maintain the safety, reliability, and operational performance of the ML&P system.

B. Metering Requirements for Class D Facilities

Bi-directional metering and generator output metering is required on the producer's generating facilities. In most cases, the bi-directional meter will meet the requirement for generator output metering. However, under some circumstances separate generator output metering may be required. Refer to Section 402 for details on general metering requirements and Section 403 for details on generator output metering requirements. Consult with ML&P regarding metering requirements for a specific non-utility generating facility.

C. Interconnection Paralleling Devices for Class D Facilities

A paralleling device is required for Class D facilities. ML&P requires approved switchgear or circuit breaker(s) (paralleling devices) to allow separation of the producer's generation equipment from the ML&P electric power system during fault conditions. The paralleling device establishes the physical electrical connection for parallel operation with the ML&P electric power system.

Paralleling devices must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection as required by IEEE Std. 1547, Part 4.1.8.3.

D. Interconnection Disconnect Devices for Class D Facilities

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

A manual interconnection disconnect device is required for Class D facilities. Refer to Section 405 for details on interconnection disconnect devices.

E. Interconnection Transformer for Class D Facilities

ML&P requires a dedicated interconnection transformer be used to interconnect all Class D installations to the ML&P electric power system.

In cases where an existing ML&P transformer serves the producer at the proposed point of interconnection, that transformer may serve as the dedicated interconnection transformer, provided the following conditions are met:

1. The Producer's maximum generating capacity (kVA) does not exceed the nominal rating of the transformer.
2. No other ML&P customers are served by the existing transformer.

Where the installation of a new dedicated interconnection transformer is required, the producer shall be responsible for all associated labor and material costs.

F. Protection and Control Devices for Class D Facilities

Refer to Section 407 for details regarding protection and control devices. The general interconnection protective and control requirements for Class D installations are as follows:

1. Paralleling Device

- a. An ML&P-approved circuit breaker is required to allow separation of the producer's generating equipment from the ML&P system during fault conditions.
- b. This device must be capable of withstanding 220% of the ML&P system voltage at the point of interconnection and must have sufficient interrupting capacity to interrupt the maximum available fault current at its location.

2. Over/Under Voltage Protection

- a. The producer's over-voltage and under-voltage interconnection protective functions shall detect voltage at the point of interconnection, and shall open the paralleling device within the times specified, if the voltage is within the stated ranges.
- b. Refer to Section 408 for over/under voltage protection details.

3. Over/Under Frequency Protection

- a. The producer's over-frequency and under-frequency interconnection protective functions shall open the paralleling device within the times specified, if the frequency is within the stated ranges.
- b. Refer to Section 409 for over/under frequency protection details.

G. Synchronization Protection for Class D Facilities

For parallel operation, the producer's facilities shall meet the synchronization requirements specified in IEEE Std. 1547, Parts 4.1.3 and 5.1.2. Specific equipment requirements are as follows:

1. Synchronous Generator Interconnection

- a) Synchronous generators operated in parallel with the ML&P electric system are required to have automatic relay supervision (ANSI Device No. 25) to verify synchronism for permissive closure of the interconnection circuit breaker.
- b) Manual synchronizing systems are not approved for interconnected operation with the ML&P system.

2. Induction Generator Interconnection

- a) Due to the "slip" inherent to induction generators, synchronous operation cannot be precisely maintained when operating in parallel with the ML&P system. Therefore, ML&P requires that speed-matching relaying (ANSI Device No. 15) be utilized, set to permit breaker (or contactor) closing when generator speed is maintained above 95 percent of the ML&P system synchronous speed at the point of interconnection.

3. Power Converter Interconnection

- a) Power converter systems that produce a fundamental voltage before the paralleling device is closed are capable of stand-alone operation and as a result they shall be tested to meet the requirements as outlined in IEEE Std. 1547, Part 5.1.2.A.
- b) All other power converter based systems shall meet the requirements contained in IEEE 1547, Part 5.1.2.C.

H. Ground-Fault Protection for Class D Facilities

Ground-fault Protection is required for all Class D facilities. This type of protection senses phase-to-ground faults on the ML&P electric power system and initiates tripping of the interconnection paralleling device in order to prohibit continuous contribution to such faults by the producer's generating equipment.

Ground overcurrent relaying (ANSI Device No. 51N) is required for ground-fault protection.

The producer shall provide an appropriate ground-fault protection scheme and coordinate with ML&P regarding trip settings. Prior to authorization for interconnected operation, ML&P will review and approve the ground fault protection scheme and trip settings.

I. Phase-Fault Protection for Class D Facilities

Phase-fault Protection is required for all Class D facilities. This type of protection senses phase-to-phase faults or three-phase faults on the ML&P electric power system and initiates tripping of the interconnection paralleling device in order to prohibit continuous contribution to such faults from the producer's generating equipment.

Voltage-restrained overcurrent relaying (ANSI Device No. 50/51V), or impedance relaying (ANSI Device No. 21), is required for phase-fault protection.

The producer shall provide an appropriate phase-fault protection scheme and coordinate with ML&P regarding trip settings. Prior to authorization for interconnected operation, ML&P will review and approve the phase-fault protection scheme and trip settings.

J. Transfer Trip Capability for Class D Facilities

ML&P requires the producer to provide transfer trip capability for Class D facilities. Transfer trip capability is required in order to enable ML&P's system protection equipment to disconnect the producer's facility from ML&P's electric power system during system faults or disturbances. This is a critical function that enables ML&P's system protection equipment to operate as designed. The producer shall provide a dedicated, isolated voice grade fiber-optic communications circuit for this purpose.

K. Telemetry and Monitoring for Class D Facilities

A telephone or data line service at the metering point is required for ML&P's meter telemetry. This line may be shared or dedicated; monthly charges shall be paid by the producer.

Power quality monitoring shall be required in cases where ML&P determines that a potential for, or an indication that, the output from the producer's facility may adversely affect the standard performance of ML&P's electric power system or the quality of power delivered to other ML&P customers.

Depending upon specific requirements, the monitoring system may be required to detect and record such disturbances as wave form distortions, electrical noise, voltage sags or swells, frequency deviations, and harmonic distortions. The requirement for power quality monitoring will be determined by ML&P on a case-by-case basis.

L. Operational Data Logging for Class D Facilities

All Class D generating facilities are required to have and maintain a seven (7) day digital data logger which records volts, watts, VARs, frequency, and the status of key system informational elements, including relay targets and interconnection circuit breaker trip operations. The data logger shall provide a standard time stamp for tracked variables, including date and time of day (HH:MM:SS). ML&P will have the right to review these logs, especially when analyzing system disturbances.

Section 400 - Equipment Specifications and Design RequirementsSTATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**M. Export Power Control Equipment for Class D Facilities**

In cases where the producer and ML&P formulate a power purchase agreement, the following equipment may be necessary in accordance with the terms of the specific contract:

1. Voltage Regulator/Power Factor Controller

- a. The producer may be required to utilize either an approved voltage regulator or power factor controller in order to control voltage within specified limits.
- b. Where a voltage regulator is utilized for this purpose, it must be capable of maintaining the nominal ML&P interconnection point voltage under steady-state conditions, without hunting, and within ± 0.5 percent of the required set point (as directed by ML&P).
- c. Where a power factor controller is utilized, it must be capable of maintaining the power factor setting within ± 1.0 percent, at full load, at any point between 90 percent lagging and 95 percent leading. For export power to ML&P's electric power system, a power factor of 1.0 is generally preferred.
- d. The producer's generation may be required to follow a ML&P specified voltage or VAR schedule on an hourly, daily, or seasonal basis depending on the specific terms of a power purchase contract.
- e. The producer shall coordinate with ML&P Power Dispatch Center for specific operational instructions and issues.

2. Direct Digital Control

- a. Direct digital control (supervisory control) of unit output from ML&P's Power Dispatch Center may be required if the unit is to be dispatchable by ML&P under agreement.

3. Power System Stabilizer

- a. A power system stabilizer (PSS) control system may be required to provide necessary stability to the electrical system when system power oscillations occur.
- b. The necessity of a PSS will depend on the generator capacity and characteristics, the location of the interconnection to the ML&P system, and the system voltage level at the point of interconnection.

Section 400 - Equipment Specifications and Design Requirements

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

N. Equipment Summary for Class D Facilities

Following is an interconnection equipment requirements summary for Class D facilities

- Bi-directional Metering: Required
- Generator Output Metering: Required, refer to Section 403
- Paralleling Device: Required
- Manual Interconnection Disconnect Device: Required
- Dedicated Interconnection Transformer: Required
- Under-voltage Protection: Required
- Over-voltage Protection: Required
- Under-frequency Protection: Required
- Over-frequency Protection: Required
- Ground-fault Protection: Required
- Transfer Trip Capability: Required
- Phase-fault Protection: Required
- Telemetry Capability: Required
- Power Quality Monitoring: May be required; will be determined on a case-by-case basis
- Voice and Data Communication Capability: Required
- Operational Data Logging: Required, refer to Section 419, subsection L
- Export Power Control Equipment: May be required; will be determined on a case-by-case basis
- Automatic Synchronizing w/ Relay Supervision: Required for facilities with synchronous and similar type generators; may be required for facilities with power converters
- Speed Matching Relaying: Required for facilities with induction generators

Section 400 - Equipment Specifications and Design Requirements

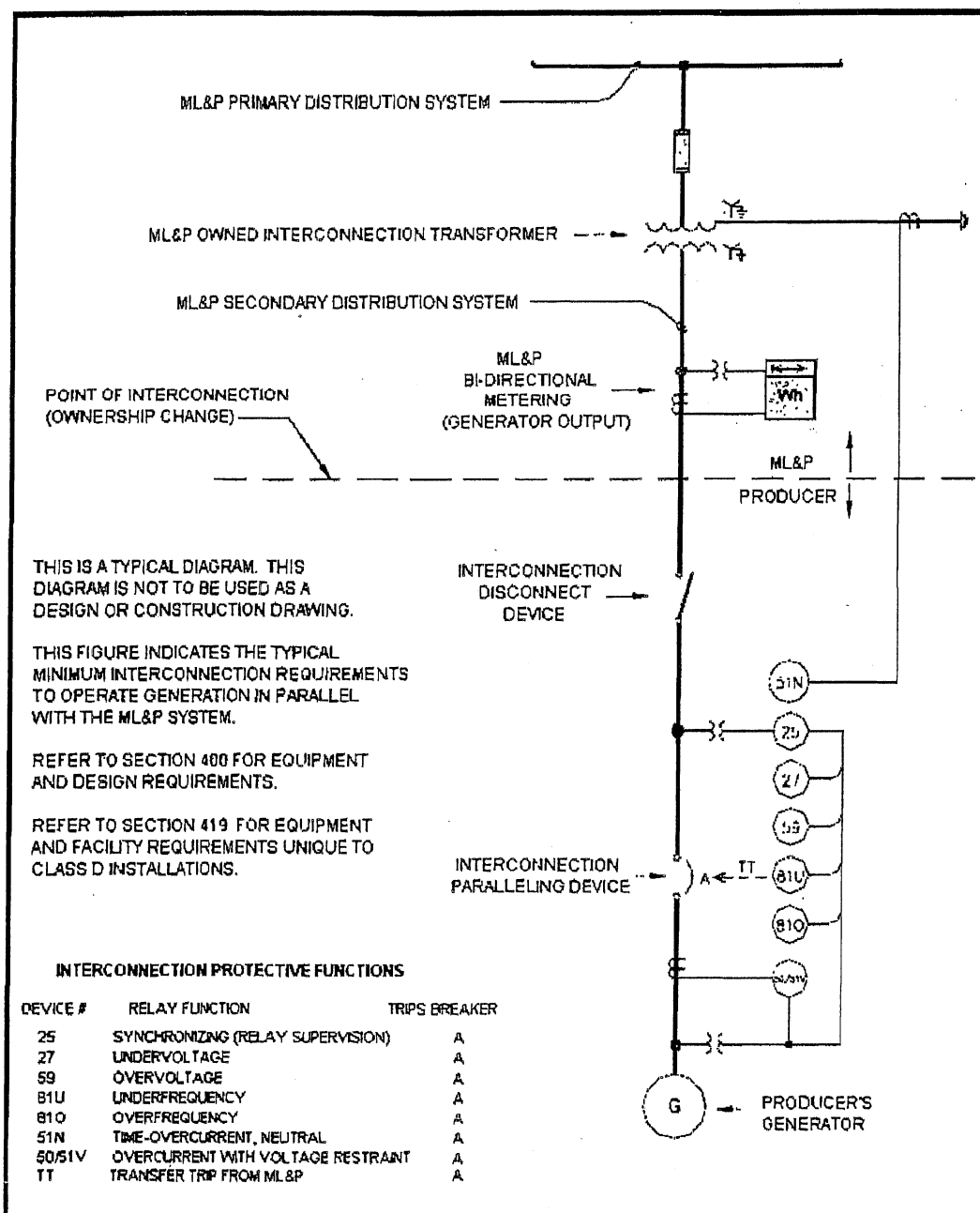


FIGURE D-1

TYPICAL SECONDARY SYSTEM INTERCONNECTION
CLASS D FACILITIES (1000 kVA TO 5000 kVA)

DRAWING NUMBER MLP_FIGD-1

SHEET 1 OF 1

Section 400 - Equipment Specifications and Design Requirements

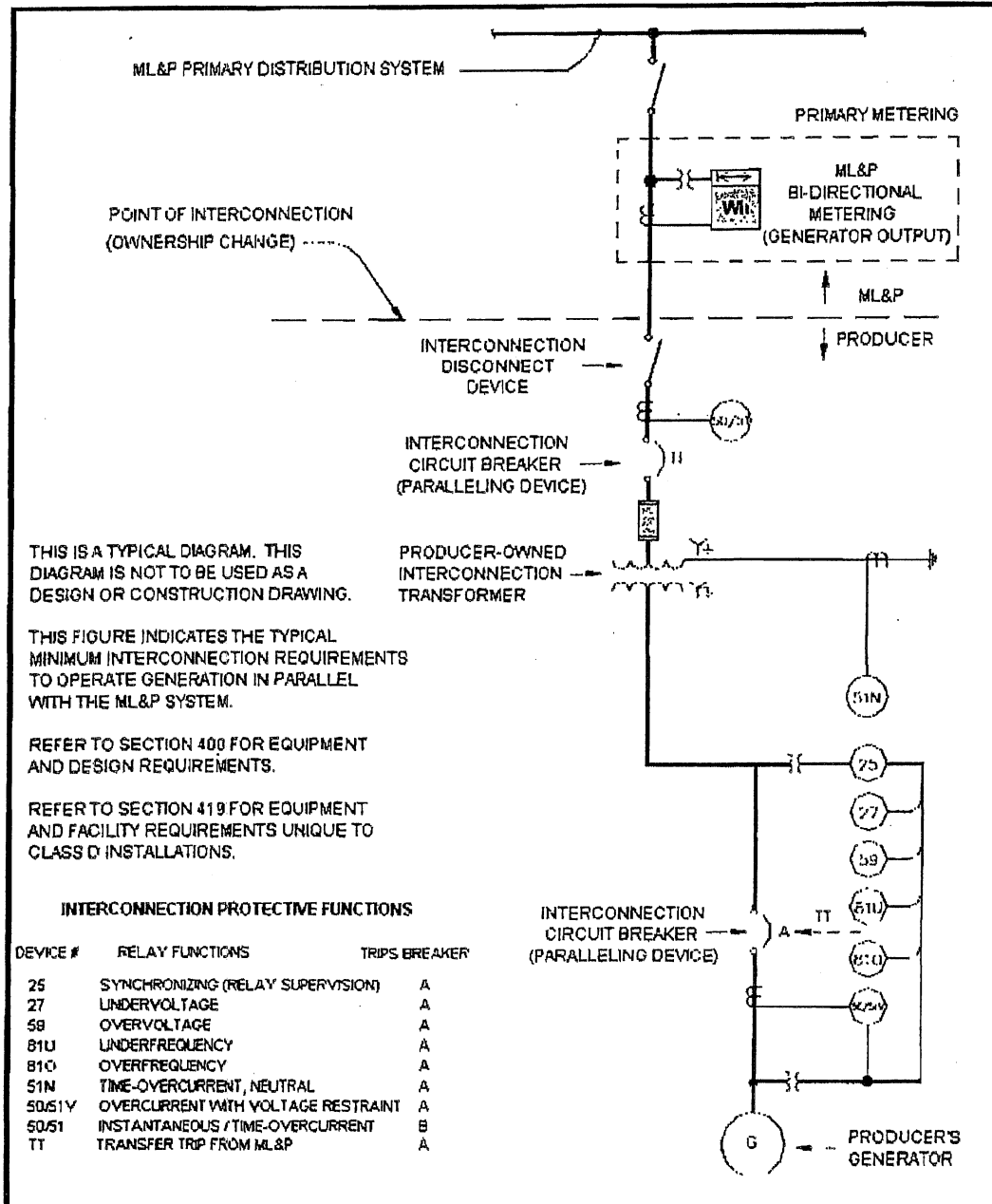


FIGURE D-2

TYPICAL PRIMARY SYSTEM INTERCONNECTION
CLASS D FACILITIES (1000 kVA TO 5000 kVA)

DRAWING NUMBER MLP_FIGD-2

SHEET 1 OF 1

RECEIVED

AUG 15 2016

Section 400 - Equipment Specifications and Design Requirements

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

420 Voice and Data Communications

The capability to make direct verbal communications via telephone with the producer or the operator of producer's facility is required for all facility classifications. Voice communications shall be provided so that operating instructions or notification of system conditions can be given to the producer or any designated operator of the producer's equipment as necessary. Accordingly, the producer is required to provide a 24-hour accessible voice contact telephone number to ML&P.

For Class C and D facilities, data communications capability is required so that electronic data and/or operating instructions can be transferred between ML&P and the producer's facility as necessary.

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

RESERVED

Section 500 - Interconnected Operating Requirements**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA****501 General Operating Requirements**

The general operating requirements and criteria contained in this section apply to all non-utility generating facilities interconnected to the ML&P electric power system. Any producer operating outside of these requirements, unless provided express permission by ML&P, will not be permitted to operate in parallel with ML&P and will be responsible for any and all remedial actions and associated costs prior to gaining approval for parallel operation. The consequences for failing to meet any of these requirements are immediate disconnection and payment of all associated costs.

502 Insurance Requirements

The producer (owner) shall maintain general liability insurance coverage through a standard homeowner's policy or a standard commercial business policy for Class A - NET, Class A, and Class B facilities.

Producers (owners) of non-utility generation facilities classified as either Class A - NET or Class A facilities shall maintain a liability insurance policy in an amount no less than \$300,000.00. Producers (owners) of non-utility generation facilities classified as Class B facilities shall maintain a liability insurance policy in an amount no less than \$500,000.00.

Producers (owners) of non-utility generation facilities classified as either Class C or Class D facilities shall provide comprehensive general liability insurance coverage appropriate to the system design and capacity as determined by ML&P.

The producer (owner) shall provide ML&P with an up-to-date copy of the insurance policy declarations page prior to interconnecting non-utility generating equipment. The producer (owner) shall be obligated to furnish a copy of the insurance policy declarations page on an annual basis as long as the non-utility generating equipment is interconnected with the ML&P system.

The producer (owner) shall notify ML&P immediately by telephone and in writing within twenty-four hours after the occurrence of any accident as a result of the producer's (owner's) non-utility generating activities.

Required insurance does not relieve or release the producer (owner), its agents, subcontractors, and invitees from, or to limit their liability as to any and all obligations that result from non-utility generator operation.

503 Approval for Parallel Operation

The producer may not commence parallel operation of generating facilities without final written approval from ML&P. ML&P shall have the right to require inspection or witness testing of the producer's equipment or devices associated with the interconnection by qualified third parties.

Section 500 - Interconnected Operating Requirements

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

504 Discontinuance of Parallel Operation

The producer shall discontinue parallel operation when requested by ML&P:

- To facilitate maintenance, test, or repair of utility facilities;
- During system emergencies;
- When the producer's generating equipment is interfering with ML&P customers and/or other power producers connected to the ML&P electric power system grid;
- When an inspection of the producer's generating equipment reveals either a lack of adequate equipment maintenance necessary to protect ML&P's electric power system or conditions that could be hazardous to the ML&P system.

When a producer-owned interconnection transformer exists as part of non-utility generation facilities, and when a producer discontinues parallel operation with the ML&P system, the producer-owned transformer shall be disconnected from ML&P's system. The producer-owned interconnection transformer shall not be re-connected to ML&P's system until such time as the non-utility generator is ready to resume service.

505 Islanded Operations

Unless expressly approved by ML&P, non-utility generators may not operate in an islanded mode with any portion of the ML&P electric power system. Once the ML&P circuit(s) connecting the producer's generating facility is de-energized, for any reason, the producer shall disconnect from the ML&P system and shall not be permitted to reconnect to it until ML&P has re-energized its system, as detailed in Section 511.

506 Voltage Levels & Fluctuations

Per IEEE Std. 1547, Parts 4.1 and 4.2, the producer's voltage (at the point of interconnection) and interconnection equipment shall adhere to the ratings and recommendations contained in the most recent ANSI C84.1 Standard. When operating in parallel with the ML&P system, the producer's voltage must be maintained within ± 5 percent of the standard ML&P system voltage at the point of interconnection.

Voltage fluctuations may be noticeable as visual lighting variations (flicker) and can cause damage to, or disrupt the operation of electronic equipment. The producer shall adhere to the requirements of IEEE Std. 1547, Part 4.3 regarding power quality.

Section 500 - Interconnected Operating RequirementsSTATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**507 Voltage Regulation and Reactive Power Requirements**

Operation of the producer's generator must not adversely affect the voltage regulation of ML&P's electric power system. Per IEEE Std. 1547, Part 4.1.1, the producer shall not actively regulate ML&P system voltage at the point of interconnection, and shall not cause ML&P system voltage to deviate from the requirements of ANSI C84.1, Range A.

Facilities with synchronous generators shall provide sufficient generator reactive power capacity to withstand normal voltage changes on the ML&P system. The generator reactive power requirements, voltage regulation, and transformer ratio settings will be jointly determined by ML&P and the producer to ensure intersystem coordinating and operating capability. Producers are required to provide their own reactive power requirements in order to generate within the specified power factor range.

The parallel operation of the producer's generating equipment with the ML&P system will not, under any circumstance, be permitted to cause any reduction in the quality of service being provided to ML&P customers.

508 Generator Droop Requirements

Governor characteristics shall be set to provide a 5 percent droop characteristic (a 0.15 Hz change in the generator speed will cause a 5 percent change in the generator load). Governors must be operated unrestrained to ensure that droop will not exceed 5% and that system frequency is properly regulated.

509 Harmonics

Harmonic distortion is defined as the ratio of the root mean square (rms) value of the harmonic to the rms value of the fundamental voltage or current (refer to IEEE Standard 519). Distortion of the harmonic content of voltage and/or current waveforms can cause telecommunication interference, disable solid-state equipment, overheat transformers, and create resonant overvoltages. In order to protect ML&P's equipment as well as the equipment of ML&P's customers from damage, harmonic distortion must be maintained within acceptable limits.

The producer shall not exceed the harmonic limits for electric current contained in IEEE Std. 1547, Part 4.3.3. In addition, the producer shall not produce voltage distortion in excess of the limits specified in IEEE Std. 519, Section 11.5. ML&P advises that the producer consider and account for harmonics in the early stages of facility planning and design.

If excessive harmonic distortion is suspected, voltage and current distortion measurements will be performed to determine whether the producer's equipment is a source of, or contributor to, excessive distortion. If the producer's facility is found to be the source of excessive harmonic distortion, the producer will be billed for the investigation costs, and will be held responsible for corrective action to bring the harmonic content within the referenced limits.

AUG 15 2016

510 Power Factor Requirements

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

ML&P requires that all interconnected non-utility generation maintain power factors within the range of 0.95 lagging and 0.95 leading at the point of interconnection. Producers are responsible for providing the reactive power necessary to maintain power factors within the specified range when operating in parallel with ML&P's electric power system. In certain cases, producers may contract with ML&P for the provision of ancillary services for reactive power support in order to maintain operation within the specified limits.

511 Coordination with the ML&P Protective System

The proper coordination of the producer's interconnection protective functions with the ML&P protection system is of critical importance to the safety and reliability of ML&P's electric power system. Accordingly, parallel operation will not be authorized or allowed until all required interconnection protective functions and settings have been reviewed and approved by ML&P, and properly coordinated with the ML&P protective system. Specifics on required protective functions and settings can be found in Sections 404, 407, 408, 409, 410, 414, 417, 418, and 419.

Because most short circuits (faults) on overhead lines are of a temporary nature, ML&P employs the use of automatic circuit reclosers (ACR) to automatically reclose circuit breakers on faulted lines one or more times within a few electrical cycles after they have tripped. This practice improves the continuity of service to ML&P customers by allowing temporary faults to clear before primary protective devices operate to de-energize all or portions of the circuit.

The protective relays specified by ML&P for parallel generation interfaces are intended to disconnect the producer's generation from faulted or isolated lines before reclosing occurs.

To ensure that ML&P's system protection equipment operates properly, the producer's protective equipment shall be set to sense ML&P system fault conditions and discontinue parallel operation with ML&P before ML&P automatic circuit reclosing occurs. **The producer shall not resume parallel operation until:**

- A) A period of five (5) minutes has transpired following the initial sensing of a fault condition, or.
- B) ML&P provides authorization to resume parallel operation.

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**Section 500 - Interconnected Operating Requirements****512 Interconnection Equipment Maintenance**

The producer shall maintain its interconnection and interface equipment in good order. ML&P reserves the right to inspect all such equipment at any time. ML&P also reserves the right to inspect the producer's facilities whenever it appears that the producer is operating in a manner unacceptable or hazardous to the integrity of the ML&P system, or outside of the operating limits specified in these guidelines or contained in any interconnection agreements.

The producer is responsible for ensuring and maintaining the safe and operational condition of all interconnection equipment located on the producer's side of the interconnection. Maintenance records, procedures, and results shall be made available for ML&P's review and records as required. Depending upon the characteristics and utilization characteristics of the facility, ML&P may elect to observe and inspect maintenance work in order to assure the safety and integrity of the interconnection. For large generation installations, specific scheduling and interval requirements for interconnection equipment maintenance may be formulated within interconnection agreements. Such maintenance requirements may be based on equipment duty, number of operations, ambient conditions, etc. The producer shall coordinate and schedule maintenance on interconnection equipment with ML&P to ensure the safety of ML&P personnel and to minimize the disruption of electric service to ML&P customers.

513 Protective Systems Functional Testing

The producer's facilities shall meet the testing criteria contained in IEEE Std. 1547.1 "IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems" and the producer shall grant ML&P the right to observe functional testing of the producer's facilities.

Periodic functional testing of protective equipment (i.e., circuit breakers, switches, disconnect devices, protective relaying, etc.) shall be defined and coordinated with ML&P within an interconnection agreement between ML&P and the producer. Generally, functional testing of protective relay settings and interconnection circuit breaker operations shall be performed by the producer every three (3) years. Documented test results shall be provided to ML&P within five (5) working days after the completion of tests. The producer is responsible to ensure that protective relaying and control systems have available and accessible sensing input terminals or test ports, in order to perform and validate functional testing (see Section 414: Protection & Control System Testing Conformance). The producer shall grant ML&P the right to review and modify the functional testing requirements, as necessary, during the life of the facility.

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

APPENDICES

APPENDIX A

**APPLICATION FOR INTERCONNECTION:
CLASS A - NET FACILITIES**

RECEIVED**AUG 15 2016**

MUNICIPAL LIGHT & POWER
Interconnection Application for Non-Utility Generation:
Class A - NET Facilities

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Who Should File This Application: Any customer wishing to operate electrical generation facilities, rated up to 25 kVA, interconnected with the ML&P electric power system, and meets the eligibility requirements of the State of Alaska Net Metering Standards, 3 AAC 50.920. This application should be completed as soon as possible and returned to ML&P's Engineering Division Service Extension Coordinator in order to begin processing the request.

Application Use: This application is used by ML&P to perform an interconnection study to determine the specific interconnection requirements at the applicant's proposed facility location. Should additional information be required to perform this study, the applicant shall provide such as requested by ML&P.

Further Action: The preliminary interconnection study performed by ML&P will determine the need for submittal of a final interconnection application for Non-Utility Generation.

OWNER/APPLICANT INFORMATION		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
PROPOSED LOCATION OF GENERATING FACILITIES AND INTERCONNECTION		
Address:		
PROJECT DESIGN / ENGINEERING		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
ELECTRICAL CONTRACTOR		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
GENERATOR DATA		
Manufacturer:		Model:
Type (Synchronous, Induction, Converter, etc.):		Phases (1 or 3):
Rated Output:	Windings (Delta, Wye):	Frequency:
Rated Power Factor (%):	Rated Voltage (Volts):	Rated Current (Amperes):
Prime Energy Source (natural gas, steam, hydro, etc.):		
ESTIMATED LOAD INFORMATION		
The following information will be used to help properly design the applicant's interconnection. This information is not intended as a commitment or contract for billing purposes.		
Minimum anticipated load (generation not operating) kW:		kVA:
Maximum anticipated load (generation not operating) kW:		kVA:
ESTIMATED CONSTRUCTION START/COMPLETION DATES		
Start Date:		Completion Date:

Form No. MLP-A-NET (7/2010) Interconnection Application for Non-Utility Generation - Class A-NET, front

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION**

Attach a one-line diagram showing the applicant's switchgear, transformers, and generation facilities. Provide a general description of the manner of operation of the generation.

SIGNATURE AREA:_____
Applicant Signature_____
Date**Information below to be filled out by ML&P Representative**

ML&P Representative:

Name of Project:

ML&P service point location (attach service map if available):

Form No. MLP-A-NET (7/2010) Interconnection Application for Non-Utility Generation - Class A-NET, back

APPENDICES

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

APPENDIX B

**APPLICATION FOR INTERCONNECTION:
CLASS A AND B FACILITIES**

RECEIVED**AUG 15 2016**

MUNICIPAL LIGHT & POWER
Interconnection Application for Non-Utility Generation:
Class A and B Facilities

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Who Should File This Application: Any customer wishing to operate electrical generation facilities, rated up to 100 kVA, interconnected and operating in parallel with the ML&P electric system. This application should be completed as soon as possible and returned to ML&P's Engineering Division Service Extension Coordinator in order to begin processing the request.

Application Use: This application is used by ML&P to perform an interconnection study to determine the specific interconnection requirements at the applicant's proposed facility location. Should additional information be required to perform this study, the applicant shall provide such as requested by ML&P.

Further Action: The preliminary interconnection study performed by ML&P will determine the need for submittal of a final interconnection application for Non-Utility Generation.

OWNER/APPLICANT INFORMATION		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
PROPOSED LOCATION OF GENERATING FACILITIES AND INTERCONNECTION		
Address:		
PROJECT DESIGN / ENGINEERING		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
ELECTRICAL CONTRACTOR		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
GENERATOR DATA		
Manufacturer:		Model:
Type (Synchronous, Induction, Converter, etc.):		Phases (1 or 3):
Rated Output:	Windings (Delta, Wye):	Frequency:
Rated Power Factor (%):	Rated Voltage (Volts):	Rated Current (Amperes):
Prime Energy Source (natural gas, steam, hydro, etc.):		
ESTIMATED LOAD INFORMATION		
The following information will be used to help properly design the applicant's interconnection. This information is not intended as a commitment or contract for billing purposes.		
Minimum anticipated load (generation not operating) kW:		kVA:
Maximum anticipated load (generation not operating) kW:		kVA:
ESTIMATED CONSTRUCTION START/COMPLETION DATES		
Start Date:		Completion Date:

Form No. MLP-1A-02 (7/2010) Interconnection Application for Non-Utility Generation - Class A and B

RECEIVED

AUG 15 2016

DESCRIPTION OF PROPOSED INSTALLATION AND OPERATIONSTATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Attach a one-line diagram showing the applicant's switchgear, transformers, and generation facilities. Provide a general description of the manner of operation of the generation (cogeneration, emergency power, etc). Also, indicate the intended utilization of the interconnected generating facility (i.e., sales to ML&P, sales to a third party, etc.). If there is intent to sell power or provide ancillary services, define the target markets and locations, if available.

SIGNATURE AREA:_____
Applicant Signature_____
Date**Information below to be filled out by ML&P Representative**

ML&P Representative: _____

Name of Project: _____

ML&P service point location (attach service map if available): _____

Form No. MLP-1A-02 (7/2010) Interconnection Application for Non-Utility Generation - Class A and B

APPENDICES

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

**APPENDIX C
APPLICATION FOR INTERCONNECTION:
CLASS C AND D FACILITIES**

RECEIVED**AUG 15 2016**

MUNICIPAL LIGHT & POWER
Interconnection Application for Non-Utility Generation:
Class C and D Facilities

STATE OF ALASKA
 REGULATORY COMMISSION OF ALASKA

Who Should File This Application: Any customer wishing to operate electrical generation facilities, rated 100 kVA to 5000 kVA, interconnected and operating in parallel with the ML&P electric system. This application should be completed as soon as possible and returned to ML&P's Engineering Division, Service Extension Coordinator in order to begin processing the request.

Application Use: This application is used by ML&P to perform an interconnection study to determine the specific interconnection requirements at the applicant's proposed facility location. Should additional information be required to perform this study, the applicant shall provide such as requested by ML&P.

Design Information Submittal: In addition to the items listed in this form, please include the design information submittal items as outlined in Section 301: Design Documentation and Information of ML&P's Interconnection and Operating Requirements for Non-Utility Generation.

OWNER/APPLICANT INFORMATION		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
PROPOSED LOCATION OF GENERATING FACILITIES AND INTERCONNECTION		
Address:		
PROJECT DESIGN / ENGINEERING		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
ELECTRICAL CONTRACTOR		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
ESTIMATED LOAD INFORMATION		
The following information will be used to help design the ML&P-Producer interconnection. This information is not intended as a commitment or contract for billing purposes.		
Minimum anticipated load (generation not operating)		
_____ kVA	_____ Duration (indicate hours, minutes, etc)	
Maximum anticipated load (generation not operating)		
_____ kVA	_____ Duration (indicate hours, minutes, etc)	

Form No. MLP-FA-02 (7/2001) Interconnection Application for Non-Utility Generation - Class C and D, Page 1

(Complete all applicable items. Copy this page as required for additional generators.)			
SYNCHRONOUS GENERATION DATA			
Unit Number:	Total number of units with listed specifications on site:		
Manufacturer:			
Type:	Manufacture Date:	Windings (Delta, Wye):	
Serial Number (each):			
Phases: 1 or 3	Speed (RPM):	Frequency (Hz):	
Rated Output (each unit) Kilowatt:		Kilovolt-Ampere:	
Rated Power Factor (%):	Rated Voltage (Volts):	Rated Current (Amperes):	
Field Voltage (Volts):	Field Current (Amperes):	Motoring Power (kW):	
Synchronous Reactance:	Xd:	Xq:	% on kVA base
Transient Reactance:	Xd':	Xq':	% on kVA base
Subtransient Reactance:	Xd'':	Xq'':	% on kVA base
Zero Sequence Reactance:	Xo:		% on kVA base
Negative Sequence Reactance:	X2:		% on kVA base
Neutral Grounding Impedance:	Rn:	Xn:	% on kVA base
Inertia constant, H (joules/VA):			
I2t or K (heating time constant):			
Exciter data:			
Governor data:			
Additional Information:			
INDUCTION GENERATOR DATA			
Unit Number:	Total number of units with listed specifications on site:		
Manufacturer:			
Type:	Manufacture Date:	Windings (Delta, Wye):	
Serial Number (each):		Speed (RPM):	
Rotor Resistance, Rr, (Ohms):		Stator Resistance, Rs, (Ohms):	
Rotor Reactance, Xr, (Ohms):		Stator Reactance, Xs, (Ohms):	
Magnetizing Reactance, Xm, (Ohms):			
Design Letter:	Frame Size:		
Exciting Current:	Temp Rise (deg C):	H constant, (joules/VA):	
Rated Output (kW):			
Reactive Power Required	kVAR (no load):	kVAR (full load):	
If this is a wound-rotor machine, describe any external equipment to be connected (resistor, rheostat, power converter, etc.) to rotor circuit, and circuit configuration. Describe ability, if any, to adjust generator reactive output to provide power system voltage regulation.			
Additional Information:			

Form No. MLP-FA-02 (7/2010) Interconnection Application for Non-Utility Generation - Class C and D, Page 2

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

PRIME MOVER (Complete all applicable items)				
Unit Number:		Type:		
Manufacturer:				
Serial Number:		Manufacture Date:		
Rated Horsepower (H.P.):		Max. Horsepower (H.P.):		Inertia constant, (lb.-ft ²):
Energy Source (fuel; hydro, steam, natural gas, etc.):				
TRANSFORMER (If applicable)				
Manufacturer:		kVA:		
Date of Manufacture:		Serial No.		
High Voltage: kV		Connection: delta wye		Neutral solidly grounded?
Low Voltage: kV		Connection: delta wye		Neutral solidly grounded?
Transformer Impedance, Z:		% on		kVA base
Transformer Resistance, R:		% on		kVA base
Transformer Reactance, X:		% on		kVA base
Neutral Grounding Impedance:		Rn:	Xn:	% on kVA base
POWER CONVERTER DATA (If applicable)				
Manufacturer:		Model:		
Date of Manufacture:		Serial No.		
Rated Power Factor (%):		Rated Voltage (Volts):		Rated Current (Amperes):
Converter Type (Ferro resonant, step, pulse-width modulation, etc.):				
Type of commutation: forced line		Minimum Short Circuit Ratio required:		
Minimum voltage for successful commutation:				
Current Harmonic Distortion:		Maximum Individual Harmonic (%):		
		Maximum Total Harmonic Distortion (%):		
Voltage Harmonic Distortion:		Maximum Individual Harmonic (%):		
		Maximum Total Harmonic Distortion (%):		
Describe capability, if any, to adjust reactive output to provide voltage regulation:				
NOTE: Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.				
POWER CIRCUIT BREAKER (If applicable)				
Manufacturer:		Model:		
Rated Voltage (kilovolts):		Rated Ampacity (Amperes):		
Interrupting Rating (Amperes):			BIL Rating:	
Interrupting Medium (vacuum, oil, gas, etc.)		Insulating Medium (vacuum, oil, gas, etc.)		
Control Voltage (Closing):		(Volts)	AC	DC
Control Voltage (Closing):		(Volts)	AC	DC Battery Charged Capacitor
Close Energy:		Spring	Motor	Hydraulic Pneumatic Other
Trip Energy:		Spring	Motor	Hydraulic Pneumatic Other
Bushing Current Transformer (Max ratio):		Relay Accuracy Class:		
Multi Ratio?		No	Yes	If yes, available taps:
ESTIMATED CONSTRUCTION SCHEDULE				
Start Date:		Completion Date:		

Form No. MLP-FA-02 (7/2010) Interconnection Application for Non-Utility Generation - Class C and D. Page 3

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

The information submitted in this application will remain active and valid for a period of 12 months from the date the Application is signed. If, after this 12-month period, ML&P does not receive a request for authorization to operate in parallel or reasonable proof that the project is going forward, then the applicant will be considered as "withdrawn" and the application will be cancelled.

Form No. MLP-FA-02 (7/2010) Interconnection Application for Non-Utility Generation - Class C and D, Page 4

APPENDICES

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

APPENDIX D. CODES AND STANDARDS

APPENDICES

Codes and Standards

This appendix is a partial list of codes and standards referenced in the Interconnection Requirements.

The National Fire Protection Association:

- The National Electrical Code (NEC), (NFPA-70)

Institute of Electrical and Electronics Engineers (IEEE)

- ANSI/IEEE C37.90, IEEE Standard for Relay Systems Associated with Electric Power Apparatus.
- ANSI/IEEE C37.95, IEEE Guide for Protective Relaying of Utility-Consumer Interconnections.
- ANSI C62.1, Surge Arresters for AC Power Circuits.
- ANSI C84.1, American National Standards for Electric Power Systems and Equipment Ratings (60 Hertz). Establishes nominal voltage ratings and operating tolerances for 60 Hz electric power systems from 100 V through 230 kV.
- IEEE Std. 142, IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems.
- IEEE Std. 242 Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems.
- IEEE 519, IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems.
- ANSI/IEEE Std. 929, Recommended Practice for Utility Interface of Photovoltaic (PV) Systems.
- IEEE 1547, Standard for Distributed Resources Interconnected with Electric Power Systems.
- IEEE P1547.1, Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems.
- IEEE P1547.2, Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems.
- IEEE P1547.3, Guide for Monitoring Information Exchange and Control of DR Interconnected with Electric Power Systems.
- IEEE P1561, Draft Guide for Sizing Hybrid Stand-Alone Energy Systems.

APPENDICES**Codes and Standards**National Electrical Testing Association (NETA)

NETA promotes the independent electrical testing industry by establishing testing standards and specifications and training and certifying testing technicians.

National Electrical Manufacturers Association (NEMA)

A nonprofit trade association supported by the manufacturers of electrical apparatus and supplies. NEMA is engaged in standardization to facilitate understanding between the manufacturers and users of electrical products.

Underwriters Laboratories (UL)

UL is a private, not-for-profit organization that has evaluated products, materials and systems in the interest of public safety since 1894. UL has become the leading safety testing and certification organization in the U.S., and its label is found on products ranging from toaster ovens to inverters to some office furniture. Although UL writes the testing procedures, other organizations may do the actual testing and certification of specific products. In addition to UL, other testing labs such as ETL SEMKO (ETL), and the Canadian Standards Association (CSA) are widely recognized listing agencies for electrical components.

- UL Standard 1741, Inverters, Converters and Controllers for Use in Independent Power Systems, covers requirements and testing procedures for inverters, converters, charge controllers, and output controllers intended for use in standalone (not grid connected) or utility-interactive (grid connected) power systems. Utility interactive inverters and converters are intended to be installed in parallel with an electric distribution system to supply common loads. UL 1741 comports to IEEE Std. 929 to cover inverters used for sources other than photovoltaics and to cover controllers that might provide similar capabilities for synchronous and induction machines.
- UL Standard 200, Standard for Safety Stationary Engine Generator Assemblies, covers stationary engine generator assemblies, including micro-turbines, rated at 600 volts or less.

Glossary

For industry standard definitions of electric industry terminology not contained in this glossary, please refer to the IEEE Standard Dictionary of Electrical and Electronic Terms, IEEE Standard 100.

A

Abnormal Voltage: Voltage that is outside of the standard ML&P nominal voltage level.

AC: The abbreviation for alternating current.

Access, Accessible: "Access" means capability of being reached quickly for operating, reading, repairing, removing, testing, inspecting, or installing meters, transformers, switches, conductors, electrical enclosures, and related equipment without requiring those for whom access is required to climb over or remove obstacles, to unlock doors, to dismantle fences or gates, and so forth. Accessible equipment is not guarded by architectural enhancements, dogs, elevation, locks, parked vehicles, structures, or other impediments.

Active Anti-Islanding Scheme: A control scheme installed within a generating facility that senses and prevents the formation of an unintended island.

Ampere (Amp): The practical unit of electric current. One ampere is the current caused to flow through a resistance of one ohm by one volt.

ANSI: American National Standards Institute

Applicant: The entity submitting an application for interconnection pursuant to these requirements.

Application: An ML&P-approved standard form submitted to ML&P for interconnection of a generating facility.

Approved: As used in these requirements, the term "approved" means authorized, sanctioned, permitted, or specified by ML&P. In most cases, the approval will be in written or published form.

Area Electric Power System (Area EPS): an electric power system that serves Local EPSs. In ML&P's service area, ML&P is the Area EPS.

Automatic: Self-acting, operated by its own mechanism when actuated by some impersonal influence as, for example, a change in current strength; not manual; without personal intervention.

Automatic Circuit Recloser:

(A) A self-controlled device for automatically interrupting and reclosing an alternating current circuit with a predetermined sequence of opening and reclosing, followed by resetting, hold closed or lockout (ANSI C37.60).

(B) A relay that controls the automatic reclosing and locking out of an AC circuit interrupter.

Automatic Control: An arrangement of electrical controls which provide for opening and/or closing in an automatic sequence and under predetermined conditions; the switches which then maintain the required character of service and provide adequate protection against all usual operating emergencies.

Available Fault Contribution: The maximum current that can be supplied to a fault (short-circuit).

Glossary

B

Back Feed: A condition where a device introduces voltage and/or current onto the system that is normally the source.

Bi-directional Metering: Metering of the power delivered by ML&P to the customer and the power produced by the customer and received by ML&P. Bi-directional meters deployed by ML&P are solid state, billing quality devices meeting the requirements of ANSI C12.1 and ANSI C12.10, and are equipped with separate registers for delivered power and received power. See Net Energy Metering.

Block-Loaded: Loading of a generator in discrete steps to a specific power level.

Breaker: See 'Circuit Breaker'.

C

Capacity:

(1) The amount of current, in amperes of electric current a wire will carry without becoming unduly heated;

(2) The capacity of a machine, apparatus, or device, typically given in volt-amperes (VA) or watts, the maximum of which it is capable under existing service conditions;

(3) The load for which a generator, turbine, transformer, transmission circuit, apparatus, station, or system is rated.

Certification; Certified; Certificate: The documented results of a successful Certification Test.

Certified Equipment: Equipment that has passed all required Certification Tests.

Circuit: An interconnection of electrical elements.

Circuit Breaker: A switching device capable of making, carrying, and breaking currents under normal circuit conditions and also making, carrying for a specified time, and breaking currents under specified abnormal conditions, such as those of a short circuit. As it relates to interconnected operation, this is the "paralleling device" referenced in IEEE Standard 1547.

Clearance (Working): As it relates to ML&P's electric power system, a clearance is a condition achieved when all known hazardous energy sources are isolated, a zero energy state is present, energy control points are locked or physical barriers are in place and the control points are properly red-tagged. A clearance ensures the isolation of all electrical energy sources and/or provides a mechanical block of other energy sources from personnel when equipment or systems are taken out of service for inspection, maintenance, modification or repairs. Clearances can only be issued by ML&P's Distribution and Power Dispatch Center.

Glossary

Cogeneration Facility: Equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam) used for industrial, commercial, heating, or cooling purposes through the sequential use of energy.

Control and Protection: "Control" refers to the methods and means of governing the performance of the generating facilities. "Protection" refers to the system of devices used to detect abnormal operating conditions and to initiate tripping of apparatus.

Converter: A machine or device for changing alternating current (AC) power to Direct Current (DC) power or vice versa, or from one frequency to another.

Current: See ampere.

D

DC: The abbreviation for direct current.

Dedicated Transformer; Dedicated Distribution Transformer: A transformer that provides electricity service to a single customer whether or not that customer has non-utility generation facilities.

Demand: The rate of consumption of energy, usually defined as the average rate over a specified interval of time. Demand may be expressed in kilowatts, kilovolt-amperes, kilovars, or other suitable units.

Demand, Maximum: The highest demand measured over a selected period of time, such as one month. A meter equipped with a demand register measures the maximum average power over an interval of time as a basis for billing.

Direct Transfer Trip: Transfer of a signal to trip circuit breakers at the remote end of a line.

Disconnect Device: A device whereby the conductors of a circuit can be disconnected from their source of supply (IEEE 100-1984).

Distortion Factor (Harmonic Factor): "Distortion Factor" is the ratio of the root mean square of the harmonic content to the root-mean-square of the fundamental quantity, expressed as a percent of the fundamental.

Distributed Generation (DG): Electric generation facilities that connect to ML&P's electric power system through a point of common coupling (PPC).

Distributed Resources (DR): Sources of electric power that are not directly connected to a bulk power transmission system. DR includes both generators and energy storage technologies.

Distribution Service: All services required by, or provided to, a customer pursuant to the approved tariffs of ML&P.

Glossary

Distribution System: The part of ML&P's system including substations, electrical wires, equipment, and other facilities which operate at voltages suitable for delivery of service directly to customers.

Disturbance: An unplanned event (e.g., fault, sudden loss of load or generation, breaker operations, etc.) that produces an abnormal system condition.

Droop: The slope of the prime mover's speed-power characteristic curve. The speed droop, typically five (5) percent, enables interconnected generators to operate in parallel with stable load division.

E

Electric Generator: A machine that transforms mechanical power into electric power. (Refer to Generator).

Electric Power System (EPS): The electric power system owned and operated by ML&P.

Electrical Supply Grid: The system of interconnected generation stations, transmission lines, and distribution systems used to deliver electric power.

Emergency: An "emergency" exists when imminent danger to life is threatened or significant and substantial damage to ML&P, Municipal, or personal property is imminent. See System Emergency.

Energize: To apply voltage to a circuit or piece of equipment; to connect a de-energized circuit or piece of equipment to a source of electric energy.

External Disconnect Switch: An interconnection disconnect device placed at a location external to the customer's premises. The term is usually associated with a Class A - NET metering facility. See Interconnection Disconnect Device.

F

Fault: An unintentional short circuit on an electrical system, between phases or between phase(s) and ground, characterized by high currents and low voltages.

Fault Current: A current that flows from one conductor to ground or another conductor, owing to an abnormal connection (including an arc) between the two.

Feeder: A set of conductors originating at a main distribution center or substation, supplying one or more distribution branch circuits.

Flicker: Impression of fluctuating brightness or color, occurring when the frequency of the observed variation lies between a few hertz (cycles per second) and the flicker threshold (the frequency of intermittent stimulation of the eye at which flicker disappears).

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Glossary

Forced Outage: Any outage resulting from electrical equipment failure, control systems malfunction, a design defect, operator error, or failure of mechanical systems related to the electrical output of a generating facility. A breakdown of the mechanical or electrical equipment that fully or partially curtails the electrical output of the generating facility.

Frequency: The number of cycles occurring in a given interval of time (usually 1 second) in an electric current. Frequency is commonly expressed in hertz.

Frequency Deviation: A change in frequency from 60 hertz caused by a temporary imbalance of generation and load.

Fundamental Voltage: As used in these requirements, the "fundamental voltage" is the voltage level at which an inverter-based interconnection system is designed to operate. The use of the term "fundamental voltage" is based on information presented in IEEE Std. 1547, Part 5.1.2.C.

G

Gang-Operated: A multiple pole switch in which all poles are operated simultaneously.

Generating Facility: A facility wherein electric energy is produced from some other form of energy by means of a suitable converting apparatus, including the generator and all associated equipment owned, maintained, and operated by the producer.

Generator: The physical electrical equipment that produces electric power.

Generator Output Metering: Metering of the gross output of electrical energy and/or power produced by a generator.

Generator Reactive Power Capability: The amount of reactive power (VARs) that a generator can produce or absorb from the electric system to which it is connected.

Grid: A term used by an electric utility to refer to its transmission and/or distribution network.

Gross Nameplate Rating: The total gross generating capacity of a generator or generating facility as designated by the manufacturer of the generator(s).

Ground: A conducting connection, whether intentional or accidental, between an electric circuit or equipment and earth.

Grounding Conductor: A conductor used to connect any equipment device, or wiring system, with a grounding electrode or electrodes.

Grounding Electrode: A conductor embedded in the earth, used for maintaining ground potential on conductors connected to it and for dissipating current conducted to it into the earth.

Ground Fault: An unintentional electric current flow between one or more energized conductors and the ground.

Glossary

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

H

Harmonic: A sinusoidal component of a periodic wave or quantity having a frequency that is an integral multiple of the fundamental frequency.

Harmonic Distortion: Periodic distortion of the sine wave. See Distortion Factor.

Hertz (Hz): The term denoting cycles per second. See Frequency.

Host Load: Electrical power that is consumed by the customer at the property on which the generating facility is located.

Hz: Hertz

I

IEEE: Institute of Electrical and Electronics Engineers.

Instrument Transformer: A transformer that reproduces in its secondary circuit, in a definite and known proportion, the voltage or current of its primary circuit, with the phase relationship substantially preserved.

Interconnection: The physical electrical connection for parallel operation of the producer's generating facility with the ML&P electric system.

Interconnection Disconnect Device: An electrical disconnect device used to isolate non-utility generation equipment from ML&P's electric power system. The interconnection disconnect device serves as a visible open which is critical to establishing working clearances for maintenance and repair work by utility personnel. Where an interconnection disconnect device is external to a customer's premises, it is often referred to as the external disconnect switch. See External Disconnect Switch.

Interconnection Facilities: The electrical wires, switches and related equipment that are required in addition to the facilities required to provide electric distribution service to a customer to allow the interconnection of a generating facility to the electric power system. Interconnection facilities may be integrated into a generating facility or provided separately. Interconnection facilities may be connected to either side of a point of common coupling, as appropriate to their purpose and design.

Interconnection Study: A study to establish the requirements for interconnection of a generating facility.

Interrupting Capacity: The amount of current a switch or circuit breaker can safely interrupt.

Interruption: The loss of electrical supply to one or more consumers or facilities.

Inverter: A device that converts direct current (DC) power to alternating current (AC) power.

Island, Islanded: A condition in which a portion of the ML&P electric power system is, or becomes, separated from the rest of the system, and the separated portion is energized by a local non-utility generator. See Non-islanding.

Glossary

K

KV (kV): The common abbreviation for kilovolts (equal to 1,000 volts). See Volt.

KVA (kVA): The common abbreviation for kilovolt-ampere (equal to 1,000 volt-amperes). The term "kVA" is frequently used to indicate the rated capacity of electrical equipment. See Volt-Ampere.

KVAR (kVAR): The common abbreviation for kilovolt-amperes reactive (equal to 1,000 volt-amperes reactive). See Reactive Volt-Ampere.

KW (kW): The common abbreviation for kilowatts (equal to 1,000 watts). See Watt.

KWH (kWh): The common abbreviation for kilowatt-hours (equal to 1,000 watt hours). See Watt-Hour.

L

Leading Power Factor: A "leading power factor" occurs when reactive power flows in the opposite direction of real power. A generator with a leading power factor supplies real power (watts) while absorbing reactive power (VARs). Conversely, a load having a leading power factor absorbs real power while supplying reactive power.

Letter of Agreement: An agreement between ML&P and a producer that gives certain rights and obligations to effect or end an interconnection.

Line: As used in these requirements, a "line" is the set of conductors of an electric transmission or distribution circuit. Single-phase lines at primary voltage use two conductors in a typical circuit. Three-phase lines use either three conductors (delta) or four conductors (wye) in a typical circuit.

Line Section: That portion of ML&P's electric power system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

Log: A computer file, book, or loose-leaf sheets for recording all station operations, clearances, readings, ratio reports, and other pertinent active daily data.

Losses: Energy that is dissipated before it accomplishes useful work.

M

Manual Disconnect Switch: A "manual disconnect switch" is a device used to disconnect a circuit from the source of power. A manual disconnect switch is operated non-automatically by the direct action of a person.

MW: The common abbreviation for megawatts (equal to 1,000,000 watts). See Watt.

Metering: The measurement and recording of electrical energy (watt-hours) at a point specified by these requirements. See Bi-directional Metering, Generator Output Metering, and Net Energy Metering.

Glossary

Metering Equipment: All equipment related to the metering of electrical energy either delivered to, or received from, the customer and/or producer, including, but not limited to meter socket enclosures, service termination enclosures, CT cabinets, meter disconnects, and any other equipment necessary for utility-style meters.

ML&P: Municipal Light & Power

MOA: Municipality of Anchorage

Momentary Parallel Operation: The interconnection of a generating facility to ML&P's electric power system for one second (60 cycles) or less.

N

Nationally Recognized Testing Laboratory (NRTL): A laboratory accredited to perform the certification testing requirements under these guidelines.

NEC: National Electrical Code

NESC: National Electrical Safety Code

Neutral: A system conductor other than a phase conductor that provides a return path for current to the source. In ML&P's system, neutral conductors are multi-grounded conductors and are typically at zero potential with reference to the earth.

Net Energy Metering: Metering for the receipt and delivery of electricity between a producer and ML&P pursuant to RCA rules. Over a given time frame (typically a month) the difference between these two values yields either net consumption or surplus. For the purposes of these requirements, net energy metering and bi-directional metering are synonymous terms. See Bi-directional Metering.

Net Nameplate Rating: The Gross Nameplate Rating minus the consumption of electrical power of a generator or generating facility as designated by the manufacturer of the generator.

Network Service: More than one electrical feeder providing distribution service at a point of common coupling.

Non-Export; Non-Exporting: Designed to prevent the transfer of electrical energy from the producer to ML&P.

Non-Islanding: Intended to prevent the existence of an island. Non-islanding devices must be designed to detect and disconnect from an unintended island. Reliance solely on under/over voltage and frequency trip is not considered sufficient to qualify as non-islanding. See Island, Islanded.

Non-Utility Generation: Generation facilities that are owned and operated by a person or company other than an electric utility.

Glossary

O

Ohm: The standard unit of resistance of an electric circuit; generally the resistance to the flow of electric current.

One-Line Diagram: An electrical schematic drawing which represents the phases of a three-phase electrical system as a single line.

Open-Transition Mode: A method of switching generation from one system to another without connecting the two systems. This typically is accomplished by employing a transfer switch with break before make contacts (breaks contact with one system before making contact to the other system).

Outage: A condition existing when a line or a station is de-energized.

Output: The energy delivered by a machine or piece of apparatus during its operation.

Overvoltage: Voltage higher than that desired or higher than that for which equipment in question is designed.

P

Paralleling Device: The switchgear or circuit breaker, which is controlled by the producer's interconnection control system. This is the producer's device, which establishes the physical electrical connection for parallel operation with the ML&P system.

Parallel Operation: The operation of a customer owned generator while electrically connected to the ML&P electric grid. Under this condition power can either flow from the ML&P system to the generating facility or vice versa. Parallel operation may be solely for the customer's operating convenience or for the purpose of delivering power to the ML&P electric power system.

Point of Common Coupling (PCC): The transfer point for electricity between the electrical conductors of ML&P and the electrical conductors of the producer.

Point of Interconnection: The point where the load or producer's conductors or those of their respective agents meet the ML&P electric power system (point of ownership change).

Power, Active: The time average of the instantaneous power over one period of the wave. For sinusoidal quantities in a two-wire circuit, it is the product of the voltage, the current, and the cosine of the phase angle between them. For non-sinusoidal quantities, it is the sum of all the harmonic components, each determined as above. In a polyphase circuit it is the sum of the active powers of the individual phases. See Watt.

Power, Apparent: The product of the root-mean-square current and root-mean-square voltage for any waveform. For sinusoidal quantities, apparent power is the square root of the sum of the squares of the active and the reactive powers. See Volt-Ampere.

Glossary

Power, Reactive: For sinusoidal quantities in a two-wire circuit, reactive power is the product of the voltage, the current, and the sine of the phase angle between them with the current taken as reference. With non-sinusoidal quantities, it is the sum of all the harmonic components, each as determined above. In a polyphase circuit, it is the sum of the reactive powers of the individual phases. See Reactive Volt-Ampere.

Power, Real: The term "real power" is synonymous with the term "active power". Real power or active power is measured in watts (W), kW, or MW. Real power used or transmitted over time is measured in kilowatt-hours (kWh) or megawatt-hours (MWh). See power, Active.

Power Factor: The ratio of active power to apparent power. The power factor is considered to be at unity when the voltage and current are in phase.

Primary Distribution System: That part of ML&P's electric power system that distributes power from ML&P's substations to its distribution transformers at medium voltage levels.

Producer: One who produces electrical power and energy. In the context of these requirements, the term "producer" typically refers to the owner and/or operator of non-utility generation.

Protection: All of the protective relays and other equipment which is used to open the necessary circuit breakers to clear lines or equipment when faults or unacceptable operating conditions develop within the electric power system.

Protective Devices: Devices used to protect equipment during abnormal conditions. This includes protective relays, whose function is to detect power system conditions of an abnormal or dangerous nature. It also includes circuit breakers or other interrupting devices used to protect the generator, associated equipment, and the electrical system to which the generation is interconnected.

Protective Relay: A device whose function is to detect system faults, defective lines or apparatus, or other power system conditions of an abnormal or dangerous nature and to initiate appropriate control circuit action.

R

RCA: Regulatory Commission of Alaska.

Reactive Volt-Ampere: The out-of-phase component of the total volt-amperes in a circuit which includes inductive or capacitive reactance. In an AC circuit, reactive volt-amperes are the product of the total volt-amperes and the sine of the angle between the current and voltage. The unit of reactive volt-amperes is the var. VARs may be considered as the imaginary part of apparent power, or the peak power flowing into a reactive load. By convention, positive reactive power is "absorbed" by an inductance and "generated" by a capacitance. Reactive power transferred over time is measured in VAR-hours (VARh). See Power, Reactive.

Readily Accessible: See Access, Accessible.

Real Time (data): Data reported as it happens, with reporting (update) intervals no longer than a few seconds.

Glossary

Reclose: To again close a circuit breaker after it has opened by relay action.

Reconductoring: Replacing the conductor in an existing line. Typically, this involves replacement within higher capacity conductor, or installing an additional conductor in a line.

Relay: A device that is operative by a variation in the condition of one electric circuit to affect the operation of another device in the same or in another electric circuit.

Resonant Overvoltages: Overvoltages caused by harmonics that correspond to a natural resonant frequency of the system.

S

Secondary System: The "secondary system", also referred to as the secondary distribution system, is that part of the electric power system consisting of the secondary output of step-down transformers, service conductors, and utility metering equipment.

Secondary Network: A network supplied by several primary feeders suitably interlaced through the area in order to achieve acceptable loading of the transformers under emergency conditions and to provide a system of extremely high service reliability. Secondary networks usually operate at 600 V or lower.

Separate System: A generating system which has no capability or possibility of connecting to, and operating in parallel with, the ML&P electric power system.

Setting (Protective Relay): The values of current, voltage, or time at which a relay is adjusted.

Shared Secondary: The condition which occurs when a producer interconnects with ML&P on the secondary side of a distribution transformer, and other customers may also be connected to the secondary side of the same transformer.

Short Circuit: An abnormal connection (including an arc) of relatively low impedance, whether made accidentally or intentionally, between two points of different potential (IEEE 100-1984).

Short Circuit Contribution Ratio (SCCR): The ratio of a generating facility's short circuit contribution to ML&P's short circuit contribution for a three-phase fault at the high voltage side of the distribution transformer connecting that generating facility to ML&P's electric power system.

Single-Line Drawing: See One-Line Diagram.

Solid-State Equipment: Equipment that contains electronic components that do not use vacuum or gas filled tubes. Discrete semiconductors (e.g., transistors, diodes, etc.), integrated circuits, or other static components such as resistors and capacitors are used for the electrical functioning of the equipment.

Note: Equipment that uses a cathode ray tube for display purposes, such as a television or computer monitor, may still be considered solid-state if the other components within the equipment are solid-state.

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Glossary

Stabilization, Stability: The return to normalcy of ML&P's electric distribution system, following a disturbance. Stabilization is usually measured as a time period during which voltage and frequency are within acceptable ranges.

Stiffness Ratio: The ratio of system available fault current at the point of interconnection to the full load rated output current of the installation. Refer to IEEE Std. 1547.2-2008, Part 3.1.7 and 3.1.8 for information regarding stiffness ratio.

Supervisory Control: A system by which equipment is operated by remote control at a distance by means of some type of code transmitted by wire or electronic means.

Switch: A device for making, breaking, or changing the connections in an electric circuit.

System: The entire generating, transmitting, and distributing facilities of an electric supply utility.

System Emergency: An actual or imminent condition or situation, which jeopardizes the Distribution System Integrity. See Emergency.

System Integrity: The condition under which ML&P's electric power system is deemed safe and can reliably perform its intended functions in accordance with the policies and procedures of ML&P.

T

Telemetry (Telemetering): Measurement with the aid of a communication channel that permits the measurement to be interpreted at a distance from the primary detector.

Total Harmonic Distortion (THD): This term can be used to define either the voltage or the current distortion factor. Total harmonic distortion is a measurement of all the harmonic distortion present on a particular circuit or piece of equipment. See Distortion Factor.

Transfer Trip: A form of remote trip in which a communication channel is used to transmit the trip signal from the relay location to a remote location.

Transformer: A "transformer" is a device which transfers electrical energy from one electric circuit to another at the same frequency through electromagnetic induction usually with changes of value of the voltage and current. Typically, transformers are used to transform the high voltage of a utility's electric power system to a lower utilization voltage level. See Step-Down Transformer. Transformers are also used to transform the low and medium voltage output of generators to a high voltage level for transmission purposes. See Step-Up Transformer.

Transformer, Primary Side: The "primary side of a transformer" is the source or input side and is usually energized at a high or medium voltage level.

Transformer, Secondary Side: The "secondary side of a transformer" is the load or output side and is usually energized at a low voltage level.

Transformer, Step-Down: A "step-down transformer" is a transformer with high or medium voltage input on the primary side which steps down the voltage to a lower utilization level.

AUG 15 2016

Glossary

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Transformer, Step-Up: A “step-up transformer” is a transformer having an input voltage on the primary side lower than the output voltage on the secondary side. Typically, a step-up transformer is used to raise voltage to a level compatible with a utility’s transmission or distribution system voltage.

Transient: A change from the steady-state condition of voltage or current, or both. Transients can be caused by a lightning strike, a fault, or by switching operation, such as the opening of a disconnect switch, and may be readily transferred from one conductor to another by means of electrostatic or electromagnetic coupling (IEEE 100-1984).

Transmission Line: A line used for electric power transmission. A transmission line is distinguished from a distribution line by voltage level and by its function in the electric power system. Transmission lines are typically rated at 69 kV and above.

Transmission System: That part of ML&P’s electric power system that transmits power from ML&P’s generation facilities to, and between its substations at high voltage levels.

Trip Indication: A display or indication that a circuit breaker has tripped. This indication can be in the form of relay targets, annunciator alarms, sequence-of-events recorder logs, SCADA alarms, etc.

U

Undervoltage Protection: Upon loss or reduction of voltage, the protection device, which interrupts power to the main circuit and maintains the interruption.

Unintended Island: The creation of an island, usually following a loss of a portion of ML&P’s electric power system, without the approval of ML&P.

Uninterruptible Power Supply (UPS): A power conditioning and supply system that provides a continuous source of power to equipment (e.g., computer systems) during short-term power outages or surges.

Unsafe Operating Conditions: Conditions that, if left uncorrected, could result in harm to personnel, damage to equipment, loss of system integrity or operation outside pre-established parameters required by an interconnection agreement.

V

VAR (var): The unit of reactive power in an alternating current circuit equal to the square root of the difference between the squares of the apparent and the active powers. See Reactive Volt-Ampere and see Power, Reactive.

Volt: The practical unit of electromotive force, or potential difference. One volt will cause one ampere to flow when impressed across a one ohm resistor.

Volt-Ampere (VA): A unit of apparent power in an alternating current circuit equal to the product of volts and the total current which flows because of the voltage. In AC circuits with unity power factor, the volt-amperes and the watts are equal. In AC circuits at other than unity power factor, the volt-amperes equal the square root of watts squared plus reactive volt-amperes squared.

Glossary

Voltage Regulation: The control of generator terminal voltage to a predetermined value. This is accomplished using a voltage regulator that controls the amount of current flowing into the generator field winding, which in turn affects the output voltage of the generator.

W

Watt: The practical unit of active power which is defined as the rate at which energy is delivered to a circuit. It is the power expended when a current of one ampere flows through a resistance of one ohm. A watt represents a unit of real electric power as contrasted with a volt-ampere which represents a unit of apparent power.

Watthour (Wh): The practical unit of electric energy which is expended in one hour when the average power during the hour is one watt.

Watthour Meter: An electricity meter that measures and registers the integral, with respect to time, of the active power of the circuit in which it is connected. This power integral is the energy delivered to the circuit during the interval over which the integration extends, and the unit in which it is measured is usually the kilowatthour.

RECEIVED

AUG 15 2016

**STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA**

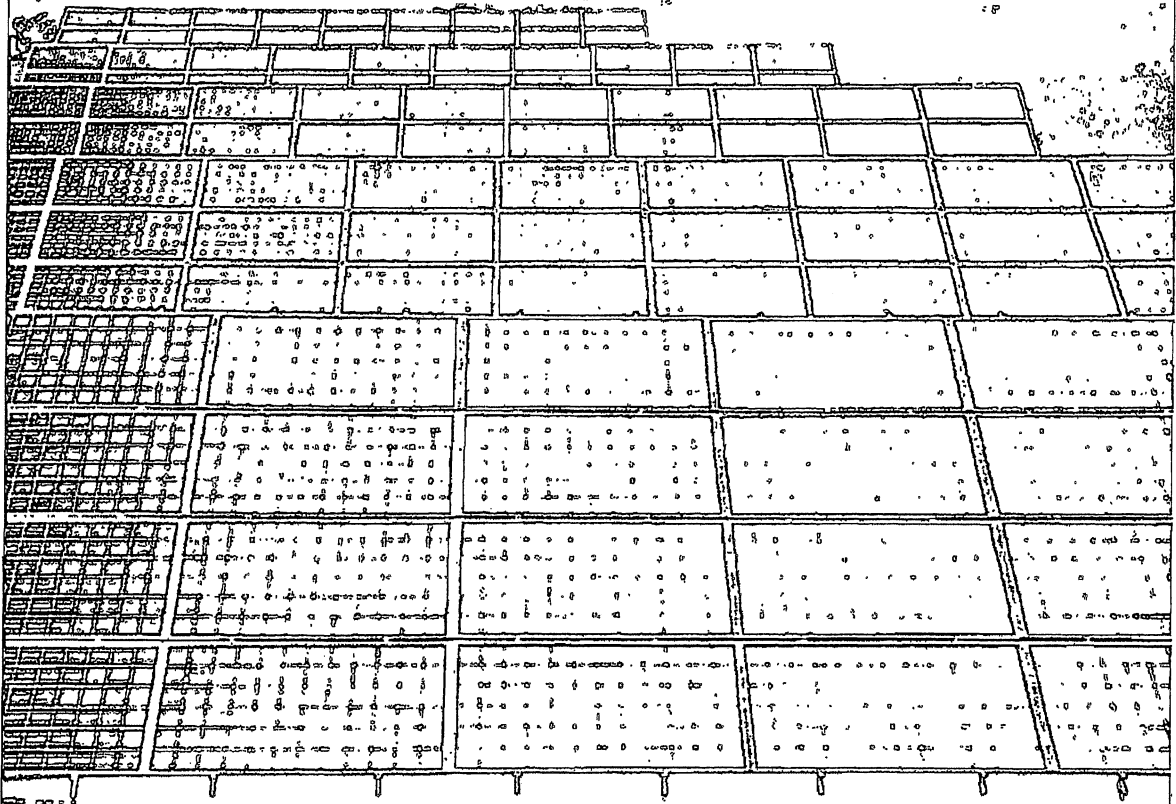
MISSION STATEMENT

PROVIDE SERVICE WITH COMPETITIVE, SAFE, RELIABLE ENERGY.

RECEIVED

AUG 15 2016

STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA



Municipal Light & Power
1200 East 1st Avenue
Anchorage, Alaska 99501-1685
(907) 279-7671
www.ml&p.com

Interconnection and Operating Requirements
For Non-Utility Generation Up to 5,000 kVA
2010 Edition

