RCA No.: 8 Original Sheet No.: Appendix D

Canceling Sheet No.:

RECEIVED
DEC 0 2 2008
STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

Chugach Electric Association, Inc.

APPENDIX D

Application for Interconnection of Electric Power Sources Greater than 5 MVA to the Power Transmission Grid

Chronology:
Original filed in 2008 under Tariff Advice No. 297-8

Pursuant to:
U-08-138(1)

Effective: December 5, 2008

Issued by: Chugach Electric Association, Inc.
P.O. Box 196300, Anchorage, Alaska 99519-6300

By: Bradley W. Evans

Title: Chief Executive Officer

RECEIVED
AUG 1 5 2008
STATE OF ALASKA
REGULATORY COMMISSION OF ALASKA

CHUGACH ELECTRIC ASSOCIATION, INC.

Application for Interconnection of Electric Power Sources greater than 5 MVA to the Power Transmission Grid

Who Should File This Application: Association members proposing to construct and/or operate electrical generation facilities of capacity greater than 5 MegaVolt-Amperes (MVA) interconnected and in-parallel with Chugach Electric Association, Inc's (Chugach's) subtransmission or transmission systems.

Application Use: This application is used by Chugach to perform an Interconnection Study to determine required interconnection equipment and configuration for the Chugach/Applicant interface. Accordingly, every effort should be made by the Applicant to supply as much information as possible.

Design Information Submittal: In addition to the items listed in this form, the Applicant shall include the following design information submittal items as outlined.

A. **One-Line diagram** - This is a schematic 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 Chugach electrical system.

B. **Control, Relay, Metering, and Telemetering Functional Drawing** – This diagram shall indicate the functions of the individual control components, relays, metering, and telemetering equipment.

C. **Paralleling Device Control Drawings** - These drawings shall show the conditions, relays, and instrument transformers that cause all switchgear and/or circuit breakers applied to the interconnecting facility to open or close. The source of power for each control should be clearly indicated in the drawings.

OWNER/APPLICANT INFORMATION		
Company:		
Representative:	Phone Number:	Fax Number:
Title:		
Mailing Address:		
PROPOSED LOCATION OF GENERATING PLANT 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 properly design the Chugach-Customer 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 operating) _____ kVA	_____ Duration (indicate hours, minutes, etc)	

(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:	X_d:	X_q:	% on	kVA base
Transient Reactance:	X_d':	X_q':	% on	kVA base
Subtransient Reactance:	X_d'':	X_q'':	% on	kVA base
Negative Sequence Reactance:	X_2:		% on	kVA base
Zero Sequence Reactance:	X_o:		% on	kVA base
Neutral Grounding Impedance:	R_n:	X_n:	% on	kVA base
Inertia constant, H (joules/VA):				
I^2t or K (heating time constant):				
Exciter data:				
Governer 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, R_r, (Ohms):	Stator Resistance, R_s,(Ohms):		
Rotor Reactance, X_r, (Ohms):	Stator Reactance, X_s, (Ohms):		
Magnetizing Reactance, X_m, (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 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:

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:	R_n:	X_n:		% 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 (ferroresonant, step, pulse-width modulation, etc.):						
Type of commutation: forced line	Minimum Short Circuit Ratio required:					
Minimum voltage for successful commutation:						
Current Hamonic 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:					

MISCELLANEOUS (Use this area and any additional sheets for applicable notes and comments).

SIGN OFF AREA

I agree to provide Chugach Electric Association, Inc. (Chugach) with any additional information, as requested or required, to process this application. I also agree to comply with Chugach's regulations and tariffs as amended. I certify that I am the owner, lessee, tenant, or agent of the premise where the service has been applied. I agree to provide safe and unobstructed access to premises for Chugach employees, pay applicable rates and abide by the terms and conditions as prescribed by the tariff for all present and future utility service.
The conditions under which a deposit will be required or waived are set forth in Chugach's operating tariff. I declare the information provided is true, accurate, and complete to the best of my knowledge and belief. The information contained in the application has been voluntarily submitted for the purpose of receiving electric service, and is understood upon presentation, this application becomes the property of Chugach.

Applicant Signature	Printed Name and Title	Date

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, Chugach 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.

Information below to be filled out by Chugach Representative	
Chugach Representative:	Phone:
Name of Project:	
Chugach service point location (attach service map if available):	