

Transmission Interconnection Service Request Load Interconnection

The Service Requestor represents and warrants that the information submitted as part of this request is complete and accurate. Changes to this information will require a new service request to be submitted.



Company/Customer Name: _____





Contact Name: _____ Title: _____

Signature: _____ Date: _____

INTERCONNECTION CONTACT	
Company/Customer Name:	
Contact Name:	
Mailing Address:	
E-mail Address:	
Telephone Number:	

Sections 1.0 – 6.0 must be completed in full prior to SaskPower initiating an assessment.

1.0 Site Location and Requested In-Service Dates	
General Description of Load/Process (Include information that would help us to understand the daily/seasonal/annual load profile, process sensitivity to power system performance, etc.)	
Proposed Site Location (Section-Township-Range-Meridian or provide UTM coordinates or provide name of site if this is a load increase to an existing facility.)	
 Requested Interconnection Date for New Facilities	
 Requested Commercial Operation Date for New Load	

2.0 Demand Requested on Interconnection Date		
 Maximum instantaneous power demand		MW
 Maximum instantaneous reactive power demand (NOT including pf correction)		MVAr
 Power Factor after correction (at maximum demand)		%
 Average annual power demand		MW

3.0 Demand Requested on Commercial Operation Date		
Maximum instantaneous power demand		MW
Maximum instantaneous reactive power demand (NOT including pf correction)		MVAr
Power Factor after correction (at maximum demand)		%
Average annual power demand		MW

4.0 Special Requirements (would result in additional customer allocated costs)	
Minimum requested short circuit level at the point of connection.	
Specific supply reliability request.	
Specific power quality request.	
Specific supply voltage	
Other	

5.0 Temporary Construction Power Data Requirements			
Requested in-service date for construction power.			
Maximum power demand			MW
Maximum reactive power demand (including pf correction)			MVAr
Power Factor Correction Capacitors			
Capacitor bank voltage			kV
Number of banks			
KVA _r per bank			KVA _r

6.0 Compliance with Standards		
In compliance with the SaskPower Electric Service Requirements		Yes/No, if no provide explanation

Sections 7.0 – 12.0 must be complete prior to completion of the assessment. Data should be provided to SaskPower as soon as available.



7.0 Main Transformer Data		
Number of transformers		
Transformer type		auto, 2 winding, etc.
ONAN/ONAF/ONAF Rating		MVA/MVA/MVA
Primary to secondary impedance of main transformers (pos and zero seq.)		pu on ONAN base
Tertiary impedance of main transformers (positive and zero sequence)		pu on ONAN base
Main transformer tapchanger type		on-load and off-load
Main transformer tapchanger range (on-load and off-load)		%boost and %buck
Winding configuration and grounding connection data for each winding:		
Primary winding (SaskPower side)		delta, grounded Y, etc.
Secondary winding (load side)		delta, grounded Y, etc.
Tertiary winding		delta, grounded Y, etc.



8.0 Power Factor Correction Capacitor Data					
Capacitor bank voltage					kV
Number of banks					
KVAr per bank					KVAr
Description of the power factor capacitor switching control scheme.					
Description of other voltage or power factor control equipment (Static Var Systems, synchronous condensers, etc.)					



9.0 Fluctuating Load Data Requirements		
Description of the load (arc furnace, large welders, regeneration, etc.)		
Rating of fluctuating loads		MVA
Maximum rate of change of fluctuating loads		KVA/second
Description of the fluctuating load cycles (include charts)		



10.0 On Site Generation, Synchronous Condensers or Synchronous Motors		
Number of units		
Rating (size) of each unit		MVA

If on-site generation (or synchronous condensers or synchronous motors) are operated, for any period of time, synchronized to the SaskPower system, a separate generation interconnection request must be submitted.

11.0 Required Drawings

Site layout drawing showing proposed interconnection point

Electrical Single Line Drawing (**proposed**)

12.0 Other Data

Provide any other information for the purpose of facilitating interconnection to the SaskPower transmission system.

Provide information regarding any temporary interconnections to the SaskPower transmission system.

Sections 13.0 – 17.0 must be complete prior to Energization of SaskPower facilities.

13.0 Synchronous Motor Data (for directly connected motors)

Number of **motors**

Rated horsepower (hp) of all motors (attach list, if necessary)

hp

For each synchronous motor ≥ 1000 hp provide the following data*:

Copy of the motor nameplate

Applicable design standards

Rotor design type

salient or round

Rated speed

RPM

Rated voltage

kV

Rated power factor

Rated output horsepower (hp)

hp

Rated power at rated speed, frequency, voltage & power factor.

KVA

T'do (D-axis unsaturated transient time constant)

seconds

T''do (D-axis unsaturated subtransient time constant)

seconds

T'qo (Q-axis unsaturated transient time constant)

seconds

T''qo (Q-axis unsaturated subtransient time constant)

seconds

H (Inertia constant) of motor

MW-sec/MVA

H (Inertia constant) of driven load

MW-sec/MVA

D (Damping factor)		
Xd (D-axis unsaturated synchronous reactance)		pu on motor rating
Xq (Q-axis unsaturated synchronous reactance)		pu on motor rating
X'd (D-axis unsaturated transient reactance)		pu on motor rating
X'q (Q-axis unsaturated transient reactance)		pu on motor rating
X''d (D-axis unsaturated subtransient reactance)		pu on motor rating
X''q (Q-axis unsaturated subtransient reactance)		pu on motor rating
Xl (stator leakage reactance)		pu on motor rating
Se(1.0) (saturation factor at 1.0 pu flux)		
Se(1.2) (saturation factor at 1.2 pu flux)		
Ra (stator resistance)		pu on motor rating
Calculated or measured saturation curves.		Provided, Yes/No?
Excitation control mode (constant excitation, pf control, AVR, etc.)		
Identify the standard type of excitation (from IEEE Standard 421.5).		
Provide control parameters for IEEE Standard excitation system.		Provided, Yes/No?
Description of the starting method		across the line, capacitor, soft starter, etc.

* For the Far North System, these requirements apply to motors ≥ 100 hp.

14.0 Induction Motor Data (for directly connected motors)



Induction motor load as a percent of total site maximum load .		%
For each induction motor ≥ 1000 hp provide the following data*:		
Copy of the motor nameplate		
Applicable design standards		
Rotor design type		salient or round
Rated speed		RPM
Rated voltage		kV
Rated power factor		
Rated slip (pu)		hp
Rated output horsepower (hp)		KVA

Rated current at rated speed, frequency, voltage & power factor.		seconds
H (Inertia constant) of motor		seconds
H (Inertia constant) of driven load		seconds
Equivalent model Type		seconds
Equivalent model parameter, Ra (armature resistance)		MW-sec/MVA
Equivalent model parameter, Xa (unsaturated armature reactance)		MW-sec/MVA
Equivalent model parameter, R1 (rotor resistance)		
Equivalent model parameter, X1 (unsaturated rotor reactance)		pu on motor rating
Equivalent model parameter, R2 (rotor resistance) - double cage		pu on motor rating
Equivalent model parameter, X2 (unsat rotor reactance) - double cage		pu on motor rating
Equivalent model parameter, Xm (unsat magnetizing reactance)		pu on motor rating
D (speed damping factor)		pu on motor rating
Calculated or measured saturation curves		pu on motor rating
Current Vs. Speed curve		pu on motor rating
Torque Vs. Speed curve		
Power factor Vs. Speed curve		
Number of starts per day (normal operation)		pu on motor rating
Multiple motors started at the same time? If yes, provide a description		Provided, Yes/No?
Description of the starting method		

* For the Far North System, these requirements apply to motors ≥ 100 hp.

15.0 Non-Linear Load ≥ 500 KVA (Variable Frequency Drives, rectifiers, etc.) Data



Description of non-linear loads (VFD, rectifier, etc)		
Rating of the non-linear loads		KVA
Level of all harmonic currents produced (list in percent of fundamental).		Provided, Yes/No?
Filter bank rating and frequency		KVA, Hz

16.0 Required Drawings



Site Layout Drawing (as built)		
Electrical Single Line Drawing (as built)		
Protection Single Line Drawing (as built)		

17.0 Other Data	
Provide any other information pertaining to interconnecting to the SaskPower transmission system	