SASKATOON LIGHT & POWER

Application for Detailed Generation Interconnection Analysis

Distributed Generation Proponent

Company Name: Service Account #:

Mailing Address:

Generation Facility Address: Same as above ☐

Contact Person

Name: Title:

Mailing Address: Same as above ☐

Tel: Fax: Email address:

Equipment Information

Synchronous Machine Data

Generator Rating (kVA)	
Speed (RPM)	
Power Factor at Rated Output (%)	
Inertia Constant H (Generator and Prime Mover)	
Direct Axis Synchronous Reactance (Xd)	
Direct Axis Transient Reactance (X'd)	
Direct Axis Subtransient Reactance (X"d)	
Quadrature Axis Synchronous Reactance (Xq)	
Quadrature Axis Transient Reactance (X'q)	
Quadrature Axis Subtransient Reactance (X"q)	
Open Circuit Direct Axis Transient Time Constant (T'do)	
Short Circuit Direct Axis Transient Time Constant (T'd)	
Open Circuit Direct Axis Subtransient Time Constant (T"do)	
Short Circuit Direct Axis Subtransient Time Constant (T"d)	
Quadrature Axis Transient Time Constant (T'qo)	
Quadrature Axis Subtransient Time Constant (T"qo)	
Armature Resistance (Ra)	
Stator Leakage Reactance (Xl)	
Armature Short Circuit Time Constant (Ta)	
Saturation Factor at 1.0 per-unit flux	
Saturation Factor at 1.2 per-unit flux	
Negative Sequence Resistance (R2)	
Negative Sequence Reactance (X2)	
Zero Sequence Resistance (R0)	
Zero Sequence Reactance (X0)	

Induction Machine Data

Generator Rating (kVA)	
Speed (RPM)	
Power Factor at Rated Output (%)	
Inertia Constant H (Generator & Prime Mover)	
Stator Resistance (Rs)	
Stator Reactance (Xs)	
Rotor Resistance (Rr)	
Rotor Reactance (Xr)	
Armature Magnetizing Reactance (Xm)	

Transformer Data

Rating ONAN/ONAF (kVA)	
HV Winding Connection	
LV Winding Connection	
Pos. Sequence Impedance	
Zero Sequence Impedance	
On-load Tap Range (%)	
On-load Tap Size (%)	
Off-load Tap Range (%)	
Off Load Tap Size (%)	

Substation Data

Type of Interrupting Device	
Interrupting Rating (Amperes)	
Operating Speed (RPM)	

Note: All machine impedances expressed in per unit on machine base. All transformer impedances expressed in % at ONAN base.

Additional Information To Be Included With Application

- Electrical three line diagram
- A description of the excitation system or proposed voltage/power factor control system
- A description of the proposed governor or power control system
- A description of the expected frequency and power output variations and rates of change
- The expected worst case harmonic current injection into the Utility for all harmonics up to the 35th

Applicant Name: (print) _____

Signature: _____ **Date:** _____

For Utility Use Only

Project Compatible with the Utility System? No ☐ Yes ☐

Utility System Improvements Required? No ☐ Yes ☐

Approved for Interconnection: No ☐ Conditional Approval ☐

More Information Required ☐ Subject to Commissioning Verifications ☐

Modification Details/Comments: _____

_____

_____

_____

Signature: _____ **Title:** _____ **Date:** _____