

STUDY REQUEST FOR INTERCONNECTION OF TRANSMISSION LINES AND LOADS

WHO SHOULD FILE THIS APPLICATION: Any customer expressing an interest in connecting transmission line or loads to a substation or the transmission lines of Cowlitz PUD. This application should be completed as soon as possible and returned to New Services at Cowlitz PUD in order to begin processing the request.

INFORMATION: This application will be used by Cowlitz PUD to determine if a System Impact and Facility Requirement Study are required. This study is used to determine the location (*Connection Point*), equipment requirements, system modifications, etc. to connect transmission lines and/or loads. Sections 1 and 2 should be completed as soon as possible and returned to Cowlitz PUD. Section 3 must be completed if it is determined that a System Impact and Facility Requirement Study is required. Following completion of the study the Requester will receive a preliminary estimate for the utility interface requirements that may be used in calculating the overall project connection requirements.

SECTION 1 – INTERCONNECTION REQUESTER AND CONTRACTORS

A. Requester/Owner Information

Company Name

Mailing Address

City	State	9 Digit Zip Code
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Phone Number	Email Address	Contact Name
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B. Connection Design/Engineering Architect (*As applicable*)

Company Name

Mailing Address

City	State	9 Digit Zip Code
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Phone Number	Email Address	Contact Name
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C. Electrical Contractor (*As Applicable*)

Company Name

Mailing Address

City	State	9 Digit Zip Code
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Phone Number	Email Address	Contact Name
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D. Technical Contact

Contact Name	Contact Title
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Phone Number	Email Address	Company Name
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E. Administrative Contact

Contact Name	Contact Title
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Phone Number	Email Address	Company Name
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Section 2 – General Specifications, Location, and Diagrams for Connection

Preliminary Review Information

A. Type of Connection

<input type="checkbox"/> Radial Load <input type="checkbox"/> Network Connection with Other Sources Present Operating Voltage (kV):	Comments
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B. Connection Point Location – Identify the Cowlitz PUD Line or Substation

Street Address

State WA	County Cowlitz	Nearest community
Township	Range	Section

Identify the Cowlitz PUD Line or Substation Connection Point

C. Type of Load: Identify the characteristics which best describe the type of load to be served. Include specific information for loads such as those associated with arc furnaces, large motor, etc.

D. Load Data (At the time of energization and every year for 10 years)

Value for Year:	1	2	3	4	5	6	7	8	9	10
Projected Peak Load [kW]										
Summer Peak Load [kW]										
Winter Peak Load [kW]										
Anticipated Power Factor										

e. Quality of Service (Special Requirements such as power quality, frequency and duration of outages, etc.)

F. Future Plans (Where known: Modification, changes, or additions affecting the connection or connected equipment)

G. Attach Electrical One-Line Diagram of the project that includes proposed protective relaying, breaker and switching arrangements, ground sources (*zero sequence*), and assumed electrical equipment parameters for the connection.

Title	Name (First, Last) (Please Print or Type)
Signature	Date

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Section 3 – Study Data Requirements

A. Network Power Flow Model (As required) (Enclose a model using approved WECC format)

B. Interconnecting Transmission Line(s) or Cable (Provide all parameters in physical units if applicable)

Nominal voltage [kV]		Length (Miles)	
Transmission Line Impedances			
Quantity		Positive Sequences	Zero Sequence
Series Resistance, R Ω			
Series Reactance X Ω			
Shunt Susceptance, B μS (or $\mu\Omega^{-1}$)			
Will this line be built on common structures with other circuits?	<input type="checkbox"/> Yes		
	<input type="checkbox"/> No		
Will this line be transformer-terminated at either end? If "yes", state which end(s) and the transformer identifier.	<input type="checkbox"/> Yes	End:	Transformer:
	<input type="checkbox"/> No		

C. Transformers (Provide parameters if applicable)

Identifier		Number of Windings	Autotransformer?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Winding	Nominal Voltage [kV]	Configuration (Δ or YG)	Nameplate MVA	/	/
H:			H to X:	/	/
X:			H to Y:	/	/
Y:			X to Y:	/	/
Tap Information Winding (H, X, or Y)		Values: Operational [kV]	Available Taps [kV]	/	/
Transformer Impedance: Winding		H to X: % @ MVA	H to Y: % @ MVA	X to Y: % @ MVA	

D. System Data – Only applicable where generation resources are present or if the connection includes another network source. Provide a system equivalent ($R1, X1, R0, X0$ in per unit on a 100 MVA base) at the proposed Connection Point looking into the connecting system. These values should be determined such that the system model *does not* include the physical connection to Cowlitz PUD's System. Assuming there are no other connections to the Cowlitz PUD System at any other point, these quantities are available by computing a single line-to-ground "bus fault" at the proposed Connection Point.

Generation (If applicable), (Must follow the processes as described in Facility Interconnection Requirements that are appropriate for a new generation interconnection, including the Generation Connection Study Request.)

E. Reactive Equipment (Location, size, and rated voltage) More specific information is required for reactive with dynamic capability (SVC, TCSC, Sync Condensers, etc.)