Request for Economic Study

Instructions: **For the data submittal window, please reference the appropriate local NTTG Funding Members' Attachment K**

Provide the information in the yellowed boxes. If the information is not available or unknown, please state so. Transmission Customers requesting an economic study shall, upon request of NTTG, supply all relevant information necessary to perform the economic study. If the Transmission Customer fails to provide the information requested, NTTG shall have no obligation to complete the study. This form is not a transmission service request or a generation interconnection request.
Please see the appropriate local

Study Request Control #
(Assigned by Transmission Provider or Planning Committee)

Study Sponsor Information:

Date:	27-Mar-14
Requesting Customer Name:	Absaroka Energy
Address:	PO Box 309
State & Zip:	Bozeman, MT 59771-0309
Requestor:	Rhett Hurless
Title:	Vice President
Phone Number:	406-585-3006
Email:	rhurless@absarokaenergy.com
Are you an Eligible Customer Y/N:	Yes
Do you have a Current Service Contract:	No

Transmission Providers or NTTG :

Utility Name(s) for POI and POD:	NTTG
In care of:	info@nttg.biz
Title:	
Street Address	
City, State, Zip:	
Phone:	
Email:	info@nttg.biz

Study Request Details (1):

1	**General Information:**			
2	Study Name:	Colstrip 1&2 Wind/Pumped Hydro Replacement		
3	Projected In-service Date:	2020		
4	Narrative Description:	Retire Colstrip 1&2 (approx. 600 MW net) and replace with 1000 MW wind and 400 MW pumped hydro. Pumped Hydro connected to Colstrip Transmission System (CTS) between Broadview & Townsend. 600 MW wind connected at Colstrip, 400 MW wind connected at Pumped Hydro interconnection to CTS. Study assumes CTS capacity not diminished by Colstrip 1&2 retirement and CTS Upgrade and M2W projects not in service. Pumped Hydro operated to manage transmission flows within current path ratings.		
5	Justification (2):	Study repurposing of existing transmission infrastructure.		
6	Study Location POR:	See Narrative Description		
7	Study Point of Delivery POD:	Pacific Northwest		
8	MW Size:	See Narrative Description		
9	Monthly or Hourly Amount MW (4):	TBD based on wind profiles and economic dispatch of Pumped Hydro		
10	Monthly Energy amount MWH:	TBD based on wind profiles and economic dispatch of Pumped Hydro		
11	Attach a Map of the study elements:			
12	**Transmission Affected (4):**			
13	Any gathering Transmission:			
14	Conductor size (5):			
15	Bundled:			
16	Line spacing:			
17	L-L Voltage:			
18	Length (miles):			
19	Electric characteristic data (R, X):			
20	Capital Cost ($/mile):			
21	**Affected or Proposed Generation (3)(5):**			
22		Generator #1	Generator #2	Generator #3
23	Generator Name:	Colstrip Wind	Central MT Wind	Gordon Butte Pumped Hydro
24	Size:	600 MW	400 MW	400 MW
25	Type:	Wind	Wind	Pumped Hydro
26	Fuel type (Primary, Secondary):			
27	Fuel cost ($/mmBTU):			
28	Incremental Heat Rate Curve:			
29	Ramp Rate:			
30	Min up time (hours):			
31	Min down time (hours):			
32	Generator Forced Outage Rate:			
33	Start up cost:			

34	**Addional Load Integration**		
35		Load #1	Load #2
36	Load Name:		
37	MW Size:		
	Location:		
38	Hourly Profile (daily or monthly) MW:		
39	Controlable Demand Side Resource Daily or Monthly Hourly Profile (MW)		

By signing and submitting this request the requestor agrees to provide, to the greatest extent practical, additional information and agrees to cooperate as necessary to complete the economic study.

Authorized Signature:	**Rhett Hurless**
Date:	27-Mar-14

Footnotes

1. Expand or add new cells (row or column) if additional space is needed.
2. Justification must include relevant facts and circumstances as addressed in FERC Order Nos. 890 and 1000. The justification should address all relevant facts that indicate that the study is "… for the purposes of planning for the alleviation of congestion through integration of new supply and demand resource into the regional transmission grid or expand the regional transmission grid in a manner that can benefit large numbers of customers, such as by evaluating transmission upgrades necessary to connect major new areas of generation resource (such as areas that support substantial wind generation). Specific requests for service would continue to be studied pursuant to existing pro forma OATT processes."
3. This planning process does not replace the System Impact Study process. Specific transmission service or generation interconnection will continue to be studied pursuant to existing OATT processes. An Economic Study Request may not be used for a transmission service request or a generation interconnection request.
4. Detailed impedance and other modeling data may be required to model the economic study request.
5. For an Economic Study detailed generation cost data and hourly load profile data is required. This will include the incremental dispatch cost, the startup cost, any startup constraints, the heat rate characteristics, any energy limitations. For wind generation, monthly peak and energy and hourly energy shapes for the entire year will be needed. If the requestor's own generation is affected by the request, the following information must be provided: economic dispatch costs, hourly generation patterns, relevant maintenance information; expected generation forced outage rate; and all other factors affecting generation output.