

DOE Tribal Leader Forum Series

Exploring the Business Link Opportunity: Transmission & Clean Energy Development in the West

**Denver, CO
February 7, 2012**



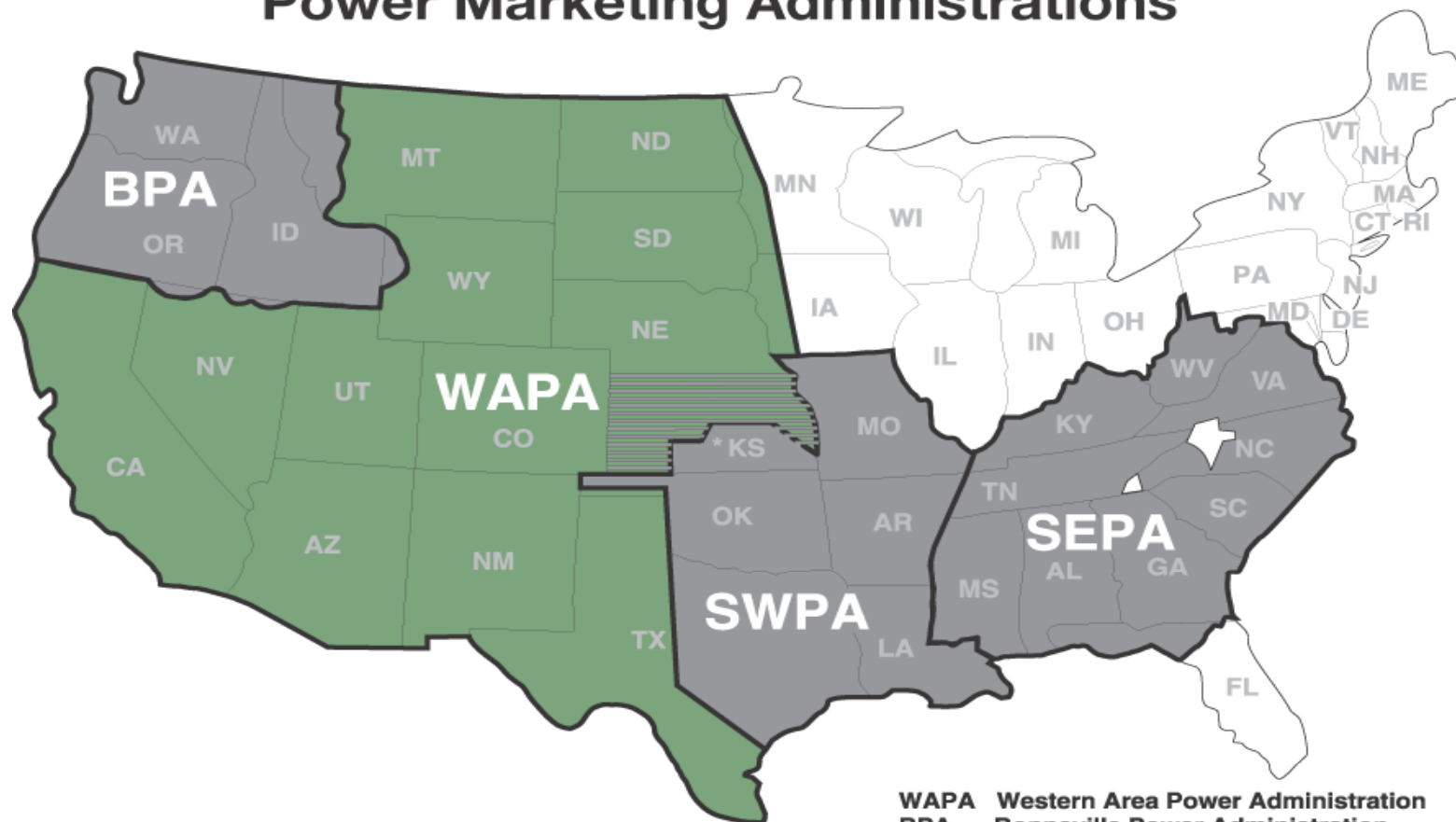
Topics

- **Western Area Power Administration Overview**
- **Generator Interconnection Process**
 - Opportunities to help expedite the interconnection
 - Upper Great Plains Generator Interconnection Queue Statistics
- **Transmission Service**
- **Questions/Comments**



Western Overview

Power Marketing Administrations



WAPA Western Area Power Administration
BPA Bonneville Power Administration
SEPA Southeastern Power Administration
SWPA Southwestern Power Administration

* Note: Both Western and Southwestern market power in Kansas.

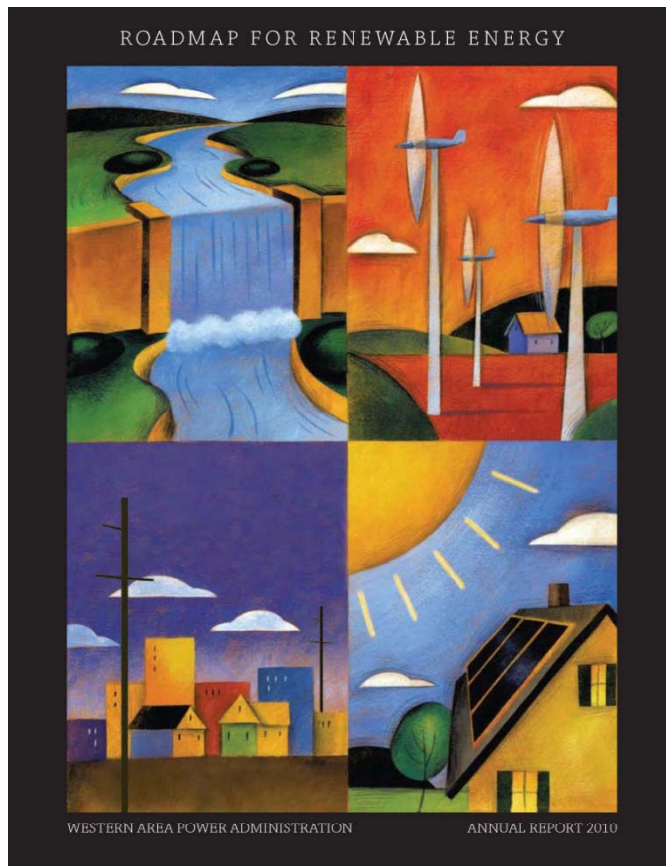
Western Overview

Mission:

Market and deliver clean, renewable, reliable, cost-based Federal hydroelectric power and related services.



Western Overview



Roadmap for Renewable Energy Annual Report 2010

Vision:

**Provide premier power
marketing and transmission
services.**

ww2.wapa.gov



Western Overview

RENEWABLES MARK INTERCONNECTION POINTS ALONG ROADMAP

WHERE WE ARE:

Providing interconnections for all generation resources under our Open Access Transmission Tariff.

WHERE WE'RE GOING:

Partnering with customers to interconnect renewables to the grid in support of the Department of Energy's goal and to help customers meet their integrated resource plans.



Western Overview

RENEWABLES ENERGY HIGHWAY

WHERE WE ARE:

Maintaining and servicing more than 17,000 miles of high and extra-high voltage transmission lines throughout the West.

WHERE WE'RE GOING:

Be a leading transmission service provider for the future.



Western Overview

- Critical Energy Infrastructure Information
Removed.
- 15 States
- 57 Federal Power Plants
- 10,479 MW
- 17,107 Circuit Miles
- 315 Substations



Western Transmission

- Critical Energy Infrastructure Information Removed.

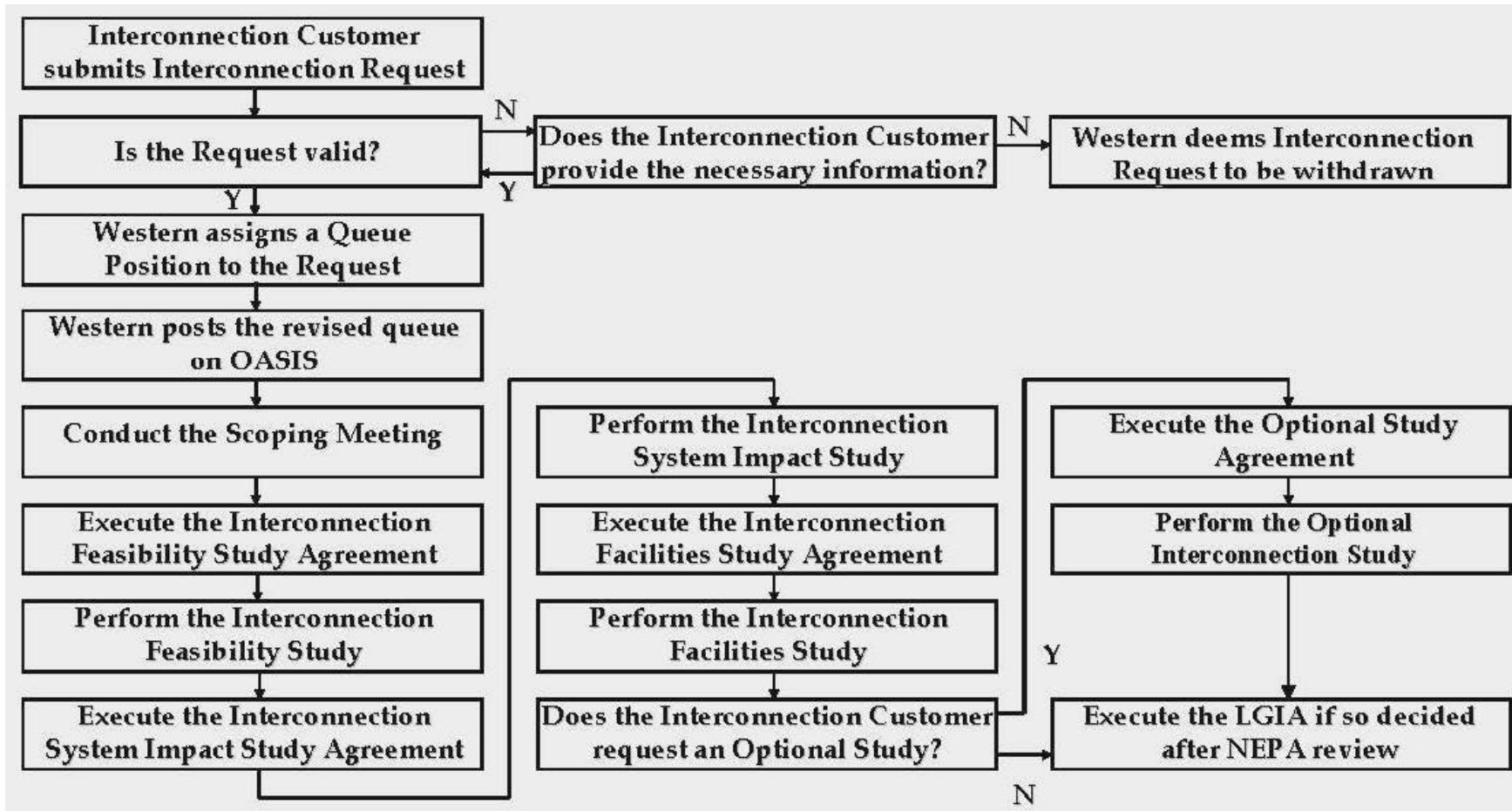


Western UGP Transmission

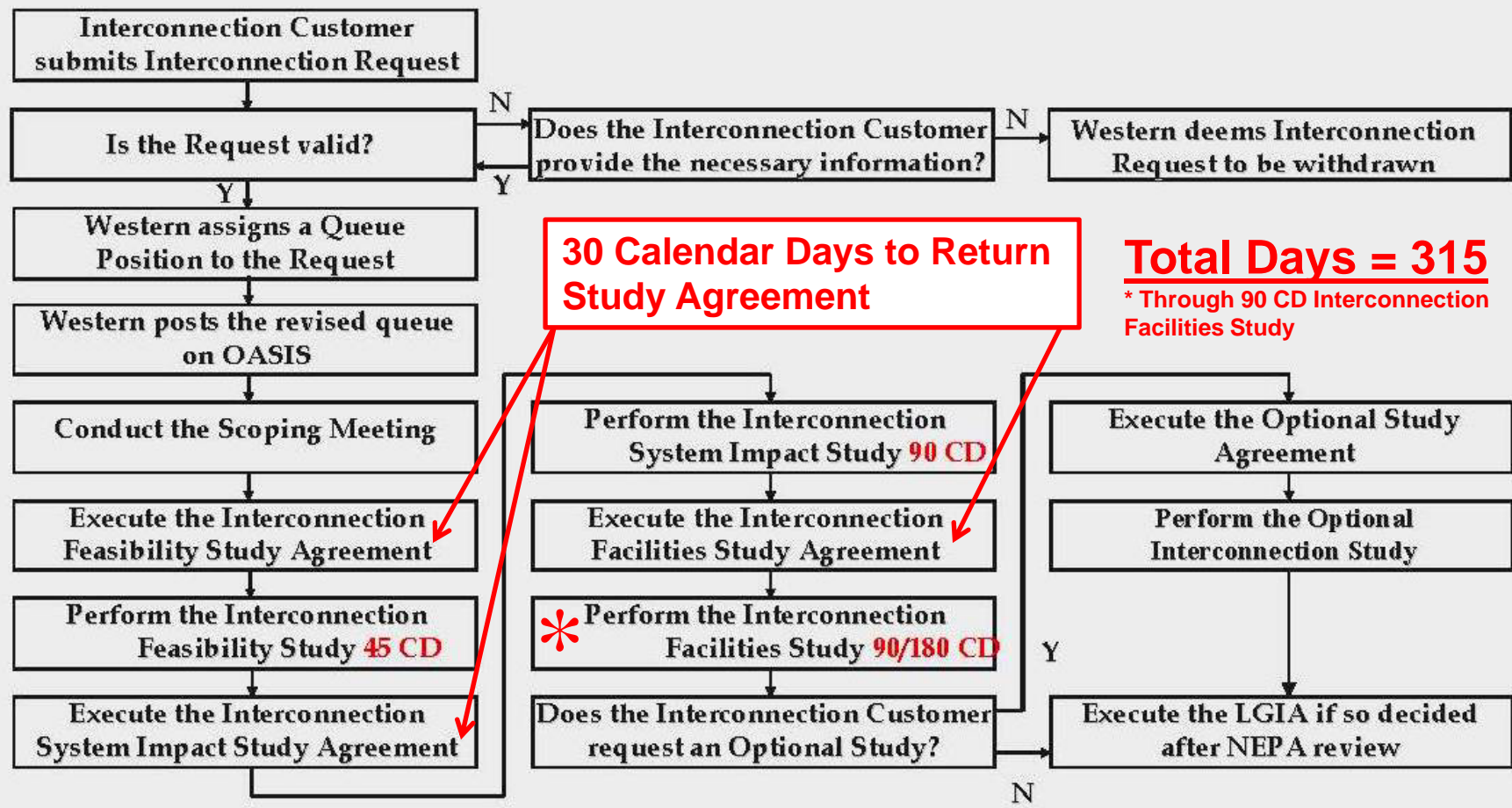
- Critical Energy Infrastructure Information Removed.



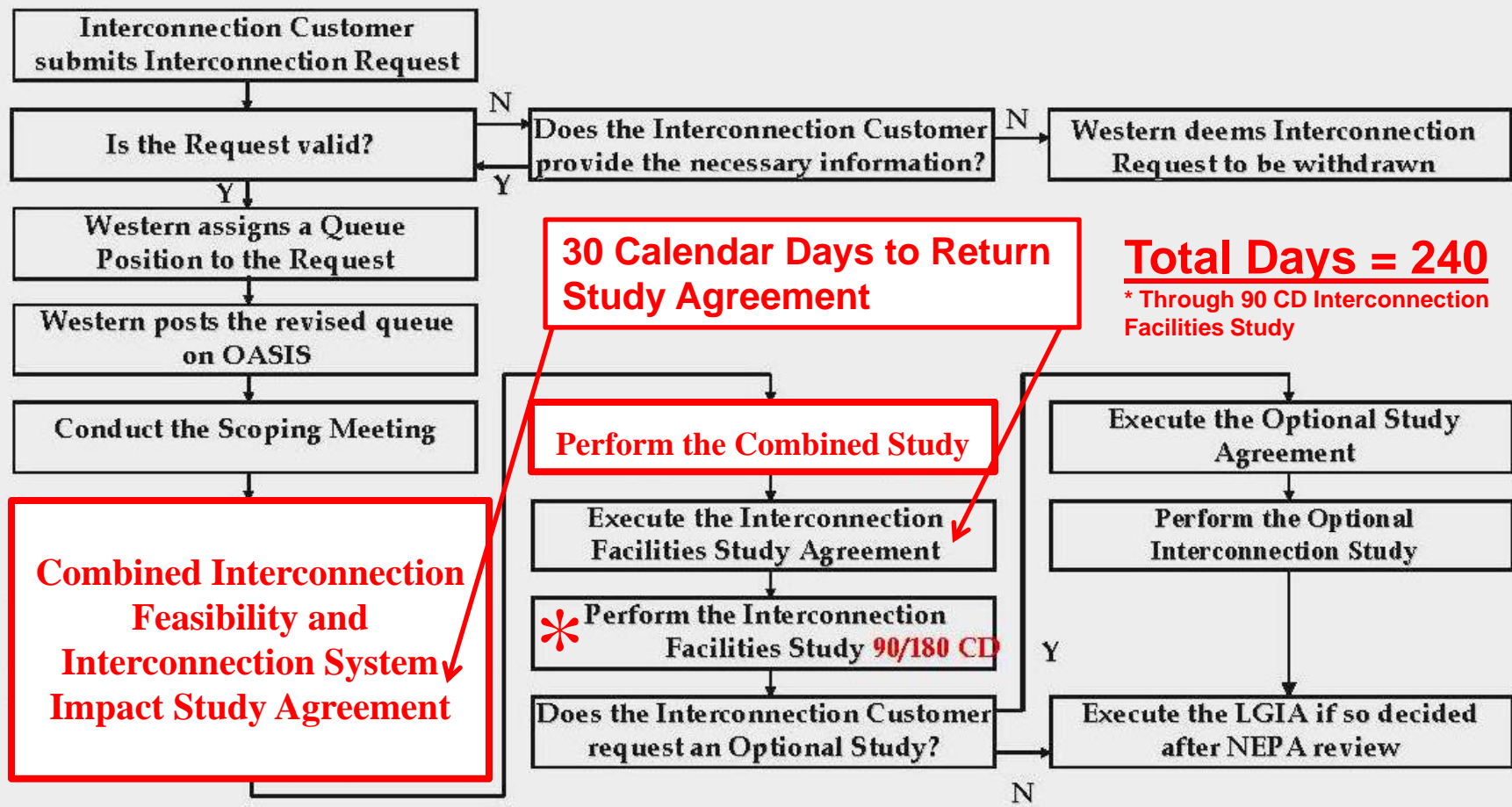
Western LGIP – Requests >20 MW



Western LGIP – Timing



Western LGIP – UGP Expedite



30 Calendar Days to Return Study Agreement

Total Days = 240
* Through 90 CD Interconnection Facilities Study

Perform the Combined Study

Combined Interconnection Feasibility and Interconnection System Impact Study Agreement

Western LGIP – Out-of-Queue

Out-of-Queue Processing

- **Requested by Interconnection Customer**
- **Assumptions for prior-queued requests**
- **Not necessarily granted – balance with in-queue requests and available resources**
- **Risks**
 - Re-study when interconnection request reaches in-queue status
 - Network Upgrades
 - Environmental



Western LGIP – E&P Agreement

Engineering & Procurement Agreement

- **Prior to LGIA**
- **Long lead-time items**
- **Advance payment by Interconnection Customer**
- **Western not obligated to offer**
- **Risks**
 - **Network Upgrades not yet identified**
 - **Cancellation costs**
 - **Environmental**



Western LGIP – Environmental

Environmental Review

- **Initiated after Final ISIS Report issued**
- **Can be initiated earlier in the process**
- **Environmental Review Agreement**
- **Advance payment by Interconnection Customer**
- **Risks**
 - **Network Upgrades not yet identified**



Western UGP Generator Queue

WAPA/BEPC/HCPD Integrated System (IS) - Generation Interconnection Queue

1/10/2012

PROJECT NUMBER	QUEUE DATE	INT. SERVICE TYPE (Note 2)	COUNTY	ST	POINT OF INTERCONNECTION	MAX SUMMER OUTPUT (MW)	REQ'D IN SERVICE DATE	GEN FAC FUEL TYPE	STUDY STATUS	IA STATUS	PROJECT STATUS	FEAS STUDY RPT * (Note 3)	IMP STUDY RPT * (Note 3)	FAC STUDY RPT * (Note 3)	INTER AGREEMENT	COMMENT (Studies by Consultants noted to left with * * *)	IC REASON TO WITHDRAW	IS ZONE	IC EXEC IA (Note 1)	
GI-0821	28-Jul-08	NR & ER	Ward	ND	Logan-Kenmare 115kV	150	01-Jun-11	Wind	IP/W	IAP	Withdrawn					near Minot, ND, Alt POI Logan-Tioga 23kV		ND1		
GI-0822	08-Oct-08	ER	Pondera	MT	Conrad 230kV	250	01-Dec-10	Wind	FEC/SICAW	IAP	Withdrawn	IFS Rpt	SIS Rpt				FSA NR	MT1		
GI-0823	27-Oct-08	NR	Codington	SD	Watertown 115kV	130	01-Dec-12	Gas	SIP/W	IAP	Withdrawn							SD2		
GI-0824	03-Dec-08	ER	Buffalo, Hyde	SD	Fl. Thompson 230/345kV	400	14-Sep-10	Wind	FEC/SIP/W	IAP	Withdrawn	IFS Rpt					ISIS NR	SD2		
GI-0825	17-Dec-08	Network	Clay	MN	Moorhead 115kV [Centennial 115kV	11	01-May-10	Diesel	SIC	IAE/IS	Done		SIS Rpt			6.3MW of exist gen, OOO SIS		MN1	City of Moorhead, MN	
GI-0901	22-Jan-09	NR & ER	Clark	SD	Groton-Watertown 345kV	200	31-Dec-12	Wind	SIE	IAP	Active					near Crocker, SD - 26mi Grot		SD2		
GI-0902	22-Jan-09	NR & ER	Codington	SD	Watertown 115kV	200	31-Dec-12	Wind	SIP/W	IAP	Withdrawn						ISIS NR	SD2		
GI-0903	22-Jan-09	NR & ER	Stutsman	ND	Jamestown 115kV	200	31-Dec-12	Wind	IP	IAP	Active							ND2		
GI-0904	22-Jan-09	NR & ER	Burleigh	ND	Bismarck 115kV	200	31-Dec-12	Wind	SIP/W	IAP	Withdrawn							ND1		
GI-0905	03-Feb-09	ER	Ward & Monro	ND	Tioga-Logan 230kV	200	01-Jun-12	Wind	SIP/W	IAP	Withdrawn					near Berthold, ND		ND1		
GI-0906	09-Feb-09	NR & ER	Todd	SD	Mission 115kV	90	01-Apr-11	Wind	SIE	IAP	Active		In Prog *					SD2		
GI-0907	09-Feb-09	NR & ER	Todd	SD	Mission 115kV	100	01-Apr-11	Wind	SIE	IAP	Active		In Prog *					SD2		
GI-0908	11-Feb-09	Network	Beadle	SD	Huron 115kV [Huron WestPark 69kV	2	01-Apr-09	Oil	SIC	IAE/IS	Done		SIS Rpt			OOO SIS		SD2	Northwestern Energy	
GI-0909	26-Feb-09	NR & ER	Stutsman	ND	Jamestown 230kV	250	31-Dec-10	Wind	SIP/W	IAP	Withdrawn						IC W	ND2		
GI-0910	27-Mar-09	NR & ER	Brown, Day, Me	SD	Groton 115kV	99	01-Sep-10	Wind	SIE	IAP	Active		In Prog *			Red from 150 to 99 MW		SD2		
GI-0911	16-Apr-09	NR & ER	Morton	ND	AVS-Broadland 345kV	400	01-Mar-12	Wind	FEP/W	IAP	Withdrawn					OOO IFS, near New Salem, ND		ND1		
GI-0912	05-May-09	NR & ER	Roosevelt	MT	Culbertson 115kV	120	01-Jan-13	Gas	SIE	IAP	Active		In Prog *					MT3		
GI-0913	06-May-09	Energy	Grant	SD	Blair 230kV	20	01-Jun-10	Wind	SIC/FC	IAE	Active		In Prog *			OOO SIS, Distribution feed to Blair		SD2	Harvest Wind LLC	
GI-0914	11-May-09	Energy	Lyon	MN	Marshall 115kV	3.6	01-Jun-10	Wind	SIP/W	IAP	Withdrawn					OOO SIS		MN1		
GI-0915	21-May-09	NR & ER	Dawson	MT	Fl. Peck-Dawson County 230kV	220	01-Dec-12	Wind	SIP/W	IAP	Withdrawn					Replaced GI-0907		MT3		
GI-0916	26-May-09	ER	Hughes	SD	Oahe-Fl. Thomp #1 230kV	175	31-Dec-11	Wind	IP	IAP	Active							SD1		
GI-0917	26-May-09	ER	Stanley	SD	Oahe-Eagle Butte 115kV	99	31-Dec-11	Wind	IP	IAP	Active							SD1		
GI-0918	29-Jun-09	NR & ER	Brown	SD	Groton 115kV	100	01-Apr-10	Wind	SIC	IAE/IS	Done		SIS Rpt			Net Zero w/Groton CTs, No incr.		SD2	Day County Wind, LLC	
GI-0919	10-Jul-09	NR & ER	Bon Homme	SD	Fl. Randall-Utica Junction 230kV	300	30-Jul-11	Wind	IP	IAP	Active							SD2		
GI-0920	10-Jul-09	NR & ER	Bon Homme	SD	Fl. Randall-Tyndall 115kV	150	30-Jul-11	Wind	IP	IAP	Active							SD2		
GI-0920a	14-Jul-09	NR & ER	Bon Homme	SD	Tripp Junction 115kV	150	30-Jul-11	Wind	IP	IAP	Active							SD2		
GI-0921	14-Jul-09	NR & ER	Tripp	SD	Witten 115kV	90	31-Mar-11	Wind	IP	IAP	Active							SD1		
GI-0922	29-Jul-09	NR & ER	Tripp	SD	Witten 115kV	210	31-Mar-11	Wind	IP	IAP	Active					Increase to GI-0921		SD1		
GI-0923	06-Aug-09	ER	McCone	MT	Fl. Peck-Dawson County 230kV	158	31-Dec-12	Wind	SIP/W	IAP	Withdrawn							MT3		
GI-0924	26-Aug-09	ER	Burleigh	ND	Leland Olds-Groton 345kV	136	31-Dec-12	Wind	IP	IAP	Active							ND1		
GI-0925	31-Aug-09	ER	Griggs	ND	Jamestown-Grand Forks 230kV	60	31-Dec-12	Wind	IP	IAP	Active							ND2		
GI-0926	01-Oct-09	NR & ER	Morton	ND	Dickenson-Heskett 230kV	201	01-Dec-12	Wind	IP	IAP	Active							ND1		
GI-0927	19-Oct-09	NR & ER	Mercer	ND	AVS-Broadland 345kV	100	01-Jun-13	Wind	IP	IAP	Withdrawn							ND1		
GI-0928	19-Oct-09	NR & ER	Mercer	ND	AVS-Broadland 345kV	200	01-Dec-12	Wind	IP	IAP	Withdrawn							IC W	ND1	
GI-0929	20-Oct-09	NR & ER	Meade	SD	Maurine 115kV	120	31-Dec-11	Wind	SIC/W	IAP	Withdrawn		SIS Rpt			OOO SIS		FSA NR	SD1	
GI-0930	28-Dec-09	NR & ER	Blaine	MT	Fl. Peck-Havre 161kV	70	31-Dec-11	Wind	FEP	IAP	Withdrawn					near Chinook, MT, 25mi east Havre		ISIS NR	MT1	
GI-1001	13-Jan-10	NR & ER	Campbell	SD	Bismarck-Glenham 230kV	99	30-Sep-12	Wind	IP	IAP	Active							SD1		
GI-1002	25-Jan-10	NR & ER	Platte	WY	LRS-Stegall 345kV	200	31-Oct-11	Wind	SIP/W	IAP	Withdrawn							ISIS NR	WY1	
GI-1003	05-Feb-10	NR & ER	Laramie	SD	Washington Springs 230kV	34	18-Dec-10	Wind	SIC/FC	IAE/IS	Active							SD2	PrairieWinds SD1 Inc.	
GI-1004	01-Mar-10	NR & ER	Brown	SD	Aberdeen	60	01-May-13	Gas	SIE	IAP	Active		In Prog	See 0713		OOO SIS, See 0713		SD2		
GI-1005	17-Mar-10	NR & ER	Pennington	SD	New Underwood 115-kV	99	30-Jun-12	Wind	IP	IAP	Active					OOO SIS		SD1		
GI-1006	30-Jun-10	NR & ER	Williams	ND	Tioga-Boundary Dam 230-kV	250	01-Jan-12	Wind	IP	IAP	Active							ND1		
GI-1101	11-Feb-11	Network	Crawford	IA	Denison	6	31-Aug-11	Diesel	SIC/FC	IAP	Done		SIS Rpt			Via NIPCO 69-kV		IA1	City of Manning, IA	
GI-1102	14-Feb-11	NR & ER	Blaine	MT	Fl. Peck-Havre 161kV	90	31-Dec-13	Wind	SIP/W	IAP	Withdrawn					near Chinook, MT, 25mi east Havre		MT1		
GI-1103	09-Sep-11	Energy	Burke	ND	Kenmare 115kV	0.8	01-Oct-11	Gas	SIC	IAE/CP	Done			See 1009		Via Burke Divide Elec Coop		ND1	Blaise Energy	
GI-1104	29-Sep-11	NR & ER	Pennington	SD	New Underwood-Oahe 230kV	200	01-Oct-10	Wind	IP	IAP	Active					Re-queue of GI-0813, OOO SIS		SD1		
GI-1105	29-Sep-11	NR	Williams	ND	Williston 115kV	50	01-May-13	Gas	IP	IAP	Active							ND1		
GI-1106	04-Nov-11	NR & ER	Pennington	SD	Rapid City 230kV	500	01-Jan-19	Coal	IP	IAP	Active							SD1		
GI-1107	23-Nov-11	Energy	Divide	ND	Williston 115kV	2	01-Jan-12	Gas	SIP	IAP	Active				Offered		OOO, Via SheridanElecCoop/Wolter		ND1	

<http://www.oatioasis.com/WAPA/WAPAdocs/IS-Gen-Int-Queue-Public.pdf>

Western UGP Generator Queue

WAPA UGPR - Generation Interconnection Request Statistics 1/10/2012

Summary

Gen Type	Status	#	MW	By State	Active #	MW
Coal	Installed	1	5	ND	0	0
	Committed	0	0	SD	1	500
	Req Pending	1	500	IA	0	0
	Under Study	0	0	NE	0	0
	Withdrawn	22	8434	MN	0	0
	Totals:	24	8939	MT	0	0
	Active Req *	1	500	WY	0	0
					1	500

Gen Type	Status	#	MW	By State	Active #	MW
Gas	Installed	10	917.3	ND	2	52
	Committed	0	0	SD	2	156
	Req Pending	1	50	IA	0	0
	Under Study	4	278	NE	0	0
	Withdrawn	12	949.8	MN	0	0
	Totals:	27	2195.1	MT	1	120
	Active Req *	5	328	WY	0	0
					5	328

Gen Type	Status	#	MW	By State	Active #	MW
Wind	Installed	19	767	ND	13	1984
	Committed	1	20	SD	18	2414
	Suspended	6	899	IA	3	495
	Req Pending	17	2741.5	NE	2	400
	Under Study	13	1782	MN	1	150
	Withdrawn	94	19477.6	MT	0	0
	Totals:	150	25687.1	WY	0	0
	Active Req *	37	5443		37	5443

Gen Type	Status	#	MW	By State	Active #	MW
DC Tie	Installed	17	301.9	ND	0	0
	Committed	3	21	SD	2	15
	Req Pending	0	0	IA	1	6
	Under Study	0	0	NE	0	0
	Withdrawn	11	918.5	MN	0	0
	Totals:	31	1241.4	MT	0	0
	Active Req *	3	21	WY	0	0
					3	21

Gen Type	Status	#	MW	By State	Active #	MW
Totals:	Installed	47	1991.2	ND	15	2036
	Committed	4	41	SD	23	3085
	Suspended	6	899	IA	4	501
	Req Pending	19	3291.5	NE	2	400
	Under Study	17	2060	MN	1	150
	Withdrawn	139	29779.9	MT	1	120
	Totals:	232	38062.6	WY	0	0
		Active Req *	46	6292		46

* Active Requests = Sum of Committed, Suspended, Pending, and Under Study

UGP Requests Since 2000

- 232 Total Requests Rec'd
 - 38,062.6 MW
- 150 Wind Requests Rec'd (65%)
 - 25,687.1 MW (67%)
- 47 Total Installed
 - 1991.2 MW
- 19 Wind Installed (40%)
 - 767 MW (39%)
- 139 Total Withdrawn
 - 29,779.9 MW
- 94 Wind Withdrawn (68%)
 - 19,477.6 MW (65%)



Western – Resource Designation

Network Resource Designation

- **Network Customer is the off-taker and they arrange transmission service - deliver to their load.**

Energy Resource Designation

- **Interconnection Customer/Project is responsible for arranging transmission service.**



Western – Transmission Service

Firm Point-to-Point Service

- **Request service via OASIS**
- **Within 5 Business Days**
 - **Written application**
 - **\$3500 non-refundable processing fee**
 - **Deposit of either one month's charge for Reserved Capacity (not to exceed \$100,000)**
- **Transmission System Impact Study**
- **Transmission Facilities Study**



Western OATT

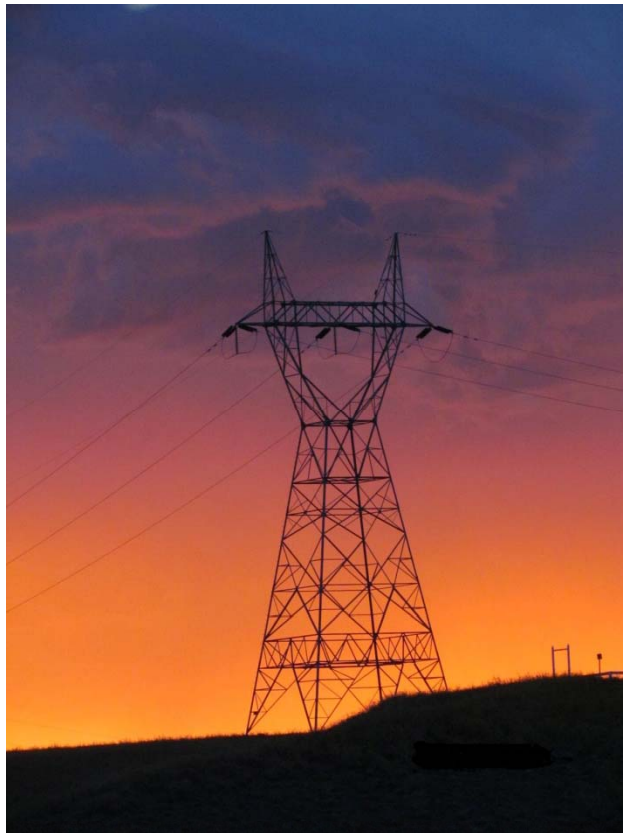
Open Access Transmission Service Tariff

- **Section 17 - Procedures for Arranging Firm Point-to-Point Transmission**
- **Attachment L – Standard Large Generator Interconnection Procedures (LGIP) including Standard Large Generator Interconnection Agreement (LGIA). Requests >20MW**
- **Attachment M – Small Generator Interconnection Procedures (SGIP) including Small Generator Interconnection Procedures (SGIP). Requests <20MW**

ww2.wapa.gov/sites/Western/transmission



Thank You – Questions



**For more information
about Western:**

ww2.wapa.gov

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