Southwest Power Pool

Feasibility Study For Generation Interconnection Request GEN-2005-009

SPP Tariff Studies
(#GEN-2005-009)

September 27, 2005

Executive Summary

<OMITTED TEXT> (Customer) has requested a Feasibility Study for the purpose of interconnecting 150MW of wind generation within the service territory of OG&E Electric Services (OKGE) in Dewey County Oklahoma. The proposed 138kV point of interconnection is at the existing Dewey 138kV Substation in Dewey County. This substation is owned by OKGE. The proposed in-service date is October 31, 2006.

Power flow analysis has indicated that for the powerflow cases studied, it is possible to interconnect the 150MW of generation with transmission system reinforcements within the local transmission system. Given the Point of Interconnection at an existing substation, there are requirements for interconnection including an additional ring bus. In order to maintain acceptable bus voltages in the local area, the Customer will need to install a staged 60MVAR capacitor bank switched at 34.5kV in the Customer's substation. Dynamic Stability studies performed as part of the impact study will provide guidance as to whether the reactive compensation can be static or must be dynamic (such as a SVC).

The total cost for adding a new 138 ring bus in the existing Dewey Substation, the required interconnection facility, is estimated at $2,074,747. Other Network Constraints in the American Electric Power West (AEPW), OKGE and Western Farmers Electric Cooperative (WFEC) systems that may be verified with a transmission service request and associated studies are listed in Table 3. These Network Constraints are in the local area of the new generation when this generation is sunk throughout the SPP footprint for the Energy Resource Interconnection request. With a defined source and sink in a Transmission Service Request, this list of Network Constraints will be refined and expanded to account for all Network Resource Interconnection Upgrade requirements.

In Table 4, a value of Available Transfer Capability (ATC) associated with each overloaded facility is included. These values may be used by the Customer for future analyses including the determination of lower generation capacity levels that may be installed. When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower. When a facility is overloaded for more than 10 contingencies, then only the results with the 10 highest loadings may be included in this table.

There are several other proposed generation additions in the general area of the Customer's facility. It was assumed in this preliminary analysis that these other projects within the AEPW, OKGE and WFEC service territories will be in service. Those previously queued projects that have advanced to nearly complete phases were included in this Feasibility Study. In the event that another request for a generation interconnection with a higher priority withdraws, then this request may have to be re-evaluated to determine the local Network Constraints.

Introduction

<OMITTED TEXT> (Customer) has requested a Feasibility Study for the purpose of interconnecting 150MW of wind generation in Dewey County Oklahoma within the service territory of OKGE. The existing Dewey 138kV Substation is owned by OKGE, and the proposed generation interconnection is within OKGE. The proposed point of interconnection is at the existing Dewey Substation in Dewey County. The proposed in-service date is October 31, 2006.

Interconnection Facilities

The primary objective of this study is to identify the system problems associated with connecting the plant to the area transmission system. The Feasibility and other subsequent Interconnection Studies are designed to identify attachment facilities, Network Upgrades and other direct assignment facilities needed to accept power into the grid at the interconnection receipt point.

The requirements for interconnection consist of adding a new 138kV ring bus in the existing Dewey 138kV Substation. This 138kV addition shall be constructed and maintained by OKGE. The Customer did not propose a route of its 138kV line to serve its 138-34.5kV facilities. It is assumed that obtaining all necessary right-of-way for the new OKGE 138kV substation facilities will not be a significant expense.

The total cost for OKGE to add a new 138kV ring bus in the Dewey Substation, the interconnection facility, is estimated at $2,074,747. Other Network Constraints in the AEPW, OKGE and WFEC systems that were identified are listed in Table 3. These estimates will be refined during the development of the impact study based on the final designs. This cost does not include building 138kV line from the Customer substation into the existing Dewey Substation. The Customer is responsible for this 138kV line up to the point of interconnection. This cost does not include the Customer's 138-34.5kV substation and the cost estimate should be determined by the Customer.

The costs of interconnecting the facility to the OKGE transmission system are listed in Table 2. **These costs do not include any cost that might be associated with short circuit study results or dynamic stability study results**. These costs will be determined when and if a System Impact Study is conducted.

Table 1: Direct Assignment Facilities

Facility	ESTIMATED COST (2005 DOLLARS)
Customer – 138-34.5 kV Substation facilities, including a staged 34.5kV 60MVAR switched capacitor bank.	*
Customer – 138kV line between Customer substation and upgraded OKGE 138kV Dewey Substation.	*
Customer - Right-of-Way for Customer Substation & Line.	*
Total	*****

Note: *Estimates of cost to be determined by Customer.

Table 2: Required Interconnection Network Upgrade Facilities

Facility	ESTIMATED COST (2005 DOLLARS)
OKGE - Add a 138kV ring bus in the existing Dewey 138kV Substation.	$2,074,747
OKGE - Right-of-Way for 138kV terminal addition	0
Total	**$2,074,747**

Table 3: Network Constraints

Facility
OKGE - CLEO CORNER - GLASS MOUNTAIN 138kV in base case.
WFEC - DOVER SW - OKEENE 138kV in base case.
OKGE - EL RENO - ROMAN NOSE 138kV in base case.
AEPW - ELK CITY - *2002-05T 138kV in base case.
OKGE - FPL SWITCH - MOORELAND 138kV in base case.
WFEC - FPL SWITCH - MOORELAND 138kV in base case.
OKGE - GLASS MOUNTAIN - MOORELAND 138kV in base case.
WFEC - GLASS MOUNTAIN - MOORELAND 138kV in base case.
OKGE - KNOBHILL 138-69kV in base case.
OKGE - SOUTHARD - ROMAN NOSE 138kV in base case.
WFEC - TALOGA 138-69kV in base case.
OKGE - ALVA - KNOBHILL 69kV
WFEC - BRANTLEY - MORWOOD 69kV
WFEC - CANTON - OKEENE 69kV
WFEC - CANTON - TALOGA 69kV
WFEC - CARTER JCT - ERICK 69kV
WFEC - CEDARDALE - MOORELAND 138kV
WFEC - CEDARDALE - OKEENE 138kV
OKGE - CLEO CORNER - GLASS MOUNTAIN 138kV
OKGE - DEWEY - SOUTHARD 138kV
WFEC - DOVER SW - OKEENE 138kV
OKGE - EL RENO - ROMAN NOSE 138kV
WFEC - EL RENO SW - EL RENO 69kV
AEPW - ELK CITY - *2002-05T 138kV
AEPW - ELK CITY 69kV
WFEC - ELK CITY 69kV
OKGE - FPL SWITCH - MOORELAND 138kV
WFEC - FPL SWITCH - MOORELAND 138kV

Table 3: Network Constraints

Facility
OKGE - GLASS MOUNTAIN - MOORELAND 138kV
WFEC - GLASS MOUNTAIN - MOORELAND 138kV
WFEC - HAMON BUTLER - MOREWOOD 69kV
OKGE - KNOBHILL 138-69kV
OKGE - KNOBHILL - MOORELAND 138kV
WFEC - KNOBHILL - MOORELAND 138kV
OKGE - MAUD - FIXICO TAP 138kV
AEPW - MAUD - FIXICO TAP 138kV
WFEC - MOORELAND - MOREWOOD SW 138kV
WFEC - MOORELAND - WOODWARD 69kV
WFEC - MOORELAND 138-69kV
WFEC - MOREWOOD SW - 2002-05T 138kV
WFEC - OKEENE - WATONGA SW 69kV
WFEC - OKEENE 138-69kV
OKGE - SOUTH 4TH ST - IMO TAP 138kV
OKGE - SOUTHARD - ROMAN NOSE 138kV
WFEC - TALOGA 138-69kV
OKGE - WOODWARD - FPL SWITCH 138kV
OKGE - WOODWARD 138-69kV
OKGE - WOODWARD 69kV
WFEC - WOODWARD 69kV

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
CLEO CORNER - GLASS MOUNTAIN 138kV	15SP, Base Case	108.2	79	6/1/2007
CLEO CORNER - GLASS MOUNTAIN 138kV	10SP, Base Case	108.1	80	
CLEO CORNER - GLASS MOUNTAIN 138kV	07SP, Base Case	107.7	83	
DOVER SW - OKEENE 138kV	07SP, Base Case	105.3	107	6/1/2007
DOVER SW - OKEENE 138kV	10SP, Base Case	105.0	109	
DOVER SW - OKEENE 138kV	15SP, Base Case	104.3	115	
EL RENO - ROMAN NOSE 138kV,	10SP, Base Case	107.3	111	6/1/2007
EL RENO - ROMAN NOSE 138kV	07SP, Base Case	106.9	113	
EL RENO - ROMAN NOSE 138kV	15SP, Base Case	102.1	139	
ELK CITY - *2002-05T 138kV	07SP, Base Case	154.9	0	10/31/2006
ELK CITY - *2002-05T 138kV	10SP, Base Case	153.1	0	
ELK CITY - *2002-05T 138kV	15SP, Base Case	147.7	0	
ELK CITY - *2002-05T 138kV	10WP, Base Case	134.8	0	
ELK CITY - *2002-05T 138kV	06AP, Base Case	123.6	0	
ELK CITY - *2002-05T 138kV	07WP, Base Case	121.7	0	
FPL SWITCH - MOORELAND 138kV	06AP, Base Case	300.4	0	10/31/2006
FPL SWITCH - MOORELAND 138kV	07WP, Base Case	278.2	0	
FPL SWITCH - MOORELAND 138kV	10WP, Base Case	272.1	0	
FPL SWITCH - MOORELAND 138kV	07SP, Base Case	245.0	0	
FPL SWITCH - MOORELAND 138kV	10SP, Base Case	244.7	0	
FPL SWITCH - MOORELAND 138kV	15SP, Base Case	243.3	0	
FPL SWITCH - MOORELAND 138kV	06WP, Base Case	199.7	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
GLASS MOUNTAIN - MOORELAND 138kV	15SP, Base Case	136.6	0	6/1/2007
GLASS MOUNTAIN - MOORELAND 138kV	10SP, Base Case	136.3	0	
GLASS MOUNTAIN - MOORELAND 138kV	07SP, Base Case	135.8	0	
GLASS MOUNTAIN - MOORELAND 138kV	10WP, Base Case	122.9	0	
GLASS MOUNTAIN - MOORELAND 138kV	07WP, Base Case	109.3	74	
KNOBHILL - KNOBHIL4 138-( )kV	15SP, Base Case	120.9	0	6/1/2007
KNOBHILL - KNOBHIL4 138-( )kV	10SP, Base Case	119.5	0	
KNOBHILL - KNOBHIL4 138-( )kV	07SP, Base Case	118.9	0	
KNOBHILL - KNOBHIL4 138-( )kV	10WP, Base Case	101.9	125	
KNOBHILL - KNOBHIL4 69-( )kV	15SP, Base Case	123.0	0	6/1/2007
KNOBHILL - KNOBHIL4 69-( )kV	10SP, Base Case	121.6	0	
KNOBHILL - KNOBHIL4 69-( )kV	07SP, Base Case	121.0	0	
KNOBHILL - KNOBHIL4 69-( )kV	10WP, Base Case	103.7	102	
SOUTHARD - ROMAN NOSE 138kV	07SP, Base Case	114.4	81	6/1/2007
SOUTHARD - ROMAN NOSE 138kV	10SP, Base Case	114.4	81	
SOUTHARD - ROMAN NOSE 138kV	15SP, Base Case	109.2	106	
TALOGA 138-69kV	15SP, Base Case	103.6	137	6/1/2007
TALOGA 138-69kV	07SP, Base Case	100.4	149	
TALOGA 138-69kV	10SP, Base Case	100.4	149	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
ALVA - KNOBHILL 69kV	15SP, 54720-54721, OKGE ENID , GOLTRY - IMO 69kV	118.0	0	6/1/2008
ALVA - KNOBHILL 69kV	10SP, 54720-54721, OKGE ENID , GOLTRY - IMO 69kV	115.4	0	
ALVA - KNOBHILL 69kV	10WP, 54716-54794, OKGE ENID , SALINE - KNOBHILL 69kV	102.1	121	
ALVA - KNOBHILL 69kV	10WP, 54716-54720, OKGE ENID , SALINE - GOLTRY 69kV	100.7	140	
BRANTLEY - MORWOOD 69kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	147.1	0	10/31/2006
BRANTLEY - MORWOOD 69kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	144.1	0	
BRANTLEY - MORWOOD 69kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	140.1	0	
BRANTLEY - MORWOOD 69kV	10WP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	125.3	0	
BRANTLEY - MORWOOD 69kV	07WP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	113.5	25	
BRANTLEY - MORWOOD 69kV	06AP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	111.5	50	
BRANTLEY - MORWOOD 69kV	07SP, 56001-99940, WFEC AEP-CS - , MOREWOOD SW - 2002-05T 138kV	103.5	120	
BRANTLEY - MORWOOD 69kV	10SP, 56001-99940, WFEC AEP-CS - , MOREWOOD SW - 2002-05T 138kV	102.9	125	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
CANTON - OKEENE 69kV	10SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	134.2	0	10/31/2006
CANTON - OKEENE 69kV	07SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	134.1	0	
CANTON - OKEENE 69kV	07SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	132.7	0	
CANTON - OKEENE 69kV	10SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	132.7	0	
CANTON - OKEENE 69kV	15SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	132.3	0	
CANTON - OKEENE 69kV	15SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	130.8	0	
CANTON - OKEENE 69kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	125.5	46	
CANTON - OKEENE 69kV	10WP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	124.4	19	
CANTON - OKEENE 69kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	124.2	49	
CANTON - OKEENE 69kV	10WP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	123.1	26	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
CANTON - TALOGA 69kV	10SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	139.4	0	10/31/2006
CANTON - TALOGA 69kV	07SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	139.1	0	
CANTON - TALOGA 69kV	15SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	139.1	0	
CANTON - TALOGA 69kV	10SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	137.9	0	
CANTON - TALOGA 69kV	07SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	137.7	0	
CANTON - TALOGA 69kV	15SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	137.7	0	
CANTON - TALOGA 69kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	131.1	26	
CANTON - TALOGA 69kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	129.5	29	
CANTON - TALOGA 69kV	10WP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	128.4	0	
CANTON - TALOGA 69kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	128.0	32	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
CARTER JCT - ERICK 69kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	163.8	0	10/31/2006
CARTER JCT - ERICK 69kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	160.9	0	
CARTER JCT - ERICK 69kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	154.1	0	
CARTER JCT - ERICK 69kV	10WP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	140.3	0	
CARTER JCT - ERICK 69kV	06AP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	128.8	0	
CARTER JCT - ERICK 69kV	07WP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	125.0	0	
CARTER JCT - ERICK 69kV	07SP, 56001-99940, WFEC AEP-CS - , MOREWOOD SW - 2002-05T 138kV	105.9	115	
CARTER JCT - ERICK 69kV	10SP, 56001-99940, WFEC AEP-CS - , MOREWOOD SW - 2002-05T 138kV	103.4	130	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
CEDARDALE - MOORELAND 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	121.8	0	10/31/2006
CEDARDALE - MOORELAND 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	119.1	0	
CEDARDALE - MOORELAND 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	118.4	0	
CEDARDALE - MOORELAND 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	116.4	42	
CEDARDALE - MOORELAND 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	115.1	45	
CEDARDALE - MOORELAND 138kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	114.9	11	
CEDARDALE - MOORELAND 138kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	114.7	12	
CEDARDALE - MOORELAND 138kV	15SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	114.3	15	
CEDARDALE - MOORELAND 138kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	114.3	16	
CEDARDALE - MOORELAND 138kV	07SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	114.1	17	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
CEDARDALE - OKEENE 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	119.6	0	10/31/2006
CEDARDALE - OKEENE 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	117.2	4	
CEDARDALE - OKEENE 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	116.4	0	
CEDARDALE - OKEENE 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	114.2	56	
CEDARDALE - OKEENE 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	113.0	58	
CEDARDALE - OKEENE 138kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	112.9	29	
CEDARDALE - OKEENE 138kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	112.8	29	
CEDARDALE - OKEENE 138kV	15SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	112.5	31	
CEDARDALE - OKEENE 138kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	112.3	35	
CEDARDALE - OKEENE 138kV	07SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	112.2	35	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
CLEO CORNER - GLASS MOUNTAIN 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	153.8	0	10/31/2006
CLEO CORNER - GLASS MOUNTAIN 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	150.7	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	148.8	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	148.2	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	146.2	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	144.6	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	141.1	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	140.9	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	15SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	139.1	0	
CLEO CORNER - GLASS MOUNTAIN 138kV	10SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	137.9	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
DEWEY - SOUTHARD 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	121.0	50	10/31/2006
DEWEY - SOUTHARD 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	117.2	57	
DEWEY - SOUTHARD 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	116.2	70	
DEWEY - SOUTHARD 138kV	10SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	105.5	120	
DEWEY - SOUTHARD 138kV	07SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	105.2	121	
DEWEY - SOUTHARD 138kV	10SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	104.9	123	
DEWEY - SOUTHARD 138kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	104.8	123	
DEWEY - SOUTHARD 138kV	07SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	104.6	125	
DEWEY - SOUTHARD 138kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	104.4	125	
DEWEY - SOUTHARD 138kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	104.4	125	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
DOVER SW - OKEENE 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	156.6	0	10/31/2006
DOVER SW - OKEENE 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	153.8	0	
DOVER SW - OKEENE 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	152.3	0	
DOVER SW - OKEENE 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	152.1	0	
DOVER SW - OKEENE 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	151.8	0	
DOVER SW - OKEENE 138kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	148.9	0	
DOVER SW - OKEENE 138kV	07SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	148.2	0	
DOVER SW - OKEENE 138kV	10SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	148.0	0	
DOVER SW - OKEENE 138kV	15SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	146.9	0	
DOVER SW - OKEENE 138kV	07SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	146.8	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
EL RENO - ROMAN NOSE 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	155.9	0	10/31/2006
EL RENO - ROMAN NOSE 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	150.8	0	
EL RENO - ROMAN NOSE 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	147.6	0	
EL RENO - ROMAN NOSE 138kV	10SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	134.2	17	
EL RENO - ROMAN NOSE 138kV	07SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	134.0	18	
EL RENO - ROMAN NOSE 138kV	10SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	133.3	20	
EL RENO - ROMAN NOSE 138kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	133.3	19	
EL RENO - ROMAN NOSE 138kV	07SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	133.1	21	
EL RENO - ROMAN NOSE 138kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	132.9	19	
EL RENO - ROMAN NOSE 138kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	132.7	21	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
EL RENO SW - EL RENO 69kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	134.7	0	10/31/2006
EL RENO SW - EL RENO 69kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	130.5	0	
EL RENO SW - EL RENO 69kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	127.6	9	
EL RENO SW - EL RENO 69kV	15SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	124.2	23	
EL RENO SW - EL RENO 69kV	10SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	123.5	26	
EL RENO SW - EL RENO 69kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	123.1	36	
EL RENO SW - EL RENO 69kV	15SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	120.3	41	
EL RENO SW - EL RENO 69kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	117.2	60	
EL RENO SW - EL RENO 69kV	10SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	116.6	19	
EL RENO SW - EL RENO 69kV	15SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	115.6	27	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
ELK CITY - *2002-05T 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	202.5	0	10/31/2006
ELK CITY - *2002-05T 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	202.2	0	
ELK CITY - *2002-05T 138kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	195.6	0	
ELK CITY - *2002-05T 138kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	193.6	0	
ELK CITY - *2002-05T 138kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	192.6	0	
ELK CITY - *2002-05T 138kV	07SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	191.5	0	
ELK CITY - *2002-05T 138kV	10SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	189.7	0	
ELK CITY - *2002-05T 138kV	15SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	185.8	0	
ELK CITY - *2002-05T 138kV	07SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	185.7	0	
ELK CITY - *2002-05T 138kV	07SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	184.6	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
ELK CITY 69kV	07SP, 56051-56052, WFEC AEP-KP , SNYDER 138-69kV	116.8	0	10/31/2006
ELK CITY 69kV	07SP, 56024-56052, WFEC AEP-KP , PARADISE - SNYDER 138kV	116.8	0	
FPL SWITCH - MOORELAND 138kV	06AP, 54289-54290-54305, AEPW WTU , CHILDRESS 138-69kV	300.5	0	10/31/2006
FPL SWITCH - MOORELAND 138kV	06AP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	352.1	0	
FPL SWITCH - MOORELAND 138kV	06AP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	349.8	0	
FPL SWITCH - MOORELAND 138kV	06AP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	348.5	0	
FPL SWITCH - MOORELAND 138kV	06AP, 54782-54785-55771, OKGE ENID , WOODWARD 138-69kV	346.7	0	
FPL SWITCH - MOORELAND 138kV	07WP, 54782-54785-55771, OKGE ENID , WOODWARD 138-69kV	336.0	0	
FPL SWITCH - MOORELAND 138kV	06AP, 54782-56096, OKGE ENID - WFEC AEP-OP , WOODWARD 69kV	334.1	0	
FPL SWITCH - MOORELAND 138kV	10WP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	331.4	0	
FPL SWITCH - MOORELAND 138kV	10WP, 54782-54785-55771, OKGE ENID , WOODWARD 138-69kV	330.8	0	
FPL SWITCH - MOORELAND 138kV	07WP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	329.8	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
GLASS MOUNTAIN - MOORELAND 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	193.0	0	10/31/2006
GLASS MOUNTAIN - MOORELAND 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	189.4	0	
GLASS MOUNTAIN - MOORELAND 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	186.7	0	
GLASS MOUNTAIN - MOORELAND 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	186.1	0	
GLASS MOUNTAIN - MOORELAND 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	183.4	0	
GLASS MOUNTAIN - MOORELAND 138kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	181.8	0	
GLASS MOUNTAIN - MOORELAND 138kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	177.1	0	
GLASS MOUNTAIN - MOORELAND 138kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	176.9	0	
GLASS MOUNTAIN - MOORELAND 138kV	15SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	174.9	0	
GLASS MOUNTAIN - MOORELAND 138kV	10SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	173.2	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
HAMON BUTLER - MOREWOOD 69kV	07SP, 55999-56001, WFEC AEP-OP - WFEC AEP-CS , MOORELAND - MOREWOOD SW 138kV	201.8	0	10/31/2006
HAMON BUTLER - MOREWOOD 69kV	10SP, 55999-56001, WFEC AEP-OP - WFEC AEP-CS , MOORELAND - MOREWOOD SW 138kV	198.1	0	
HAMON BUTLER - MOREWOOD 69kV	15SP, 55999-56001, WFEC AEP-OP - WFEC AEP-CS , MOORELAND - MOREWOOD SW 138kV	185.9	0	
HAMON BUTLER - MOREWOOD 69kV	10WP, 55999-56001, WFEC AEP-OP - WFEC AEP-CS , MOORELAND - MOREWOOD SW 138kV	157.7	0	
HAMON BUTLER - MOREWOOD 69kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	145.4	32	
HAMON BUTLER - MOREWOOD 69kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	145.2	35	
HAMON BUTLER - MOREWOOD 69kV	06AP, 55999-56001, WFEC AEP-OP - WFEC AEP-CS , MOORELAND - MOREWOOD SW 138kV	144.5	29	
HAMON BUTLER - MOREWOOD 69kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	136.5	49	
HAMON BUTLER - MOREWOOD 69kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	134.3	55	
HAMON BUTLER - MOREWOOD 69kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	133.5	60	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
KNOBHILL - KNOBHIL4 138-( )kV	15SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	163.9	0	10/31/2006
KNOBHILL - KNOBHIL4 138-( )kV	15SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	163.0	0	
KNOBHILL - KNOBHIL4 138-( )kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	162.7	0	
KNOBHILL - KNOBHIL4 138-( )kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	161.9	0	
KNOBHILL - KNOBHIL4 138-( )kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	161.9	0	
KNOBHILL - KNOBHIL4 138-( )kV	07SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	161.1	0	
KNOBHILL - KNOBHIL4 138-( )kV	15SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	143.8	0	
KNOBHILL - KNOBHIL4 138-( )kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	143.8	0	
KNOBHILL - KNOBHIL4 138-( )kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	143.6	0	
KNOBHILL - KNOBHIL4 138-( )kV	15SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	143.4	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
KNOBHILL - MOORELAND 138kV	15SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	122.2	0	10/31/2006
KNOBHILL - MOORELAND 138kV	15SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	121.2	0	
KNOBHILL - MOORELAND 138kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	121.1	0	
KNOBHILL - MOORELAND 138kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	120.3	0	
KNOBHILL - MOORELAND 138kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	120.2	0	
KNOBHILL - MOORELAND 138kV	07SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	119.4	0	
KNOBHILL - MOORELAND 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	111.8	35	
KNOBHILL - MOORELAND 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	111.2	33	
KNOBHILL - MOORELAND 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	108.4	46	
KNOBHILL - MOORELAND 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	108.0	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
KNOBHILL - KNOBHIL4 69-( )kV	15SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	168.4	0	10/31/2006
KNOBHILL - KNOBHIL4 69-( )kV	15SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	167.5	0	
KNOBHILL - KNOBHIL4 69-( )kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	167.3	0	
KNOBHILL - KNOBHIL4 69-( )kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	166.6	0	
KNOBHILL - KNOBHIL4 69-( )kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	166.4	0	
KNOBHILL - KNOBHIL4 69-( )kV	07SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	165.7	0	
KNOBHILL - KNOBHIL4 69-( )kV	10WP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	146.6	0	
KNOBHILL - KNOBHIL4 69-( )kV	15SP, 55848-55999, WFEC AEP-OP , CEDARDALE - MOORELAND 138kV	145.9	0	
KNOBHILL - KNOBHIL4 69-( )kV	10WP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	145.9	0	
KNOBHILL - KNOBHIL4 69-( )kV	15SP, 55848-56016, WFEC AEP-OP - WFEC AEP-IM , CEDARDALE - OKEENE 138kV	145.4	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
MAUD - FIXICO TAP 138kV	15SP, 55074-55075-55725, OKGE SHAWNEE , FOREST HILL 138-69kV	109.4	0	6/1/2011
MAUD - FIXICO TAP 138kV	15SP, 53795-54030, AEPW TULSA - AEPW EASTERN , RIVERSIDE STATION - EXPLORER OKMULGEE 138kV	108.7	0	
MAUD - FIXICO TAP 138kV	15SP, 53795-54023, AEPW TULSA - AEPW EASTERN , RIVERSIDE STATION - OKMULGEE 138kV	108.5	0	
MAUD - FIXICO TAP 138kV	15SP, 56028-56048, WFEC AEP-IM-I, PINK SW - SHAWNEE 138kV	107.0	0	
MAUD - FIXICO TAP 138kV	15SP, 55874-55968, WFEC , DARWIN - LANE 138kV	107.0	0	
MAUD - FIXICO TAP 138kV	15SP, 55968-52800, WFEC - SWPA EMINTH , LANE - Tupelo 138kV	106.7	0	
MAUD - FIXICO TAP 138kV	15SP, 56048-56097, WFEC AEP-IM-I - WFEC , SHAWNEE - WEST RED HILL 138kV	106.5	0	
MAUD - FIXICO TAP 138kV	15SP, 54049-54023, AEPW TS-WFEC - AEPW EASTERN , EAST CENTRAL HENRYETTA - OKMULGEE 138kV	105.8	0	
MAUD - FIXICO TAP 138kV	15SP, 54049-54028, AEPW TS-WFEC - AEPW EASTERN , EAST CENTRAL HENRYETTA - WELEETKA 138kV	105.4	0	
MAUD - FIXICO TAP 138kV	15SP, 54171-55055, AEPW WESTERN - OKGE SHAWNEE , BLANCHARD - MAUD 138kV	104.0	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
MOORELAND - MOREWOOD SW 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	118.4	55	10/31/2006
MOORELAND - MOREWOOD SW 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	117.9	53	
MOORELAND - MOREWOOD SW 138kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	113.2	72	
MOORELAND - MOREWOOD SW 138kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	112.0	79	
MOORELAND - MOREWOOD SW 138kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	111.5	85	
MOORELAND - MOREWOOD SW 138kV	07SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	110.1	88	
MOORELAND - MOREWOOD SW 138kV	07SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	109.6	78	
MOORELAND - MOREWOOD SW 138kV	10SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	109.2	94	
MOORELAND - MOREWOOD SW 138kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	108.9	81	
MOORELAND - MOREWOOD SW 138kV	07SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	108.8	83	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
MOORELAND - WOODWARD 69kV	06AP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	153.9	0	10/31/2006
MOORELAND - WOODWARD 69kV	07WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	139.1	0	
MOORELAND - WOODWARD 69kV	10WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	133.4	0	
MOORELAND - WOODWARD 69kV	07SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	112.0	50	
MOORELAND - WOODWARD 69kV	10SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	111.6	51	
MOORELAND - WOODWARD 69kV	15SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	110.4	61	
MOORELAND 138-69kV	07WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	137.4	0	10/31/2006
MOORELAND 138-69kV	10WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	130.3	0	
MOORELAND 138-69kV	07SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	109.0	76	
MOORELAND 138-69kV	10SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	108.4	79	
MOORELAND 138-69kV	15SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	104.9	108	
MOORELAND 69-( )kV	06AP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	142.7	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
MOREWOOD SW - 2002-05T 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	131.6	29	10/31/2006
MOREWOOD SW - 2002-05T 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	131.3	24	
MOREWOOD SW - 2002-05T 138kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	124.9	41	
MOREWOOD SW - 2002-05T 138kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	123.1	49	
MOREWOOD SW - 2002-05T 138kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	121.9	58	
MOREWOOD SW - 2002-05T 138kV	07SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	120.7	56	
MOREWOOD SW - 2002-05T 138kV	10SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	119.3	63	
MOREWOOD SW - 2002-05T 138kV	15SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	115.4	81	
MOREWOOD SW - 2002-05T 138kV	07SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	114.8	65	
MOREWOOD SW - 2002-05T 138kV	07SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	113.8	70	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
OKEENE - WATONGA SW 69kV	07SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	119.9	7	10/31/2006
OKEENE - WATONGA SW 69kV	15SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	119.3	11	
OKEENE - WATONGA SW 69kV	10SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	118.7	14	
OKEENE - WATONGA SW 69kV	10WP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	109.5	80	
OKEENE - WATONGA SW 69kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	103.7	121	
OKEENE - WATONGA SW 69kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	103.0	126	
OKEENE - WATONGA SW 69kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	102.3	129	
OKEENE - WATONGA SW 69kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	101.5	140	
OKEENE - WATONGA SW 69kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	101.5	140	
OKEENE - WATONGA SW 69kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	100.3	148	
OKEENE 138-69kV	10SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	105.8	0	6/1/2007
OKEENE 138-69kV	15SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	105.8	0	
OKEENE 138-69kV	07SP, 55882-56016, WFEC AEP-IM , DOVER SW - OKEENE 138kV	105.3	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
SOUTH 4TH ST - IMO TAP 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	100.6	147	6/1/2010
SOUTHARD - ROMAN NOSE 138kV	10SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	163.3	0	10/31/2006
SOUTHARD - ROMAN NOSE 138kV	07SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	158.6	0	
SOUTHARD - ROMAN NOSE 138kV	15SP, 54121-99940, AEPW WESTERN - , ELK CITY - 2002-05T 138kV	154.8	0	
SOUTHARD - ROMAN NOSE 138kV	07SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	141.5	0	
SOUTHARD - ROMAN NOSE 138kV	10SP, 54778-54789, OKGE ENID , CLEO CORNER - MEN TAP 138kV	141.4	0	
SOUTHARD - ROMAN NOSE 138kV	07SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	140.6	0	
SOUTHARD - ROMAN NOSE 138kV	10SP, 54789-54790, OKGE ENID , MEN TAP - IMO TAP 138kV	140.5	0	
SOUTHARD - ROMAN NOSE 138kV	07SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	140.4	0	
SOUTHARD - ROMAN NOSE 138kV	10SP, 54788-55999, OKGE ENID - WFEC AEP-OP , GLASS MOUNTAIN - MOORELAND 138kV	140.4	0	
SOUTHARD - ROMAN NOSE 138kV	10SP, 54778-54788, OKGE ENID , CLEO CORNER - GLASS MOUNTAIN 138kV	139.9	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
TALOGA 138-69kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	195.6	0	10/31/2006
TALOGA 138-69kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	193.4	0	
TALOGA 138-69kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	192.7	0	
TALOGA 138-69kV	07SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	180.5	0	
TALOGA 138-69kV	10SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	180.0	0	
TALOGA 138-69kV	15SP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	178.8	0	
TALOGA 138-69kV	07SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	172.4	0	
TALOGA 138-69kV	10SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	172.3	0	
TALOGA 138-69kV	15SP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	171.1	0	
TALOGA 138-69kV	10WP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	166.8	0	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
WOODWARD - FPL SWITCH 138kV	07SP, 54782-54785-55771, OKGE ENID , WOODWARD 138-69kV	116.5	20	10/31/2006
WOODWARD - FPL SWITCH 138kV	15SP, 54782-54785-55771, OKGE ENID , WOODWARD 138-69kV	116.4	20	
WOODWARD - FPL SWITCH 138kV	10SP, 54782-54785-55771, OKGE ENID , WOODWARD 138-69kV	116.1	22	
WOODWARD - FPL SWITCH 138kV	10SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	112.7	0	
WOODWARD - FPL SWITCH 138kV	06AP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	112.2	72	
WOODWARD - FPL SWITCH 138kV	06AP, 54822-54823, OKGE METRO , SOUTHARD - ROMAN NOSE 138kV	111.2	79	
WOODWARD - FPL SWITCH 138kV	07SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	111.2	94	
WOODWARD - FPL SWITCH 138kV	06AP, 54782-54785-55771, OKGE ENID , WOODWARD 138-69kV	111.2	46	
WOODWARD - FPL SWITCH 138kV	06AP, 54819-54823, OKGE METRO , EL RENO - ROMAN NOSE 138kV	110.6	82	
WOODWARD - FPL SWITCH 138kV	15SP, 54787-54822, OKGE ENID - OKGE METRO , DEWEY - SOUTHARD 138kV	108.5	106	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
WOODWARD - WOODWRD2 138-( )kV	15SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	149.1	0	10/31/2006
WOODWARD - WOODWRD2 138-( )kV	07SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	148.5	0	
WOODWARD - WOODWRD2 138-( )kV	07WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	148.4	0	
WOODWARD - WOODWRD2 138-( )kV	10SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	148.2	0	
WOODWARD - WOODWRD2 138-( )kV	10WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	146.9	0	
WOODWARD - WOODWRD2 138-( )kV	06AP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	146.0	0	
WOODWARD - WOODWRD2 138-( )kV	06WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	106.5	76	
WOODWARD - WOODWRD2 138-( )kV	07WP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	105.8	85	
WOODWARD - WOODWRD2 138-( )kV	15SP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	105.4	87	
WOODWARD - WOODWRD2 138-( )kV	07SP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	104.8	95	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
WOODWARD - WOODWRD2 69-( )kV	15SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	153.7	0	10/31/2006
WOODWARD - WOODWRD2 69-( )kV	07SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	153.2	0	
WOODWARD - WOODWRD2 69-( )kV	07WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	153.0	0	
WOODWARD - WOODWRD2 69-( )kV	10SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	152.9	0	
WOODWARD - WOODWRD2 69-( )kV	10WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	151.8	0	
WOODWARD - WOODWRD2 69-( )kV	06AP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	150.4	0	
WOODWARD - WOODWRD2 69-( )kV	06WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	109.3	45	
WOODWARD - WOODWRD2 69-( )kV	07WP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	108.4	59	
WOODWARD - WOODWRD2 69-( )kV	15SP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	107.8	61	
WOODWARD - WOODWRD2 69-( )kV	07SP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	107.3	68	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Table 4: Contingency Analysis Results

Facility	Model & Contingency	Facility Loading (% Rate B) Or Voltage (PU)	ATC (MW)	Date Required (M/D/Y)
WOODWARD 69kV	15SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	175.8	0	10/31/2006
WOODWARD 69kV	10SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	174.8	0	
WOODWARD 69kV	07SP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	173.7	0	
WOODWARD 69kV	06AP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	172.9	0	
WOODWARD 69kV	10WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	159.4	0	
WOODWARD 69kV	07WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	158.7	0	
WOODWARD 69kV	06AP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	115.1	11	
WOODWARD 69kV	15SP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	103.3	124	
WOODWARD 69kV	06WP, 55785-55999, OKGE ENID - WFEC AEP-OP , FPL SWITCH - MOORELAND 138kV	102.3	129	
WOODWARD 69kV	10SP, 54785-55785, OKGE ENID , WOODWARD - FPL SWITCH 138kV	102.3	132	

Note: When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. If the loading of a facility is higher, the level of ATC will be lower.

Powerflow Analysis

A powerflow analysis was conducted for the facility using modified versions of models for the 2006 April and Winter Peak, Summer and Winter Peak for 2007 and 2010, and the 2015 Summer Peak seasons. This is the end of the current SPP planning horizon. The output of the Customer's facility was offset in each model by a reduction in output of existing online SPP generation. The proposed in-service date of the generator is October 31, 2006.

The analysis of the Customer's project indicates that, given the requested generation level of 150MW and location, additional criteria violations will occur on the existing AEPW, OKGE and WFEC facilities under steady state conditions in the modeled seasons.

There are several other proposed generation additions in the general area of the Customer's facility. Local projects that were previously queued were assumed to be in service in this Feasibility Study. Those local projects that were previously queued and have advanced to nearly complete phases were included in this Feasibility Study.

In order to complete valid load flow solutions for one contingency, additional reactive compensation is required in the OKGE area. For an outage of the Elk City – GEN-2002-05 Tap 138kV line, 60MVAR is required on this contingency basis to prevent excessive voltage decay. This Customer must install approximately 60MVAR in a staged capacitor bank switched at 34.5kV in the Customer's 138-34.5kV Substation. Dynamic Stability studies performed as part of the impact study will provide additional guidance as to whether the reactive compensation can be static or a portion must be dynamic (such as a SVC).

Powerflow Analysis Methodology

The Southwest Power Pool (SPP) criteria states that: "The transmission system of the SPP region shall be planned and constructed so that the contingencies as set forth in the Criteria will meet the applicable *NERC Planning Standards* for System Adequacy and Security – Transmission System Table l hereafter referred to as NERC Table l) and its applicable standards and measurements".

Using the created models and the ACCC function of PSS\E, single contingencies in portions or all of the modeled control areas of American Electric Power West, OG&E Electric Services, Western Farmers Electric Cooperative, and Southwestern Public Service Company were applied and the resulting scenarios analyzed. This satisfies the 'more probable' contingency testing criteria mandated by NERC and the SPP criteria.

Conclusion

The minimum cost of interconnecting the Customer project is estimated at $2,074,747 for OKGE's interconnection Network Upgrade facilities listed in Table 2 excluding upgrades of other transmission facilities by AEPW, OKGE and WFEC listed in Table 3 of which are Network Constraints. At this time, the cost estimates for other Direct Assignment facilities including those in Table 1 have not been defined by the Customer. As stated earlier, local projects that were previously queued are assumed to be in service in this Feasibility Study. An additional staged 60MVAR capacitor bank switched at 34.5kV will be required in the Customer's 138-34.5kV Substation to maintain adequate voltage in the local area.

In Table 4, a value of Available Transfer Capability (ATC) associated with each overloaded facility is included. These values may be used by the Customer to determine lower generation capacity levels that may be installed. When transmission service associated with this interconnection is evaluated, the loading of the facilities listed in this table may be greater due to higher priority reservations. When a facility is overloaded for more than 10 contingencies, then only the results with the 10 highest loadings may be included in this table.

These interconnection costs do not include any cost that may be associated with short circuit or transient stability analysis. These studies will be performed if the Customer signs a System Impact Study Agreement.

The required interconnection costs listed in Table 2 and other upgrades associated with Network Constraints listed in Table 3 do not include all costs associated with the deliverability of the energy to final customers. These costs are determined by separate studies if the Customer requests transmission service through Southwest Power Pool's OASIS.

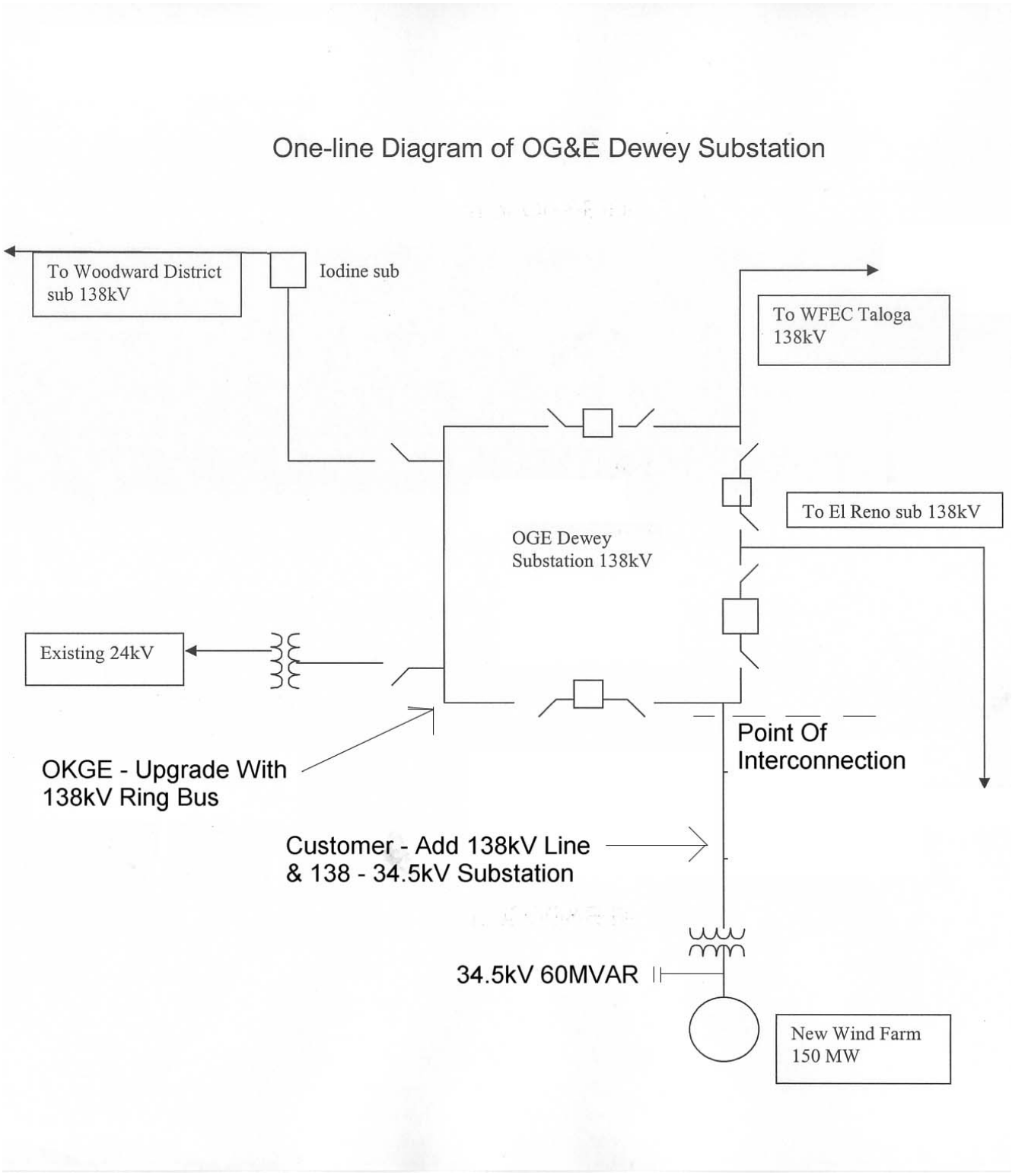

Figure 1: Proposed Interconnection (Final substation design to be determined)

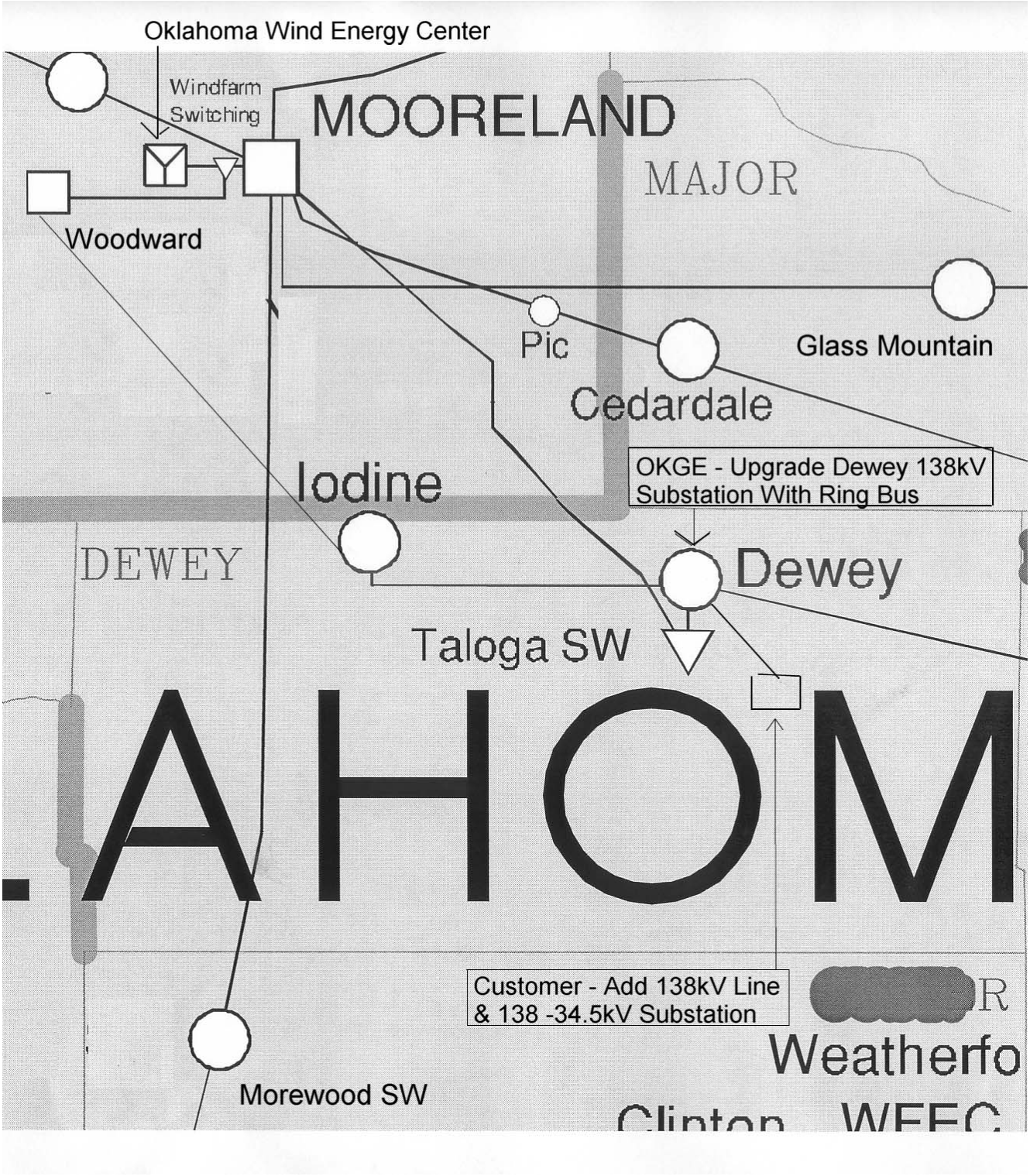

Figure 2: Map Of The Surrounding Area