414 Nicollet Mall, 5th floor
Minneapolis, MN 55401

September 11, 2007

Filed Electronically

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
Room 1A-East
888 First Street, N.E.
Washington, D. C. 20426

Re: Xcel Energy Operating Companies
Joint Open Access Transmission Tariff
Order No. 890 Compliance Filing
Revised Attachment C - Methodology to Assess Available Transfer Capability
Docket No. OA07-_____-000

Dear Ms. Bose:

Pursuant to Section 206 of the Federal Power Act, 16 U.S.C. 824e (2000), and in compliance with the Federal Energy Regulatory Commission's ("Commission") Order No. 890,[1] enclosed please find proposed revised Attachment C to the Xcel Energy Operating Companies Joint Open Access Transmission Tariff ("Joint OATT"), First Revised Volume No. 1.[2] This revised Attachment C consists of the following tariff sheets:

First Revised Sheet No. 110
Original Sheet No. 110A
Original Sheet No. 110B
Original Sheet No. 110C
Original Sheet No. 110D
Original Sheet No. 110E
Original Sheet No. 110F
Original Sheet No. 110G

This compliance filing is being submitted by Xcel Energy Services Inc. ("XES" or "Xcel Energy") on behalf of the Xcel Energy Operating Companies to comply with the Final Rule. The

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1 *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 FR 12266 (March 15, 2007), FERC Stats. & Regs. ¶ 31,241 (2007) ("Order No. 890"), *reh'g pending*.

2 The First Revised Joint OATT was originally accepted for filing in *Xcel Energy Operating Cos*., Docket Nos. ER99-3916-002 and EC99-101-000 (unpublished delegated letter order issued Nov. 30, 2000).

Xcel Energy Operating Companies consist of Public Service Company of Colorado ("PSCo"), Southwestern Public Service Company ("SPS"), Northern States Power Company, a Minnesota corporation ("NSP") and Northern States Power Company, a Wisconsin corporation ("NSPW") (jointly the "NSP Companies"). The four operating companies are all utility operating company subsidiaries of Xcel Energy Inc., a public utility holding company pursuant to the Public Utility Holding Company Act of 2005 ("PUHCA 2005"). XES is the "service company" subsidiary for the Xcel Energy Inc. holding company system.

I. BACKGROUND

In Order No. 890, the Commission amended its regulations and adopted reforms to the *pro forma* open access transmission tariff in order to (i) strengthen the *pro forma* open access transmission tariff to ensure that it achieves its original purpose of remedying undue discrimination, (ii) provide greater specificity to reduce opportunities for undue discrimination and facilitate the Commission's enforcement, and (iii) increase transparency in the rules applicable to planning and use of the transmission system.

Among its reforms, the Commission created new requirements designed to increase transparency in transmission provider Available Transfer Capability ("ATC") calculations through revisions to Attachment C of the *pro forma* tariff. In particular, the Commission required each transmission provider to revise its Attachment C to: (i) clearly identify which of the NERC-approved methodologies it employs (*e.g.*, contract path, network ATC, or network Available Flowgate Capability ("AFC"));[3] (ii) provide a detailed description of the specific mathematical algorithm used to calculate firm and non-firm ATC for the scheduling horizon, operating horizon, and planning horizon;[4] (iii) set forth a definition of each ATC component -- *i.e.*, Total Transmission Capability ("TTC"), Existing Transmission Commitment ("ETC"), Transmission Reliability Margin ("TRM"), and Capacity Benefit Margin ("CBM") -- and a detailed explanation of how each one is derived in both the operating and planning horizons;[5] (iv) document their processes for coordinating ATC calculations with their neighboring systems;[6] and (v) include a process flow diagram that describes the various steps that it takes in performing the ATC calculation.[7]

The Commission required that each non-ISO/RTO transmission provider file a revised Attachment C to its Open Access Transmission Tariff ("OATT") incorporating these requirements within 180 days of publication of the Final Rule in the Federal Register.[8] With

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3 Order No. 890 at P 323.

4 *Id*.

5 *Id*.

6 *Id*. at P 327.

7 *Id*. at P 323.

8 *Id*. at P 140.

respect to ISO and RTO transmission providers, the Commission created a separate timeline in Order No. 890 to comply with its requirements.[9]

II. THE INSTANT COMPLIANCE FILING

Because of its differing requirements between ISO/RTO and non-ISO/RTO transmission providers, the Final Rule creates different compliance obligations on the Xcel Energy Operating Companies. SPS and the NSP Companies are each members of a Commission-approved Regional Transmission Organization ("RTO") but PSCo is not. The NSP Companies are transmission owner members of the Midwest Independent Transmission System Operator, Inc. ("Midwest ISO") RTO in the Eastern Interconnection pursuant to the MISO Transmission Owners Agreement ("TOA");[10] while SPS is a member of the Southwest Power Pool ("SPP") RTO in the Eastern Interconnection, and most wholesale transmission service access to the SPS transmission system is subject to the SPP regional OATT. Thus, ATC calculations and postings for the NSP Companies and SPS transmission systems are the regional methodologies of the two RTOs, described in the RTO tariffs. PSCo, however, is the transmission provider for the PSCo transmission system. The instant compliance filing is therefore limited to addressing the ATC methodology of PSCo and revising the Xcel Energy Operating Companies Joint OATT accordingly.

The enclosed tariff sheets comprising the revised Attachment C for the Xcel Energy Operating Companies fully address the requirements of Order No. 890. In summary, with reference to the proposed tariff sheets, the revised Attachment C:

- Identifies the contract path method as the NERC-approved methodology employed by PSCo (see First Revised Sheet No. 110);
- Provides a detailed description of the specific mathematical algorithm used by PSCo to calculate firm and non-firm ATC for the scheduling horizon, operating horizon, and planning horizon (see Original Sheet Nos. 110c-110d);
- Includes a Process Flow Diagram (see Original Sheet No. 110g);
- Documents PSCo's processes for coordinating ATC calculations with its neighboring transmission providers (see First Revised Sheet No. 110);
- Sets forth a definition of each ATC component (i.e., TTC, ETC, TRM, and CBM) used in the PSCo ATC methodologies and a detailed explanation of how each one is derived, including reference to databases and assumptions employed in their calculation (see First Revised Sheet Nos. 110a-110f);

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9 *See id*. at P 157.

10 Agreement of Transmission Facility Owners to Organize Midwest Independent System Operator, Inc. *See Midwest Independent Transmission System Operator, Inc., et al*., 84 FERC ¶ 61,231 (1998), *Order on Reh'g*, 85 FERC ¶ 61,372 (1998), *Order Conditionally Accepting Compliance Filing As Modified*, 87 FERC ¶ 61,085 (1999). The Commission approved the transfer of functional control of NSP System facilities (100 kV and above) to the Midwest ISO in *Northern States Power Company et al.*, 91 FERC ¶ 61,157 (2000).

- Provides a narrative explanation of PSCo's CBM Practices (see First Revised Sheet No. 110f). As indicated there, PSCo does not reserve CBM on any of its transmission paths when calculating ATC.

XES requests that the Commission accept the revised Attachment C for filing, effective September 11, 2007. XES submits that the revised Attachment C provides all of the information required by the Commission and will offer transparency to PSCo customers regarding the PSCo ATC methodologies. As provided for in Order No. 890, XES will submit further revisions to Attachment C to incorporate the industry-wide modifications under development by NERC and NAESB upon completion of their processes.[11]

III. COMPLIANCE WITH 18 C.F.R. PART 35 AND ORDER NO. 890

As required by 18 C.F.R. Part 35 and Order No. 890:

(1) Pursuant to 18 C.F.R. § 35.12(a) and new 18 C.F.R. § 35.28(f)(1), this filing consists of: (a) this transmittal letter; (b) Attachment 1, which provides a copy of the revised pages to the Joint OATT reflecting all the revisions required by or consistent with the Final Rule; (c) Attachment 2, which shows the changes to the existing Joint OATT marked in legislative format; (d) and Attachment 3, which provides a list of State Commissions and transmission service customers who will receive mail or electronic notice of the instant compliance filing.[12]

(2) As required by the Guidelines Notice, XES is submitting the instant filing in electronic format to facilitate posting on the Commission's e-library.[13]

(3) A notice of this filing will also be sent by mail or email to: (i) all State Commissions with jurisdiction over the Xcel Energy Operating Companies, and (ii) transmission service customers taking service under the Joint OATT, notifying them where they can download and print or request a copy of this compliance filing. See Attachment 3.

(4) Pursuant to 18 C.F.R. § 35.2(d), a copy of this filing is posted for public inspection at offices of Xcel Energy, 414 Nicollet Mall, Minneapolis, Minnesota 55401. A copy of the revised Attachment C tariff sheets will also be posted electronically on the Transmission page of the Xcel Energy Inc. web site (www.xcelenergy.com) and via a link to the Xcel Energy Inc. web site on the OASIS pages for the PSCo, the NSP Companies and SPS.

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[11] Order No. 890 at P 325.

[12] Consistent with the Commission's Guidelines Notice, Xcel Energy has not included a draft Notice of Filing.

[13] *Notice of Electronic Filing Guidelines for Open Access Transmission Tariffs and Related Filings Pursuant to Commission Order No. 890 and 18 C.F.R. Part 35 and 37*, 119 FERC ¶ 61,037 (2007).

(5) 18 C.F.R. § 35.13(b)(6) is not applicable, as the filed changes merely implement the Final Rule. To the extent necessary, XES requests waiver of 18 C.F.R. § 35.13(b)(6).

(6) 18 C.F.R. § 35.13(b)(7) is not applicable, as the filed changes merely implement the Final Rule and do not necessitate cost of service statements. To the extent necessary, XES requests waiver of 18 C.F.R. § 35.13(b)(7).

(7) 18 C.F.R. § 35.13(c) is not applicable as the proposed changes are required by the Final Rule, as explained above. To the extent required, XES requests waiver of 18 C.F.R. § 35.13(c).

IV. PROPOSED EFFECTIVE DATES; REQUEST FOR WAIVER

XES respectfully requests the revisions to the Xcel Energy Operating Companies Joint OATT, First Revised Volume No. 1, be accepted for filing effective September 11, 2007, pursuant to the Final Rule, without suspension. XES respectfully requests waiver of any applicable filing or notice requirements under the Commission's Rules and Regulations as may be necessary to accept the proposed revisions to the Joint OATT on September 11, 2007.

V. COMMUNICATIONS AND SERVICE

XES requests that all Commission orders and correspondence as well as pleadings from other persons concerning this filing be served on each of the following:

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VI. CONCLUSION

XES and the Xcel Energy Operating Companies sincerely appreciate the Commission's prompt attention to this matter. Please direct any questions regarding this compliance filing to Mr. David Grover at (612-330-2857) or the undersigned at (612-215-4592). Thank you.

Respectfully submitted,

James P. Johnson

James P. Johnson
Assistant General Counsel
Xcel Energy Services Inc.
On behalf of the
Xcel Energy Operating Companies

cc: Attached Notice List

ATTACHMENT 1

ATTACHMENT C
Methodology To Assess Available Transfer Capability

NSP and SPS System ATC Methodologies:

The NSP Companies are members of the Midwest Independent Transmission System Operator, Inc. (MISO) RTO. Southwestern Power Pool (SPS) is a member of the Southwest Power Pool (SPP) RTO. All ATC calculations and postings for the NSP Companies' and SPS transmission systems are performed by their respective RTOs and addressed in the RTO tariffs.

PSCo System ATC Methodology:

General Overview:

Public Service Company of Colorado (PSCo) is a registered Transmission Provider and Balancing Authority (BA) within the Western Interconnection and the Western Electricity Coordination Council (WECC). As PSCo is a vertically integrated electric utility, it is also a Generation Owner and Load Serving Entity (LSE). The PSCo transmission network is located primarily along the Front Range of Colorado with extensions west to Grand Junction and south to Alamosa Colorado. The main transmission voltages are 230-kV and 115-kV. The BAs adjacent to PSCo are Western Area Power Administration-Rocky Mountain Region and Public Service Company of New Mexico (PNM). PSCo coordinates its ATC calculations with these neighboring transmission providers as described in the next paragraph. PSCo is also connected asynchronously to the SPS BA in the SPP region through an AC/DC/AC converter station at Lamar, Colorado. SPS and PSCo are both operating company subsidiaries of Xcel Energy Inc. and coordinate ATC postings for tie line capacity.

PSCo has ownership in the jointly owned western slope transmission facilities extending from the Craig/Hayden area in Northwestern Colorado south to the Four Corners area. PSCo also has ownership in four jointly owned transmission cutplanes or TOT paths within Colorado - TOTs 2A, 3, 5, and 7. TOT path total TTC levels are developed seasonally and coordinated and agreed to by the owners of the TOT facilities, presented to the Colorado Coordinated Planning Group (CCPG), and approved through the WECC Operating Transfer Capability (OTC) Policy Committee process. The jointly owned TOT paths have contractually defined ownership and transmission utilization percentages. TTC development is in accordance with established WECC and NERC standards.

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

PSCo reserves Transmission Reliability Margin (TRM) for transmission associated with reserve group activations under the Rocky Mountain Reserve Sharing Group (RMRG). At the present time, PSCo is not utilizing Capacity Benefit Margin (CBM) on any of its transmission paths when calculating ATC.

PSCo uses the NERC approved contract path methodology.

Reference Documents:

WECC Documents:

The WECC is the NERC recognized Regional Reliability Organization (RRO) for the Western Interconnection. PSCo follows the ATC methodology adopted by WECC and presented in the WECC Document *Determination of Available Transfer Capability Within the Western Interconnection* (June 2001) (hereafter "WECC ATC Document"). The web link is:

http://www.wecc.biz/documents/library/procedures/ATC-apprdec01.pdf

Other WECC Documents:

Procedures for Regional Planning Project Review and Rating Transmission Facilities

Minimum Operating Reliability Criteria

NERC Documents:

Available Transfer Capability Definitions and Determination June 1996

NERC Standards:

MOD-005—Procedure for Verifying CBM Values – Requirement R1.

MOD-009—Procedure for Verifying TRM Values – Requirement R1.

Note: MOD-005 and MOD-009 require the RRO (i.e., WECC) to verify that the Transmission Provider is using the Regional CBM and TRM methodology.

Xcel Energy Transmission Function Documents:

Transmission Facility Rating Methodology Version 3.0 April 19, 2007

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

Applicable Definitions from the WECC ATC Document:

Capacity Benefit Margin (CBM) — is "that amount of transmission transfer capability reserved by load serving entities to ensure access to generation from interconnected systems to meet generation reliability requirements. Reservation of CBM by a load serving entity allows that entity to reduce its installed generation capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements."

Transmission Reliability Margin (TRM) — is "the amount of transmission transfer capability necessary to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions."

Existing Transmission Commitment (ETC) — can include (1) Reservations for Native Load Growth; (2) Existing Commitments; (3) Firm Transmission Reservations; and (4) Good Faith Requests for Transmission Service.

Total Transfer Capability (TTC) — "represents the reliability limit of a transmission path at any specified point in time and is a variable quantity dependent on operating conditions in the near time and forecasted conditions in the long term. TTC cannot exceed the path rating…Specific operating conditions (system topology, load/generation patterns, simultaneous path loadings, and facility outages) may require that TTC or TRM be adjusted to maintain system reliability."

Committed Uses (CU) — Committed Uses, as described in the WECC document is the sum of ETC, TRM and CBM.

Operating Transfer Capability (OTC) — Seasonal path operating transfer capability (OTC) limits are under the purview of the western Interconnection Regional Reliability Organization (WECC). The Western Electricity Coordination Council (WECC) has established a review committee called the OTC Policy Committee with oversight and approval responsibility for seasonal OTCs on key paths across the WECC Interconnection. The OTC PC decides which paths merit WECC review. The seasonal OTC may never exceed the path's established TTC but may be adjusted downward, based on the system studies presented to the OTCPC, for each season to recognize load, generation, and transmission conditions anticipated for the upcoming operating period.

The link to the OTC PC handbook, which includes their scope plus review and approval procedures is:

http://www.wecc.biz/documents/library/OTC/OTCPC_HANDBOOK_06-29-07.pdf

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

Order No. 890 Requirements:

1. Information Concerning ATC Calculation Methodology/Algorithms

a. Definitions:

The three horizons used by PSCo are:

i. **Scheduling Horizon**: At PSCo this period is defined to be the period of time beginning with the current hour and extending a total of eight hours.

ii. **Operating Horizon**: At PSCo this period begins at end of the Scheduling Horizon and extends through the end of the last day that has been or is being prescheduled.

iii. **Planning Horizon**: This period begins at the end of the Operating Horizon and extends approximately four years into the future.

b. Mathematical Algorithms Used to Calculate ATC

The formulas used by PSCo to calculate ATC are shown below for the Scheduling, Operating and Planning horizons and also posted on the PSCo OASIS site:

http://www.oatioasis.com/PSCO/PSCOdocs/PSCO_ATC_Information.pdf

CBM is not included in the formulas to calculate ATC because PSCo does not currently reserve CBM on any of its posted transmission paths.

i. **Scheduling Horizon**

Tagged (scheduled) quantities are used in the Scheduling Horizon ATC calculations and TRM is released as non-firm ATC.

Firm ATC = TTC - ETC - TRM - Confirmed Firm Transmission Service Reservations (TSRs) – Implemented Firm Tags

.

Non-Firm ATC = TTC - ETC - TRM*B - Implemented Firm Tags – Implemented Non-Firm Tags

* Where PSCo uses B=0 to allow TRM to be made available as Non-Firm ATC.

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

ii. **Operating Horizon**

Tagged (scheduled) quantities are used in the Operating Horizon ATC calculations and TRM is released as non-firm ATC.

Firm ATC = TTC - ETC - TRM - Confirmed Firm Transmission Service Reservations (TSRs) – Implemented Firm Tags

Non-Firm ATC = TTC- ETC - TRM*B -Implemented Firm Tags –Implemented Non-Firm Tags

Where PSCo uses B=0 to allow TRM to be made available as Non-Firm ATC.

iii. **Planning Horizon**

Tagged quantities are not used in the Planning Horizon ATC calculations. Only Reserved quantities are included plus TRM and CBM. TRM is released as non-firm ATC

Firm ATC = TTC - ETC - TRM - Confirmed Firm TSRs

Non-Firm ATC = TTC - ETC -TRM*B - Confirmed Firm TSRs - Confirmed Non Firm TSRs

Where PSCo uses B=0 to allow all TRM to be made available as Non-Firm ATC.

2. Process Flow Diagram Illustrating ATC Calculation Steps

See attached diagram for the ATC process flow, which includes the formulas from section 1, and also illustrates how the Open Access Technology International, Inc. (OATi) webTrans system is used to automate ATC calculations and support evaluation of transmission service requests. The OATi webTrans system is a software tool that PSCo Transmission Operations uses to process real time updates to path ATC values. WebTrans then sends the information to OASIS to update transmission path offerings.

3. Detailed Explanation of Calculation of Each ATC Component

a. TTC Calculation Methodology

Per the Definition in the WECC ATC Document (provided above), TTC represents the reliability limit of a transmission path at any specified point in time and is a variable quantity dependent on operating conditions in the near time and forecasted conditions in the long term.

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TTC as used by PSCo is the smaller of (i) the path Operating Transfer Capability (or the path thermal or stability limited rating if it does not have a WECC approved OTC), or (ii) the contractual rights.

TOT path TTC levels are developed seasonally by the TOT owners, presented to the CCPG, and approved through the WECC OTC Policy Committee process. Internal paths are reviewed periodically using the approach presented in the Xcel Energy Transmission Facility Rating Methodology Version 3.0 document. TTC development, both internally and on jointly owned TOTs, occurs in accordance with established WECC and NERC standards including WECC's "Procedures for Regional Planning Project Review and Rating Transmission Facilities" and also the WECC "Minimum Operating Reliability Criteria". The TOT 2A path in Colorado has a dynamic limit that is frequently well below maximum in one direction (North to South) due to local load levels. To avoid over-selling in this direction, the ATC calculation is adjusted on this path by reducing the PSCo contractual transmission access rights on the path with moderately heavy local loads represented in the path OTC curves.

The database for the TOT OTC studies is the WECC powerflow data bank. Seasonal studies for the TOT paths use the latest approved WECC base cases with heavy loads represented. The western slope loads and Nucla generation are varied in the TOT 2A studies to develop the TOT 2A limits as a function of local load and Nucla generation. Nucla is a generation plant owned by Tri-State Generation and Transmission Cooperative (Tri-State) in southwestern Colorado whose generation level impacts the TOT 2A OTC limits.

b. Definition of ETC

PSCo calculates ETC consistent with the definitions of Committed Uses and ETC from the WECC ATC Document (see above). PSCo only makes use of ETC on four paths. On TOT 2A, ETC is used to move 12 MW of PSCo-owned hydro generation external to PSCo's Balancing Authority Area in Southwest Colorado across a constrained path. On TOT 7, ETC is used to move generation to the appropriate external Balancing Authority network per a grandfathered transmission service agreement. The other two paths are Midway and Rifle, where ETC is used to move energy from radially-connected generators to the network. PSCo's ETC calculation does not currently incorporate other point-to-point transmission service requests or rollover rights, nor does it support the release of non-firm capacity. As shown in the formulas above, these other firm uses are accounted for explicitly in the formulas.

c. Calculation Methodology Used for Transmission Set Aside

PSCo does not use Transmission Set Aside at this time when calculating ATC. Native load service is tagged.

d. Explanation of AFC Methodology

Not applicable. PSCO does not use an AFC methodology.

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

e. Explanation of TRM Definition and Methodology

PSCo uses the definition of TRM from the above WECC ATC Document (provided above). The WECC ATC Document provides that:

> In the Western Interconnection methodology, firm ATC reductions associated with TRM may include the following components. TRM may be set to zero.
>
> - Transmission necessary for the activation of operating reserves
> - Unplanned transmission outages
> - Simultaneous limitations associated with operation under a nomogram
> - Loading variations due to balancing of generation and load
> - Uncertainty in load distribution and/or load forecast
> - Allowances for unscheduled flow

PSCo reserves TRM only to support the activation of operating reserves in three instances, and does not utilize TRM to address the other contingencies and uncertainties. More specifically, PSCo reserves TRM as needed to import generation in the case of loss of internal system generation and to meet its obligations to deliver power to other Members of the RMRG. PSCo has calculated and allocated TRM on three paths: TOT7, Story to PSCo, and PSCo Central System to Midway. These allocations are based directly on the PSCo largest single hazard, other Members' largest hazards and the supporting RMRG members' deliveries over the paths. These three paths are primary connection points between PSCo and the other Members. To respond to the possibility of a major system disturbance affecting some or all of the RMRG members PSCo relies on, PSCo has also allocated all uncommitted TOT2A south to north capacity for TRM because that path is the only PSCo path from the desert southwest utilities (non RMRG utilities) to the PSCo system. On all other paths, TRM is set to zero, as allowed by the WECC methodology.

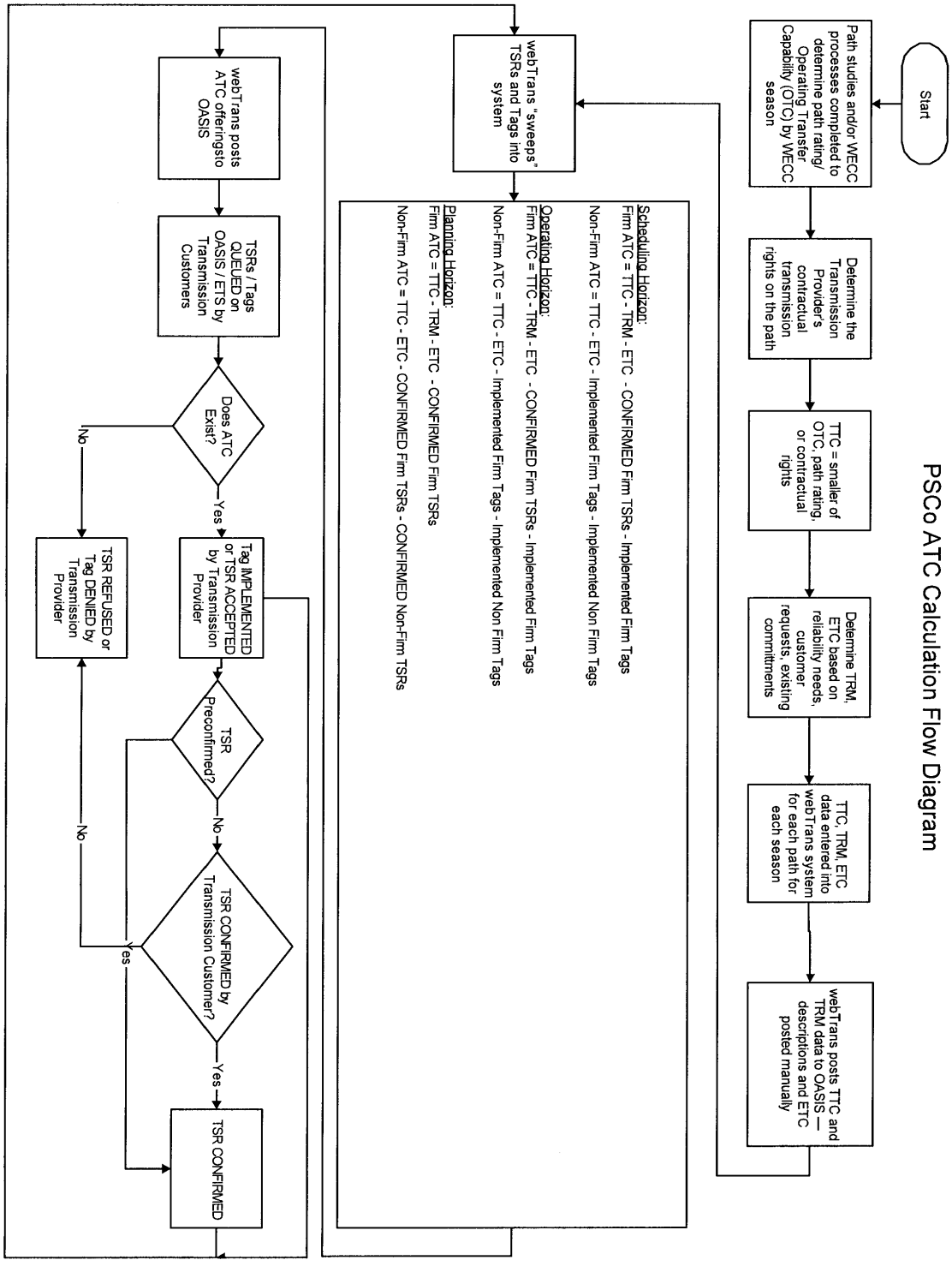
The RMRG Members reserve obligations (quotas) are recalculated twice a year and go into effect on April 1 and October 1 for the Summer and Winter seasons, respectively. The database used is the RMRG approved seasonal reserve quotas and supporting information.

f. Narrative Explanation of CBM Practice

Not applicable. PSCo has established CBM at 0 on all transmission paths when calculating ATC.

PSCo has chosen to use TRM to account for activation of operating reserves as allowed by the WECC. The WECC ATC Document provides that "In the Western Interconnection methodology, firm ATC reductions associated with TRM may include the following components:…Transmission necessary for the activation of operating reserves." According to the NERC document "**Available Transfer Capability Definitions and Determination"** TRM is more of a network margin than CBM which is more locally applied. PSCo receives and delivers to nine other Members of the RMRG and decided TRM was more appropriate than CBM.

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)



Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

ATTACHMENT 2

ATTACHMENT C
Methodology To Assess Available ~~Transmission~~ Transfer Capability

~~Public Service Company of Colorado~~

~~PSCo utilizes the Rocky Mountain Area OASIS ("RMAO") site to post ATC for Point-To-Point service on constrained interfaces and unconstrained interfaces for which PSCo has received transmission service requests within the last 12 months. Individual transmission providers of the RMAO post ATC on the RMAO site. The Transmission Providers are members of the WSCC and currently use Operating Transfer Capability ("OTC") for seasonal operating limits for transmission interfaces which originate from the WSCC OTC policy group. The OTC seasonal limits, the WSCC Path Rating Catalog, and the "Determination of Available Transfer Capability within the Western Interconnection" dated February 18, 1997 are used as guides in determining ATC for posting on the RMAO.~~

~~Northern States Power Companies~~

~~NSP has contracted with MAPP to develop the OASIS. Available transmission capability ("ATC") for Point-To-Point service will be posted on constrained interfaces utilizing a flow based methodology. An OASIS calculator will determine the feasibility of each requested service and decrement available capability on all interfaces for each contracted or pending transaction. Dedicated, off-line System Impact Studies will be performed in accordance with the procedures shown in Attachment D if NSP determines one is needed and the Eligible Customer executes a System Impact Study Agreement.~~

~~The flow based ATC component for each interface are determined in accordance with the ATC principles published by the North American Electric Reliability Council ("NERC").[4]~~

~~Southwestern Public Service Company~~

~~SPS has contracted with SPP to develop the OASIS. ATC for Point-To-Point service is posted on constrained interfaces utilizing a flow based approach. Transfer studies are run to determine the Point-To-Point transfer capabilities on all constrained interfaces in the SPP. SPS verifies the calculation of ATC on constrained interfaces utilizing SPS's Transmission System, and then posts the ATC on OASIS. The ATC components for each interface are determined in accordance with the ATC principles published by the NERC.~~

~~Requests for which ATCs are not available (requests for transmission service beyond the ATC calculation) are evaluated by performing a System Impact Study in accordance with the procedures outlined in Attachment D when the Eligible Customer executes a System Impact Study Agreement. The results of these studies are posted on OASIS.~~

~~[4] Available Transfer Capability Definitions and Determination, NERC, June 1996~~

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

NSP and SPS System ATC Methodologies:

The NSP Companies are members of the Midwest Independent Transmission System Operator, Inc. (MISO) RTO. Southwestern Public Service (SPS) is a member of the Southwest Power Pool (SPP) RTO. All ATC calculations and postings for the NSP Companies' and SPS transmission systems are performed by their respective RTOs and addressed in the RTO tariffs.

PSCo System ATC Methodology:

General Overview:

Public Service Company of Colorado (PSCo) is a registered Transmission Provider and Balancing Authority (BA) within the Western Interconnection and the Western Electricity Coordination Council (WECC). As PSCo is a vertically integrated electric utility, it is also a Generation Owner and Load Serving Entity (LSE). The PSCo transmission network is located primarily along the Front Range of Colorado with extensions west to Grand Junction and south to Alamosa Colorado. The main transmission voltages are 230-kV and 115-kV. The BAs adjacent to PSCo are Western Area Power Administration-Rocky Mountain Region and Public Service Company of New Mexico (PNM). PSCo coordinates its ATC calculations with these neighboring transmission providers as described in the next paragraph. PSCo is also connected asynchronously to the SPS BA in the SPP region through an AC/DC/AC converter station at Lamar, Colorado. SPS and PSCo are both operating company subsidiaries of Xcel Energy Inc. and coordinate ATC postings for tie line capacity.

PSCo has ownership in the jointly owned western slope transmission facilities extending from the Craig/Hayden area in Northwestern Colorado south to the Four Corners area. PSCo also has ownership in four jointly owned transmission cutplanes or TOT paths within Colorado - TOTs 2A, 3, 5, and 7. TOT path total TTC levels are developed seasonally and coordinated and agreed to by the owners of the TOT facilities, presented to the Colorado Coordinated Planning Group (CCPG), and approved through the WECC Operating Transfer Capability (OTC) Policy Committee process. The jointly owned TOT paths have contractually defined ownership and transmission utilization percentages. TTC development is in accordance with established WECC and NERC standards.

PSCo reserves Transmission Reliability Margin (TRM) for transmission associated with reserve group activations under the Rocky Mountain Reserve Sharing Group (RMRG). At the present time, PSCo is not utilizing Capacity Benefit Margin (CBM) on any of its transmission paths when calculating ATC.

PSCo uses the NERC approved contract path methodology.

Reference Documents:

WECC Documents:

The WECC is the NERC recognized Regional Reliability Organization (RRO) for the Western Interconnection. PSCo follows the ATC methodology adopted by WECC and presented in the WECC Document *Determination of Available Transfer Capability Within the Western Interconnection* (June 2001) (hereafter "WECC ATC Document"). The web link is:

Filed to comply with order of the Federal Energy Regulatory Commission Docket No. RM05-25-000, issued April 11, 2007, 119 FERC ¶ 61,037 (2007)

http://www.wecc.biz/documents/library/procedures/ATC-apprdec01.pdf

Other WECC Documents:

Procedures for Regional Planning Project Review and Rating Transmission Facilities

Minimum Operating Reliability Criteria

NERC Documents:

Available Transfer Capability Definitions and Determination June 1996

NERC Standards:

MOD-005—Procedure for Verifying CBM Values – Requirement R1.

MOD-009—Procedure for Verifying TRM Values – Requirement R1.

Note: MOD-005 and MOD-009 require the RRO (i.e., WECC) to verify that the Transmission Provider is using the Regional CBM and TRM methodology.

Xcel Energy Transmission Function Documents:

Transmission Facility Rating Methodology Version 3.0 April 19, 2007

Applicable Definitions from the WECC ATC Document:

Capacity Benefit Margin (CBM) — is "that amount of transmission transfer capability reserved by load serving entities to ensure access to generation from interconnected systems to meet generation reliability requirements. Reservation of CBM by a load serving entity allows that entity to reduce its installed generation capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements."

Transmission Reliability Margin (TRM) — is "the amount of transmission transfer capability necessary to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions."

Existing Transmission Commitment (ETC) — can include (1) Reservations for Native Load Growth; (2) Existing Commitments; (3) Firm Transmission Reservations; and (4) Good Faith Requests for Transmission Service.

Total Transfer Capability (TTC) — "represents the reliability limit of a transmission path at any specified point in time and is a variable quantity dependent on operating conditions in the near time and forecasted conditions in the long term. TTC cannot exceed the path rating...Specific operating conditions (system topology, load/generation patterns, simultaneous path loadings, and facility outages) may require that TTC or TRM be adjusted to maintain system reliability."

Committed Uses (CU) — Committed Uses, as described in the WECC document is the sum of ETC, TRM and CBM.

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Operating Transfer Capability (OTC) — Seasonal path operating transfer capability (OTC) limits are under the purview of the western Interconnection Regional Reliability Organization (WECC). The Western Electricity Coordination Council (WECC) has established a review committee called the OTC Policy Committee with oversight and approval responsibility for seasonal OTCs on key paths across the WECC Interconnection. The OTC PC decides which paths merit WECC review. The seasonal OTC may never exceed the path's established TTC but may be adjusted downward, based on the system studies presented to the OTCPC, for each season to recognize load, generation, and transmission conditions anticipated for the upcoming operating period.

The link to the OTC PC handbook, which includes their scope plus review and approval procedures is:

http://www.wecc.biz/documents/library/OTC/OTCPC_HANDBOOK_06-29-07.pdf

Order No. 890 Requirements:

1. Information Concerning ATC Calculation Methodology/Algorithms

a. Definitions:

The three horizons used by PSCo are:

i. **Scheduling Horizon**: At PSCo this period is defined to be the period of time beginning with the current hour and extending a total of eight hours.

ii. **Operating Horizon**: At PSCo this period begins at end of the Scheduling Horizon and extends through the end of the last day that has been or is being prescheduled.

iii. **Planning Horizon**: This period begins at the end of the Operating Horizon and extends approximately four years into the future.

b. Mathematical Algorithms Used to Calculate ATC

The formulas used by PSCo to calculate ATC are shown below for the Scheduling, Operating and Planning horizons and also posted on the PSCo OASIS site:

http://www.oatioasis.com/PSCO/PSCOdocs/PSCO_ATC_Information.pdf

CBM is not included in the formulas to calculate ATC because PSCo does not currently reserve CBM on any of its posted transmission paths.

i. **Scheduling Horizon**

Tagged (scheduled) quantities are used in the Scheduling Horizon ATC calculations and TRM is released as non-firm ATC.

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Firm ATC = TTC - ETC - TRM - Confirmed Firm Transmission Service Reservations (TSRs) – Implemented Firm Tags.

Non-Firm ATC = TTC - ETC - TRM*B - Implemented Firm Tags – Implemented Non-Firm Tags

* Where PSCo uses B=0 to allow TRM to be made available as Non-Firm ATC.

ii. **Operating Horizon**

Tagged (scheduled) quantities are used in the Operating Horizon ATC calculations and TRM is released as non-firm ATC.

Firm ATC = TTC - ETC - TRM - Confirmed Firm Transmission Service Reservations (TSRs) – Implemented Firm Tags

Non-Firm ATC = TTC- ETC - TRM*B -Implemented Firm Tags –Implemented Non-Firm Tags

Where PSCo uses B=0 to allow TRM to be made available as Non-Firm ATC.

iii. **Planning Horizon**

Tagged quantities are not used in the Planning Horizon ATC calculations. Only Reserved quantities are included plus TRM and CBM. TRM is released as non-firm ATC

Firm ATC = TTC - ETC - TRM - Confirmed Firm TSRs

Non-Firm ATC = TTC - ETC -TRM*B - Confirmed Firm TSRs - Confirmed Non Firm TSRs

Where PSCo uses B=0 to allow all TRM to be made available as Non-Firm ATC.

2. Process Flow Diagram Illustrating ATC Calculation Steps

See attached diagram for the ATC process flow, which includes the formulas from section 1, and also illustrates how the Open Access Technology International, Inc. (OATi) webTrans system is used to automate ATC calculations and support evaluation of transmission service requests. The OATi webTrans system is a software tool that PSCo Transmission Operations uses to process real time updates to path ATC values. WebTrans then sends the information to OASIS to update transmission path offerings.

3. Detailed Explanation of Calculation of Each ATC Component

a. TTC Calculation Methodology

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Per the Definition in the WECC ATC Document (provided above), TTC represents the reliability limit of a transmission path at any specified point in time and is a variable quantity dependent on operating conditions in the near time and forecasted conditions in the long term.

TTC as used by PSCo is the smaller of (i) the path Operating Transfer Capability (or the path thermal or stability limited rating if it does not have a WECC approved OTC), or (ii) the contractual rights.

TOT path TTC levels are developed seasonally by the TOT owners, presented to the CCPG, and approved through the WECC OTC Policy Committee process. Internal paths are reviewed periodically using the approach presented in the Xcel Energy Transmission Facility Rating Methodology Version 3.0 document. TTC development, both internally and on jointly owned TOTs, occurs in accordance with established WECC and NERC standards including WECC's "Procedures for Regional Planning Project Review and Rating Transmission Facilities" and also the WECC "Minimum Operating Reliability Criteria". The TOT 2A path in Colorado has a dynamic limit that is frequently well below maximum in one direction (North to South) due to local load levels. To avoid over-selling in this direction, the ATC calculation is adjusted on this path by reducing the PSCo contractual transmission access rights on the path with moderately heavy local loads represented in the path OTC curves.

The database for the TOT OTC studies is the WECC powerflow data bank. Seasonal studies for the TOT paths use the latest approved WECC base cases with heavy loads represented. The western slope loads and Nucla generation are varied in the TOT 2A studies to develop the TOT 2A limits as a function of local load and Nucla generation. Nucla is a generation plant owned by Tri-State Generation and Transmission Cooperative (Tri-State) in southwestern Colorado whose generation level impacts the TOT 2A OTC limits.

b. Definition of ETC

PSCo calculates ETC consistent with the definitions of Committed Uses and ETC from the WECC ATC Document (see above). PSCo only makes use of ETC on four paths. On TOT 2A, ETC is used to move 12 MW of PSCo-owned hydro generation external to PSCo's Balancing Authority Area in Southwest Colorado across a constrained path. On TOT 7, ETC is used to move generation to the appropriate external Balancing Authority network per a grandfathered transmission service agreement. The other two paths are Midway and Rifle, where ETC is used to move energy from radially-connected generators to the network. PSCo's ETC calculation does not currently incorporate other point-to-point transmission service requests or rollover rights, nor does it support the release of non-firm capacity. As shown in the formulas above, these other firm uses are accounted for explicitly in the formulas.

c. Calculation Methodology Used for Transmission Set Aside

PSCo does not use Transmission Set Aside at this time when calculating ATC. Native load service is tagged.

d. Explanation of AFC Methodology

Not applicable. PSCO does not use an AFC methodology.

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e. Explanation of TRM Definition and Methodology

PSCo uses the definition of TRM from the above WECC ATC Document (provided above). The WECC ATC Document provides that:

> In the Western Interconnection methodology, firm ATC reductions associated with TRM may include the following components. TRM may be set to zero.
>
> - Transmission necessary for the activation of operating reserves
> - Unplanned transmission outages
> - Simultaneous limitations associated with operation under a nomogram
> - Loading variations due to balancing of generation and load
> - Uncertainty in load distribution and/or load forecast
> - Allowances for unscheduled flow

PSCo reserves TRM only to support the activation of operating reserves in three instances, and does not utilize TRM to address the other contingencies and uncertainties. More specifically, PSCo reserves TRM as needed to import generation in the case of loss of internal system generation and to meet its obligations to deliver power to other Members of the RMRG. PSCo has calculated and allocated TRM on three paths: TOT7, Story to PSCo, and PSCo Central System to Midway. These allocations are based directly on the PSCo largest single hazard, other Members' largest hazards and the supporting RMRG members' deliveries over the paths. These three paths are primary connection points between PSCo and the other Members. To respond to the possibility of a major system disturbance affecting some or all of the RMRG members PSCo relies on, PSCo has also allocated all uncommitted TOT2A south to north capacity for TRM because that path is the only PSCo path from the desert southwest utilities (non RMRG utilities) to the PSCo system. On all other paths, TRM is set to zero, as allowed by the WECC methodology.

The RMRG Members reserve obligations (quotas) are recalculated twice a year and go into effect on April 1 and October 1 for the Summer and Winter seasons, respectively. The database used is the RMRG approved seasonal reserve quotas and supporting information.

f. Narrative Explanation of CBM Practice

Not applicable. PSCo has established CBM at 0 on all transmission paths when calculating ATC.

PSCo has chosen to use TRM to account for activation of operating reserves as allowed by the WECC. The WECC ATC Document provides that "In the Western Interconnection methodology, firm ATC reductions associated with TRM may include the following components:...Transmission necessary for the activation of operating reserves." According to the NERC document "**Available Transfer Capability Definitions and Determination**" TRM is more of a network margin than CBM which is more locally applied. PSCo receives and delivers to nine other Members of the RMRG and decided TRM was more appropriate than CBM.

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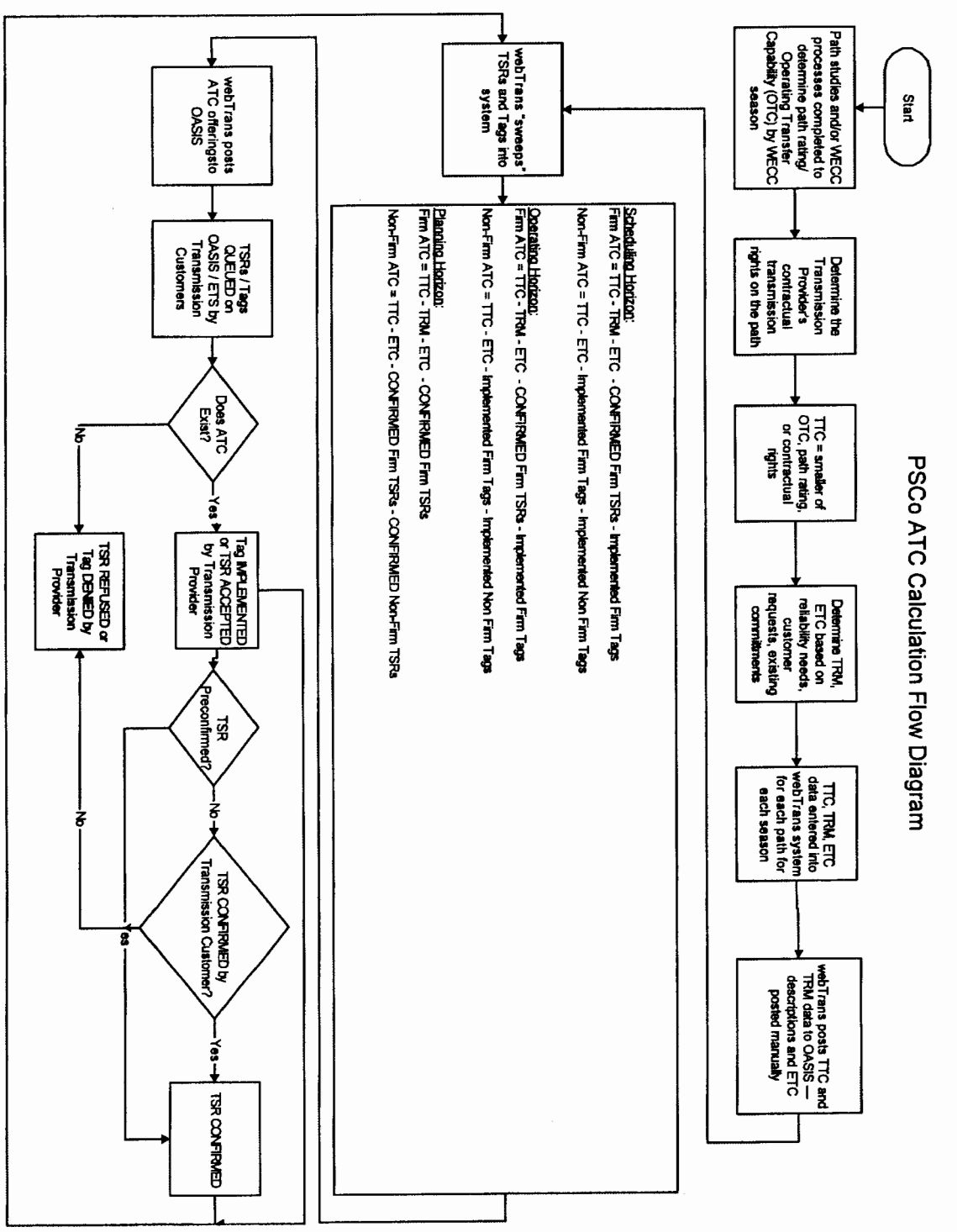

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ATTACHMENT 3

State Commission Service List

Dr. Burl W. Haar
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Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard Avenue - Dept. 408
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Mr. Robert Norcross
Administrator
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Ms. Mary Jo Kunkle
Executive Secretary
Michigan Public Service Commission
Mercantile Building
6545 Mercantile Way
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Ms. Patricia Van Gerpen.
Executive Director
South Dakota Public Utilities Commission
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Pierre, SD 57501

Mr. Doug Dean
Director, Public Utilities Commission of the State of Colorado
1580 Logan Street
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Ms. Susan K. Duffy, Executive Director
Kansas Corporation Commission
1500 S.W. Arrowhead Road
Topeka, KS 66604-4027

Mr. Ron Montoyo, Records Mgmt Bureau
New Mexico Public Regulation Commission
224 East. Palace Avenue
Santa Fe, NM 87503

Joyce Davidson, Director
Corporation Commission of the State of Oklahoma
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Oklahoma City, OK 73105

Public Utility Commission of Texas
Filing Clerk
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Austin, TX 78711

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Attn: Colorado Green Joint Venture Group
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Attn: Diane Becker
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Attn: Energy Operations Back Office
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Black Hills Colorado, LLC
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Tri-State G & T Assoc., Inc.
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