

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:

1. SAC Authorized posting TTC/ATC/AFC SAR Development June 20 2005.
2. SAC Authorized the SAR to be development as a standard on February 14 2006.
3. SC appointed a Standard Drafting Team on March 17, 2006.
4. SDT posted first draft for comment from February 15–March 16, 2007.
5. SDT posted second draft for comment from May 25–June 25, 2007.
6. SDT posted third draft for comment from October 31–December 15, 2007.

Description of Current Draft:

This is the fourth and final draft of the proposed standard posted for stakeholder comments. This draft represents consideration of stakeholder comments submitted with the third draft of the proposed revisions to MOD-001 as well as consideration of applicable FERC directives from FERC Order 693, Order 890, and Order 890-A.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. First ballot of standard.	March 7, 2008
2. Respond to comments.	April 22, 2008
3. Recirculation ballot.	April 22, 2008
4. 30-day posting before board adoption.	March 7, 2008
5. Board adoption.	May 5, 2008

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

Posted Path:

- ~~1) Any Balancing Authority to Balancing Authority interconnection;~~
- ~~2) Any path for which service is denied, curtailed or interrupted for more than 24 hours in the past 12 months;~~
- ~~3) Any path for which a Transmission Customer requests to have Available Transfer Capability or Total Transfer Capability posted.~~

ATC Path: Any combination of Point of Receipt and Point of Delivery for which ATC is calculated.

Available Transfer Capability Implementation Document (ATCID): A document that describes the implementation of an Available Transfer Capability methodology.

Transmission Operator Area: The collection of Transmission assets over which the Transmission Operator is responsible for operating.

Existing Transmission Commitments (ETC): Committed uses of a Transmission Service Provider's Transmission system considered when determining Available Transfer Capability.

Planning Coordinator: See Planning Authority.

Postback: Positive adjustments to ATC or AFC as defined in Business Practices. Such Business Practices may include processing of redirects and unscheduled service.

Business Practices: Those business rules contained in the Transmission Service Provider's applicable tariff, rules, or procedures; associated Regional Reliability Organization business practices; or NAESB Business Practices.

Block Dispatch: A simplification of dispatch rules such that given a specific amount of load to serve, an approximate generation dispatch can be determined. To accomplish this, the capacity of a given generator is segmented into loadable "blocks," each of which is grouped and ordered relative to other blocks (based on characteristics including, but not limited to, efficiency, run of river or fuel supply considerations, and/or "must-run" status).

Dispatch Order: A simplification of dispatch rules such that given a specific amount of load to serve, an approximate generation dispatch can be determined. To accomplish this, each generator is ranked by priority.

Participation Factors: A simplification of dispatch rules such that given a specific amount of load to serve, an approximate generation dispatch can be determined. To accomplish this, generators are assigned a percentage that they will contribute to serve load.

A. Introduction

1. **Title:** Available Transfer Capability
2. **Number:** MOD-001-1
3. **Purpose:** To promote the consistent and ~~transparent~~reliable application and documentation of Available Transfer Capability (ATC) calculations for ~~reliable analysis and~~ system operations.
4. **Applicability:**
 - 4.1. Transmission Service Provider.
 - 4.2. Transmission Operator.
5. **Proposed Effective Date:** First day of the first calendar quarter that is twelve months beyond the date that ~~all six (MOD-001-1, MOD-004-1, MOD-008-1, MOD-028-1, MOD-029-1, and MOD-030-1)ATC-related standards~~ are approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the standard becomes effective on the first day of the first calendar quarter that is twelve months beyond the date the set of standards is approved by the NERC Board of Trustees.

B. Requirements

- R1.** Each Transmission Operator shall select one ATC methodology¹ (Area Interchange methodology, Rated System Path methodology, or Flowgate methodology) for each ~~Posted~~ ATC Path per time period identified in R2 for use in determining Transfer Capabilities of those Facilities within its Transmission Planning Coordinator's planning/operating area. [*Violation Risk Factor: Medium*] [*Time Horizon: Operations Planning*]
- R2.** Each Transmission Service Provider shall calculate ATC values ~~for the time periods~~as listed below using the ~~selected~~-ATC methodology or methodologies selected by its Transmission Operator(s): [*Violation Risk Factor: Medium*] [*Time Horizon: Operations Planning*]
 - R2.1.** Hourly ATC values for at least the next 168 hours.
 - R2.2.** Daily ATC values for at least the next 31 calendar days.
 - R2.3.** Monthly ATC values for at least ~~the current month plus~~ the next 12 months (months 2-13).
- R3.** Each Transmission Service Provider shall prepare and keep current an Available Transfer Capability Implementation Document (ATCID) that includes, at a minimum, the following information: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
 - R3.1.** Information describing how the selected methodology (or methodologies) has been implemented, in such detail that, given the same information used by the Transmission Service Provider, the results of the ATC calculations ~~may can~~ be validated.
 - R3.2.** A description of the manner in which the Transmission Service Provider will account for counterflows ~~or counter-schedules~~including:
 - R3.2.1.** How confirmed Transmission reservations, expected Interchange and internal counterflow are addressed in firm and non-firm ATC calculations.

¹ All ~~Posted-ATC~~ Paths do not have to use the same ATC Methodology and no particular ~~Posted-ATC~~ Path must use the same ATC Methodology for all time periods.

R3.2.2. A rationale for the defined accounting.

~~R3.3. The identity of the Planning Coordinator and Transmission Operators associated with each Facility under the Transmission Service Provider's tariff from which the Transmission Service Provider receives data for use in calculating ATC.~~

~~R3.4. The identity of the Transmission Service Providers and Transmission Operators to which it provides data for use in calculating transfer capability.~~

~~R3.5. The identity of the Transmission Service Providers from which it receives data for use in calculating transfer capability.~~

~~R3.6. A description of the allocation methodologies processes listed below that are applicable to the Transmission Service Provider:~~

- ~~• Processes used to allocate Transfer Capability among multiple lines or sub-paths within a larger ATC Path or Flowgate.~~
- ~~• Processes used to allocate Transfer Capabilities among multiple owners or users of a single path or Flowgate.~~
- ~~• Processes used to allocate AFC between Transmission Service Providers to address issues such as forward looking congestion management and seams coordination.~~

~~R3.7. A description of how outage durations are considered in ATC calculations, including:~~

~~R3.7.1. The criteria used to determine when an outage impacts a daily ATC calculation.~~

~~R3.7.2. The criteria used to determine when an outage impacts a monthly ATC calculation.~~

~~R4. When determining the impact of counterflows in the determination of firm ATC or AFC, the Transmission Service Provider shall use 0% of calculated counterflows based on reservations and/or schedules unless otherwise specified within the Transmission Service Provider's ATCID. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]~~

~~R5. When determining the impact of counterflows in the determination of non-firm ATC or Available Flowgate Capability (AFC), the Transmission Service Provider shall apply the following: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]~~

~~R5.1. Use 0% of calculated counterflows based on reservations unless otherwise specified within the Transmission Service Provider's ATCID.~~

~~R5.2. Use 100% of calculated counterflows based on schedules unless otherwise specified within the Transmission Service Provider's ATCID.~~

~~R6.R4. The Transmission Service Provider shall notify the following entities (via electronic mail) before implementing a new or revised ATCID: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]~~

~~R6.1.R4.1. Each Planning Coordinator associated with the Transmission Service Provider's area.~~

~~R6.2.R4.2. Each Reliability Coordinator associated with the Transmission Service Provider's area.~~

R6.3.R4.3. Each Transmission Operator associated with the Transmission Service Provider's area.

R6.4.R4.4. Each Planning Coordinator adjacent to the Transmission Service Provider's area.

R6.5.R4.5. Each Reliability Coordinator adjacent to the Transmission Service Provider's area.

R6.6.R4.6. Each Transmission Service Provider whose area is adjacent to the Transmission Service Provider's area.

R7.R5. The Transmission Service Provider shall make available the current ATCID ~~and any changes to the ATCID~~ to all of the entities specified in R6R4. [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]

R8.R6. When calculating ~~Total Transfer Capability (TTC)~~, AFC and ATC, the Transmission Operator and Transmission Service Provider shall each use assumptions consistent with those used in any associated operations studies or planning studies for the time period studied. [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]

R9.R7. Each Transmission Service Provider shall ~~update~~ recalculate ATC at a minimum on the following frequency, unless none of the calculated values identified in the ATC equation have changed: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]

R9.1.R7.1. For hourly ATC, once per hour.

R9.2.R7.2. For daily ATC, once per day.

R9.3.R7.3. For monthly ATC, once a week.

R10.R8. Within ~~fourteen~~ thirty calendar days of receiving a request ~~of by~~ any Transmission Service Provider, Planning Coordinator, Reliability Coordinator, or Transmission Operator for data from the list below for use in ATC calculations, each Transmission Service Provider receiving said request shall begin to make the requested data available to the requestor, subject to the conditions specified in R8.1 and R8.2: ~~available on the schedule specified by the requester (but no more frequently than once per hour, unless mutually agreed to by the requester and the provider), unless another request already specifies data on a more frequent basis, to each requester, current versions of the following data as requested in electronic format for use in ATC calculations, for up to 13 months into the future (subject to confidentiality and security requirements)~~: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]

P10.1.● Expected generation and Transmission outages, additions, and retirements.

P10.2.● ~~Peak~~ Load forecasts.

P10.3.● Unit commitments and ~~dispatch~~ orders of dispatch, to include all designated network resources and other resources that are committed or have the legal obligation to run, as they are expected to run, in one of the following formats chosen by the data provider:

— Dispatch Order

— Participation Factors

— Block Dispatch

- Aggregated firm capacity set-aside for Network Integration Transmission Service and aggregated non-firm capacity set aside for Network Integration Transmission Service (i.e. Secondary Service).

~~• Firm and non-firm Network Integration Transmission Service details.~~

P10.5.● Confirmed firm and non-firm Transmission reservations.

- Aggregated capacity set-aside for Grandfathered obligations

~~• Grandfathered firm and non-firm contracted transmission capacity on an aggregated basis.~~

P10.7.● Firm roll-over rights.

P10.8.● Any firm and non-firm adjustments applied by the Transmission Service Provider to reflect parallel path impacts.

P10.9.● Power flow models and underlying assumptions.

P10.10.● Contingencies, provided in one or more of the following formats:

~~—~~ A list of Elements

~~—~~ A list of Flowgates

~~—~~ A set of selection criteria that can be applied to the Transmission model used by the Transmission Operator and/or Transmission Service Provider

P10.11.● Facility Ratings.

- Any other services that impact Existing Transmission Commitments (ETCs).

~~• Counterflows.~~

P10.13.● Values of ATC, ETC, Capacity Benefit Margin (CBM), and Transmission Reliability Margin (TRM), and TTC for all ~~Posted-ATC~~ Paths or Flowgates.

P10.14.● Values of Total Flowgate Capability (TFC) and AFC for any Flowgates considered by the Transmission Service Provider receiving the request when selling Transmission service.

- Values of TTC and ATC for all ATC Paths for those Transmission Service Providers receiving the request that do not consider Flowgates when selling Transmission Service.

P10.15.● Source and sink identification and mapping to the model.

R8.1. The Transmission Service Provider shall make its own current data available, in the format maintained by the Transmission Service Provider, -for up to 13 months into the future (subject to confidentiality and security requirements).

R8.2. This data shall be made available by the Transmission Provider on the schedule specified by the requestor (but no more frequently than once per hour, unless mutually agreed to by the requestor and the provider).

C. Measures

- M1.** The Transmission Operator shall provide evidence (such as a calculation, inclusion of the information in the ATCID, or other written documentation) that it has selected one or more of the specified ATC methodologies per time period in R2 for use in determining Transfer Capabilities of those Facilities for each Posted-ATC Path within the Planning Coordinator's planning Transmission Operator's operating area. (R1).

- M2.** The Transmission Service Provider shall provide ATC values and identification of the selected ATC methodologies along with other evidence (such as written documentation, processes, or data) to show it calculated ATC for the following using the selected methodology or methodologies chosen as part of R1 (R2+):
- There has been at least 168 hours of hourly ATC values calculated at all times. (R2.1)
 - There has been at least 31 consecutive calendar days of daily ATC values calculated at all times. (R2.2)
 - There has been at least the next 12 months ~~plus the current month~~ of monthly ATC values calculated at all times (Months 2-13). (R2.3)
- M3.** The Transmission Service Provider shall provide its current ATCID that contains all the information specified in R3. (R3)
- M4.** ~~The Transmission Service Provider shall provide its ATCID and other evidence (such as documentation and data) to show that it determined counterflows based on the rules in R4 and R5. (R4) (R5)~~
- M5.** ~~The Transmission Service Provider shall provide evidence (such as copies of its dated electronic mail messages) used to make notifications in accordance with R6 as evidence that it has notified the entities specified in R5-R4 before a new or revised ATCID was implemented. (R6R4)~~
- M6M5.** The Transmission Service Provider shall provide evidence (such as a demonstration) that the current ATCID is available to all of the entities specified in ~~R6R4~~, as required by ~~R7R5~~. (R7R5)
- M7M6.** The Transmission Service Provider and Transmission Operator shall each provide a copy of the assumptions (such as loop flow, generation re-dispatch, switching operating guides, load shedding or data sources for load forecast and facility outages) used to calculate TTC, ATC and AFC as well as ~~copies of operations and planning studies and~~ other evidence (such as copies of operations and planning studies, written documentation, models, studies, supporting information, or data) to show that the assumptions used in determining TTC, ATC, and AFC were consistent with those used in operations or planning studies for the time period studied. (R8R6)
- M8M7.** The Transmission Service Provider calculating ATC shall provide evidence (such as logs or data) that it has ~~updated~~ calculated the hourly, daily, and monthly ATC on at least the minimum frequencies specified in ~~R9R7~~ or provide evidence (such as data, procedures, or software documentation) that the calculated values identified in the ATC equation have not changed. (R7)
- M9M8.** The Transmission Service Provider shall provide a copy of the dated request for ATC data as well as evidence to show the itsit response responded to that request (such as logs or data.) ~~to show that~~ within fourteen-thirty calendar days of receiving ~~a the~~ request, and the requested data items ~~specified in R10~~ were made available in accordance with ~~R108~~. (R8)

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

Regional Entity.

1.2. Compliance Monitoring Period and Reset Time Frame

Not applicable.

1.3. Data Retention

- The Transmission Operator shall maintain its current selected method(s) for calculating ATC and any methods in force since last compliance audit period to show compliance with R1.
- The Transmission Service Provider shall maintain evidence to show compliance with R2, ~~R4, R4, R5 and R8~~ R6, R7, and R8 for the most recent calendar year plus the current year.
- The Transmission Service Provider shall maintain its current, in force ATCID and any prior versions of the ATCID that were in force since the last compliance audit to show compliance with R3.
- ~~-The Transmission Service Provider shall maintain evidence to show compliance with R6 for the most recent calendar year plus the current year.~~
- The Transmission Service Provider shall maintain evidence to show compliance with ~~R7~~ R5 for the most recent three calendar years plus the current year.
- The Transmission Operator shall maintain evidence to show compliance with ~~R8~~ R6 for the most recent calendar year plus the current year.
- ~~-The Transmission Service Provider shall maintain evidence to show compliance with R9 and R10 for the most recent calendar year plus the current year.~~
- If a Transmission Service Provider or Transmission Operator is found non-compliant, it shall keep information related to the non-compliance until found compliant.
- The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

1.4. Compliance Monitoring and Enforcement Processes:

The following processes may be used:

- Compliance Audits
- Self-Certifications
- Spot Checking
- Compliance Violation Investigations
- Self-Reporting
- Complaints

1.5. Additional Compliance Information

None.

2. Violation Severity Levels

R #	Lower VSL	Moderate	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Transmission Operator did not select one or more of the specified methodologies.
R2.	N/A	N/A	N/A	The Transmission Operator or Transmission Service Provider did not calculate ATCs based on the time periods in R2. OR Did did not use the selected methodology(ies) to calculate ATC.
R3. R4. R5.	The Transmission Service Provider has an ATCID that does not incorporate changes made up to three months ago. N/A N/A	The Transmission Service Provider has an ATCID that does not incorporate changes made more than three months but not more than six months ago. N/A N/A	The Transmission Service Provider has an ATCID that does not incorporate changes made more than six months but not more than one year ago. OR The Transmission Service Provider has an ATCID, but it does not include two or more of the information items described in R3. N/A N/A	The Transmission Service Provider has an ATCID that does not incorporate changes made a year or more ago. OR The Transmission Service Provider does not have an ATCID, or its ATCID does not include any of the information described in R3. The Transmission Service provider did not use counterflows in the determination of ATC as described in R4 or its ATCID. The Transmission Service provider did not use counterflows in the determination of ATC as

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R #	Lower VSL	Moderate	High VSL	Severe VSL
<p>R6R4.</p>	<p>The Transmission Service Provider did not notifynotified one or more of the parties specified in R6-R4 of a new or modified ATCID within more than 14, but not more than 30, calendar days days afterof its effectivenessimplementation.</p>	<p>The Transmission Service Provider did not notifyyied one or more of the parties specified in R64 of a new or modified ATCID within more than 30, but not more than 60, calendar days afterof its effectivenessimplementation.</p>	<p>The Transmission Service Provider did not notifyedy one or more of the parties specified in R46 of a new or modified ATCID within 60 more than 60, but not more than 90, calendar days ef afterits effectivenessimplementation.</p>	<p>described in R5 or its ATCID.</p> <p>The Transmission Service Provider did not notify one or more of the parties specified in R64 of a new or modified ATCID within 90 for more than 90 calendar days ef afterits effectivenessimplementation.</p>
<p>R7R5.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>The Transmission Service Provider did not make the ATCID available to the parties described in R7R5</p>
<p>R8R6.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>The Transmission Service Provider or Transmission Operator did not determine ATC using assumptions consistent with those used in planning and or operations studies for the studied time period.</p>

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R #	Lower VSL	Moderate	High VSL	Severe VSL
R9R7.	<p>For Hourly, <u>the values described in the ATC equation changed and the Transmission Service provider did not calculate within for more than 12 hours but not more than 15 hours.</u></p> <p style="text-align: center;">OR</p> <p><u>For Daily, the values described in the ATC equation changed and the Transmission Service provider did not calculate for more than 2 days 2 calendar days but not more than 3 calendar days.</u></p> <p style="text-align: center;">OR</p> <p><u>For Monthly, the values described in the ATC equation changed and the Transmission Service provider did not calculate calculate fored in 8 or more calendar days, but less than 14 calendar days.</u></p>	<p>For Hourly, <u>the values described in the ATC equation changed and the Transmission Service provider did not calculate for more than 15 hours but not more than 20 hours.</u></p> <p>For Hourly, <u>not calculated in more than 5 hours but not more than 10 hours.</u></p> <p style="text-align: center;">OR</p> <p><u>For Daily, the values described in the ATC equation changed and the Transmission Service provider did not calculate for more than 3 calendar days but not more than 4 calendar days.</u></p> <p><u>for Daily not calculated in 3 days.</u></p> <p style="text-align: center;">OR</p> <p><u>For Monthly, the values described in the ATC equation changed and the Transmission Service provider did not calculate for 14 or more calendar days, but less than 21 calendar days. for Monthly not calculated in 14 or more days, but less than 21 days</u></p>	<p>For Hourly, <u>the values described in the ATC equation changed and the Transmission Service provider did not calculate for more than 20 hours but not more than 25 hours.</u></p> <p>For Hourly, <u>not calculated in 10 hours or more, but not more than 15 hours.</u></p> <p style="text-align: center;">OR</p> <p><u>For Daily, the values described in the ATC equation changed and the Transmission Service provider did not calculate for more than 4 calendar days but not more than 5 calendar days.</u></p> <p><u>for Daily not calculated in 4 days.</u></p> <p style="text-align: center;">OR</p> <p><u>For Monthly, the values described in the ATC equation changed and the Transmission Service provider did not calculate for 21 or more calendar days, but less than 28 calendar days. for Monthly not calculated in 21 or more days, but less than 28 days</u></p>	<p>For Hourly, <u>the values described in the ATC equation changed and the Transmission Service provider did not calculate for more than 25 hours.</u></p> <p>For Hourly, <u>not calculated in 15 hours or more.</u></p> <p style="text-align: center;">OR</p> <p><u>For Daily, the values described in the ATC equation changed and the Transmission Service provider did not calculate for more than 5 calendar days.</u></p> <p><u>for Daily not calculated in 5 days or more.</u></p> <p style="text-align: center;">OR</p> <p><u>For Monthly, the values described in the ATC equation changed and the Transmission Service provider did not calculate for 28 or more calendar days. for Monthly not calculated in 28 or more days.</u></p>

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R #	Lower VSL	Moderate	High VSL	Severe VSL
<u>R10</u> R8	N/A	<p>The Transmission Service Provider took <u>made the requested data items specified in R8 available to the requesting entities specified within the requirement, per the schedule specified in the request, subject to the limitations specified in R8, available more than more than 1430 calendar days but less less than than 28 45 calendar days from after</u> receiving a request, to make available the requested data items specified in R10 to the entities specified within the requirement, per the schedule specified in the request, subject to the limitations specified in R10.</p>	<p><u>The Transmission Service Provider made the requested data items specified in R8 available to the requesting entities specified within the requirement, per the schedule specified in the request, subject to the limitations specified in R8, available 45 calendar days or more but less than 60 calendar days after receiving a request.</u> The Transmission Service Provider took 28 or more calendar days, but less than 60 calendar days from receiving a request, to make available the requested data items specified in R10 to the entities specified within the requirement, per the schedule specified in the request, subject to the limitations specified in R10.</p>	<p><u>The Transmission Service Provider did not make the requested data items specified in R8 available to the requesting entities specified within the requirement, per the schedule specified in the request, subject to the limitations specified in R8, available for 60 calendar days or more after receiving a request.</u> The Transmission Service Provider took 60 calendar days or more from receiving a request, to make available the requested data items specified in R10 to the entities specified within the requirement, per the schedule specified in the request, subject to the limitations specified in R10.</p>