

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 May 25–June 25, 2007

Description of Current Draft:

This is the second draft of the proposed standard posted for stakeholder comments. This draft includes the modifications identified in the SAR with consideration of stakeholder comments and applicable FERC directives from FERC Order 693 and Order 890.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Respond to comments.	February 1, 2008
2. Post for 30-day pre-ballot review.	February 1, 2008
3. First ballot of standard.	March 3, 2008
4. Respond to comments.	April 10, 2008
5. Recirculation ballot.	April 10, 2008
6. 30-day posting before board adoption.	March 2, 2008
7. Board adoption.	April 24, 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.

Generation Capability Import Requirement (GCIR): The amount of generation capability from external sources requested by a Load-Serving Entity (LSE) (or group of LSEs with an aggregated need for Capacity Benefit Margin) to meet its generation reliability or reserve adequacy requirements as an alternative to internal resources.

Capacity Benefit Margin Implementation Document (CBMID): A document that describes the implementation of a Capacity Benefit Margin methodology.

A. Introduction

1. **Title:** Capacity Benefit Margin
2. **Number:** MOD-004-1
3. **Purpose:** To promote the consistent and transparent calculation, verification, preservation, and use of Capacity Benefit Margin (CBM) to support reliable system operations.
4. **Applicability:**
 - 4.1. **Functional Entity:**
 - 4.1.1 Load-Serving Entity.
 - 4.1.2 Transmission Service Provider.
 - 4.1.3 Balancing Authority.
 - 4.1.4 Transmission Planner.
5. **Facility Limitations/Specifications:**
 - 5.1. None.
6. **Effective Date:** First day of the first calendar quarter that is twelve months beyond the date that all six standards are approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the Reliability Standards become effective on the first day of the first calendar quarter that is twelve months beyond the date the standards are approved by the NERC Board of Trustees.

B. Requirements

- R1. The Transmission Service Provider shall prepare and keep current a “Capacity Benefit Margin Implementation Document” (CBMID) that includes, at a minimum, the following information: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
 - R1.1. Its procedure for a Load-Serving Entity within a Balancing Authority associated with the Transmission Service Provider to request CBM to support its Generation Capability Import Requirement (GCIR).
 - R1.2. Its procedure and assumptions for setting CBM for each Posted Path or Flowgate based on Load-Serving Entity requests.
 - R1.3. Its procedure for a Load-Serving Entity to request the scheduling of energy over Transfer Capability set aside as CBM.
- R2. The Transmission Service Provider shall make available the CBMID and any changes to the CBID to the Transmission Operator, Transmission Service Provider, Reliability Coordinator, Transmission Planner, and Planning Coordinator within seven days of a change. [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
- R3. A Load-Serving Entity (or group of Load-Serving Entities with an aggregated need for CBM) that wants Transfer Capability to be set aside in the form of CBM shall: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]

- R3.1.** Submit a request for CBM to the Transmission Service Provider and Transmission Planner identifying the amount of CBM requested for each month for each year for the next ten year period, that includes:
 - R3.1.1.** The GCIR, specifying:
 - 3.1.1.1. The Balancing Authority(ies) from which generation supporting the GCIR will be supplied or the specific Posted Paths to be utilized for import of the generation supporting the GCIR.
 - 3.1.1.2. A monthly GCIR value for each month during the current year and following year for each Balancing Authority or Posted Path.
 - 3.1.1.3. An annual GCIR value for each subsequent year for each Balancing Authority or Posted Path.
 - R3.1.2.** Identification of all applicable reserve margin and resource adequacy requirements, and the entity(ies) responsible for establishing them, such as municipalities, state commissions, regional transmission organizations, independent system operators, Regional Reliability Organizations, or regional entities.
 - R3.1.3.** A summary of the results of resource studies performed to determine the amount of the request, not to include confidential information.
 - R3.1.4.** All resource studies (and supporting information) performed to determine the amount of the request.
- R3.2.** At least every thirty-one days, update the request provided per R3.1 to reflect any changes that alter future needs for CBM or indicate that no change is needed.
- R3.3.** Base the request provided per R3.1 on verifiable historical, state, regional transmission organization or regional entity criteria.
- R4.** Within fourteen calendar days of receiving a request or change to a request for CBM that meets the requirements defined in R3.1, the Transmission Service Provider shall set the CBM for the months requested as described in R3.1.1.2 as follows: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
 - R4.1.** Determine the amount of CBM (for use in R3.2) for each request by using one of the following::
 - R4.1.1.** For the Area Interchange Methodology and the Rated System Path Methodology, using the requested Generation Capability Import Requirement for the Posted Path
 - R4.1.2.** For the Flowgate Methodology, determining the significant impacts of each request on each Flowgate
 - 4.1.2.1. Determine impacts of a request by multiplying the requested GCIR by the Distribution Factor for the

transfer of that import from the specified Balancing Authority relative to the Flowgate.

- 4.1.2.2. Classify each impacts based on a Distribution Factor of 3% or greater as a significant impact.

R4.2. Set CBM for each Posted Path or Flowgate based on the sum of all requests such that all requests can be met simultaneously or all firm ATC or AFC has been allocated to CBM as follows:

R4.2.1. For Posted Paths, set the CBM for each Posted Path equal to the lesser of:

- The sum of all requests for GCIR for that Posted Path, minus the transfer capability set aside for reserve sharing for that Posted Path or
- The firm Available Transfer Capability (ATC) for that Posted Path

R4.2.2. For Flowgates, set the CBM for each Flowgate equal to the lesser of:

- The sum of the significant impacts of all requests for GCIR for that Flowgate minus the impact of transfer capability set aside for reserve sharing for that Flowgate, or
- The firm Available Flowgate Capability (AFC) for that Flowgate

R4.3. If the sum of all CBM requests can not be met simultaneously, and during the evaluation of monthly ATC or AFC, additional capacity becomes available, increase the CBM based on availability up to a maximum of the sum of all CBM requests.

R5. Within sixty calendar days of receiving a request or change to a request for CBM that meets the requirements defined in R3.1, the Transmission Planner shall set the CBM for the years requested as described in R3.1.1.3 as follows: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]

R5.1. Use each GCIR to determine a margin to decrement Firm Transfer Capability for use in all future planning processes.

R5.2. Set the CBM for each Posted Path or Flowgate based on the sum of all CBM requests such that all requests can be met simultaneously or all available firm Transfer Capability has been allocated to CBM.

R5.3. If the sum of all requests can not be met simultaneously, and during the planning process, additional capacity becomes available, increase the CBM based on availability up to a maximum of the sum of all requests.

R5.4. Provide the Transmission Service Provider with the following:

- R5.4.1.** The total amount of CBM for each Posted Path or Flowgate on the Transmission Service Provider's system in each of the years specified in the original CBM request.
- R5.4.2.** If less than the sum of all requests was established as the CBM for any period, for each Posted Path or Flowgate, a list of the values of each GCIR used to set the CBM for each of the years specified in the original request.
- R6.** Within five days of the determination of CBM as described in R4 or R5, the Transmission Service Provider shall provide each Load-Serving Entity (or group of Load-Serving Entities with an aggregated need for CBM) that requested CBM and the Balancing Authority hosting its (their) load with a report that includes: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
- R6.1.** The total amount of CBM for each Posted Path or Flowgate on the Transmission Service Provider's system in each of the months or years specified in the original request. If less than the sum of all requests was established as the CBM for any period:
- For each Posted Path or Flowgate, a list of the values of each GCIR used to set the CBM for each of the months and years specified in the original request
 - The option to request a system impact study.
- R7.** The Transmission Service Provider and Transmission Planner shall each provide copies of the supporting data, including any models, used for allocating CBM over each Posted Path or Flowgate to the following: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
- R7.1.** Each of its associated Transmission Operators within seven calendar days of a modification to the CBM.
- R7.2.** To any Transmission Service Provider, Reliability Coordinator, Transmission Planner, or Planning Coordinator within seven calendar days of their making a request for the data.
- R8.** The Load-Serving Entity that wants to schedule energy over Firm Transfer Capability set aside as CBM shall submit an Interchange Transaction Tag, and shall not request to schedule energy over Firm Transfer Capability set aside as CBM unless experiencing a NERC Energy Emergency Alert (EEA) 2 or higher. [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
- R9.** When reviewing an Interchange Transaction Tag using CBM, the Balancing Authority and Transmission Service Provider shall waive any timing and ramping requirements. [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
- R10.** The Transmission Service Provider shall approve any Interchange Transaction Tag using CBM that is submitted by an Energy Deficient Entity under an EEA2 if the CBM is available. [*Violation Risk Factor: Medium*] [*Time Horizon: Operations Planning*]

C. Measures

- M1.** Each Transmission Service Provider shall have its CBMID that includes the information specified in R1 as to show that it is compliant with R1. (R1)
- M2.** The Transmission Service Provider shall have evidence (such as logs and data, copies of electronic messages, or other equivalent evidence) to show that within seven days of a change to its CBMID, it made the CBMID available to the Transmission Operator, Transmission Service Provider, Reliability Coordinator, Transmission Planner, and Planning Coordinator. (R2)
- M3.** The Load-Serving Entity that wants CBM shall provide a copy of its CBM request with the supporting information specified in R3.1 to show that it is compliant with R3.1. (R3)
- M4.** The Load-Serving Entity that wants CBM shall provide dated copies of its updated CBM requests as evidence that it has updated its CBM request or confirmed no update was needed at least every thirty-one days, per R3.2 (R3).
- M5.** The Load-Serving Entity that wants CBM shall provide evidence (such as studies, historical data, copies of state or regional transmission organization reliability criteria, regional generation reliability criteria or other equivalent evidence) they it has based its CBM request on verifiable historical, state, regional transmission organization, or regional generation reliability criteria in accordance with R3.3. (R3)
- M6.** The Transmission Service Provider shall provide evidence including copies of requests for CBM and requests for changes to CBM and other evidence such as copies of the actual computations to set CBM, or other equivalent evidence to show that CBM for the months requested as described in R3.1.1.2 has been established using the process described in R4. (R4)
- M7.** The Transmission Service Planner shall provide evidence including copies of requests for CBM and requests for changes to CBM and other evidence such as copies of actual computations to set CBM, or other equivalent evidence to show that CBM for the years requested as described in R3.1.1.3 has been established using the process described in R5. (R5)
- M8.** The Transmission Planner shall provide evidence (such as written documentation of studies and supporting study models that model, in base loadflows, the GCIRs as identified in R3.1.1 by Load-Serving Entities) that demonstrates that the CBM has been used to determine a margin to decrement Firm Transfer Capability in planning processes as specified in R5.1. (R5)
- M9.** The Transmission Service Provider shall provide copies of the reports sent to Load-Serving Entities and Balancing Authorities along with other evidence (such as logs and data, copies of electronic messages, or other equivalent evidence) to show that within five days of the determination of CBM, a report meeting the requirements described in R6 was provided as specified. (R6).
- M10.** The Transmission Service Provider and Transmission Planner shall each provide evidence including copies of dated requests for data supporting the calculation of CBM along with other evidences such as copies of electronic messages or other

evidence to show that it provided the required entities with copies of the supporting data, including any models, used for allocating CBM as specified in R7. (R7)

- M11.** The Load-Serving Entity that scheduled CBM shall provide evidence (such as logs, copies of tag data, or other data from its Reliability Coordinator) that at the time they requested a schedule using CBM, they were in an EEA2. (R8)
- M12.** Balancing Authorities and Transmission Service Providers shall provide evidence (such as operating logs and tag data) that they did not deny an Interchange Schedule using CBM based on the request not meeting timing or ramping requirements. (R9)
- M13.** The Transmission Service Provider shall provide evidence including copies of CBM values along with other evidence (such as tags, reports, and supporting data) to show that it approved any Interchange Transaction Tag using CBM for any energy deficient entity where the total CBM available was greater than the amount of CBM requested in the Tag. (R10)

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority (CEA)

Regional Entity.

1.2. Compliance Monitoring Period and Reset Time Frame

Not applicable.

1.3. Data Retention

- 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 R1.
- The Transmission Service Provider shall maintain evidence to show compliance with R2, R4, R6, R7 and R10 for three calendar years.
- The Load-Serving Entity shall maintain evidence to show compliance with R3, and R8 for three calendar years.
- The Transmission Planner shall maintain evidence to show compliance with R5 and R7 for three calendar years.
- The Balancing Authority shall maintain evidence to show compliance with R9 for three calendar years.
- If an entity 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.	The Transmission Service Provider has a CBMID that does not incorporate changes that have been made within the last three months.	The Transmission Service Provider has a CBMID that does not incorporate changes that have been made more than three, but not more than six, months ago.	The Transmission Service Provider has CBMID that does not incorporate changes that have been made more than six, but not more than twelve, months ago.	The Transmission Service Provider does not have a CBMID, or has a CBMID that does not incorporate changes that have been made more than twelve months ago.
R2.	The Transmission Service Provider makes available the CBMID and any changes to the CBID to the Transmission Operator, Transmission Service Provider, Reliability Coordinator, Transmission Planner, and Planning Coordinator eight (8) or more days but not more than 14 days after a change was made.	The Transmission Service Provider makes available the CBMID and any changes to the CBID to the Transmission Operator, Transmission Service Provider, Reliability Coordinator, Transmission Planner, and Planning Coordinator 14 or more days but not more than 21 days after a change was made.	The Transmission Service Provider makes available the CBMID and any changes to the CBID to the Transmission Operator, Transmission Service Provider, Reliability Coordinator, Transmission Planner, and Planning Coordinator 21 or more days but not more than 28 days after a change was made.	The Transmission Service Provider makes available the CBMID and any changes to the CBID to the Transmission Operator, Transmission Service Provider, Reliability Coordinator, Transmission Planner, and Planning Coordinator more than 28 days after a change was made.

Standard MOD-004-1 — Capacity Benefit Margin

R #	Lower VSL	Moderate	High VSL	Severe VSL
R3.	<p>The Load Serving Entity did not update their request for CBM, or indicate that no update was needed, as described in R3.2.</p>	<p>The Load Serving Entity desiring CBM did not submit the information described in any one of the following: R3.1.2, R3.1.3, or R3.1.4.</p> <p>OR</p> <p>The Load Serving Entity did not update their request for CBM, or indicate that no update was needed, as described in R3.2, and their Generation Capability Import Requirement had changed by more than 20MW or 10%, whichever is smaller, and not more than 30MW or 20%, whichever is smaller.</p>	<p>The Load Serving Entity desiring CBM did not submit the information described in any one of the following: R3.1.2, R3.1.3, or R3.1.4.</p> <p>OR</p> <p>The Load Serving Entity did not update their request for CBM, or indicate that no update was needed, as described in R3.2, and their Generation Capability Import Requirement had changed by more than 20MW or 10%, whichever is smaller, and not more than 40MW or 30%, whichever is smaller.</p>	<p>The Load Serving Entity desiring CBM did not include one or more of the items specified in R3.1.1 in their request.</p> <p>OR</p> <p>The Load Serving Entity desiring CBM did not submit any of the information described in R3.1.2, R3.1.3, or R3.1.4.</p> <p>OR</p> <p>The Load Serving Entity did not update their request for CBM, or indicate that no update was needed, as described in R3.2, and their Generation Capability Import Requirement had changed by more than 40MW or 30%, whichever is smaller.</p> <p>OR</p> <p>The Load Serving Entity requested GCIR greater than its needs for imports to meet reserve margin or resource adequacy requirements (not to include the incremental power flows from reserve sharing requirements), and the additional GCIR requested was more than 10MW in excess of the needed amount.</p>

Standard MOD-004-1 — Capacity Benefit Margin

R #	Lower VSL	Moderate	High VSL	Severe VSL
R4.	N/A	N/A	<p>The Transmission Service Provider set CBM for the months requested as described in R3.1.1.2 more than 14, but not more than 30, days after receiving a request for CBM.</p> <p>OR</p> <p>The Transmission Service Provider did not follow the process described in R4.1, R4.2, and R4.3.</p>	<p>The Transmission Service Provider set CBM for the months requested as described in R3.1.1.2 more than 30 days after receiving a request for CBM.</p> <p>OR</p> <p>The Transmission Service Provider did not follow the process described in R4.1, R4.2, and R4.3, and the resource adequacy requirements of one or more Load Serving Entities requesting CBM were not met.</p>
R5.	N/A	N/A	<p>The Transmission Planner set CBM for the years requested as described in R3.1.1.3 more than 60, but not more than 120, days after receiving a request for CBM.</p> <p>OR</p> <p>The Transmission Planner did not follow the process described in R5.1, R5.2, R5.3, and R5.4.</p>	<p>The Transmission Planner set CBM for the years requested as described in R3.1.1.3 more than 120 days after receiving a request for CBM.</p> <p>OR</p> <p>The Transmission Planner did not follow the process described in R5.1, R5.2, R5.3, and R5.4, and the resource adequacy requirements of one or more Load Serving Entities requesting CBM were not met.</p>
R6.	The Transmission Service Provider provided the report to the requesting entities within 7 days (up to 2 days late) of determining the CBM	The Transmission Service Provider provided the report to the requesting entities within 12 days (up to 7 days late) of determining CBM	The Transmission Service Provider provided the report to the requesting entities within 19 days (up to 14 days late) of determining CBM	The Transmission Service Provider provided the report to the requesting entities within 20 or more days of determining CBM OR did not provide the report.

Standard MOD-004-1 — Capacity Benefit Margin

R #	Lower VSL	Moderate	High VSL	Severe VSL
R7.	The Transmission Service Provider or Transmission Planner did not provide a requester specified in R5 with the supporting data, including models, used to allocate CBM in more than seven, but not more than fourteen, days after the submission of the request.	The Transmission Service Provider or Transmission Planner did not provide a requester specified in R5 with the supporting data, including models, used to allocate CBM in more than fourteen, but not more than thirty, days after the submission of the request.	The Transmission Service Provider or Transmission Planner did not provide a requester specified in R5 with the supporting data, including models, used to allocate CBM in more than thirty, but not more than sixty, days after the submission of the request.	The Transmission Service Provider or Transmission Planner did not provide a requester specified in R5 with the supporting data, including models, used to allocate CBM more than sixty days after the submission of the request.
R8.	N/A	N/A	N/A	A Load Serving Entity requested to schedule energy over CBM while not in an EEA2
R9.	N/A	N/A	N/A	A Balancing Authority or Transmission Service Provider denied an Interchange Transaction Tag using CBM based on timing or ramping requirements.
R10.	N/A	N/A	N/A	The responsible entity has failed to demonstrate implementation or execution of the program/procedure requirement or directive