WECC

Project Coordination, Path Rating, and Progress Report Processes

Studies Subcommittee (StS)

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Introduction

This Project Coordination and Path Rating Processes document:

1. Provides procedures for WECC members and others to report on planned projects and to work together to expand the capacity of the Western Interconnection according to member and stakeholder needs.
2. Provides an opportunity to be informed of regional transmission planning conducted by the Transmission Planning Regions and others.
3. Provides project sponsors with an industry-agreed upon procedure that, when completed, could potentially be used to help demonstrate that coordinated planning has been performed for proposed projects, as may be required to obtain required regulatory approvals.
4. Provides the policies and procedures for notification and reliability assessment requirements related to projects proposed and planned within the Western Interconnection.
5. Provides agreed upon methods applicable to the transfer capability of transmission facilities (e.g., path flow ratings).
6. Promotes the reliable and coordinated integration of existing and new projects so that the use of the system is maximized for all participants.

The Reliability Assessment Committee (RAC) is responsible for oversight and review of the Project Coordination and Path Rating Processes. All steps in this document are voluntary unless explicitly identified as requirements. During all processes described in this document, the Project sponsors retain sole responsibility for ensuring and demonstrating compliance with NERC Reliability Standards and WECC Criteria.

These policies and procedures comprise three WECC processes:

1. **Project Coordination Process**—Helps inform others of the opportunity to participate in or review a project and solicits participation. It is intended to avoid redundant project(s) and to allow a new project to integrate the needs of other WECC member(s) by mutual agreement.
2. **Path Rating Process**—Gives new projects being integrated into the system a Path Rating, while recognizing protected ratings of WECC Paths with "Existing" or "Accepted Ratings"; additionally, this process also allows for potential rerating of "Existing" or "Accepted Ratings" of existing Paths due to changes of applied reliability criteria.
3. **Progress Reports Policies and Procedures**—Requires reports from project sponsors about significant additions or changes to the Western Interconnection. WECC members are given the opportunity to review and comment on these additions or changes.

While these processes function separately, in significant projects they are interrelated and support each other. For example, the Progress Reports Process is used to report on all projects. It also supports completion of reporting on project coordination and Path rating for significant projects.

Process Outline

The policies, guidelines, Project Coordination Process, scenario examples, and study methods presented in this document provide guidance to members on coordinating and placing a project in service, and they outline member responsibilities regarding the process. This document has been developed to establish:

1. Procedures for reviewing project conformity with WECC's role for project coordination;
2. Guidelines to demonstrate that proposed projects are reliable and consider WECC member interests outside the initial project footprint;
3. A process for project coordination (who does what, when, etc.) that is well understood, consistent, predictable, and is accepted as standard practice in the Western Interconnection;
4. Consistent methods for determining and demonstrating the WECC Path ratings based on performance requirements in the approved NERC Reliability Standards and WECC Criteria;
5. Accepted Ratings that have been reviewed by the WECC membership; and
6. A way for questions about the interpretation of the process to be brought to the RAC for resolution.

Figure 1 shows the sequence of Project Coordination and Path Rating processes that the project sponsor should follow.

Project Coordination Process

The Project Coordination Process encompasses the initial development phase of a significant transmission project. The process addresses how transmission project sponsors should work and interact with other parties when developing a project that has, or may have, a significant benefit or impact in the Western Interconnection. Through this process, WECC members cooperate to identify transmission expansion projects that may be beneficial to the region. By following this process, project sponsors might also address certain issues related to regulatory approval of their projects.

When developing a significant transmission project, the Project Coordination Process should begin as soon as possible and involve all interested project participants. Although it will vary, this phase of the process should start when interested participants are developing their individual and collective transmission needs. This phase is complete when the RAC has made a final determination regarding the project's conformity with the Project Coordination Review Objectives.

Path Rating Process

The Path Rating Process formalizes the way project sponsors get an Accepted Rating and demonstrate how their Project will meet NERC Reliability Standards and WECC Criteria. This three-phase process addresses planned new facility additions and upgrades or the rerating of existing facilities. It requires coordination through a review group comprising the project sponsors and representatives of other

systems that may be affected by the project. Section 2.3 of the Path Rating Process explains which Paths must undergo the three-phase rating process.

At the completion of the Path Rating process, WECC may grant an Accepted Rating that gives the project sponsor some protection against erosion of established facility capacity when further expansion of the Interconnection is proposed or new limitations are discovered.

The Path Rating Process is divided into three phases.

Phase 1 is conducted by the project sponsor and begins when the project sponsor submits either an Initial Progress Report as specified in Section 5.1 of the Progress Report Policies and Procedures process or when a formal letter of notification is given to the RAC and Studies Subcommittee (StS). During Phase 1, the project sponsor conducts enough studies to show the proposed non-simultaneous rating of the Path associated with the Project and prepares a Comprehensive Progress Report documenting study results and describing Project details, including a preliminary Plan of Service. Known simultaneous relationships should also be addressed in the Comprehensive Progress Report. In general, the acceptance of that report signals the completion of Phase 1, then the Path associated with the Project is given a Planned Rating.

Phase 2 is a review of the Project's Plan of Service by a Project Review Group (PRG) that comprises interested members. During this phase, the Project's Planned Rating is validated. In addition, the simultaneous transfer capability effects and the impact of the Project on neighboring transmission systems are assessed further. The project sponsor and the PRG must document all the studies and findings in the PRG Phase 2 Rating Report. Phase 2 is complete when the Phase 2 Rating Report is accepted and the Path associated with the Project is granted an Accepted Rating.

Phase 3 is the last part of the Path Rating Process. Phase 3 is a monitoring phase in which major changes in assumptions and conditions are evaluated to ensure the Accepted Rating is maintained. Phase 3 is complete when the Project is put into service.

Progress Report

The WECC Progress Report Policies and Procedures provide comprehensive direction about requirements for notification and reliability assessment related to projects planned in the Western Interconnection. This document gives direction for all generation and transmission projects that may have a significant impact on reliability.

Projects subject to these WECC Progress Report Policies and Procedures include:

1. Generation projects 200 MW or greater connected to the transmission system through step-up transformers;
2. All new and upgraded transmission facilities with voltage levels over 200 kV; and

3. Any facilities that may have a significant impact on the reliability of the Western Interconnection.

The term "generation projects" includes new generation plants, generation repower, or upgrades that may significantly alter the operation of the generation facilities. The term "transmission projects" includes new transmission facilities, transmission redesigns or upgrades, permanent removal of existing transmission facilities, or other changes that may significantly alter the operation of the transmission facilities (e.g., operating procedures).

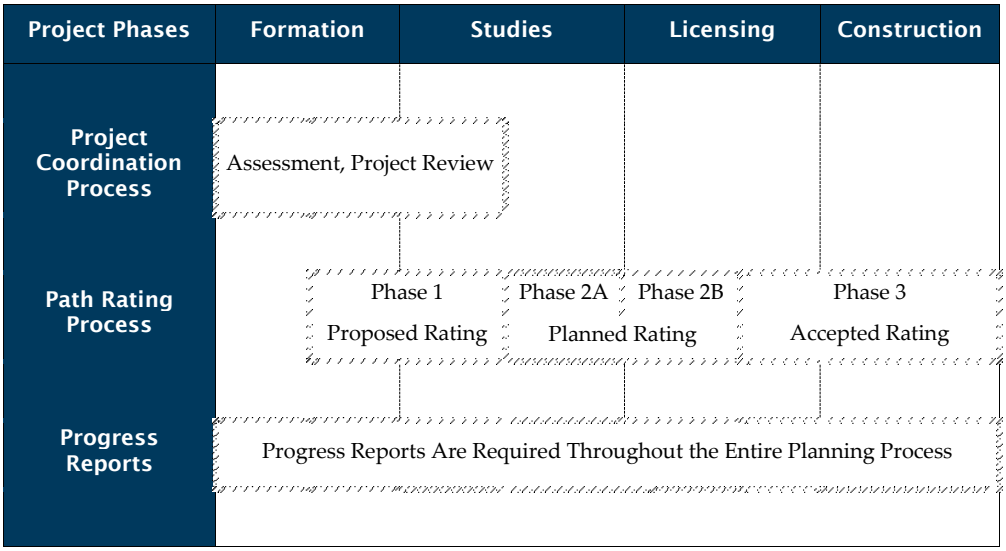
In general, these WECC Progress Report Policies and Procedures require these reports be submitted and actions completed during the planning of a project:

1. Initial Progress Report
2. Comprehensive Progress Report
3. Supplemental Progress Report
4. Review of progress reports by all StS members
5. Informal reports presented at StS meetings

A Path Rating Report is optional. It is required only if a project sponsor wants an Accepted Rating.

A Comprehensive Progress Report can be used to fulfill the requirement of a Path Rating Report only if no comments were received on the Comprehensive Progress Report from the WECC membership and no WECC member desires to form a PRG (see Section 3.3 on Expediting the Process in the Path Rating Process).

230 **Figure 1—Sequence of Project Coordination and Path Rating Processes**



The Phase 1 rating is used at the initiation and throughout Phase 1 of the Path Rating Process.

The rating at the end of Phase 3 is the rating that is used when the project is placed in service.

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WECC

I. Project Coordination Process

1. Introduction and Purpose

This process identifies how transmission project sponsors should work and interact with other interested parties when developing a significant transmission project. A significant transmission project is defined as facility operated at 200 kV and above (for transformer banks, the operating voltage refers to the low side of the transformer bank), unless granted a waiver by the RAC chair based on the two criteria below according to the process outlined in Section 4: Waiver of "Significant Impact" Status.

1. The purpose of the transmission project is to serve local load.
2. The transmission project does not have a significant impact on the operation of the Western Interconnection.

The purpose of the Project Coordination Process is to:

1. Foster the development of a broad perspective among all stakeholders in the project planning process;
2. Promote and encourage a more efficient use and development of the region's or subregion's existing and future facilities to enhance interconnected system operation;
3. Facilitate consideration of all relevant regional or subregional planning issues during the planning of specific transmission projects;
4. Provide procedures and guidelines for coordinated project review;
5. Involve member representatives, member executives, regulators, existing planning bodies, environmental groups, land-use groups, and other non-utility interest groups in the process;
6. Allow stakeholders to identify opportunities for improved regional transmission efficiencies and make recommendations to achieve them; and
7. Establish a way for questions about the interpretation of the process to be brought to the RAC for resolution.

The RAC has the responsibility for oversight and review of the Project Coordination Process.

2. Project Coordination Review Objectives

Sponsors of all significant transmission projects are required to prepare a Project Coordination Report. This report documents how the project sponsor meets four objectives:

1. Undertake Integrated Project Evaluation
    - Take multiple project needs and plans into account, including identified utilities' and non-utilities' future needs, as well as environmental and other stakeholder interests. The findings of the Regional Planning Group, the Subregional Planning Groups (SPG), or other analyses may be used to satisfy these requirements.
    - Identify transmission physical and operational constraints caused by the project or that are removed by the project.

- Look beyond specific end points of the sponsors' project to identify Interconnection-wide and regional needs or opportunities.

2. Conduct Coordination and Outreach
    a. Cooperate with Project Coordination Review Group members in defining the high-level benefits and impacts of the project.
        i. Coordinate project plans with, and seek input from, all interested members; regional transmission planning groups; subregional planning groups; and other stakeholders including utilities, independent power producers, environmental and land-use groups, and regulators.
3. Describe Generation Resources and Related Policy Initiatives
    - Review how the project improves or affects efficient use of existing and planned resources of the region.
    - Address effects of project for transmission congestion mitigation.
    - Describe how the project addresses specific energy policy initiatives.
4. Consider Reasonable Alternatives to the Project
    - Review the possibility of using the existing system, upgrades, or reasonable alternatives to the project to meet the need (including non-transmission alternatives where appropriate).
    - Address the efficient use of transmission corridors and take into account existing or proposed rights-of-way known at the time of the initiation of this process, new projects, optimal operating voltage, facility upgrades, etc.
    - Specify how the evaluation of the project has considered costs and benefits of the project compared with reasonable alternatives.
        i. Describe potentially affected or competing projects known at the time of the initiation of this process and consolidate these proposed projects where economically practicable.

3. WECC Project Coordination Process

3.1. Initiating the Process

The sponsor of a project should start the Project Coordination Process when a project is still conceptual. At the earliest possible time, the project sponsor should notify the RAC and StS of its intention to begin the Project Coordination Process and the purpose of the project. Notifications should be made before submitting project data for the WECC Progress Report Policies and Procedures.

The process may also be initiated by the RAC upon determining that regional interest has been expressed or at the request of a member. The RAC will maintain a list of projects under consideration

by members that are not yet reported through the WECC Progress Report Policies and Procedures so that the RAC may determine whether regional interest has been expressed.

Upon initiation of the review process, the project sponsor will form a Project Coordination Review Group (PCRG). The project sponsor will provide notice of the formation of the PCRG to all RAC, StS members, and primary member representatives. The project sponsor will accept all people who want to participate in the PCRG as members. The purpose of the PCRG is to find ways to incorporate multiple interests and needs into a single project. To reduce meetings and the time frame to complete the Project Coordination Process, a project sponsor may use established Regional Planning Groups or an established Subregional Planning Group to meet the requirements of Project Coordination Process in lieu of forming an independent PCRG for the project. If the project sponsor does not use an independent PCRG, the sponsor must notify the StS and RAC in writing of the forum that the sponsor plans to use for the Project Coordination Process. The RAC and Regional Planning Group must agree with the project sponsor to be a host forum for the Project Coordination Review. However, the project sponsor is still responsible for all items associated with the Project Coordination Process, like sending updates to the StS and RAC and sending reports to the RAC.

3.2. During the Process

The project sponsor, in coordination with the PCRG or host forum, will prepare a Project Coordination Report indicating how the project conforms or will conform to the Project Coordination Review Objectives. Upon the PCRG's approval, the sponsor will submit this report to the RAC and the StS.

The RAC will review the proposed project relative to the Project Coordination Review Objectives. The RAC, through the PCRG or host forum, may:

- Require that the project sponsor performs additional studies or provides the sponsor's own studies to the RAC.
- Require the evaluation of alternatives or options that may provide greater regional benefits.

Upon completion of the RAC's review, the RAC chair will approve the report. During the review process, the project sponsor remains solely responsible for performing analyses and responding to RAC requests.

3.3. Completing the Process

Upon approval of the Project Coordination Report by the RAC, the project sponsor will document that it has completed the WECC Project Coordination Process and has met the four Project Coordination Review Objectives as specified in Section 2—Project Coordination Review Objectives.

The project sponsor will submit the Project Coordination Report to the RAC to be posted for 30-day review and comment on the project's conformity with the Project Coordination Review Objectives. WECC staff will notify all members of the posting. When comments from this review are addressed by

the project sponsor, the project sponsor will notify the RAC chair. The RAC chair will notify the project sponsor as well as the RAC and StS of the completion of the Project Coordination Process.

If a project sponsor does not demonstrate any evidence of activity for 18 months, the project will not be considered to be within the Project Coordination Process. Evidence of activity is shown in the Project Coordination logs. If no evidence of activity is shown, the project will be removed from Project Coordination logs and the RAC chair will notify the project sponsor (if possible) the RAC, StS, and member representatives that the project has been removed. The project sponsor can restart the process as outlined in Section 1-Introduction and Purpose, if desired.

4. Waiver of "Significant Impact" Status

The sponsor(s) of transmission projects with operating voltages 200 kV and above (for transformer banks, the operating voltage refers to the low side of the transformer bank), who are not seeking a path rating, may request waivers of the Project Coordination Process. The request must either provide documentation of how the project is being coordinated in another forum or provide an explanation of why the project is not expected to have any significant impact to the operation of the Western Interconnection. Project sponsors can request the waiver according to the following process:

1. The project sponsor includes a list of projects for which a waiver is requested in a separate section in its Annual Progress Report to the StS with a copy to WECC staff. If the request for waiver is needed before the next Annual Progress Report is to be submitted, the project sponsor submits a request to WECC staff with a copy to the StS.
2. The following project information must be included:
    a. Project name;
    b. Project purpose;
    c. Brief Project description including expected termination points;
    d. Expected date of release to operations;
    e. Expected operating voltage; and
    f. Either:
        i. Description of how the Project has been coordinated through a transmission planning forum, such as Regional Planning Group, the Subregional Planning Groups (SPG), or another appropriate forum. If the project is being coordinated through a transmission planning forum, the sponsor must provide an open invitation for participation to all WECC members and other interested stakeholders. The description should include references to any transmission studies performed.

        OR

ii. Explanation of why the Project is not expected to have a significant impact on the operation of the Western Interconnection.

g. The following questions may be considered in determining whether a project has significant impact on the Western Interconnection:

i. Have studies demonstrated that there are impacts to other systems?

ii. Is there any impact on flow of energy on other systems?

iii. Are any Major WECC Transfer Paths affected?

iv. Is a flow control device needed or required as part of the project?

v. Is the project connected to other utilities' systems?

vi. Do disturbances affect other entities?

3. WECC staff posts the list of projects and notifies the RAC and StS. The waiver is granted unless a letter from a member opposing the waiver is received within 30 days.
4. Any member that believes the project should not be granted a waiver must submit a letter to the RAC chair with a copy to the project sponsor and WECC staff within 30 calendar days of the posting of the list. The letter must outline the reason(s) for not granting the waiver and include a request that the project proceed with the Project Coordination Process.
5. WECC staff posts the letter opposing the waiver and notifies the RAC and StS.
6. The RAC chair determines whether the waiver will be granted within 20 calendar days of posting the letter opposing the waiver. If the project sponsor employs the RAC chair, such determination will be made by the RAC vice chair.

WECC

II. Path Rating Process

1. Introduction

This document establishes consistent methods for obtaining Accepted Rating(s) for transmission facilities through:

1. A consistent and transparent path rating process (who does what, when, etc.) that is well understood and is accepted as standard practice in the Western Interconnection;
2. Determining and demonstrating ratings;
3. A review by the membership; and
4. Consistent technical information to be used in negotiations outside the path rating process.

This procedure describes the path rating process that Project Sponsors and participants will follow to obtain or update an Accepted Rating. There are three separate phases and they mirror the development process for projects.

Phase 1—The Project Sponsor conducts this phase and it is initiated when the Project Sponsor submits either an Initial Progress Report as specified in Section 5.1 of the Progress Report Policies and Procedures process or a formal letter of notification is provided to the RAC and StS. During Phase 1, the Project Sponsor conducts sufficient studies to demonstrate the proposed non-simultaneous rating of the Path associated with the Project. The Project Sponsor prepares a Comprehensive Progress Report documenting study results and describing project details, including a preliminary Plan of Service.

Phase 2—This phase encompasses a review of the Project's Plan of Service by a Project Review Group (PRG) comprising members who are interested in the Project. During this phase, the Planned Rating associated with the Project is validated and the simultaneous Transfer Capability effects and the impact of the Project on neighboring transmission systems are further assessed. The Project Sponsor and the PRG must document all the studies and findings in a report called the PRG Phase 2 Rating Report. Phase 2 is complete when the Phase 2 Rating Report is accepted, and the Project is granted an Accepted Rating.

Phase 3—This phase is the last part of the Path Rating Process. Phase 3 is a monitoring phase where major changes in assumptions and conditions are evaluated to assure the Accepted Rating is maintained. Phase 3 is completed when the Project is placed into service.

The three-phase process is intended to address Path rating due to planned new facility additions and upgrades or rerates of existing facilities that require coordination through a review group comprised of the Project Sponsors and other members that may be affected by the Project. It is recognized that some rerates of existing transmission paths or the addition of new facilities will not be of significance to others or may not require the formation of a review group. If an Accepted Rating is desired, these Projects can be expedited through the three-phase Path Rating Process described in Section 3.3 below.

2. Policies and Guidelines for Path Rating Review

Principles for establishing a transfer path Accepted Rating are encompassed in the following policies and guidelines.

2.1. Objectives

The objectives of the policies and guidelines are to:

1. Promote the development of an efficient, reliable electric transmission system;
2. Balance the competing interests of protecting the Accepted and Existing Ratings of existing Paths, as well as protecting established Flowgate Generator Deliverabilities;
3. Balance the competing interests of potential changes to the Accepted or Existing Ratings of existing and new Paths due to changes in reliability criteria used for the previous path rating study process;
4. Ensure Established Flowgate Generator Deliverability[1] is considered when examining potential changes to the Accepted or Existing Ratings of new and/or existing Paths; and
5. Encourage the economic, reliable, and environmentally sound expansion of the electric transmission system.

Ratings of existing Paths and Established Flowgate Generator Deliverabilities deserve a degree of protection; however, this should not discourage needed system expansion. Conversely, system expansion should not unfairly penalize existing system facilities.

2.2. Policies

To support these objectives, WECC has adopted the following policies for rating transmission Paths.

1. Parties will plan, design, and operate their systems consistent with the following:
   - NERC Reliability Standards
   - WECC Criteria
   - Project Coordination Process, Path Rating Process, and Progress Reports Policies and Procedures
2. New facilities and facility modifications should not adversely affect Accepted or Existing Ratings or Established Flowgate Generator Deliverability, regardless of whether an Accepted Rating for the path associated with the new facility or modification is being sought. New or modified facilities can include transmission lines, generating plants, substations, series capacitor

[1] For a description of "Flowgate Generator Deliverability", see Section 5 Philosophy and Principles for Flowgate Methods.

Commented [RC1]: Maybe use "established" instead of "existing", for consistency with later phrasing? What about new/proposed FGDs

Commented [MZ2R1]: Replaced the word "Existing" with "Established." Protection is only for "Established Flowgate Generator Deliverability," which is now defined in Appendix A.

Commented [DL3]: We should have discussion to introduce the term since it's capitalized, similar to NERC Definition of Terms. A small background discussion on their use is helpful since this is the first time they're used in the WECC path rating process document.

Commented [MZ4R3]: "Established Flowgate Generator Deliverability", "Flowgate Generator Deliverability Study", and "Flowgate" are now all defined in Appendix A. SRP provided a presentation on the Flowgate Planning Method in October's 2025 RAC meeting to provide additional background.

stations, remedial action schemes, or any other facilities affecting the capacity or use of the Western Interconnection.

2.3. Paths Subject to This Procedure

Transmission paths will complete the Path Rating Process specified in this document and obtain an Accepted Rating if any of the following criteria apply:

1. The limiting condition (e.g., thermal limit, stability, or voltage) in determining the Total Transfer Capability of the path for transmission facilities that affect the path is on another system and the affected member system requests the path be rated.
2. The limiting condition (e.g., thermal limit, stability, or voltage) in determining the Total Transfer Capability of the path for transmission facilities that have the potential to adversely impact Established Flowgate Generator Deliverabilities and the affected entity of the Flowgate Generator Deliverability requests the path be rated.
3. The study criteria that was required for establishing Accepted or Existing Rating has been changed and a path owner(s) or Project Sponsor(s) in at least Phase 2b of the Path Rating Process have requested a new path rating.
4. The path must be operated within the constraints of a nomogram to meet NERC Reliability Standards and WECC Criteria, the elements of the nomogram (e.g., path flows or generation levels) are in different systems, and one of those systems or a neighboring member system requests the path be rated.
5. The path owners or operators have requested a seasonal or operational Total Transfer Capability for a new path, or the path owners or operators have requested a seasonal or operational Total Transfer Capability that is in excess of an existing path's rating (Accepted, Existing, or Other).
6. A facility (generator, series, or shunt reactive equipment; Remedial Action Scheme (RAS); etc.) that an Existing or Accepted Rating depends on is modified or retired from service, without regard to whether the facility is owned by the same system as the rated path. If the modified RAS is functionally equivalent to the existing RAS and the RASRS approves it, the Path does not need to be rerated.
7. Any changes to the path definition that is outlined in the most current Path Rating Catalog that is listed as an "Accepted" or "Existing" path rating. Minor Changes to a path rating (such as moving a metering location) should be submitted as part of the 60-day Expedited Process defined in Section 3.3

For the purposes of these criteria, transmission dependent utilities, loads, or generators interconnected exclusively to the path operator's system are not considered other systems. In addition, any Project may seek a Path rating under the Path Rating Process on a voluntary basis.

Commented [RC5]: Will FGD's be subject to this as well? Will the FGDs undergo the same or similar coordinated process, for changes in criteria, system topology changes, requests by affected parties, etc.?

Commented [MZ6R5]: Flowgate Generator Deliverability Studies do not impact path ratings. The studies only confirm that capacity for a specific generator, or fleet of generators, can be reliably transferred through one or more identified flowgates to serve load or count toward capacity obligations without creating thermal, voltage, or stability violations. As per NAESB WEQ Modeling Business Practice Standard (WEQ-023) Sections 1.1.1.3, 1.1.1.3.1, and 1.1.1.3.3, if a project sponsor requests the inclusion of a path as a constraint in Flowgate Generator Deliverability Studies, and an impact test performed shows generator to load transfers affect a path's transfer capability by 5% or greater, than the requested path will be accounted for as a constraint in Flowgate Generator Deliverability Studies. If the impact to the path is less than 5%, the requested path may still be included if agreed upon by the project sponsor and entity performing the Flowgate Generator Deliverability Studies.

Commented [DL7]: How does an entity know which Flowgate Generator Deliverability is impacted? Is there a catalog of such Flowgate Generator Deliverability similar to the WECC Path Rating Catalog?

Commented [MZ8R7]: Those that use a flowgate based methodology for planning purposes will participate in Project Review Groups (PRG) to identify Established Flowgate Generator Deliverabilities pertinent to a proposed path.

Commented [CT9]: Added because the facility owner may not know which Flowgate(s) may be impacted, and similar to item 1, the affected parties should make the request.

Commented [MZ10R9]: Agreed. Those that use a flowgate based methodology for planning purposes will participate in Project Review Groups (PRG) to identify Established Flowgate Generator Deliverabilities pertinent to a proposed path.

2.4. Protection of Ratings

The protection of ratings encompasses the following:

1. The amount of power that a rated Path can transfer is protected from being diminished due to subsequent projects;
2. Protection for a rating is conferred by obtaining an Accepted Rating or by virtue of having an Existing Rating and is subject to a benchmarking case comparison;
3. If the capability of a path was diminished due to new or modified Transmission or Generation projects (as demonstrated in benchmark comparison of studies with and without the change) it would constitute an "impact" to a protected rating that will require mitigation;
4. All members will actively participate in defining, in advance of operation, any potential simultaneous transfer limits. The burden of reporting, modeling, and studying the Project, and of assessing its impact on the Western Interconnection, will be shared with the sponsors taking the lead and primary responsibility. Other affected members have the responsibility to actively participate in the review process;
5. There may be benefits to interconnected-system operation other than increased Transfer Capability and these benefits should be appropriately recognized;
6. The WECC process for determining the Accepted Rating of a Path associated with the Project will:
    - allow for the review of studies by all potentially affected parties; and
    - comprehensively address both simultaneous and non-simultaneous conditions.
7. Facility owners/operators are responsible for establishing operating procedures and notifying the affected Reliability Coordinator(s) (RC) that these procedures are in place. The involved parties will expeditiously negotiate operating strategies and/or curtailment allocations before initial operation to assure operation within safe limits. Negotiations should not unduly delay new Projects and disputes should be resolved expeditiously through some process as mutually agreed to by the parties. If the parties desire, the RAC may offer guidance;
8. If all planned facilities, including facilities of other projects on which the rating studies relied, are not installed for a Project or are modified or retired from service, Project Sponsor(s) are responsible for the corresponding reduced Path rating and associated curtailments;
9. New simultaneous limits may be discovered between existing transmission paths even when no facilities or ratings are being changed. The limits may be caused by the retirement of existing facilities, changes in system load and/or resources that occur over time in several systems, or a change in the NERC or WECC reliability criteria that was required for the previous path rating process. The involved parties should negotiate operation strategies and/or curtailment allocations to promote continued operation within safe limits. Negotiations will not adversely affect ongoing reliable system operations and disputes should be resolved expeditiously

through some process as mutually agreed to by the parties. If the parties desire, the RAC may offer guidance.

2.5. Guidelines

The following guidelines apply with respect to adverse impacts on Transfer Capability:

1. Sections 6 and 8 of the Path Rating Process address Process and Scenario examples for rating transmission facilities. Project Sponsors should refer to these for guidance in determining new ratings. It should be recognized that it is not possible to address all situations and issues that may arise in facility ratings. Project Sponsors should be prepared to apply judgment in addressing facility rating issues not addressed in Sections 6 and 8.
2. A new Path rating should not adversely affect the Transfer Capability of the existing system and individual Paths in the system. A new project will not result in a reduction of another Path's Existing or Accepted Rating. If it does, the sponsors of the project should work with all adversely affected parties to mitigate Transfer Capability limitations or to negotiate appropriate and reasonable compensation. The intent is that new projects will be developed in consideration of the existing system and not cause reductions in existing Transfer Capabilities where mitigation options can be developed. The key consideration is achieving balance. Existing Paths deserve a degree of protection; however, existing Paths should not discourage needed system expansion. For example, a new project could create a new simultaneous relationship with an existing Path or alter an existing simultaneous relationship between existing Paths and still meet the intent of the rating process. Conversely, system expansion should not unfairly penalize existing system facilities. This logic is extended to include Established Flowgate Generator Deliverabilities. New Flowgate Generator Deliverabilities or new Path ratings shall not have an adverse impact on Established Flowgate Generator Deliverability. In the event adverse impacts are identified, the new Flowgate Generator Deliverability or new Path rating shall either be reduced, mitigations shall be implemented, or alternative mutually acceptable arrangements must be made.
3. When a simultaneous transfer conflict occurs between systems that have established Accepted Ratings, the vintage of the rating should not grant preference in determining curtailment allocations.
4. Negotiated agreement between the affected parties is the preferred method for resolving simultaneous transfer conflicts. If negotiations fail, another method of resolution should be considered. If the parties desire, the RAC may offer guidance.
5. Generally, the burden of resolving limitations between Projects in Phase 2B of the Path Rating Process should be shared between the Projects. In addition, the mutual impacts of Similarly Situated Projects need to be investigated in Phase 2B. (Please see Appendix C for a discussion on Similarly Situated Projects).

Commented [DL11]: Similar to previous comments, to be as transparent as the existing Path rating process, there is a need for transparency in knowing what these established Flowgate Generator Deliverability (FGD) are. If they are unknown, how can we assess potential impact to these FGDs if there's a new Path or upgrade of existing WECC Paths. All WECC Paths are known and summarized in the WECC Path Rating Catalog.

Commented [MZ12R11]: Those that use a flowgate based methodology for planning purposes will participate in Project Review Groups (PRG) to identify Established Flowgate Generator Deliverabilities pertinent to a proposed path.

6. In allocating curtailments or costs of mitigation, consideration should be given to factors including but not limited to the following:
    - State of completion of planning
    - Level of commitment to project
    - Speed of progress
    - Projected completion dates

3. Path Rating Process

3.1. Objectives

To fulfill the purpose of these Processes, Policies, and Procedures, Project Sponsors should consider potential interactions and problems of simultaneous transfers when performing the planning studies for a Project or changes to the Path Rating of an existing Path and/or Established Flowgate Generator Deliverability. To facilitate this, WECC has adopted the following Path Rating Process to guide the Project Sponsors through their planning efforts.

The objectives of the Path Rating Process are to:

1. Facilitate communication of Project plans, performance, and limitations to all affected parties during the period from Project inception to commercial operation.
2. Encourage a reasonable and diligent effort to discover simultaneous limitations and assure their resolution before operation.
3. Provide the opportunity for owners of existing or future facilities that may be affected by the Project to participate in review of the Project studies.
4. Facilitate the conclusion of all necessary studies promptly.
5. Identify operating limitations and facilitate the Project Sponsor's development of mitigation measures with enough lead-time to allow development of operating procedures.
6. Integrate Projects into the existing system in a manner that will preserve interconnected-system reliability and operating efficiency.
7. Provide clarity, consistency, and transparency in classifying Projects that are similarly situated (see Appendix C).

3.2. The Rating Process

The Project Sponsor is responsible for initiating and following through with the rating process. The rating process covers the period of activity from the first announcement of a Project (through either the WECC Progress Report Policies and Procedures or through a letter of notification to RAC and StS members) to when it is placed in operation. While the sponsor is responsible for initiating and completing the Rating Process, there is a shared responsibility between the Project Sponsor and the rest of the WECC membership to complete some parts of the process.

Commented [DL13]: What constitutes an "established" flowgate? Should it need to go through the same process as the WECC path rating process to be considered an "established" rating? To be included in the WECC path rating process, this is likely to be expected.

Commented [MZ14R13]: "Established Flowgate Generator Deliverability" has now been defined in Appendix A. Flowgate Generator Deliverability Studies do not impact path ratings. The studies only confirm that capacity for a specific generator, or fleet of generators, can be reliably transferred through one or more identified flowgates to serve load or count toward capacity obligations without creating thermal, voltage, or stability violations. As per NAESB WEQ Modeling Business Practice Standard (WEQ-023) Sections 1.1.1.3, 1.1.1.3.1, and 1.1.1.3.3, if a project sponsor requests the inclusion of a path as a constraint in Flowgate Generator Deliverability Studies, and an impact test performed shows generator to load transfers affect a path's transfer capability by 5% or greater, than the requested path will be accounted for as a constraint in Flowgate Generator Deliverability Studies. If the impact to the path is less than 5%, the requested path may still be included if agreed upon by the project sponsor and entity performing the Flowgate Generator Deliverability Studies.

The Rating Process consists of three phases:

Phase 1—Non-simultaneous Study and Path Definition

This phase includes defining the proposed Path and including a proposed Path rating and the Project Plan of Service that supports the proposed Path rating. This phase builds on the work done in the Project Coordination Process.

Phase 2—Simultaneous Study, Review, and Planned Rating

This phase is to address issues related to the Path rating, mainly Simultaneous Transfer Capability, but also Non-simultaneous Transfer Capability if issues were not resolved in Phase 1.

Phase 3—Accepted Rating and Project Implementation

This phase covers the implementation period for the Project. Phase 3 is deemed complete when the Project is placed in service.

The Rating Process also provides for Project Sponsors to compress activities when the Path rating is not expected to raise significant concerns. This is described in Section 3.3—Expediting the Process.

Throughout the planning process the Project Sponsor is responsible for adequately communicating and coordinating the development of the Project with existing facilities and other projects. WECC provides many opportunities for the Project Sponsor to communicate information to members and interested parties about the Project through informal reports at various committee meetings, as well as the preparation of progress reports. (See Appendix D for a list of templates to provide some examples on the contents of such communications.)

This Path Rating Process has been established to promote that the planning process is completed in a timely and orderly manner. The process is illustrated in Figure 2–Path Rating Process.

3.2.1. Phase 1—Path Definition

The purpose of Phase 1 is to define the proposed Path and proposed rating. Phase 1 is often carried out concurrently with the Project Coordination Process and is complete upon acceptance of a Comprehensive Progress Report by the StS. Phase 1 is also the most appropriate phase for the Project Sponsor to decide if the proposed Project would constitute a subset of an existing Path. Otherwise, this determination should be made as early as possible in Phase 2. Please refer to Appendix E for the two tests the Project Sponsor is required to perform in order to provide information to the PRG to aid in determining whether a proposed Project is a subset of an existing Path.

If a Project Sponsor's study plan includes treating the proposed Project as a subset of an existing Path, or the sponsor makes that decision in Phase 1, performing the two tests referred to in Appendix D will not be needed. If the proposed Project is determined to be a subset of an existing Path, the Project Sponsor will also be required to rerate the combined Path within the Path Rating Process. The

determination that a Project is a subset of an existing Path does not preclude a Project from defining a separate Path or from seeking a separate Path rating for itself.

The Project Sponsor's initial announcement of a project starts Phase 1 of the planning process. This announcement takes place when the Project Sponsor submits data on the Project in accordance with the Progress Report Policies and Procedures or provides a letter of notification. This announcement must be submitted at the beginning of the studies needed for the Comprehensive Progress Report[2]. If a letter of notification is used, the letter should include a complete description of the Project including the proposed Path and proposed Path rating and will be distributed to all RAC and StS members (WECC staff will distribute material upon request of the Project Sponsor). For the purposes of these criteria, transmission dependent utilities, loads, or generators interconnected exclusively to the Path operator's system are not considered other systems.

3.2.2. Phase 1 Requirements

During Phase 1 the Project is in the preliminary phase of development and a definitive Plan of Service may not be available. The sponsor should be performing the necessary studies to develop a preliminary Plan of Service and a Planned Rating.

Phase 1 studies should focus on the non-simultaneous rating; however, known simultaneous effects should also be addressed.

The Phase 1 study will evaluate and report specific contingencies' potential impact on other systems, with the Path associated with the project modeled at its Proposed Rating(s). As applicable, these specific contingencies include: 1) failure of a circuit breaker associated with a Remedial Action Scheme to operate when required, and 2) a credible common mode outage of two generating units connected to the same switchyard. (For further detail, see WECC Progress Report Policies and Procedures Section 5.2, below, regarding the content of the Comprehensive Progress Report.)

It is also recommended that the Project Sponsor determine as part of the project review, whether the proposed Project is part of an existing Path; this determination can be done during either Phase 1 or Phase 2. (Refer to Appendix E for the two tests required to provide information to the PRG to aid in determining if a proposed Project is a subset of an existing Path.)

During Phase 1, the Path associated with the Project has only a Proposed Rating and other projects in later phases of the planning process are not obligated to recognize the Project in their studies.

[2] This announcement is needed so that entities who are rerating the same path are aware of one another's projects and allow them to coordinate.

3.2.3. Completion of Phase 1

The transition from Phase 1 to Phase 2 is accomplished by notification from the StS chair to RAC, Reliability Risk Committee (RRC), StS, the relevant RC, and the Project Sponsor of the completion of all the following:

1. RAC has completed its assessment of the Project's conformity with the Project Coordination Review Objectives.
2. The Project Sponsor has submitted a full Project representation to WECC for inclusion in WECC base cases. The Project Sponsor should work with applicable Data Submitters, as defined in the Data Preparation Manual (DPM), so that it is clearly understood when transmission facilities associated with the Project should be modeled in specific WECC base cases.
3. The Project Sponsor has distributed a Comprehensive Progress Report accompanied by a letter to StS and RAC requesting Phase 2 status for the Project. StS and RAC members have 60 days to comment on the Comprehensive Progress Report by submitting a letter to the Project Sponsor with copy to WECC staff.

If the above criteria have been satisfied and no objections were received within 60 days, the Project Sponsor(s) will so notify the StS chair and provide evidence that the project has satisfied all requirements. The StS chair will notify RAC and StS members that the Comprehensive Progress Report has been accepted and the Project has entered Phase 2 of the planning process. If any objection is received, the StS chair will consult with WECC staff and StS members to determine whether the Project has met the above requirements to transition to Phase 2. This transition from Phase 1 to Phase 2 signals that the Project Sponsor's preliminary planning studies have been completed and a Planned Rating for the Path associated with the Project has been established using the accepted methods.

The rating process can be complex. Notwithstanding the minimum reporting requirements necessary to qualify for transition to Phase 2, it may not be practical to address all technical questions within the defined Phase 1 scope. Unresolved issues may include:

1. Planning and technical issues that the Project Sponsor is responsible for demonstrating under NERC Reliability Standards and WECC Criteria. This includes:
    - determining whether a proposed Project is a subset of an existing Path;
    - addressing simultaneous technical interactions between projects, including:
        i. known interactions; and
        ii. new interactions that are intended to be identified and that have a bearing on the reliability of the interconnected electric system and development of associated nomograms, mitigation plans, or operating procedures.
2. Adequacy of supply is not a factor in the rating process as a stand-alone requirement. It may be an indirect factor if generation patterns have bearing on the technical rating issues described above. Adequacy of supply issues are to be addressed in other forums, unless the resource

assumptions are critical to achieving the path rating. If supply adequacy is a critical component for achieving proposed path rating, the path rating may be subject to revision if the assumed resource assumptions do not materialize.

3. Commercial issues are to be addressed outside of the rating process by the affected parties. It is the intent of these policies and procedures that commercial issues be resolved before operation at the new Accepted Rating commences. It is intended that at the end of the Path Rating Process operation at the new Accepted Rating of the Path associated with new Projects that meet all reliability requirements not be unreasonably delayed by commercial discussions.

The RAC expects that, early in the 60-day comment period, personnel with authority to resolve these areas of disagreement from each of the involved parties will make a good faith effort to identify issues and resolve any issues of disagreement. If, at the end of the 60-day period, objections remain to the Comprehensive Progress Report that have not been resolved, the Project Sponsor may agree to resolve the objections in Phase 2, in which case the Comprehensive Progress Report can be accepted and the Project can move into Phase 2, provided that all other Phase 2 entry requirements have been satisfied. Otherwise, the Project will remain in Phase 1.

Notification by the StS chair of the acceptance of the Comprehensive Progress Report and the Planned Rating indicates completion of Phase 1 and transition to Phase 2.

3.2.4. Phase 2—Path Rating

The purpose of Phase 2 of the Rating Process is to:

1. Confirm the Non-Simultaneous Transfer Capability of the Path associated with the proposed Project for a specific Plan of Service determined in Phase 1;

2a. Identify Simultaneous Transfer Capability of the Path for each specific Project's plans of service on a combined basis for all affected paths and all Projects classified as "similarly situated"; (please see Appendix C for discussion on Similarly Situated and Combined Project studies.)

2b. Identify Simultaneous Transfer Capability of the Path for each specific Project's plans of service on a combined basis for all affected entities' Established Flowgate Generator Deliverability;

3. Address the mitigation of adverse impacts on simultaneous and non-simultaneous Transfer Capability relative to the existing system;

4.For informational purposes, determine impacts on the Western Interconnection of outages of all facilities in the same corridor as the proposed Project.[3]

Commented [DL15]: Does Flowgate have a Phase 3 Accepted Rating similar to WECC Path Rating?

Commented [MZ16R15]: The Flowgate Generator Deliverabilities to be considered in the Path Rating Process are those that are "Established." "Established Flowgate Generator Deliverability," refers to a group of resources that have been studied and determined to not exceed flowgate limitations under stressed system conditions. The definition for "Established Flowgate Generator Deliverability" is now in Appendix A. Section 5.6.13 on Generator Deliverability now further discusses when this designation is applicable.

[3] Loss of all facilities in the same corridor is an Extreme Event. Mitigation of the impacts due to Extreme Events is not required to achieve an Accepted Rating. The PRG will provide guidance regarding the specific common corridor outage(s) to be evaluated for informational purposes.

5. Address all comments to the Comprehensive Progress Report.

3.2.5. Phase 2 Requirements

During Phase 2, the Project Sponsor will lead a PRG comprised of interested WECC member representatives. Before or during Phase 2, the Project Sponsor will send a letter to the StS, RAC, RRC, and the relevant RC soliciting interest in participating in a PRG. A 30-day period (starting from WECC's distribution of the request letter) will be allowed for recipients of the letter to respond with their interest in participating in the PRG. This letter may be distributed at the same time as the Comprehensive Progress Report, although the deadline for responding cannot be before the deadline for comments on the Comprehensive Progress Report.

Details concerning the formation of the PRG are discussed in Section 3.5, Formation of a WECC PRG. All members interested in participating in a PRG may participate. Members with interest in the Path rating should participate in the PRG, as it is the PRG comments that will determine the outcome of Phase 2 and transition to Phase 3. In addition, the PRG is also responsible for approving the study plan and the base cases to be used for simultaneous transfer studies in Phase 2.

Projects undergoing Phase 2 of the Path Rating Process must recognize the protected ratings of other affected/relevant Paths with Existing or Accepted Ratings, and must recognize applicable Established Flowgate Generation Deliverabilities.

All Projects associated with Paths that have Planned Ratings must consider each other as relevant to their planning studies. Similarly Situated Projects must consider each other on an equal basis. Once a Project has entered Phase 2, its associated Path has attained a Planned Rating and it is considered on an equal basis with other Similarly Situated Projects in Phase 2.

To aid in the determination of Projects that are similarly situated, Phase 2 is further separated into Phases 2A and 2B with a bright line. The bright line is defined in Section 3.2.6. This bright line is used to identify those Phase 2 proposed projects that have completed and obtained approval by the PRG of a study plan and the first base case (or Foundational Base Case) needed to perform simultaneous studies. Phase 2A Projects that cross this bright line will be moved to Phase 2B. (See Appendix C for further discussion of Similarly Situated Projects, Simultaneous Studies, and Combined Project Studies and the relationship between proposed Projects in Phase 2A and Phase 2B.)

Phase 2 is the phase in which adverse impacts must be identified and Mitigation Plans must be established. If a new Project potentially affects an Existing Rating or an Accepted Rating, then it is required that preliminary Mitigation Plans be developed in Phase 2B by the Project Sponsor to alleviate the adverse impact. For example, a change that affects the effectiveness of a RAS is expected to be addressed in Phase 2B if the RAS effectiveness has a direct adverse effect on an Existing or Accepted Rating. Established Flowgate Generator Deliverability can also be considered a Similarly Situated Project and thus Established Flowgate Generator Deliverability must be considered in Phase 2 studies.

Commented [RC17]: Can FGDs have static/established values, or by nature are they always changing and therefore can only be considered as a Phase 2B "similarly-situated" concept when rating a Path?

Commented [MZ18R17]: A Flowgate Generator Deliverability Study is a planning assessment that determines whether a specific generator's capacity can be reliably transferred through one or more identified flowgates to serve load or count toward capacity obligations without creating thermal, voltage, or stability violations under the defined study conditions. Assuming the generator or fleet of generators achieve this, they can have "Established Flowgate Generator Deliverability", which means the resource or resources that have undergone Flowgate Generator Deliverability Studies have been deemed as being deliverable to relevant load pockets of the system while accounting for contingencies, existing commitments, and operational limits.

Commented [CT19]: Is there a list of established Flowgate Generator Deliverables similar to the Path Rating Catalog?

Commented [KR20R19]: I agree with this comment. There should be a list of flowagates.

Commented [MZ21R19]: There is not. Those that use Flowgate Planning Method will participate in Project Review Groups (PRG) to identify Established Flowgate Generator Deliverabilities pertinent to a proposed path. They have agreed to perform the necessary Flowgate Generator Deliverability Studies to determine if a proposed path negatively impacts generator deliverability.

Conversely, Flowgate Generator Deliverability Studies must use Planned Path Ratings as binding constraints in Flowgate Generator Deliverability studies if a project sponsor requests the inclusion of a path as a constraint in Flowgate Generator Deliverability Studies, and a subsequent impact test performed by the requestee shows generator to load transfers affect a path's transfer capability by 5% or greater. If the impact to the path is less than 5%, the requested path may still be included if agreed upon by the project sponsor and entity performing the Flowgate Generator Deliverability Studies.

The essential burden of mitigating or compensating for new problems relative to the existing system lies with the Project Sponsor. Project Sponsors of proposed Projects are encouraged to work together on mitigation needed. The burden of mitigation of new impacts associated with a new Project only applies for interactions with Paths having Existing or Accepted Path Ratings as of the date the new Project enters Phase 2B. This burden of mitigation of new impacts associated with a new Project does also extend to include Established Flowgate Generator Deliverabilities of studied existing and planned resources. The burden of mitigating new impacts does not apply for interactions with Paths with Other Ratings nor unstudied Flowgate Generator Deliverabilities. Allocations of ratings are considered commercial issues and are not addressed by this process.

3.2.6. Process to establish the Bright Line between Phase 2A and 2B

Phase 2 is divided into two parts with a bright line: Phases 2A and 2B. All Projects entering Phase 2 will need to comply with the following process to establish the basis by which these Projects will be classified as “similarly situated”.

The bright line between Phases 2A and 2B is drawn when the Project Sponsor(s) has developed, and the PRG has approved, the study plan and the first simultaneous base case, and the Project Sponsor(s) is ready to perform simultaneous analyses. Based on PRG requests, multiple simultaneous analyses may need to be performed requiring multiple simultaneous base cases. However, the Foundational Base Case that will establish this bright line is the first base case that would be ready for the first simultaneous assessment as agreed to by the PRG. Additionally, this Foundational Base Case must be defined in the PRG-approved study plan.

1. In general, the PRG, once formed, will develop and agree to the study plan within 60 calendar days unless otherwise agreed to by the PRG. This study plan, at a minimum, must include study assumptions, methods, milestones, and timelines. (See Section 5 for a Comprehensive Study Plan outline.) Once the study plan is approved by the PRG the Project Sponsor will notify WECC staff. Staff will document the completion of this step in the WECC Three-Phase Rating Process Log.
2. The PRG, together with the Project Sponsor, must reach Consensus that the Foundational Base Case is complete and then establish a time stamp to indicate that the Project has entered Phase 2B. This transition and time stamp will be documented in the Path Rating Log. (Typically, such Foundational Base Cases would take about three months to complete.)

3. Completion of the study plan and the Foundational Base Case will establish a time stamp that creates a clear bright line on a consistent and transparent basis by which to identify those individual Projects among multiple Projects that qualify to be considered similarly situated. Moreover, this process should give the Project Sponsor(s) a timeline to perform the rating study. The intent is to tie study progress with the study plan and to establish a timeline for the study that has been agreed to by the Project Sponsor(s) and the PRG. Once the time stamp has been established, the Project Sponsor(s) will communicate this fact to the StS chair and WECC staff. Staff will keep track of the time stamp and notification process in the Three-Phase Rating Process Log.
4. If Similarly Situated Projects affect (or may be part of) an existing Path or a new Path, these Projects must conduct a Combined Project Study which will examine the non-simultaneous rating of this Path with the addition of these Projects. Project Sponsors together with PRG members will determine the need for, and the nature of, a Combined Project Study. Refer to Appendix E for the two tests required to provide information to the PRG to aid in determining if a proposed Project is on the same Path. This extends to include Similarly Situated Projects with the potential to adversely impact Established Flowgate Generator Deliverability.
   Notification of establishment of the Bright Line between Phase 2A and 2B

The Similarly Situated Bright Line Notification does not need to have the same formality as going from Phase 1 to Phase 2, or from Phase 2 to Phase 3. However, at a minimum it must consist of the following:

1. The notification must contain the final date establishing the bright line as the basis for determining the Similarly Situated classification. This final date will be based on the latest date when both the study plan had been approved and the Foundational Base Cases were approved by the PRG (i.e., assuming they were approved on different dates, the final date would represent the latest approval date).
2. Project Sponsor(s) will send written notification to the StS chair and WECC staff within five working days after the bright line date was identified by the PRG. If the notification is received after five working days, the bright line date will be the date that the StS chair and WECC staff receive notification.
3. WECC staff will distribute the notification to WECC members and enter the status in the WECC log for Phase 2 Projects.

Please refer to Section 8, Principle Scenarios, for examples of specific situations to aid in applying the policy on Similarly Situated Projects.

3.2.7. Requirement of Phase 2B

All base cases used to investigate simultaneous interactions in Phase 2B need to be approved by the PRG unless the PRG waives this requirement.

Commented [CT22]: Is there a way of determining which of the Flowgate Generator Deliveries that are Similarly Situate?

Commented [MZ23R22]: Those that use Flowgate Planning Method will participate in Project Review Groups (PRG) to identify Established Flowgate Generator Deliverabilities pertinent to a proposed path. They have agreed to perform the necessary Flowgate Generator Deliverability Studies to determine if a proposed path negatively impacts generator deliverability.

3.2.8. Completion of Phase 2

After completing the technical studies defined in the study plan and drafting a detailed technical report that reflects the technical study findings, the Project Sponsor will send a Phase 2 Rating Report to the PRG and a copy of the report to WECC staff. The Phase 2 Rating Report will document and its executive summary will include highlights of key aspects of at least the following items:

1. Plan of Service (including milestones) and a statement that the Plan of Service meets NERC Reliability Standards and WECC Criteria;
2. Corrective actions and/or Mitigation Plan, if needed, to support the Accepted Rating
3. Assumptions used in the Rating Study, including load levels, existing and future resources, and other projects upon which the Accepted Rating relies.

A 30-day period for comments from the PRG on the Phase 2 Rating Report (starting from the distribution date of the report) will be provided during which the PRG may raise concerns or provide comments. This may be shortened by agreement of the PRG if all its members are satisfied with the Phase 2 Rating Report.

The Project Sponsor will work with the PRG to resolve all concerns and comments received during the comment period. Once the PRG group agrees that all concerns and comments have been addressed or if the Project Sponsor has made a good faith effort to address the comments received, members who disagree with the report can file a minority report within 14 days to the PRG. The PRG will then discuss this minority report and seek agreement at this time. If the PRG still approves the Phase 2 report without modifying it from the minority report the Project Sponsor will distribute the Phase 2 Rating Report (and the minority report if one was submitted) to the RAC, StS, RRC, and the relevant RC, and request Phase 3 status.

Commented [MZ24]: Added to address the possibility of disagreement with study findings.

RAC members will have 30 days to comment on conformance with the procedures in this document. The RAC comments will not encompass adverse impacts or Mitigation Plans, as these are the responsibility of the PRG. The Project Sponsor will work with the RAC to resolve all concerns and comments received during the RAC comment period. Completion of Phase 2 can be addressed many ways:

1. If all comments received have been resolved, the Project Sponsor will so notify the RAC chair and formally request Phase 3 status. The RAC chair will—upon determination that the requirements have been met—notify the StS, RAC, RRC, and the relevant RC that the Phase 2 Rating Report has been accepted and the Project has entered Phase 3 of the planning process.
2. If comments from the PRG or RAC concerning the Project's compliance with NERC Standards and WECC Criteria, policies, and procedures are received that cannot be resolved, the disagreements will be handled in accordance with the resolution process below provided in Progress Report Policies and Procedures Section 5.4, Review of Progress Reports.

3. In the event that outstanding issues have not been resolved using the Section 5.4 process, upon request by the Project Sponsor or any member of the PRG or RAC, the RAC chair will provide a forum for discussion and the RAC will determine through a vote whether RAC members are satisfied that the Project has met all requirements of Phase 2 of this Path Rating Process. The RAC chair may consider the need to consult with the chair of WECC's Board and WECC's CEO regarding Phase 2 completion determined in this manner.
4. PRG members (including the Project Sponsor) that have outstanding issues may use the StS or the RAC, depending on the topic being disputed, to seek resolution.

Upon determination that Phase 2 has been completed, the RAC chair, in consultation with the StS chair and WECC staff, will notify the StS, RAC, RRC, and the relevant RC that the Phase 2 Rating Report has been accepted and the Project has entered Phase 3 of the Path Rating Process. The final accepted Phase 2 Rating Report will be attached to the notification. The acceptance of the Phase 2 Rating Report will complete Phase 2 and establish an Accepted Rating that must be considered by other projects in all phases of the planning process.

3.2.9. Phase 3

Phase 3 is entered upon successful completion of Phase 2. This phase includes implementation of the Project and assumes the sponsor is committed to the Project. The essential planning activities during this phase are maintenance and monitoring of the Accepted Rating and assuring that the Project will be completed promptly in accordance with the Plan of Service presented in the Phase 2 Rating Report. For a Project consisting only of rerating an existing system, Phase 3 would simply entail instituting the rating.

A Project in Phase 3 will be considered part of the "existing system" for the purposes of a project being planned. All other Projects that are not similarly situated with this Project or in earlier phases of the planning process must treat Phase 3 Projects as part of the existing system. Because a Phase 3 Project is considered a peer with the existing system, if new simultaneous transfer limitations are discovered, their resolution will be shared among the parties as if the Project were complete.

The Project's Accepted Rating is only "at risk" if the Project Sponsor fails to complete the Plan of Service or meet milestones within the required time as presented in the Phase 2 Rating Report or there is a failure or delay of other projects that were relied on in establishing the rating. The PRG and the StS have the responsibility of monitoring the progress of the Project. If the schedule for Project completion is delayed or interrupted, the Project Sponsor may be required to repeat or update Phase 2 of the planning process. The PRG will decide the appropriate action. This is further described under Monitoring Project Progress.

When proposed project implementation is complete and the Project is put into operation, the planning process is also complete and the Project is a fully-accepted part of the existing system. In the case of up-

rates of existing facilities, implementation is complete when all relevant operating procedures, etc., are accepted by the RRC and applicable RCs.

3.3. Expediting the Process

The Path Rating Process is designed to provide for an orderly completion of steps with adequate times for member participation and comments for significant or complex Projects. However, in some cases (when the Project Sponsor anticipates that there will be few comments or that comments can be addressed and incorporated in the Project without delays) the Project Sponsor may seek to speed up achieving an Accepted Rating. Expediting the process will result in simultaneous acceptance by the RAC of both the Phase 1 and Phase 2 requirements, for example, the up-rating of an existing transmission Path accomplished by changing an operating procedure or installing a new remedial action scheme.

Expediting the process involves combining several of the rating process steps. The Letter of Notification, the Comprehensive Progress Report, and the request for interest in forming a Review Group may all be combined into a single distribution. Project Sponsor notification to the StS, RAC, RRC, and the relevant RC at the beginning of the process will include a clear statement of the desire to expedite the process. Members concerned that expediting the process will not give adequate opportunity for rating review should notify the Project Sponsor, StS chair, and RAC chair as soon as possible. The Project Sponsor and the member should work together to resolve the concerns. If concerns cannot be resolved, then the StS will determine whether the process can be expedited.

While all requirements herein remain the same and all timelines for the individual steps would still apply, they may be done concurrently and the PRG may be formed before comments are due on the Comprehensive Progress Report. For example, the Progress Report Policies and Procedures requires a 60-day comment period for the Comprehensive Progress Report that can be concurrent with the 30-day period required for forming the PRG and the 30-day period allowed for the RAC to comment on the conformance with this procedure. However, while these two processes can overlap, the deadline for expressing interest in participating in a PRG cannot end before the end of the 60-day comment period for the Comprehensive Progress Report has expired. Acceptance of completion of Phase 2 and transition into Phase 3 is as described above. If the Phase 2 Rating Report is unchanged from the Comprehensive Progress Report, the Project Sponsor should send a letter stating such to the RAC and StS.

Expediting the process has the advantage of facilitating the process of achieving an Accepted Rating for a Path associated with a straightforward Project. However, during the expediting of a Path Rating Process, the Project remains in Phase 1. Consequently, the Project does not achieve any status with respect to Projects in Phase 2. Should significant or unanticipated issues arise, the Project Sponsor may find that the process cannot be expedited and may request Phase 2 status, and then follow the Phase 2 process discussed in Section 3.2, The Rating Process.

If the proposed Path rating change is planned to occur within six months after WECC's notification, the RRC and relevant RCs should be included in the various Path rating process mailings.

3.4. Monitoring Project Progress

Granting of Phase 2 status or an Accepted Rating to a Path associated with a Project/Project Sponsor obligates other WECC members to various levels of recognition and accommodation in the planning of other projects. In exchange for this, a Project Sponsor is responsible for maintaining the Project's Phase 2A or 2B status and rating with a continuous demonstration of steady progress toward commercial operation through continued compliance with the WECC Progress Reporting Procedure.

Phase 2A or 2B status may be lost if a Project in Phase 2 shows no evidence of any activity[4] for a period after the achievement of Phase 2 status. The Project Sponsor can revive the Project's Phase 2 status by providing evidence that Phase 2 studies and/or PRG meetings are being conducted. Table 1 below outlines the conditions under which a proposed Path rating study can be reverted to previous phases due to inactivity.

[4] Refers to study activities visible to RAC, StS, or PRG and WECC staff.

Table 1: Monitoring Project Progress

The start time is initiated once a Project enters Phase 2A. The following requirements will be met, or the Project in Phase 2 will revert to either Phase 1 or Phase 2A (depending on if the Project is in Phase 2A or 2B) under the following conditions:			
Conditions	**Notifier**	**Elapse time (calendar days) without activities***	**Project reverts to**
If Project Sponsor does not form a PRG while in Phase 2A	StS chair/StS	60 days	Phase 1
If Project Sponsor does not initiate any study on simultaneous Path Transfer Capability limits within 12 months after achieving Phase 2B	PRG	12 months	Phase 1
If Project Sponsor misses completing any Project study milestones by 12 months or more	PRG	12 months	Phase 2A
If Project Sponsor does not show any evidence of any activity for 12 months during Phase 2.	StS chair/StS	12 months	Phase 1
If the Project Sponsor cannot be located by the StS chair or WECC staff, or no response is received from the Project Sponsor after a formal WECC announcement on the Project status has been made.	StS chair/StS	18 months	Remove the project from the WECC log
A Project Sponsor may appeal these decisions to either the StS or RAC if the Project Sponsor can demonstrate that group meetings or studies coordinated with the PRG were in progress before the notification of being removed from the current status.			

* Refers to study activities visible to RAC, StS, or PRG and WECC staff.

Phase 3 Accepted Rating Status may be lost if a delay in meeting any Project milestones by 12 months or more occurs or a change in the Project's Plan of Service adversely affects the Accepted Rating. The PRG and the StS have the responsibility of monitoring the progress of the Project in this Phase.

If either of these conditions occurs, the Project Sponsor will promptly notify StS, RAC, and the PRG. The PRG will determine whether the Project status will revert to the appropriate status within Phase 2 with a Planned Rating or remain in Phase 3 with an Accepted Rating. In addition, a determination will

be made if more study work is necessary. The Project Sponsor will promptly notify RAC and StS regarding the determination of the PRG.

See Appendix F for guideline on treatment of proposed Projects for which rating studies were reverted to earlier phases.

3.5. Formation of a WECC Project Review Group

A WECC PRG is formed to facilitate review of planning studies for a Project in Phase 2 of the Path Rating Process. The PRG provides WECC members with the opportunity to meaningfully contribute to the Plan of Service for the Project and identify concerns with potential impacts of the Project.

Timing of the PRG formation is at the Project Sponsor's discretion but should be within 60 calendar days after the Project enters Phase 2. While the PRG will normally complete its task at the end of Phase 2, the PRG members should stand ready to help the Project Sponsor resolve additional simultaneous transfer-related issues should they occur and to determine whether the Project status should revert back to earlier phases as described under the Section 3.4, "Monitoring Project Progress.

While participation in a PRG is voluntary and open to all WECC members, it is required that, at a minimum, the PRG membership include all members who desire to join the PRG. The responsibility for forming the PRG belongs to the Project Sponsor, but the responsibility for facilitating an objective, positive, and effective PRG is shared by all members.

The PRG's main area of interest lies in identifying all non-simultaneous and simultaneous impacts and methods for mitigating these for both the existing system (including Phase 3 Projects), other Projects in Phase 2, and Established Flowgate Generator Deliverabilities. The PRG is also responsible for approving the study plan and the base cases to be used for simultaneous transfer studies. PRG participants are responsible to provide any necessary information required to prepare the simultaneous transfer studies, which should be fully supported by studies and/or mitigation measures. Likewise, it is the responsibility of the Project Sponsor to adequately address all appropriate issues raised by the PRG members or as they arise during the study process.

Mitigation methods may include, but should not be limited to, additional facilities, remedial action measures, and operating nomograms. The Project Sponsor will select the available mitigation measure(s) to be implemented or adjust the Path rating to mitigate any adverse impacts. The functions of the PRG are technical in nature and will not address commercial issues. While the Project Sponsor must address curtailment procedures, because they are commercial issues, they will be addressed through negotiations outside of the PRG.

Some Projects will be more difficult to evaluate than others, which may require a significant effort by the Project Sponsor and the PRG members. The PRG is a shared responsibility between the Project Sponsor and the members. As such, the Project Sponsor is not obligated to "study the world." Should

circumstances arise in which studies being requested go beyond the scope of the Project, the Project Sponsor may request a PRG member to run some of the studies to be included in the report.

Figure 2: Path Rating Process

Planning Phase	Project Activities	Initiation	Study Emphasis	Study Considerations	Mitigation Requirements
Phase 1	Planning	The project announcement is sent through the Data Collection Process or by letter to RAC and StS members. This establishes the "Proposed Rating."	Sponsor's independent studies and draft Comprehensive Project Report.	Other projects are not obligated to recognize Project in their studies.	None
Phase 2A	Planning & Permitting	Comprehensive Progress Report is accepted by StS. This establishes the "Planned Rating."	Sponsor forms PRG, develops rating study plan, and appropriate system base cases[5].	Projects in Phase 2A will include all Phase 2B and Phase 3 projects in their studies.	None
Phase 2B		Study plan and foundational base case(s) are accepted by the PRG. This establishes the "Similarly Situated"[6] projects that must be studied.	Rating studies to demonstrate both non-simultaneous rating and any simultaneous ratings with Similarly Situated projects.	Projects will identify any interactions with concurrent Phase 2B projects. The burden of study rests with projects entering Phase 2B.	Projects concurrently in Phase 2B are equally responsible to mitigate impacts, if any, on any other Phase 2B projects or on Paths associated with projects with an Existing or an Accepted Rating or Established Flowgate Generator Deliverability.
Phase 3	Permitting & Construction	Phase 2 Rating Report is accepted by RAC. This establishes the Accepted Rating.	Monitoring progress and final determination of all identified mitigation measures.	Other projects MUST treat Project as part of the existing system provided it continues to meet milestones. For projects that do not meet milestones, refer to Section 3.4.	Other projects that are not similarly situated or in Phase 3 are responsible to mitigate impacts, if any, on this Project provided it continues to meet milestones. Mitigation requirements, if any, must have been determined and resolved before "Commercial Operation" of the Project.
Path Rating Process is completed when Project enters Commercial Operation.					

[5] This case should be based on a WECC base case.

[6] At any point in time, if any two projects are together in Phase 2B, they are similarly situated and have a responsibility to mitigate interaction with each other until both become operational.

Commented [KR25]: Is this footnote covered by the mitigation requirements?

Commented [MZ26R25]: Yes I believe this is covered in Section 3.2.5 "Phase 2 Requirements"

4. Philosophy and Principles for Transmission Path Rating Methods

4.1. Introduction

A Project is defined as a new generator or transmission facility or a change in rating of an existing generator or transmission facility through facility additions, facility upgrades, facility retirements or the rerating of existing facilities that would result in a new Path or changes in existing Path ratings. The primary focus of the Path Rating Process is to establish a set of well-defined principles for determining Accepted Ratings for Transmission Paths. These principles are intended to foster a consistent transmission rating method that will provide a level playing field for the traditional utility as well as the non-utility organizations that are participating in the planning and operation of the Western Interconnection. All participants are expected to follow the Rated Path or the Flowgate principles. Consequently, these principles must be practical, technically sound, unambiguous, and consistent with the NERC Reliability Standards and WECC Criteria and must promote efficient use of the system. The determination of an Accepted Rating for a Path is important for several reasons that include assuring reliable operation, determining access or contract rights, and establishing scheduling limits.

4.2. Philosophy

To determine the Accepted Rating for a path, use the method described above in the Path Rating Process. This applies to all paths whether they are considered "internal" or "external." Path Ratings are pre-outage with all facilities in service. The Rating of a Path is determined such that, at the pre-outage power transfer level equal to the Path Rating, for the most limiting contingency the system can meet the post-outage performance requirements specified in the NERC Standards and WECC Criteria. These performance requirements may be achieved using appropriate Remedial Action Schemes.

The adoption of a consistent study method should ensure that the Accepted Rating of a Transmission Path:

- Is technically sound;
- Can be used in actual operation, and;
- Is consistent with the flow achievable on the Transmission Path.

This method does not constrain how parties may commercially allocate the rating of a path among its owners. In addition, this method does not constrain how owners of interacting paths may allocate curtailments among their paths. However, Project Sponsors are required to determine whether the proposed Project would constitute a subset of an existing Path. Refer to Appendix D for the two tests required to provide information to the PRG to aid in determining if a proposed Project is a subset of an existing Path.

If a Project Sponsor will treat the proposed Project as a subset of an existing Path in its study plan, performing the tests will be needed. In addition, being a subset of an existing Path does not preclude a

Project from defining a separate Path or from seeking a separate Path rating for itself. However, if the proposed Project is determined to be a subset of an existing Path, the Project Sponsor(s) is required to rerate the Path within the Path Rating Process.

The WECC PRG described in these procedures is responsible for ensuring that these guidelines are followed in developing an Accepted Rating. The PRG is also responsible for ensuring that the study plan and base cases represent realistic conditions.

The planning process should address potential unscheduled flow impacts. One possible way to address unscheduled flow is to establish Transmission Path ratings at a level where no system reliability problems exist, and schedules will be limited by the maximum flow that can occur on the Path under realistic (although perhaps optimistic) conditions. This rating philosophy embodies a Maximum Flow Test (MFT) and precludes having operating schedules on the transfer path that exceed the resulting Accepted Rating (see Appendix B). Consequently, this aspect of the planning process is a positive step in limiting unscheduled flow that would otherwise be higher if the Accepted Rating is not constrained by the MFT. With the concurrence of all affected parties, the sponsor may use some method other than the MFT. All sponsors must provide notification to the RAC of what method they will use; including an explanation of what the proposed method is intended to accomplish.

It is the intent of these procedures to afford the appropriate measure of protection for Path ratings. Protection is a fundamental element of what an Accepted Rating provides. An Accepted Rating is fully peer reviewed, recognized in future planning studies, and directly usable in operations for both scheduled and actual flows. An Accepted Rating addresses both simultaneous and non-simultaneous Transfer Capabilities and may involve the use of nomograms or remedial action schemes. It is not acceptable for a new project to cause a reduction in an Accepted Rating of another Path unless mitigated or compensated by the new project. Notwithstanding this protection philosophy, compliance with the NERC Reliability Standards and WECC Criteria is always the overriding consideration for the Project Sponsor.

4.3. Principles

The following principles are the basis for the methods to be used in determining the Accepted Rating of a Transmission Path.

4.3.1. Reliability Limited Ratings

An Accepted Rating is determined such that the scheduled and actual use of a transmission Path is limited to levels that meet the NERC Reliability Standards and WECC Criteria.

4.3.2. Realistic Simulation

Studies and analyses performed to determine the Accepted Rating of a transfer path must use realistic simulations; i.e., the use of fictitious devices is not allowed and the system conditions represented must

be realistic, as determined by the PRG. Considerable latitude is intended to be allowed in determining realistic conditions. When remedial action schemes are used, they are modeled as they are anticipated to be applied in operation. If a change in RAS actions occurs, additional studies may be required to verify the Rating. See Appendix B for guidelines on Resources Acceptable for Path Rating Studies.

4.3.3. Flow-Limited Ratings

Certain Transmission Paths may not be limited by reliability considerations. For example, a Path may be limited by the amount of available resources. Where this occurs, these Paths will be described as flow-limited (as opposed to reliability-limited). When testing for this condition, considerable latitude in the base case assumptions is allowed in maximizing the flow on the Path being rated. After the flow on the Path has been maximized with the above consideration and a reliability limit has not been reached, an MFT is defined as having been passed for the Path being rated. This maximum flow achieved is called a Flow-Limited Rating and is protected.

An advantage to defining this maximum flow as a Flow-Limited Rating is that this produces a reasonable way to address potential unscheduled flow in the planning process. By defining this as a "rating," schedules will be limited by the maximum flow that can occur on the Path under realistic conditions.

If the MFT is not applied, the Project Sponsors must notify the RAC of what method they will use during Phase 2 of the rating process and explain what the proposed method is intended to accomplish. The intent of this notice is to allow potentially affected parties not already on the PRG to come forward. With the concurrence of all affected parties, the Project Sponsor may use some other method to determine a Path rating.

4.3.4. Accepted Rating Protection

A new project will not cause a reduction in an Accepted Rating of another Path (e.g., because of a reliability criteria consideration) unless mitigating or compensating measures are provided. However, if a facility is retired from service (e.g., generator, shunt reactive equipment, RAS), all Path ratings that rely on the facility must be reviewed and reduced to the extent that system impacts of such retirements are not mitigated. Just as with the addition of facilities, planning for the retirement of facilities must be closely coordinated with affected systems (e.g., through the Progress Reporting Procedure or Path Rating Process) to allow adequate time to mitigate any adverse impacts and negotiate any commercial issues (e.g., which system should be responsible for the costs of mitigation). If a Path's Accepted Rating relied on facilities that are not part of the Path's Plan of Service, and if those facilities are retired, modified, or never built, the Accepted Rating is subject to review in the same manner as if changes had occurred in the Path's Plan of Service.

A transmission Path's Accepted Rating will not be lowered because its maximum achievable flow is reduced (i.e. the Path can no longer meet the MFT) due to system changes made by others except for

the changes described in the previous paragraph. System owners that make such changes will be responsible for mitigating any adverse impacts on the other system(s).

Transmission Path owners that make changes to their system that increase the flow on a Path with a Flow-Limited Rating can receive a higher Accepted Rating consistent with the MFT. This same principle applies if the flow on the Path is increased by a project initiated by another party; although in that case, it should be recognized that the higher Accepted Rating relies on and is subject to the operation of the other party's facilities.

If the owners of a Path with a Flow-Limited Rating rely upon resources to support its Rating and such resources are retired, but the Path owners do not identify credible planned resources to provide the same support, then the Accepted Rating will be decreased consistent with the MFT. However, if the Transmission Path owners can identify credible planned resources (regardless of ownership) to support its Flow Limited Rating and demonstrate to the RAC and StS that system performance can meet NERC Standards and WECC Criteria at this Flow Limited Rating, then its Accepted Rating will not be decreased. The demonstration to support the Accepted Path Rating with new planned resources can be in the form of a presentation at a RAC and/or an StS meeting. In the interim while new resources are being planned to replace retired resources that were used to support Accepted Path Rating, the flow limit may be temporarily be reduced consistent with the MFT. If that were to occur, the Transmission Path owners will notify the StS, RAC, RRC, and the relevant RC of the temporary reduced flow limit.

4.3.5. Application to Existing Systems

Although the primary focus of the Path Rating Process is to establish ratings for new Paths, existing transmission paths cannot be ignored. Existing transmission paths have been rated using various methodologies and guidelines, some of which are inconsistent with the methods proposed in this document. These inconsistencies are primarily in the areas of flow-limited paths, use of fictitious elements, and Latent Capacity.

This document is intended to ensure the development of an efficient, reliable electric system and to balance the competing interests of protecting the legitimate ratings of existing facilities while encouraging the economic and environmentally sound expansion of transmission capacity. The following principles guide the treatment of existing transmission paths in the rating process.

1. Transmission path ratings that were known and used in operation as of January 1, 1994, will be classified as Existing Ratings.
2. A sponsor of a new Project who is affected by an Existing Rating and is in Phase 2 of the Path Rating Process may ask that the Existing Rating be reviewed by the PRG. The PRG is responsible for deciding whether, and how, the Existing Rating will be demonstrated.
3. If an owner wants to establish an Accepted Rating for an existing Transmission Path, the WECC guidelines will be followed.

4. A Transmission Path's Existing Rating will not be lowered because of reduced maximum achievable flow on the path due to system changes made by others.
5. Transmission path owners who make changes to their system that reduce the maximum achievable path flow, will have their Existing Rating reduced by the amount the path's flow was reduced.
6. If the owners of a Path with a Flow-Limited Rating rely on resources to support its Rating and such resources are retired, but the Path owners do not identify credible planned resources to provide the same support, then the Existing Rating will be decreased consistent with the MFT. However, if the Transmission Path owners can identify credible planned resources (regardless of ownership) to support its Flow Limited Rating and demonstrate to the RAC and StS that system performance can meet NERC Standards and WECC Criteria at this Flow Limited Rating, then its Existing Rating will not be decreased. Such demonstration can be in the form of a presentation at a RAC and/or an StS meeting.
7. If the resources supporting the Flow Limited Rating are expected to retire before the credible replacement planned resources can be expected to be in service, then the operating transfer limit may be temporarily reduced consistent with the MFT, even though the Existing Rating is not decreased. The RAC will notify its subcommittees, RRC, and the relevant RCs of such temporary reduction. If any of the notified entities request studies related to the temporary reduction, the Project Sponsor will work with the entities to provide the requested information.

4.3.6. Latent Capacity

Latent Capacity is the Transfer Capability that may be acquired by improving an existing path without adding new lines to the path. Latent Capacity is not protected, it cannot be used in operation, and it is not recognized nor incorporated by others in their rating studies. The only means of protecting Latent Capacity is to take the path through the Path Rating Process.

Project Sponsors, as appropriate, need to identify and document Latent Capacity. Documenting information on Latent Capacity may be useful for:

1. Promoting appropriate decisions in generator siting;
2. Facilitating Project Coordination;
3. Fulfilling transmission access request requirements;
4. Establishing one's intent to expand the transmission system;
5. Gaining expedited review by a PRG provided that the Latent Capacity has been adequately reviewed and documented and the PRG determines that the original documentation is still applicable; and
6. Providing some assistance in contract negotiations.

4.3.7. Margin

If planning margin beyond that afforded by the NERC Reliability Standards and WECC Criteria is considered necessary, the PRG may agree to establish the additional planning margin requirement when determining a Path rating. To allow potentially affected parties not on the PRG to come forward, the Project Sponsors must provide notification to the RAC of their intent regarding the requirement for additional planning margin during Phase 2 of the rating process, including a justification of why the additional planning margin is needed.

The justification for additional planning margin needs to specifically address the following points:

1. Explain how the amount of planning margin is related to risk.
2. Describe how the amount of planning margin applied to a path rating is related to the level of uncertainty in determining the rating.
3. Define the rationale for additional planning margin recommended.
4. Explain how the amount of planning margin would be consistently applied.

4.3.8. Neutrality of Path Definitions

Two options are available to address the interaction between a new facility and an existing Path. One option is to include the new facility in the existing Path and manage the expanded Path as a single unit. The second option is to define the new facility as a new Path and define the relationship with the existing Path in a nomogram.

In either case projects sponsors are required to determine whether the proposed Project would constitute a subset of an existing Path. Ideally, this is done as early in the Path Rating Process as possible. If the proposed Project is determined to be a subset of an existing Path, the Project Sponsor must rerate the Path within the Path Rating Process. Please refer to Appendix D for the two tests required to provide information to the PRG to aid in determining whether a proposed Project is a subset of an existing Path. However, if a Project Sponsor includes in its study plan or decides in Phase 1 that it will treat the proposed Project as a subset of an existing Path, performing the tests will not be necessary. Refer to Section 8.1 for an illustration of this principle.

4.3.9. Reverse Flow

It may be impossible to achieve a desired MFT if a Project Sponsor is trying to rate a line in a direction counter to prevailing flows. Parties faced with such a circumstance could still schedule transactions over the path in the opposite direction using a net scheduling approach. Once the rating of a Transmission Path has been established, scheduled transactions over the Path are permitted in either direction providing the net schedule at any time does not exceed the Path rating in either direction. For example, if the Path rating has only been established in one direction, schedules are still permitted in

both directions if the net schedule is in the same direction as the Path rating direction and does not exceed the Path rating.

5. Philosophy and Principles for Flowgate Methods

5.1. Introduction

A Project is defined as a new generator or transmission facility or a change in rating of an existing generator or transmission facility through facility additions, facility upgrades, facility retirements or the rerating of existing facilities that would result in increased transfer capability. The Flowgate Planning Method is an approach to transmission planning that ensures generator-to-load (gen-to-load) reliability through a process called Generator Deliverability. Flowgate Generator Deliverability Studies are a well-defined process for examining and determining bottled generation due to transmission constraints. Flowgate principles are intended to provide an alternative approach to Rated Path that is practical, technically sound, unambiguous, and is consistent with the NERC Reliability Standards, WECC Criteria, and promotes efficient use of the system.

5.2. Philosophy

To determine Flowgate Generator Deliverability, the Transmission Planner examines their entire fleet of generation and existing committed transmission uses against facility ratings and joint ownership utilization during stressed system conditions. Flowgate Generator Deliverability is determined such that for all screened flowgates pre-contingency flows are below normal continuous ratings and all post-contingency flows are below the emergency ratings.

The adoption of a consistent study method for Flowgate Generator Deliverability should include the following:

- Is technically sound;
- Can be used in actual operation, and;
- Considers relevant Rated Path constraints.

This method does not constrain how owners of interacting paths may allocate curtailments among their paths.

5.3. Principles

The following principles are the basis for the methods to be used in determining the Flowgate Generator Deliverability.

5.3.1. Reliability Limited Ratings

Flowgate Generator Deliverability is determined such that the scheduled and actual use of the transmission network is limited to levels that meet the NERC Reliability Standards and WECC Criteria.

Commented [MZ27]: Comment received on this: I would argue this is not the primary focus. The primary focus is to calculate more accurate ATC which in many cases results in more ATC than what was available under Rated System Path Methodology.

Commented [CT28R27]: It seems that Flowgates serve more purposes than Generator Deliverability.

Commented [MZ29R27]: It was decided amongst the Flowgate Planners to remove the word "Primary" here to allow for other interpretations of what may be the main focus of Generator Deliverability Studies.

Commented [RC30]: This language might be okay, I think we need to be careful with the terminology. Lots of utilities perform "generation deliverability" studies (for example, the CAISO Cluster interconnection studies of potential future generation and in the TPP Assessments. It is not possible/practical for Path Project Sponsors to consider every/any kind of ...

Commented [MZ31R30]: There was agreement with this. It is not practical to look at all Established Flowgate Generator Deliverabilities for all entities fo ...

Commented [DM32]: Is there a reference to be used for Generator Deliverability analysis? For those not ...

Commented [MZ33R32]: We have included an overview of Flowgate Generator Deliverability Studies in Section 5 of the Draft Path Rating Process. Howev ...

Commented [CT34]: Is that any reason why we do not want an alternative approach that is "practical, technically sound, unambiguous"?

Commented [MZ35R34]: I have rejected the initial change and kept the original terminology in place as you suggest.

Commented [RC36]: Awkward. Technically, the TO does not own generation.

Commented [MZ37R36]: Understood and point taken. The term has been updated to "Transmission Planner"

Commented [MZ38]: Comment received on this: What does this mean? Rated path TTC constraints or monitored element/limiting contingency constraints?

Commented [MZ39R38]: "Considered relevant Rated Path constraints" refers to WECC Path Ratings. Flowgate planners may not ignore accepted WECC ...

Commented [RC40]: Subsection numbering looks funky.

Commented [MZ41R40]: Should be fixed now

5.3.2. Realistic Simulation

Studies and analyses performed to determine Flowgate Generator Deliverability must use realistic simulations. When remedial action schemes are used, they are modeled as they are anticipated to be applied in operation and to be approved by the applicable Reliability Coordinator.

5.3.3. Joint Ownership Ratings

Certain transmission lines or paths may have joint ownership which include the Transmission Operator using the Flowgate approach for Generator Deliverability.

5.3.4. Generator Deliverability Protection

A new project will not cause adverse impact to Established Flowgate Generator Deliverability. A completed Flowgate Generator Deliverability Study will either show a fleet of generation is deliverable, or identify constraints which require resolution to be deliverable. If constraints are identified, Flowgate Generator Deliverability is not "Established" until the constraints are mitigated. Once system improvements are proposed to remedy the constraint(s) and are incorporated in the study, the fleet of generation may be deemed deliverable, and the associated Flowgate Generator Deliverability is "Established" for the studied years.

5.3.5. Application to Existing Path Rating

Flowgate Generation Deliverability can inherently consider Existing Path Ratings through specific monitoring of the Rated Path as a flowgate in Flowgate Generator Deliverability Studies. Flowgate entities must include all relevant Paths with existing or Accepted Ratings, as requested through the flowgate coordination process, in their Flowgate Generation Deliverability process to ensure no adverse impact on relevant paths with existing or Accepted Ratings.

5.3.6. Latent Capacity

Latent Capacity is the Transfer Capability that may be acquired by improving an existing path without adding new lines to the path. Latent Capacity is not protected, it cannot be used in operation, and it is not recognized nor incorporated by others in their rating studies. In Flowgate Generator Deliverability, latent capacity is simply any headroom on the flowgate when all existing committed uses are considered and it is not protected for the same reasons provided here.

5.3.7. Margins

Margins may be defined by the Flowgate entity within their ATCID and should be applied corresponding within their Flowgate Generator Deliverability studies. Types of margin may include:

1. Facility Rating margin which may include a flowgate de-rating to account for inadvertent flows.

Commented [RC42]: Agreed that simulations should use "realistic" and "reasonable" assumptions. Could there be differences though, between FGD realism and what folks have considered to be "realistic" in their Path Rating assumptions? (Path Rating process 4.3.2 allows "considerable latitude", which is often stretched to determine the maximum non-simultaneous transfer capability. (i.e., wind or solar dispatched at 100%, versus some lower expected output based upon time of day/year or recognition of contractual limits).

Commented [MZ43R42]: The purpose of Flowgate Generator Deliverability Studies is to confirm generators are deliverable without transmission constraints for severe dispatch scenarios while meeti...

Commented [RC44]: (I can't find any other good place for this comment so am inserting it here.) If generatio...

Commented [MZ45R44]: We have included an overview of Generator Deliverability in Section 5 of t...

Commented [CT46]: This title is a bit confusing. Usually "Joint Ownership" refers to facilities that are...

Commented [MZ47R46]: This section was only meant to state that Joint Ownership is not only applicable to...

Commented [CT48]: Will there be a transparent study process to coordinate the establishment of Flowgate ...

Commented [RC49R48]: ...And, how do we identify Paths and FGDs that may have simultaneous ...

Commented [MZ50R48]: Those that use Flowgate Planning Method will participate in Project Review ...

Commented [CT51]: We need to state that the facilities and/or mitigation to resolve the constraint(s) must be...

Commented [MZ52R51]: Agreed, this section has been updated with the requested language.

Commented [DL53]: Are these studies done in all reasonable operating conditions? If a new Path rating...

Commented [MZ54R53]: The purpose of Flowgate Generator Deliverability Studies is to confirm ...

Commented [MZ55]: Comment received: Seems unnecessary for thermally limited paths since flowga...

Commented [CT56R55]: Since the nature of the constraint may change with the new Flowgate(s) and...

Commented [MZ57R55]: Agreed, remains in the document

Commented [KR58]: Need to define.

Commented [MZ59R58]: The definition for ATCID has been added to Appendix A.

2. Joint ownership facility margin which may include a flowgate ownership share de-ratings to account fluctuations in distribution factors between models.

5.3.8. Counterflow

Counterflow factors may be defined by the Flowgate entity within their ATCID and should be applied corresponding within their Flowgate Generator Deliverability Studies. Types of counterflow from transmission service requests (TSRs) may include:

1. Thermal counterflow impacts provide a percentage of counterflow to approved TSRs on flowgate(s) reducing thermal loading.
2. Joint ownership counterflow impacts provide a percentage of counterflow to approved TSRs on flowgate(s) reducing joint ownership utilization.

Commented [DL60]: Why do we need to include the discussion of counterflow for the Flowgate section? Wouldn't it be the same for some WECC Paths, but yet we do not include such discussion in the WECC path rating study process and their study reports.

Commented [MZ61R60]: A discussion on counterflow is required. Thermal or joint ownership counterflow adjusts the AFC. Therefore it must be considered in Flowgate Generator Deliverability Studies. AFC has also now been added to Appendix A.

Commented [CT62]: If counterflow is used o establish the Flowgate rating, will there be mitigation established to be implemented when the assumed counterflow is not present?

Commented [MZ63R62]: A discussion on counterflow is required. Thermal or joint ownership counterflow adjusts the AFC. Therefore it must be considered in Flowgate Generator Deliverability Studies. AFC has also now been added to Appendix A.

Commented [MZ64]: Comment received: I think we would generally object to the use of joint ownership being applied as a flowgate rating. This gets us back to the discussion of utilization of flowgates for which an entity has no right to flow on it. If you're going to do it for joint owned facilities you need to do it to all single ownership facilities.

Commented [MZ65R64]: Understood that different treatments exist for JOU, we have added the word "may" in section 5.6.8 to address this concern.

6. Phase 2 Accepted Rating Comprehensive Study Plan

6.1. Introduction

The purpose of this study plan is to provide a consistent, comprehensive method of study for the path or Project Sponsor to follow in establishing an Accepted Rating for either an existing Transmission Path or a Transmission Path which includes a new Project.

The following generic study plan is an example describing activities appropriate to rating a major transmission Path associated with a Project. Not all of these proposed activities are necessary for all Projects. Project Sponsors, with agreement from the PRG, will determine the study activities required.

6.2. Study Objectives

6.2.1. Satisfy Reliability Criteria

In establishing an Accepted Rating for an existing Path or for a Path with a new Project, the Project Sponsor is responsible for assuring that the Accepted Rating complies with NERC Reliability Standards, WECC Criteria, and requirements in this document.

6.2.2. Affirm Plan of Service for a New Project

1. If a new Project is planned, the PRG will review and comment on the Plan of Service.
2. The PRG will establish a Consensus that the Plan of Service supports the Accepted Rating.

Commented [DM66]: Should "Consensus" be defined? Is there a criteria? Majority? Supermajority? Unanimous?

Commented [MZ67R66]: Consensus in this context would be associated with a unanimous decision. This has now been defined in Appendix A.

6.2.3. Acquire an Accepted Rating

1. In establishing the Accepted Rating for a Transmission Path, the non-simultaneous and simultaneous Transfer Capabilities must be determined.

2. All new Projects that are Similarly Situated on the same Path are required to establish a combined non-simultaneous rating[7] increase on that Path.
3. The impact of the new Project on other Projects or Paths with Existing Ratings, Planned Ratings Similarly Situated in Phase 2B, or Accepted Ratings, must be determined.
4. New paths or increases to existing paths may not have adverse impact on Established Flowgate Generator Deliverability
5. The Project Sponsor should obtain agreement from the PRG regarding the study results. Agreement indicates unanimous acceptance of the study results by the PRG group, aside from two members.
6. A Phase 2 Rating report must be prepared for submittal to the RAC based on the findings of the PRG.

6.3. Major Study Assumptions and System Representation

6.3.1. Project Description

Detailed information regarding the Plan of Service must be provided to the PRG and WECC staff and must include the technical and physical characteristics of the Project such as:

1. Associated generation (if any);
2. Line voltage, line length, and other line characteristics;
3. Use of series capacitors, series compensation level, location of capacitor banks within the line, capacitor over voltage protection type (varistor or conventional gap);
4. Phase Shifters;
5. Shunt reactive compensation;
6. SVCs (with ratings);
7. Remedial Action Schemes;
8. Indication of whether the proposed Project is part of a new Path or existing Path; and
9. Any other relevant characteristics.

6.3.2. Other Phase 2B and Phase 3 Projects Included

The Project Sponsor must provide a list of planned Projects in Phase 2B and Phase 3 of the Path Rating Process that could affect or be affected by the Project under consideration. This includes the identification of Established Flowgate Deliverabilities that may be impacted.

Commented [DL68]: Define "new Projects". It is not clear if the "new Projects" are associated with new Paths, or existing Paths. How can this be enforced given that there are many other generation Projects in other BAAs, as well as many other transmission upgrades. This requirement will severely impact generation and transmission development across WECC. We suggest eliminating this sentence, unless it is related to proposed new Path.

Commented [MZ69R68]: The term "New Projects" is meant to refer to new or existing paths. The language has been updated to avoid confusion."Projects" is also defined in Appendix A.

Commented [DM70]: What are "Established Flowgate entities"

Commented [MZ71R70]: We have removed the term "Established Flowgate Entities" and replaced it with "Established Flowgate Deliverabilities" which is now defined in Appendix A

Commented [DL72]: As commented above, how can this be evaluated if there's no knowledge of the "established" Flowgate for Generation Deliverability? It seems that those Flowgates need to be made available to WECC members for awareness.

Commented [MZ73R72]: Those that use Flowgate Planning Method will participate in Project Review Groups (PRG) to identify Established Flowgate Generator Deliverabilities pertinent to a proposed path. They have agreed to perform the necessary Flowgate Generator Deliverability Studies to determine if a proposed path negatively impacts generator deliverability.

[7] The Combined Project Study will determine the simultaneous impact of the projects on the path, but the Path Rating thus determined will constitute the non-simultaneous rating in relation to other WECC Paths.

6.3.3. Regional/Area Loads and Resources

System studies must be performed using the latest available load and resource data for the Western Interconnection for the time frame being studied. In general, the load level modeled for the base cases should be typical for the time of year being evaluated. Sufficient generation will be represented to accommodate the interchange patterns described and in accordance with the individual system's plans or operating policies. Interchange transfers will reflect the objectives of the case.

6.3.4. System Representation

The Path or Project Sponsors must explain how the system, both transmission and generation, will be modeled. The PRG must approve the representation. For further guidance, see Appendix A and the System Review Subcommittee (SRS) DPM.

The following are general guidelines for system representation:

1. Full loop representation is to be used with the entire WECC system modeled.
2. All system elements will be in service for the assumed initial conditions.
3. System transfer levels for major WECC Paths should be agreed upon and listed. Additional transfer paths should be included as appropriate.
4. Voltage criteria should be applied in accordance with existing practice by the respective utilities or the operating agents.
5. The phase shifter methods to be followed for all applicable phase shifters should be identified.
6. A list of the series compensation assumptions for the major extra-high voltage (EHV) lines should be provided.
7. A detailed system representation of the study area should be modeled when appropriate.

6.3.5. System Stressing/Loading

1. Loading on the subject Path will be accomplished in such a way as to achieve the expected Accepted Rating of the Path. In achieving the Simultaneous Transfer Capability on the subject Path, affected Transmission Paths must not be loaded above their applicable Transfer Capabilities or their Existing or Accepted Rating. The intent here is to set guidelines in developing reasonable base cases.
2. The Transfer Capability of a path is based on the amount of power that flows on a path and not how much schedule change was required to load the path to its rating.
3. The Transfer Capability of the Path shall be such that Established Flowgate Generator Deliverability is not adversely impacted. This shall be demonstrated by performing Flowgate Generator Deliverability Studies on the stressed subject Path.
    - For subject Path rating increases, if adverse impacts are identified, a "pre-case" must be conducted to ensure the impact does not exist at the current Accepted Path Rating.
4. Possible methods in which power will be made available for stressing the subject Path include:

Commented [DM74]: Is there a criteria for how many studies should be completed? Or rather how many cases?

Commented [MZ75R74]: One Flowgate Generator Deliverability Study per topology year will be sufficient. If the proposed path was studied in year 2029, and only year 2029, then the Flowgate Generator Deliverability Study would examine the same year. If multiple years are studied for a proposed path, matching years and topology would be used for the Flowgate Generator Deliverability Studies.

- Sending Region
    i. Available generating units should be added in a reasonable manner within the appropriate areas as agreed to by the PRG.
    ii. Loads should be decreased in a reasonable manner as agreed to by the PRG within the appropriate areas. The amount of load reduction should be documented.
- Receiving Region
    i. Those generators to be decreased in a reasonable manner should be specified within the appropriate areas as agreed to by the PRG.
    ii. Load should be increased in a reasonable manner as agreed to by the PRG within the appropriate areas. The amount of load increase should be documented.

Commented [DM76]: What is "reasonable manner"? For contractually limited paths, there could be a need for fake block loads to stress paths sufficiently.

Commented [MZ77R76]: There is not a firm definition of reasonable manner in the document. If the PRG is satisfied with the load increase than it may be considered "reasonable."

6.4. Study Method

Power flow, stability, post-transient, and Flowgate Generator Deliverability Studies will be performed in accordance with the NERC Reliability Standards, WECC Criteria, the WECC Post-Transient Study Method, local utility criteria and guidelines, and the process described herein. General study guidelines follow in Section 5.5.

6.4.1. Development of Base Cases

1. Select base cases from the most recent WECC cases available for the study time frame and conditions.
2. The PRG will update the base cases to reflect the most accurate system line configuration, generation, and load representation for each appropriate individual control area for the study time period.
3. Incorporate all appropriate study assumptions agreed to by the PRG into the base cases.
4. Represent significant non-utility generators.
5. Considerable latitude in the base case assumptions is allowed in maximizing the flow on the Path being rated. The PRG is responsible for ensuring that the representation is realistic.

6.4.2. Developing an Accepted Rating for an Existing Path

1. Determine the non-simultaneous Transfer Capability.
    - The objective of this phase of the study is to have the Project Sponsor ensure and demonstrate that the Path being rated meets the NERC Reliability Standards, WECC Criteria, and other specific regional criteria where appropriate.
    - Stress the subject Path to its proposed or expected Non-Simultaneous Transfer Capability and take outages. All affected Path flows should be at flow levels that result

in non-interaction[8] with the Path being rated. If a limit due to a Reliability Criteria violation has not been reached or has been exceeded, increase/decrease, as appropriate, the stress level for the subject Transmission Path until a limit is reached.

- If the ability to increase flow on the Path is exhausted (due to lack of generation, affected Path overloading, etc.) before reaching a reliability limit, then the maximum flow achieved on the Path is the Non-Simultaneous Transfer Capability and the Path is considered to be flow-limited.

2. Conduct screening studies to determine which affected Paths are to be evaluated on a simultaneous basis.
    - The screening studies should be conducted as follows:
        i. Apply the most critical outage on the path that established the Path's Non-Simultaneous Transfer Capability.
        ii. Phase shifters should be in a non-regulating mode.
        iii. Identify all affected paths and Flowgates that pick up a 10% increment or more, based on that affected Path's rating, due to the outage. If the mon or con is a Flowgate entity, a, Flowgate Generator Deliverability analysis generator deliverability may be required.

    This screening test is not intended to be the only consideration in determining the impact on affected paths.
3. Determine the Simultaneous Transfer Capability.
    - The objective of this phase of the study is to have the Project Sponsor ensure and demonstrate that the Path being rated meets the NERC Reliability Standards and WECC Criteria under simultaneous conditions.
    - Using the base case that established the Non-Simultaneous Transfer Capability, maintain the Path being rated at its Non-Simultaneous Transfer Capability, in Steps 3c and 3d.
    - Individually stress every affected path, one at a time, to its Non-Simultaneous Transfer Capability (whether reliability or flow based).
    - Apply outages and look for criteria violations. This step is performed on a path by path basis. If a violation occurs, determine a simultaneous nomogram describing the safe operating range. If criteria violations are not observed, then a simultaneous interaction problem does not exist.
4. Conduct sensitivity studies.
    - Sensitivity studies should be conducted as agreed to by the PRG and as they relate to the study objectives.

[8] No interaction on a parallel path if no reliability criteria violations under the contingencies.

Commented [RC78]: Unclear. Do you mean "if a monitored or outaged element is a Flowgate member, and/or if a monitored Flowgate element experiences a 10% or more change in flow..."?

Commented [MZ79R78]: If a flowgate segment picks up 10% of the flow for an outage than a Flowgate Generator Deliverability Study is required, the goal was to ensure that the same established screening criteria for when other paths must be considered also existed for when a Flowgate Generator Deliverability Study is required.

Commented [RC80]: How would the Path Project Sponsor know what elements are Flowgates, or part of a Flowgate definition?

Commented [MZ81R80]: Those that use Flowgate Planning Method will participate in Project Review Groups (PRG) to identify Established Flowgate Generator Deliverabilities pertinent to a proposed path. They have agreed to perform the necessary Flowgate Generator Deliverability Studies to determine if a proposed path negatively impacts generator deliverability.

Commented [RC82]: The 10% test is a recommended screening, but is not absolute.

Commented [MZ83R82]: Flowgate planners are comfortable using the 10% criteria for Flowgate Generator Deliverability Study screening

- This is also where the Flowgate Generator Deliverability adverse impact analysis will be performed as agreed to by the PRG, if the screening studies identified the requirement.

6.4.3. Developing an Accepted Rating for a New Path:

1. Conduct pre-Project benchmark studies, if needed.
    - Pre-Project benchmark studies for the Non-Simultaneous and/or Simultaneous Transfer Capabilities should be performed for the subject Path (and, if necessary, other paths) if the system performance and/or the existing Transfer Capability without the Project in service is unknown.
    - This may extend to include Established Flowgate Generator Deliverabilities at the Accepted Rating if concerns existing the Proposed Rating increase will cause adverse impacts, but that the adverse impacts are pre-existing.
2. Determine post-Project non-simultaneous Transfer Capability.
    - The objective of this phase of the study is to demonstrate that the proposed Plan of Service for the Project is adequate to support the proposed rating while meeting the NERC Reliability Standards and WECC Criteria and specific regional criteria where appropriate.
    - Stress the Path with the new Project to its proposed or expected Non-Simultaneous Transfer Capability and take outages. All affected path flows should be at flow levels that result in non-interaction with the Path being rated. If a limit due to a reliability criteria violation has not been reached or has been exceeded, increase/decrease, as appropriate, the stress level for the Transmission Path until a limit is reached.
    - If the ability to increase flow on the Path is exhausted (due to lack of generation, affected path overloading, etc.) before reaching a reliability limit, then the maximum flow achieved on the Path is defined to be the Non-Simultaneous Transfer Capability and the path is considered to be flow-limited.
3. Conduct screening studies to determine which affected Paths are to be evaluated on a simultaneous basis. The screening studies should be conducted in the following manner:
    - Apply the most critical outage on the path that established the Path's Non-Simultaneous Transfer Capability.
    - Phase shifters should be in a non-regulating mode.
    - As a minimum study requirement, identify all affected paths and Flowgate entities mon/con pairs that pick up a 10% increment or more, based on that affected path's rating, due to the outage.

    It should be noted that this screening test is not intended to be the only consideration in determining the impact on affected paths.
4. Determine Simultaneous Transfer Capability.

- The objective of this phase of the study is to have the Project Sponsor ensure and demonstrate that the path being rated meets the NERC Reliability Standards and WECC Criteria under simultaneous conditions.
- Using the base case that established the Non-Simultaneous Transfer Capability, maintain the path being rated at its Non-Simultaneous Transfer Capability, in Steps 4c and 4d.
- Individually stress every affected path, one at a time, to its Non-Simultaneous Transfer Capability (whether reliability or flow based).
- Apply outages and look for criteria violations. This step is performed on a path by path basis. If a violation occurs, determine a simultaneous nomogram describing the safe operating range. If criteria violations are not observed, then a simultaneous interaction problem does not exist.

5. Conduct sensitivity studies.
    - Sensitivity studies should be conducted as agreed to by the PRG and as they relate to the study objectives. This includes Established Flowgate Generator Deliverability adverse impact analysis.

6.5. Study Guidelines

6.5.1. General Principles

In general, companies involved will base the criteria applied to the Transmission Paths on the current criteria in use. These criteria will be made available to the PRG and consistently applied.

6.5.2. Power Flow Guidelines

Power flow studies will be performed using the following guidelines:

1. Phase Shifter Operation
    - Phase shifters will be operated according to operating procedures established by the owners. The PRG must agree to deviations to the procedures.
    - For line outages, phase shifters will be operated at pre-outage phase angles unless resultant flows exceed established limits. If emergency loadings are exceeded, the owner of the overloaded phase shifter will be consulted about the impact of the disturbance on their system to determine an appropriate action to reduce the overload. The action could include reducing transfers.
2. Thermal Capacity Limits
    - No transmission element will be loaded above 100% of its continuous rating under normal conditions.
    - For a single contingency loss of an element(s), no transmission element will be loaded above its emergency rating. The continuous and emergency ratings for applicable

facilities will be reviewed by the PRG and included in the study documentation such as base cases.

3. System Voltage Limits
    - System stresses will be limited such that the NERC Reliability Standards and WECC Criteria will govern voltage deviation for loss of a system element. All deviations from the WECC Criteria will be listed.
    - Document important base case voltage criteria in this section. Also include a list of minimum acceptable bus voltages for outages. Provide a list of bus voltages to be monitored. The PRG must review and approve this list to ensure all meaningful buses are monitored.
4. Important path flows must be monitored and listed in this section. The PRG must review and approve this list to ensure that all meaningful paths are being monitored.

6.5.3. Transient Stability Guidelines

Transient stability studies will be performed as needed to establish the stability transfer limit and to ensure system stability following a critical fault on the system. These studies facilitate the development of the dynamic voltage support requirements.

1. Fault Damping
   Three phase fault damping will be applied according to the appropriate operating guidelines. The rationale and use of it will be documented in the assumptions used.
2. Machine Representation
    - Representation of generators in the WECC transient stability database must be consistent with available generator data modeled in current WECC base cases. Machines greater than 20 MVA must be represented.
    - The power system stabilizers that are normally in service within the Western Interconnection must be modeled for the appropriate case selected.
3. System Disturbance
   System disturbances for stability studies must be initiated by a three-phase-to-ground fault on the EHV bus adjacent to the major interconnection point and/or power plant of interest. A single line-to-ground fault must be studied as a sensitivity, if requested by the PRG. The list of outages to be studied must be agreed upon by the PRG and listed in the report.
4. Fault Clearing Time
    - Faults on the transmission lines being evaluated will be cleared in accordance with guidelines provided by the appropriate members of the PRG.
    - Backup clearing time for stuck breaker operation will be provided by the appropriate members of the PRG.
5. Series Capacitors

Particular attention should be paid to modeling the correct performance of series capacitors. The protective schemes (i.e., bypass arc gaps, zinc oxide varistor) on the series capacitors vary widely and consequently can affect the system performance differently. The series capacitors must be modeled as they will perform in actual use.

6. Evidence of System Stability
   The system will be considered stable if the following conditions are met:
   - Machine Synchronism
     i. All synchronous machines in the system remain in synchronism as demonstrated by the relative rotor angles.
     ii. Inverter-based resources (IBR) performance needs to follow the applicable NERC reliability guideline.
   - System Damping
     i. A stability simulation is deemed to exhibit positive damping[9] if a line defined by the peaks of the machine-relative, rotor-angle, or bus voltage curves will intersect a second line connecting the valley of the curves with an increase in time. Minimum duration of a stability simulation is ten seconds unless a longer time is required to ascertain stability.
   - Transient Voltage Criteria
     i. Major transmission bus voltages and machine terminal voltages should meet the appropriate WECC Criteria following the disturbance. The PRG will review and approve a list of the buses to be monitored.
     ii. System transient voltage performance must meet the WECC Criteria at a minimum.
   - Stability Plot List
     A standardized stability plot list will be included with the study plan. This list must be approved by the PRG to ensure all meaningful quantities are monitored.

6.5.4. Post-transient Governor Power Flow Study

Post-transient governor power flow analysis will be done when appropriate. This analysis must be consistent with the "Voltage Stability Assessment Methodology" and "Voltage Stability Criteria, Undervoltage Load Shedding and Reactive Reserve Monitoring Methodology" documents. The analysis must demonstrate conformance of the Plan of Service with the NERC Reliability Standards and WECC Criteria[10].

[9] If the PRG agrees to a different definition of positive damping, it can be used instead.

[10] TPL-001-WECC-CRT-4 or successor

6.5.5. Remedial Actions

All RAS required to obtain the Accepted Rating must be described in detail and modeled as they will be applied in operation. If the Plan of Service includes modifications to existing RAS or a new RAS, then the Project Sponsor(s) should seek approval from the RASRS prior to going into service.

6.5.6. Common Corridor Analysis

As part of the path rating analysis, the PRG will decide the need for and provide guidance for studying "loss of entire corridor" events. This analysis will allow WECC and all interconnected parties to be made aware of the potential impacts related to outages of multiple transmission lines in the same corridor. This analysis is most important for outages of high-capacity EHV transmission lines and these outages' potential reliability impacts to the Western Interconnection.

If a common corridor event is included as part of the path rating analysis, the potential impacts of the common corridor outage(s) will be evaluated for informational purposes and reported. For establishment of an Accepted Rating, the requirement to mitigate the impacts of loss of lines in a common corridor has been eliminated. This change is to align some of the requirements for achieving an Accepted Rating with the requirements for Extreme Events in the NERC Transmission System Planning Performance Requirements (TPL-001).

For the WECC Paths that have Existing or Accepted Ratings that were based on system performance involving loss of transmission facility in a common corridor, the Path owners can re-evaluate for potential path uprates. The process for proceeding with potential uprate for paths with Existing or Accepted Ratings is provided in the next section.

6.5.7. Process for Rerating Paths with Existing or Accepted Ratings with Changes in Reliability Criteria Requirements

This section describes the process for potential path rerating due to changes in reliability criteria that were used to establish the path rating previously. An example of this is the elimination of the common corridor requirement that was used in the previous path rating process.

The following is an outline of the process for rerating Paths with Existing or Accepted Ratings that were previously based on system performance involving previous reliability criteria that have changed, either through NERC and/or WECC actions via issuance of new standard or criteria change. Please note that this process is intended to be a process only to address a change in which the previous criteria that were used to establish and achieve Accepted or Existing Rating have been eliminated.

All projects choosing to follow this process are similarly situated and will find no benefit in completing studies faster than projects ahead of them. Notifications will be sent to the RAC, StS, RRC, and relevant RCs.

Commented [KR84]: I believe this section was added because the change in the common corridor outage criterion. Do we need to keep this section? Are we expecting to need to rerate paths based on the changes associated with flowgates?

Commented [MZ85R84]: There are currently multiple paths going through this process, and therefore at this juncture it will need to be maintained in the document. Paths will not need to be rerated based on Generator Deliverability Studies.

Step 1—WECC sends notifications to the Path owners with Existing or Accepted ratings where the criteria change occurs asking whether they wish to rerate their Paths. The Path owner should respond within one month of the initial notification. The time frame allowed for this process is 60 days.

Step 2—WECC sends notifications announcing which Paths are being requested by the Path owners to be rerated. The time frame for this process is 30 days.

Step 3—Path owner(s) perform studies, prepare, and submit the Comprehensive Progress Report with the proposed Planned Rating to WECC. The time frame for this process is nine months.

Step 4—After the Comprehensive Progress Report is submitted to WECC, WECC will send notifications to members with the link to the report on the WECC website. The time frame for this process is 30 days.

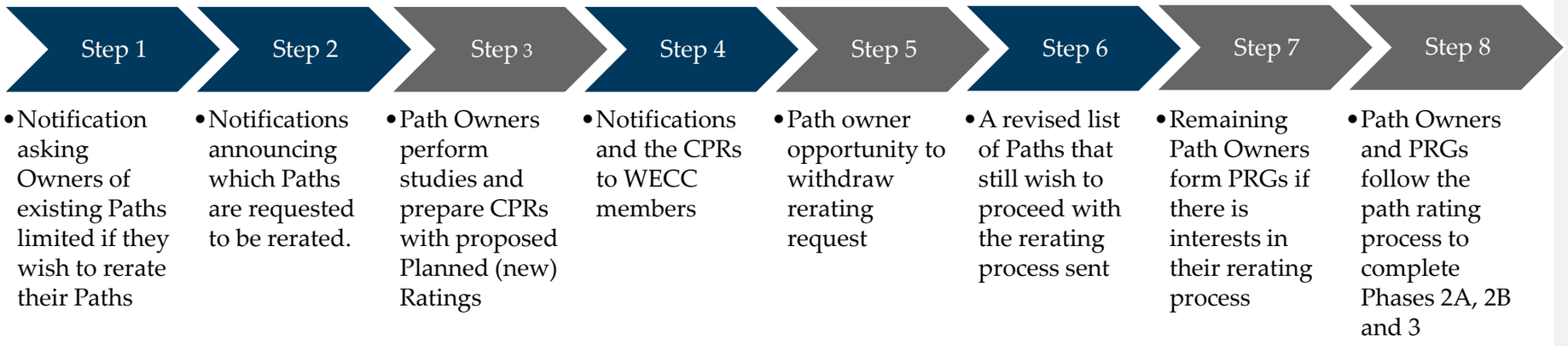
Step 5 –Transmission path owners are provided an opportunity to withdraw or rescind their request to rerate their Paths and keep the Existing or Accepted Path Ratings. Beyond this step, transmission path owners cannot rescind their rerate request and must complete their requested study. The rationale is to enable other transmission path owners who wish to continue with their path rerating study to have more certain information about the planned ratings for other similarly situated Paths also proceeding with the path rerating process. If the transmission path owners decide to withdraw their path rerating request at this stage, they will need to send notification letters to WECC indicating their desire to withdraw from the rerating process. If the transmission path owners decide to proceed with the Path rerating process, their Paths may be subject to potentially more restrictive nomograms and/or de-rates if the results of studies in Phases 2 and 3 do not support their current Accepted or Existing Ratings. The time frame for this process is 30 days.

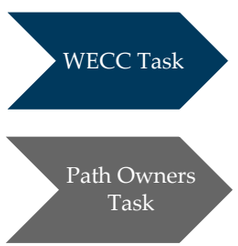
Step 6—WECC sends notifications with an updated list of the new proposed ratings of the Paths that wish to proceed with the rerating process. The time frame for this process is 60 days.

Step 7—The transmission path owners that remain in the path rerating study will form PRGs if there is interest in their rerating process. The time frame for this process is 60 days.

Step 8—The transmission path owners that remain in the path rerating study process continue with their studies for Phases 2A, 2B, and 3 of the established path rating study process. All paths undergoing this rerate process will be considered similarly situated with each other: each path rerate study will need to consider and potentially model the planned new ratings of other paths concurrently undergoing the rerate process. Paths undergoing rerate process with "Existing" or "Accepted" Ratings shall maintain this status during the course of the rerate studies, and are only obligated to study other applicable paths that are already placed in-service for potential simultaneous interactions. Conversely, for other future, non-rerate paths that are not in-service at the time of the re-rate process, and are in Phase 2A, 2B, or 3 of the WECC Path Rating Process, those paths' PRGs are required to reconsider and potentially (re-)study any applicable rerated paths for simultaneous interactions. Upon reaching Phase

3 of the path rating study process, the rerated path shall receive an "Accepted Rating" for the new proposed rating. The targeted time frame for completion of the rerate studies is one to two years.


Step 1
Step 2
Step 3
Step 4
Step 5
Step 6
Step 7
Step 8
• Notification asking Owners of existing Paths limited if they wish to rerate their Paths
• Notifications announcing which Paths are requested to be rerated.
• Path Owners perform studies and prepare CPRs with proposed Planned (new) Ratings
• Notifications and the CPRs to WECC members
• Path owner opportunity to withdraw rerating request
• A revised list of Paths that still wish to proceed with the rerating process sent
• Remaining Path Owners form PRGs if there is interests in their rerating process
• Path Owners and PRGs follow the path rating process to complete Phases 2A, 2B and 3


WECC Task
Path Owners Task

6.6. Documentation of Study Conclusions

The purpose of the PRG Phase 2 Rating Report is to document the study results and conclusions and to demonstrate how a Project affects the overall system performance as defined by WECC requirements. The Project Sponsor is responsible for ensuring that the report conforms with NERC Reliability Standards and WECC Criteria.

1. The report documenting the Accepted Rating must also provide a general background about the existing system or Project. The background could include historical information, a general Project description, Project need and use, and Project participation. The central elements of a Phase 2 Rating Report are: Plan of Service (including milestones) specified for the Phase 2 studies and a statement that the Plan of Service meets NERC Standard and WECC Criteria;
2. Corrective actions and/or Mitigation Plan, if needed, to support the Accepted Rating
3. Assumptions used in the Rating Study, including load levels, existing and future resources, and other projects upon which the Accepted Rating relies.

The corrective actions and/or Mitigation Plan will ensure that issues identified will continue to be addressed in Phase 3 and appropriate steps taken promptly to mitigate impacts before operation of the new project. Mitigation of impacts can include operating the Path associated with the Project at levels below the Accepted Rating with PRG approval.

7. Process Examples

The following process scenarios are intended to provide guidance on how a Project Sponsor could proceed through the Path Rating Process for Projects of various complexities.

7.1. Expediting the Process—Project with no Comments Received

As explained above in Section 3.3, Expediting the Process, this scenario is illustrative only. All requirements of the Path Ratings Process described in Section 3 remain the same and all timelines for the individual steps still apply. The following is simply a description of how several steps of the process may be followed concurrently.

7.1.1. Phase 1

1. Member A has conducted internal studies and determined that installing a generation shedding scheme will increase the Accepted Rating of its path. The lead time to order and install the necessary equipment is three months.
2. One month later, Member A completes additional studies and submits a comprehensive report to all StS, RAC, and RRC members announcing the proposed increase in the rating of its path. The cover letter advises the StS, RAC, RRC, and the relevant RC of Member A's desire to expedite the process and requests expressions of interest in joining a PRG.

3. The Project has entered and remains in Phase 1.
4. During the 60-day period, there are no comments on the proposed rating or expediting the process and no expressions of interest in a PRG.

7.1.2. Phase 2

Since all requirements to enter Phase 3 have been met, this Project proceeds directly from Phase 1 into Phase 3. Member A notifies the RAC chair that all requirements to enter Phase 3 have been met. The RAC will have 30 days to comment regarding conformance with these procedures.

7.1.3. Phase 3

1. The RAC chair, upon determination that the Project has met all requirements to enter Phase 3, notifies all StS, RAC, and RRC members that the Project has entered Phase 3, and that the comprehensive report is considered to be the Phase 2 Rating Report. The Path associated with the Project has an Accepted Rating.
2. If Member A has installed the necessary equipment, the new Accepted Rating can be used immediately—60 days after submitting its report and notifications to WECC.

7.2. Project with Minor Comments

7.2.1. Phase 1

1. Member A lists a new transmission line in the WECC Progress Report Policies and Procedures. The Project is now in Phase 1.
2. Member A then submits a Comprehensive Progress Report to the StS, RAC, RRC, and the relevant RC with a letter requesting Phase 2 status. The Report includes a full Project description suitable for modeling the Project in WECC base cases. The cover letter also requests expressions of interest in a PRG (hoping there will be no interest expressed for formation of a PRG).
3. The Report shows no criteria violations at the Planned Rating and details how the Project will curtail to maintain the Accepted Rating of an existing Path with a known simultaneous rating conflict.
4. Within the 60-day review period, Member B requests that some additional contingencies in member A's system be studied, and that the voltage and frequency at several of Member B's load buses be monitored.
5. Member A conducts the requested studies and provides the study results to Member B, requesting confirmation within an agreed-upon time frame that they have no objections to the Planned Rating.
6. Member B confirms within the stated time period that they are satisfied and do not express an interest in joining a PRG.

7. No other members express an interest in forming a PRG.

7.2.2. Phase 2

Since all requirements to enter Phase 3 have been met, this Project proceeds directly from Phase 1 into Phase 3. Member A notifies RAC that the project's Comprehensive Progress Report is considered to be the Phase 2 Rating Report and that the Project has met all requirements to enter Phase 3. RAC will have 30 days to comment regarding conformance with these procedures.

7.2.3. Phase 3

Based on the resolution of all comments, no interest in formation of a PRG, and no comments from the RAC, the RAC chair notifies the StS, RAC, RRC, and the relevant RC that the Project has entered Phase 3 and the Path associated with this Project is granted an Accepted Rating.

7.3. Complex High-Impact Project

7.3.1. Phase 1

1. Member A lists a new transmission line in the WECC Progress Report Policies and Procedures. The Project is now in Phase 1.
2. The Planning Coordination Committee finds that the Project conforms to the Project Coordination Objectives.
3. Member A then submits a Comprehensive Progress Report to all StS and RAC members with a letter requesting Phase 2 status. The report includes a full Project description suitable for modeling the Project and it is represented in WECC base cases.
4. The report shows no criteria violations at the Planned Rating for numerous contingencies within Member A's system and details how the Project will curtail to maintain the Accepted Rating of an existing Path with a known simultaneous rating conflict.
5. Within the 60-day review period, Member B requests that some additional contingencies in Member A's system be studied and that the voltage and frequency at several of Member B's load buses be monitored.
6. Member A conducts the requested studies and provides the study results to Member B. Member A found some problems and agrees to address those issues in Phase 2. Member A notifies the StS chair that the Project has met all requirements to enter Phase 2.

7.3.2. Phase 2

1. The StS chair, in consultation with WECC staff, verifies that all requirements have been met. The StS chair notifies all RAC and StS members that the Project has entered Phase 2A of the Path Rating Process and the Path associated with the Project is conferred a Planned Rating.

2. Member A writes to all members of the StS, RAC, RRC, and the relevant RC, requesting expressions of interest in participating in a PRG and allows at least 30 days response time. To increase participation, Member A also reaches out to members that may be interested to request participation. Some interest is expressed and meetings are scheduled.
3. The PRG meets several times. The members also identify additional studies and potential simultaneous limits that they wish to be addressed. Member A develops the study plan and the base cases. The PRG members approve the study plan (which includes at a minimum the study timeline, milestones, other Projects in Phase 2B and Phase 3) and the Foundational Base Case. The PRG agrees that the Project study meets the requirements to enter Phase 2B. Member A notifies the RAC chair and WECC staff within five working days after the date the PRG approved the study plan and the Foundational Base Case.
4. During the studies, simultaneous limits are discovered and studies are continued over the next year. Member A modifies the Project to partially mitigate the simultaneous limits and identifies the curtailments necessary to mitigate remaining simultaneous operating problems.
5. At the last PRG meeting, all members are satisfied except for Member C, who feels that additional study work is required.
6. Member A submits a Phase 2 Rating Report to all members of the StS, RAC, RRC, and the relevant RC without performing the additional work requested by Member C.
7. No protests from the members of the PRG (including Member C) are received within 30 days and all RAC members' concerns regarding conformance with the procedure have been addressed. Since no members raised any objections, Member A notifies the RAC chair that the Project has met all requirements to enter Phase 3.

7.3.3. Phase 3

When the RAC chair determines that all requirements for entering Phase 3 have been met, the RAC chair notifies all the StS, RAC, RRC, and the relevant RC that the Phase 2 Rating Report has been accepted and the Project has entered Phase 3. The Path associated with the Project has an Accepted Rating.

7.4. Project with Protest

7.4.1. Phase 1

1. Member A lists a new transmission line in the WECC Progress Report Policies and Procedures. The Project is now in Phase 1.
2. Member A then submits a Comprehensive Progress Report to all StS and RAC members with a letter requesting a Phase 2 status. The Report includes a full Project description suitable for modeling the Project in WECC base cases.

3. The Report shows no criteria violations at the Planned Rating for numerous contingencies within Member A's system.
4. Within the 60-day review period, Member B requests that some additional contingencies in Member A's systems be studied, and that the voltage and frequency at several of Member B's load buses be monitored.
5. Members A and B agree to form a PRG and address the concerns in Phase 2. Member A notifies the StS chair that the Project has met all requirements to enter Phase 2.

7.4.2. Phase 2

1. The StS chair, in consultation with WECC staff, verifies that all requirements have been met. The StS chair notifies all RAC and StS members that the Project has entered Phase 2A of the Path Rating Process and the Path associated with the Project is conferred a Planned Rating.
2. Member A writes to all members of the StS, RAC, RRC, and the relevant RC requesting expressions of interest in participating in a PRG, and allows at least 30 days response time. Some interest is expressed, and meetings are scheduled.
    - A PRG is formed and meets several times. The members also identify additional studies and potential simultaneous limits that they wish addressed. Member A develops the study plan and the base cases. The PRG members approve the study plan that includes, at a minimum, the study timeline, milestone, other Projects in Phase 2B and Phase 3 and the Foundational Base Case(s). The Project study meets the requirements to enter Phase 2B. Member A notifies the RAC chair and WECC staff within five working days after the PRG approves the study plan and the Foundational Base Case.
3. During the studies, a criteria violation in Member B's system is discovered under high simultaneous transfers. Member A proposes to mitigate the problem by paying for the installation of a shunt capacitor on Member B's system. Member B does not like the idea.
4. Member A drafts a Phase 2 Rating Report proposing the shunt capacitor mitigation. After review and editing, a majority of the PRG accepts the report with the shunt capacitor mitigation. Member B votes against the report. Member B also develops and submits a "minority report," describing Member B's dissenting opinion.
5. The Phase 2 Rating Report, including the minority report submitted by Member B, is submitted to the RAC with a request for Phase 3 status.
6. Member B files a protest within 30 days claiming the proposed mitigation is unacceptable.
7. The RAC withholds acceptance pending resolution of Member B's protest. The RAC raises no concerns regarding conformance with the procedure. The RAC chair informs Members A and B that they must agree to resolve the protest either between themselves or with assistance of the StS or RAC.

8. At the request of either Member A or Member B, the RAC chair will hold a discussion at a RAC meeting. Based on the discussion, the RAC will reach a recommendation regarding the protest and inform Member A and Member B.

7.4.3. Phase 3

1. When the RAC chair determines that all requirements for entering Phase 3 have been met, the RAC chair notifies all the StS, RAC, RRC, and the relevant RC that the protest has been resolved. The Phase 2 Rating Report is accepted by the RAC and the project enters Phase 3. The Path associated with the project now has an Accepted Rating.
2. Members A and B implement the mitigation as described in the Phase 2 Rating Report.
3. Member A begins commercial operation at the rating set in the Phase 2 Rating Report.

7.5. Rating Determined by Alternative Method

7.5.1. Phase 1

1. Member A has conducted internal studies and determined the Proposed Rating of its flow-limited path using some method other than the Maximum Flow Test (MFT).
2. Member A completes additional studies and submits a comprehensive report to the StS, RAC, RRC, and the relevant RC, announcing the Proposed Rating of its path. In the mailing, Member A includes a description of the alternative method they used and what the proposed method is intended to accomplish. The cover letter requests Phase 2 status and expressions of interest in joining a PRG.
    - The Project has entered Phase 1. During the 60-day period, the only comments received are questions about the alternative method used. Several members express interest in a PRG. Since formation of a PRG has been requested, questions about the alternative method will be addressed in the Phase 2 process. The Project Sponsor notifies the StS chair.

7.5.2. Phase 2

1. After verification with WECC staff that no comments were received about the deficiency of the comprehensive report, the StS chair notifies all RAC and StS members that the Project has entered Phase 2A of the Path Rating Process and the Path associated with the Project is conferred a Planned Rating.
2. Member A informs the RAC, StS, RRC, and the relevant RC that a PRG is being formed and gives details about the alternative method that will be used in the Rating Studies.
    - The PRG agrees that the only issue concerns the alternative method and no member of the PRG requested any simultaneous studies. The PRG agrees that the Project can

proceed to Phase 2B. Member A notifies the RAC chair and WECC staff within five working days.

3. The PRG meets and all the affected parties concur that the Project Sponsor may use this method for determining the path's rating.
4. At the last meeting of the PRG, all members are satisfied.
5. Member A submits a Phase 2 Rating Report to all members of the StS, RAC, RRC, and the relevant RC.
    - No protests from the members of the PRG are received within 30 days and all RAC members' concerns regarding conformance with this Path Rating Process have been addressed, Member A notifies the RAC chair that the Project has met all requirements to enter Phase 3.

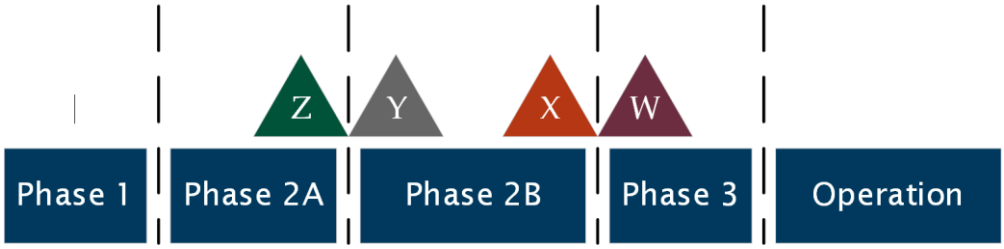
7.5.3. Phase 3

When the RAC chair determines that all requirements for entering Phase 3 have been met, the RAC chair notifies the StS, RAC, RRC, and the relevant RC that the Phase 2 Rating Report has been accepted and the Project has entered Phase 3. The Path associated with the Project has an Accepted Rating.

7.6. Similarly Situated Projects

7.6.1. Relationship between Projects in Phase 2A, 2B, and Phase 3

The following diagram shows four Projects in various stages of studies in Phases 2A, 2B, and 3 based on the definition of "Similarly Situated Projects."
Similarly Situated Projects: At any point, if any two Projects are together in Phase 2B of the Path Rating Process, they are Similarly Situated and have a responsibility to mitigate interaction they have with each other until both become operational.



1. Project X and Project Y are Similarly Situated.
2. Project Y enters Phase 2B after Project X and has the burden of performing the simultaneous study that includes Project X.

3. Project X does not have the burden of (but is not precluded from) performing the simultaneous study that includes Project Y.
4. Project X and Project Y must consider the impacts on each other and share in the responsibility of mitigating the impacts (Planned Ratings are not protected).
5. Projects X, Y, and Z have the burden of mitigating the impacts on Project W in Phase 3 (Accepted Ratings are protected).
6. Project Z is in Phase 2A, and must take Projects W, X, and Y into account in its studies.

8. Path Delisting Process

In the event a Path Owner(s) wants to remove a Path from the Path Rating Catalog, the following process will need to be followed.

1. The Path Owner(s) unanimously agree to delist their Path and perform study work to document the impacts (if any) created by this proposed delisting.
2. Following the completion of the studies performed in Step 1, the Path Owner(s) will notify any adjacent utilities that may be affected by the WECC Path being delisted. A 30-day comment period will be provided for comments, question or concerns related to the proposed Path delisting.
    - The Path Owner(s) will document any comments, questions, concerns, and provide appropriate responses.
3. The Path Owner(s) will provide a notice to the RAC, StS, RRC, and the relevant RC that a Path is being delisted. If requested, the Path Owner(s) will also make a presentation about the Path delisting request at an StS meeting, and/or a RAC meeting.

    Items to be included in the delisting notice and presentation are provided below.

    - A description of the WECC Path that is under consideration for delisting,
    - A description of the circumstances driving the request for delisting,
    - A summary of any relevant study work related to the delisting,
    - The proposed effective date for the delisting (which must be at least three months after the date of the notice),
    - A summary of any entities the delisting has been discussed with or coordinated with including a summary of key dates, discussions, and decisions,
    - Contact information for entities to provide comments related to WECC Path delisting.
4. A 30-day comment period will be provided from the date of the notice to the RAC, StS, RRC, and the relevant RC; the StS presentation; or the RAC presentation, whichever is later, for stakeholders to comment, ask questions, or formally object to the proposed WECC Path delisting.

- The Path Owner(s) will document any comments, questions, objections, and provide appropriate responses.

5. The Path Owner(s) will provide the RAC, StS, RRC, and the relevant RC with a final notification that provides the date upon which the path will become delisted.

9. Principle Scenarios

9.1. Neutrality of Path Definition

This section illustrates the alternatives available when a new facility interacts with an existing Path.

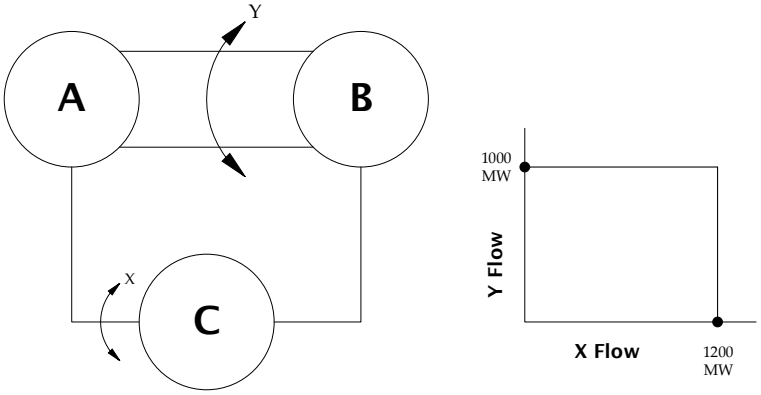
9.1.1. Principle to Illustrate:

Section 4.3.8: "When a new facility interacts with an existing Path, two options are available to address this interaction. One option is to include the new facility in the existing Path and manage the expanded Path as a single unit. The second option is to define the new facility as a new Path and define the relationship with the existing Path in a nomogram." and

> "In either case, project sponsors are required to determine whether the proposed Project would constitute a subset of an existing Path. Ideally, this is done as early in the Path Rating Process as possible. If the proposed Project is determined to be a subset of an existing Path, the project sponsor must rerate the Path within the Path Rating Process."

9.1.2. Existing Situation:

A and B have a rating in the A to B direction (Path Y) and have established a rating of 1000 MW on Path Y and 1200 MW on Path X.



9.1.3. Change to the Existing Situation:

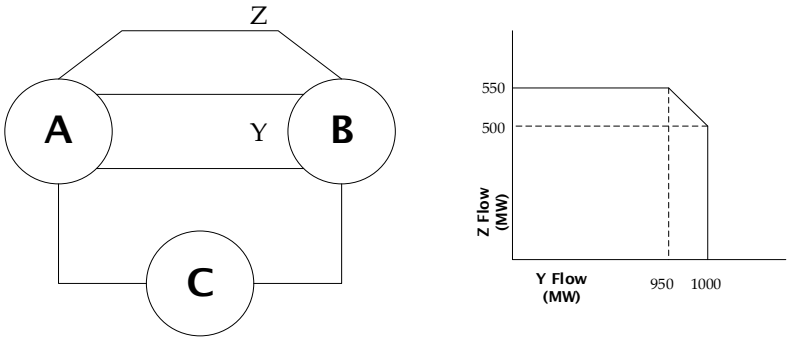
1. Owner D builds Line Z between B and A.
2. Line Z has a non-simultaneous rating of 550 MW.
3. Owner D has not decided in Phase 1 to include Line Z as part of Path Y for rating purposes.
4. Owner D conducts the two tests in Appendix E and determines the percentage change in power flow with addition of Line Z. The information was provided to the PRG. The PRG determines that Line Z is a subset of Path Y.
5. Owner D rerates the existing Path Y.
6. From the MFT analysis it is found that the maximum possible flow across Z + Y is 1500 MW.

9.1.4. Alternative 1:

Line Z is combined with Path Y for rating purposes and the rating of the combined path under the MFT is 1500 MW.

9.1.5. Alternative 2:

1. Owner D does not want to include the new line with Path Y for rating purposes, but rather chooses to be a separate path, and the PRG determines that the Path Y does not have to be rerated to include Line Z.
2. Line Z remains a separate path and establishes a nomogram with a non-simultaneous limit of 550 MW. Line Z (Owner D) must make arrangements with Path Y to keep the combined Z + Y schedule at or below 1500 MW.



9.2. Reverse Flow

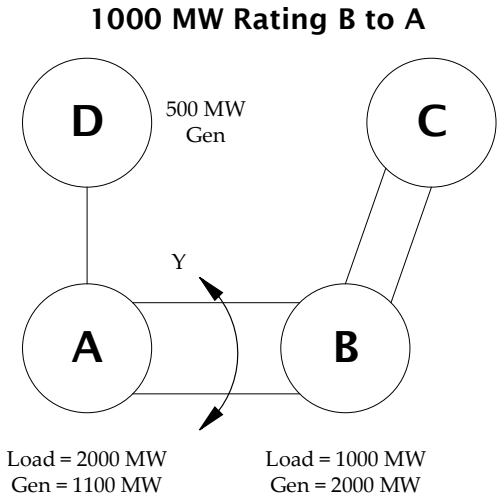
9.2.1. Concept to Illustrate:

Section 4.3.9: "It may be impossible to achieve a desired MFT if one is trying to rate a line in a direction counter to prevailing flow. Parties faced with such a circumstance could still schedule transactions over

the path in the opposite direction using a net scheduling approach. Once the rating of a Transmission Path has been established, scheduled transactions over the path are permitted in either direction providing the net schedule at any time does not exceed the path rating in either direction. For example, if the path rating has only been established in one direction, schedules are still permitted in both directions as long as the net schedule is in the same direction as the path rating direction and does not exceed the path rating."

9.2.2. Existing Situation:

1. System A is resource deficient by 900 MW.
2. System B has surplus generation of 1000 MW.
3. System C is energy deficient at various times (primarily hydro).
4. System A has a high-load-factor system and always imports at least 500 MW from System B.
5. Maximum achievable flow from B to A on Y is 1000 MW, which meets Reliability Criteria. Using the MFT, the maximum rating is 1000 MW.



9.2.3. Change to Situation:

System D builds a 500 MW plant adjacent to system A.

9.2.4. Application of Principle:

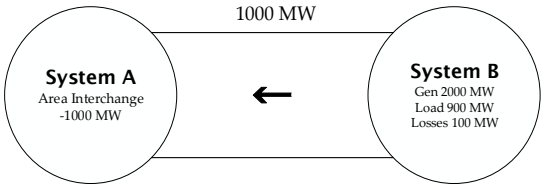
System D arranges to schedule up to 500 MW in the A to B direction if the net schedule is in the rated direction (B to A) and does not exceed that rating. Since A is always importing, D will always have a

schedule to net against. If the situation changes such that A does not import, then it will be possible to establish an A to B rating using the MFT.

9.3. Flow-Limited Ratings—Flow-Limited by Available Resources (Using MFT Method)

9.3.1. Principle to Illustrate:

Section 4.3.3 Accepted Rating is limited by a shortage of available resources; reliability limit not reached.



9.3.2. Existing Situation:

1. System B, being resource limited, has a maximum of only 1000 MW of generation surplus to its system.
2. The path A-B is a two-line intertie system with nominal capability of 1200 MW per line.
3. The outage of either line in path A-B or any other outage in system A or B does not result in a criteria violation.

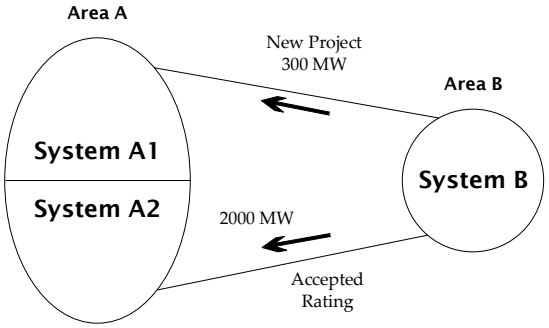
9.3.3. Application of Principle:

Path A-B is given a 1000 MW Accepted Rating although it possibly could be rated higher if more resources were available in System B. The path A-B has passed the MFT and the rating achieved is called a Flow-Limited Rating and is protected.

9.4. Flow-Limited Ratings—Flow-Limited by Low Impedance Parallel Path

9.4.1. Principle to Illustrate:

Section 4.3.3 Accepted Rating on the new Project is limited by the existing system reaching a limit before the new Project reaches its limit.



9.4.2. Existing Situation:

The Accepted Rating of path A2-B (low impedance path) is thermally limited at 2000 MW.

9.4.3. Change to Existing Situation:

1. The new Project is being planned as a higher impedance path with a nominal rating of 500 MW.
2. With the addition of the new Project, due to the network and location of resources, path A2-B will overload when the new Project is increased above 300 MW.

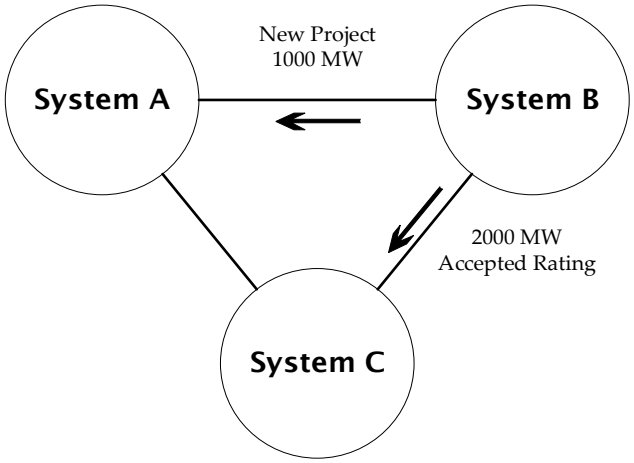
9.4.4. Application of Principle:

Path A1-B is given a flow-limited Accepted Rating of 300 MW and is protected. It may be possible to uprate path A1-B in the future if a higher flow can be demonstrated after completion of appropriate studies and review.

9.5. Accepted Rating Protection—Reliability Criteria Violation

9.5.1. Principle to Illustrate:

Section 4.3.4. "A new project will not cause a reduction in an Accepted Rating of another Path (e.g., because of a reliability criteria consideration) unless mitigating or compensating measures are provided."



9.5.2. Existing Situation:

Path B-C has an Accepted Rating of 2000 MW limited by a criteria violation for contingencies on that path.

9.5.3. Change to Existing Situation:

1. The new Project on path A-B has completed studies and proposed a Planned Rating of 1000 MW.
2. System C determines that the capability of path B-C has been reduced due to a contingency on path B-C that no longer meets the Reliability Criteria (for example, low swing voltage in system A). It also shows that path B-C meets the Reliability Criteria at the Accepted Rating before addition of the new Project.
3. System C claims its protected rating on path B-C has been affected and should be mitigated.

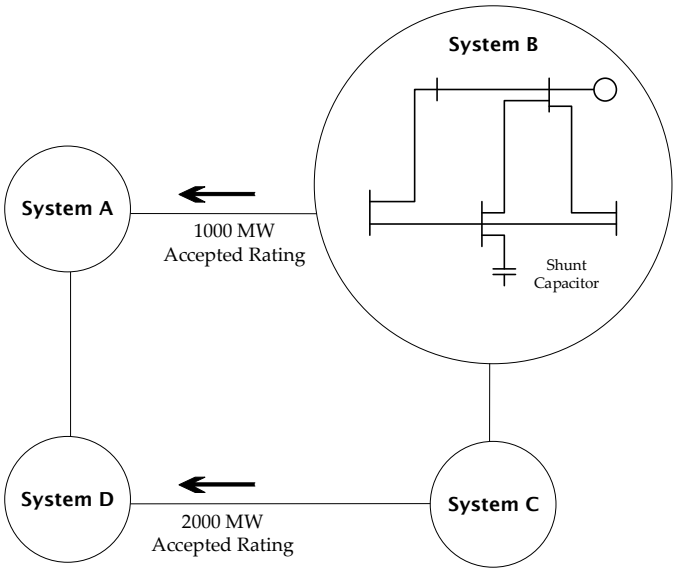
9.5.4. Application of Principle:

Path A-B must mitigate the adverse impact on path B-C by reducing the rating of path A-B or by other means (addition of shunt reactive, addition of series capacitors, etc.)

9.6. Accepted Rating Protection – Reliability Criteria Violation; Acceptable Reduction in Accepted Rating Caused by Another Party

9.6.1. Principle to Illustrate:

Section 4.3.4. "… if a facility is retired from service (generator, shunt reactive equipment, RAS, etc.) all path ratings that rely on the facility must be reviewed and reduced to the extent the System Impacts of such retirement are not mitigated." Further, "if a path's Accepted Rating relied upon the facilities that are not part of the path's Plan of Service, and if those facilities are retired, modified, or never built, the Accepted Rating is subject to review in the same manner as if changes had occurred in the path's Plan of Service."



9.6.2. Existing Situation:

The Accepted rating for path B-A is 1000 MW and the Accepted Rating for path C-D is 2000 MW.

9.6.3. Change to Existing Situation:

1. System B announces that it is planning to remove a shunt capacitor in its system and shows that path A-B meets the Reliability Criteria and the Accepted Rating has not changed, nor are there any Reliability Criteria violations for contingencies in System B.
2. However, System C determines that the removal of the shunt capacitor in System B causes path C-D to violate the Reliability Criteria and claims that the rating should be protected.
3. System B establishes that the shunt capacitor was installed before path C-D received its Accepted Rating and that the rating study relied upon that capacitor.

9.6.4. Application of Principle:

System C is not entitled to retain its Accepted Rating because of the change made by System B. Essentially, System C was making use of the shunt capacitor to support its Accepted Rating on path C-D. System B is not responsible for mitigating the reduction of the Accepted Rating of path C-D.

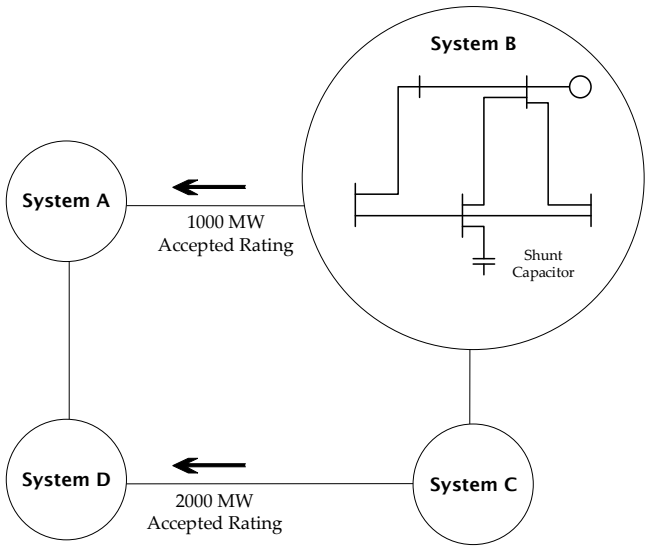
9.7. Accepted Rating Protection—Reliability Criteria Violation; Retention of Accepted Rating for Facility Removal by Another Party

9.7.1. Principles to Illustrate

Section 2.3: "Transmission paths will complete the path rating process specified in this procedure and obtain an Accepted Rating if any of the following criteria apply: …

- A facility (generator, series, or shunt reactive equipment; Remedial Action Scheme; etc.) that an Existing or Accepted Rating depends on is modified[11] or retired from service, without regard to whether the facility is owned by the same system as the rated path."

Section 4.3.4. "… if a facility is retired from service (e.g., generator, shunt reactive equipment, Remedial Action Scheme, etc.) all path ratings that rely on the facility must be reviewed and reduced to the extent the System Impacts of such retirement are not mitigated..."



[11] If the modified RAS is functionally equivalent to the existing RAS and is approved by the RASRS, then the Path does not need to be rerated.

9.7.2. Existing Situation

The Accepted Rating for path B-A is 1000 MW and the Accepted Rating for path C-D is 2000 MW.

9.7.3. Changes to Existing System

1. System B announces that it is planning to remove a shunt capacitor in its system and shows that path A-B meets the Reliability Criteria and the Accepted Rating has not changed, nor are there any Reliability Criteria violations for contingencies in System B.
2. However, System C determines that the removal of the shunt capacitor in System B causes path C-D to violate the Reliability Criteria and claims that the rating should be protected.
3. System C establishes that System B installed the shunt capacitor as part of the Plan of Service for path A-B, as documented in the Phase 2 Rating Report.

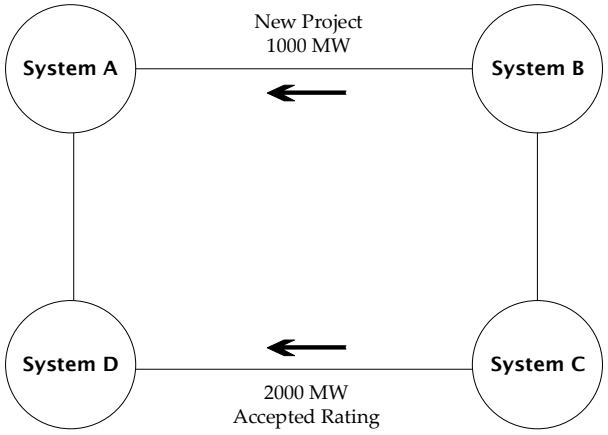
9.7.4. Application of Principle

System B must mitigate the Adverse Impact on path C-D by reducing the rating of Path A-B or by other means (retention or replacement of the shunt capacitor, etc.).

9.8. Accepted Rating Protection—Failure to Meet Maximum Flow Test, Retention of Accepted Rating as a Result of Changes Made by Another Party

9.8.1. Principle to Illustrate:

Section 4.3.4. "A transmission path's Accepted Rating will not be lowered because its maximum achievable flow is reduced due to system changes made by others..."



9.8.2. Existing Situation:

Path C-D has an Accepted Rating of 2000 MW and is limited by the MFT (no Reliability Criteria violation).

9.8.3. Change to Existing Situation:

1. The new Project on path B-A proposes a Planned Rating of 1000 MW. Phase 2 studies show acceptable performance.
2. System C determines that the maximum achievable flow on path C-D has been reduced to a maximum of 1500 MW due to the new Project. System C also shows that before the new Project it could load path C-D to its Accepted Rating of 2000 MW.

9.8.4. Application of Principle:

Path C-D retains the protection for its Accepted Rating of 2000 MW. The new Project on path B-A gains an Accepted Rating of 1000 MW. The Simultaneous limit is 2500 MW. By the time the new Project commences operation, the owners of path B-A and path C-D must make operating agreements to ensure path C-D is kept whole in scheduling rights while not violating simultaneous transfer limits between paths B-A and C-D. Alternatively, the new Project may change its Plan of Service to mitigate the impacts on path C-D.

9.9. Accepted Rating Protection—Failure to Meet Maximum Flow Test (MFT), Reduction of Accepted Rating as a Result of Changes Made by Path Owner/Operator

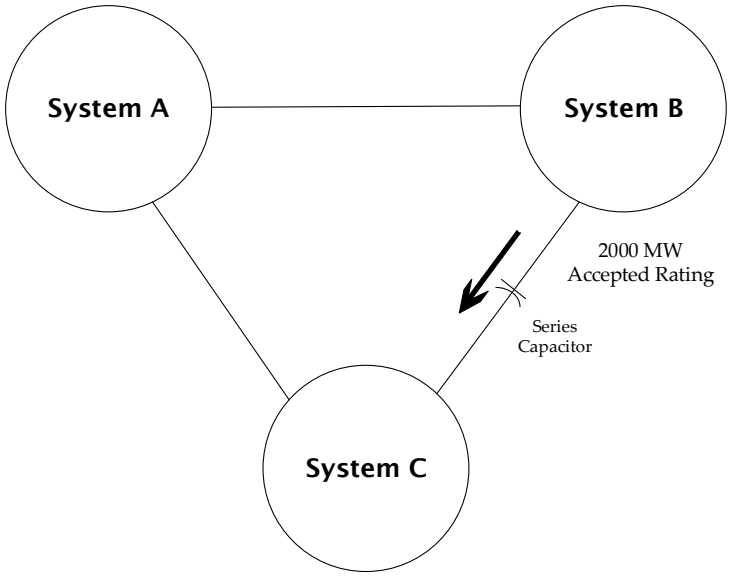
9.9.1. Principle to Illustrate:

Section 2.3: "Transmission paths will complete the path rating process specified in this procedure and obtain an Accepted Rating if any of the following criteria apply: …

- A facility (generator, series, or shunt reactive equipment; Remedial Action Scheme; etc.) that an Existing or Accepted Rating depends on is modified[12] or retired from service, without regard to whether the facility is owned by the same system as the rated path."

Section 4.3.4. "… If a facility is retired from service (e.g., generator, shunt reactive equipment, Remedial Action Scheme, etc.) all path ratings that rely on the facility must be reviewed and reduced to the extent the System Impacts of such retirement are not mitigated..."

[12] If the modified RAS is functionally equivalent to the existing RAS and is approved by the RASRS, then the Path does not need to be rerated.



9.9.2. Existing Situation:

Path B-C has an Accepted Rating of 2000 MW.

9.9.3. Change to Existing Situation:

1. Owners of path B-C remove the series capacitor that is part of path B-C.
2. System B completes studies that show that path B-C will no longer load to its Accepted Rating.

9.9.4. Application of Principle:

The owners of path B-C rerate their path to establish a new lower Accepted Rating.

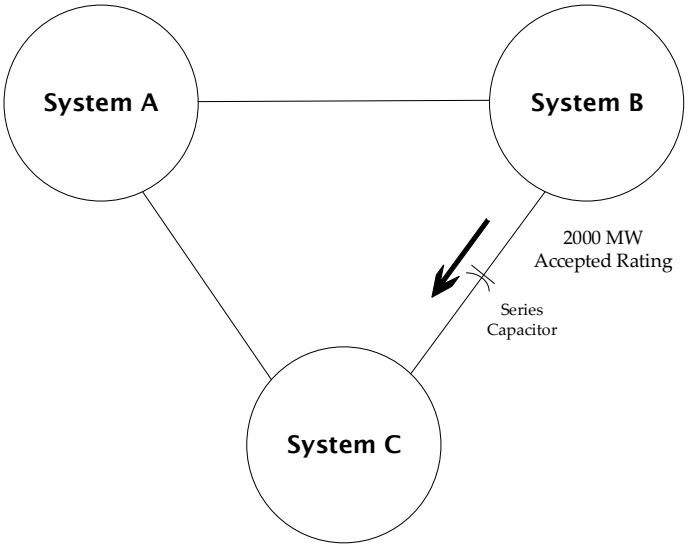
9.10. Accepted Rating Protection—Failure to Meet Maximum Flow Test (MFT), Reduction of Accepted Rating as a Result of Changes Made by Both the Path Owner/Operator and Other Parties

9.10.1. Principle to Illustrate:

Section 2.3: "Transmission paths will complete the Path Rating Process specified in this procedure and obtain an Accepted Rating if any of the following criteria apply: …

- A facility (generator, series, or shunt reactive equipment; Remedial Action Scheme; etc.) that an Existing or Accepted Rating depends on is modified[13] or retired from service, without regard to whether the facility is owned by the same system as the rated path…"

Section 4.3.4. "… if a facility is retired from service (e.g., generator, shunt reactive equipment, Remedial Action Scheme, etc.) all path ratings that rely on the facility must be reviewed and reduced to the extent the System Impacts of such retirement are not mitigated…" Further, "…However, if a path's Accepted Rating relied upon the facilities that are not part of the path's Plan of Service, and if those facilities are retired, modified, or never built, the Accepted Rating is subject to review in the same manner as if changes had occurred in the path's Plan of Service..."



9.10.2. Existing Situation:

1. Path B-C has a previously established Accepted Rating of 2000 MW.
2. Owners of path B-C perform new studies that show path B-C will now load to only 1900 MW due to the development of parallel systems. There are no reliability problems at this flow.

9.10.3. Change to Existing Situation:

1. Owners of path B-C remove the series capacitor that is part of path B-C.

[13] If the modified RAS is functionally equivalent to the existing RAS and is approved by the RASRS, then the Path does not need to be rerated.

2. System B completes studies that show that path B-C will load to only 1400 MW with the series capacitors removed. There are no reliability problems at this flow.
3. The decrement in rating due to the removal of the series capacitors is 500 MW.

9.10.4. Application of Principle:

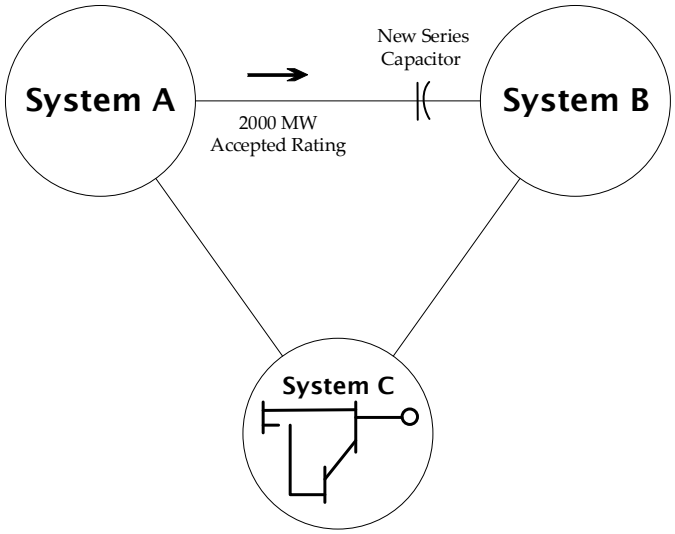
The owners of path B-C rerate their path to establish a new lower Accepted Rating. The owners of path B-C cannot assume the original rating of 2000 MW is still valid simply because the flow reduction to 1900 MW was not in their control (due to parallel system changes). The new Accepted Rating is 1400 MW unless:

1. They can establish that the reduction was due to Adverse Impacts caused by specific actions of other systems that should be mitigated in accordance with these procedures, and
2. Mitigation for the 100 MW flow reduction is implemented (see Section 8.7.).

9.11. Accepted Rating Protection—Increase in Accepted Rating Caused by Path Owner or Operator

9.11.1. Principle to Illustrate:

Section 4.3.4. "Transmission path owners that make changes to their system that increase the flow on a path with a Flow-Limited Rating can receive a higher Accepted Rating consistent with the MFT."



9.11.2. Existing Situation:

Path A-B has an Accepted Rating of 2000 MW and is limited by the MFT (no Reliability Criteria violations).

9.11.3. Change to Existing Situation:

The owners of path A-B complete studies showing that the series capacitor they have planned to add to path A-B will increase the Accepted Rating of that path to 2500 MW.

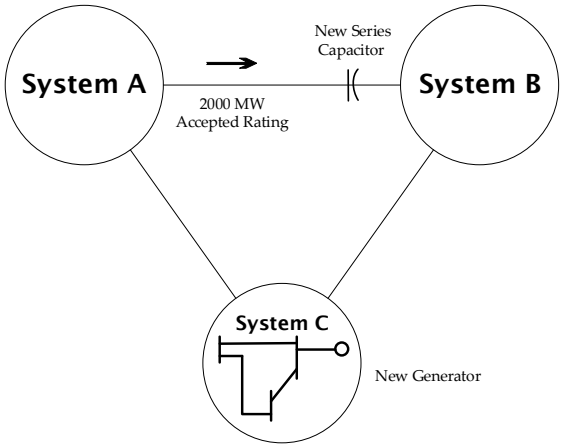
9.11.4. Application of Principle:

Path A-B owners may obtain a higher Accepted Rating for path A-B if they can demonstrate increased flow due to a project they have planned and satisfy the other requirements of this Path Rating Process.

9.12. Accepted Rating Protection—Increase in Accepted Rating Caused by Another Party

9.12.1. Principle to Illustrate:

Section 4.3.4. "Transmission Path owners that make changes to their system that increase the flow on a Path with a Flow-Limited Rating can receive a higher Accepted Rating consistent with the MFT. This same principle applies if the flow on the Path is increased by a project initiated by another party; although in that case, it should be recognized that the higher Accepted Rating relies upon and is subject to the operation of the other party's facilities." Further, "if a path's Accepted Rating relied on facilities that are not part of the Path's Plan of Service, and if those facilities are retired, modified, or never built, the Accepted Rating is subject to review in the same manner as if changes had occurred in the Path's Plan of Service."



9.12.2. Existing Situation:

Path A-B has an Accepted Rating of 2000 MW and is limited by the MFT (no Reliability Criteria violations).

9.12.3. Change to Existing Situation:

The owners of Path A-B complete studies showing that the addition of the new generator in system C would allow an increase in the Accepted Rating of Path A-B to 2500 MW.

9.12.4. Application of Principle:

Path A-B owners may obtain a higher Accepted Rating for Path A-B if they demonstrate increased flow due to a project planned by another party (i.e., the new generator in system C) and satisfy the other requirements of these procedures and the higher path rating does not cause potential adverse impact to the other paths. The Total Transfer Capability (TTC) and the new Accepted Rating under this new Accepted Rating will be dependent on the operation of the new generator.

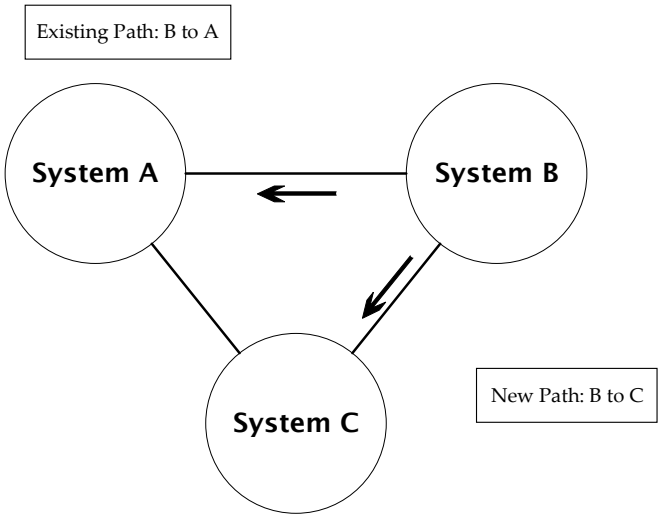
9.13. Path Independence Test

9.13.1. Principle to illustrate:

Appendix B: "The sponsor of a new rating has an obligation to address, and potentially mitigate, all criteria violations on affected paths that are identified by affected parties. This could imply multiple studies being run with every potentially affected path fully loaded. However, that would be an unrealistic and unreasonable study burden, both on the sponsor and on the PRG participants that are responsible for identifying problems. Therefore, WECC requires using a screening test procedure as a minimum study requirement. Screening studies must be performed."

Two screening tests in Examples 1 and 2 below are to be used to determine whether a path is independent of another path. Both Tests must be performed to definitively establish that a proposed Path is independent of another Path. These tests apply if the project sponsor has not decided in Phase 1 or in Phase 2A to include the proposed subset of an existing Path (or provided technical explanation to the contrary).

9.13.2. Strong New Path in Parallel with Weak Existing Path



Example 1: Existing Small Path in Parallel with a New Large Path (see the figure above).

Test 2 (55% to 65% of initial flow on the existing Path is picked up by the new Path):

1. Add the new Path to the system.
2. Do not schedule any additional power on the new Path.
3. If 55% to 65% of the initial flow on the existing Path now flows on the new Path, then the new Path is not independent of the existing Path.[14]

It should be noted that both Test 1 and Test 2 (see Examples below) must be performed to definitively establish that a proposed Path is independent of another Path.

Example 1a:

Initially there is 200 MW of flow on Path B-A. After adding the new Path B-C, the flow on Path B-A drops to 50 MW (i.e., 75% of the flow initially on Path B-A is now flowing on Path B-C).

Conclusion: Path B-C is not independent of Path B-A. Path B-A must be rerated as part of the Path Rating studies for Path B-C. Sponsor may also develop a Path Rating for Path B-C, but this additional Path Rating is not required.

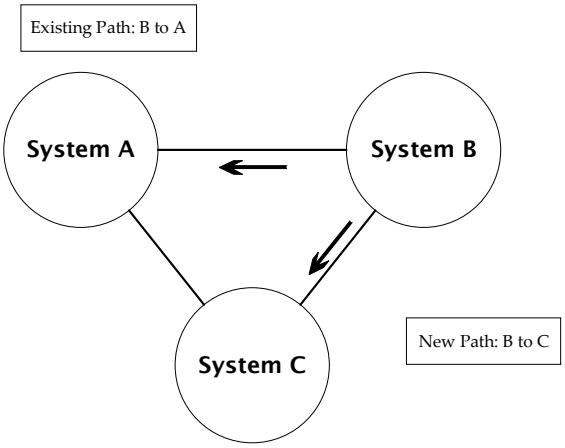
Example 1b:

[14] The percentages were based on studies of the existing system in 2014. Paths that were independent fell outside the range.

Initially there is 200 MW of flow on Path B-A. After adding the new Path B-C, the flow on Path B-A drops to 150 MW (i.e., 25% of the flow initially on Path B-A is now flowing on Path B-C).

Conclusion: Path B-C is independent of Path B-A based on Test 2. Path B-A does NOT need to be rerated as part of the Path Rating studies for Path B-C based on this test. The Project sponsor will need to develop a Path Rating for Path B-C. However, it should be noted that both Test 1 and Test 2 (see the following example in Section 8.13.3) must be performed to definitively establish that a proposed Path is independent of another Path. Therefore, the final determination of Path independence requires the results of both Test 1 and Test 2 to indicate that the new Path is independent of each existing Path being tested.

9.13.3. Weak New Path in Parallel with Strong Existing Path



Example 2: Existing Large Path in Parallel with a New Small Path (see the figure above).

Test 1 (25% to 40% of scheduled flow notices existing Path):

1. Add the new Path to the system.
2. Schedule 100 MW on the new Path (i.e., 100 MW from System B to System C).
3. If more than 25% to 40% of the flow scheduled on the new Path flows on the existing Path, then the new Path is not independent of the existing Path

Example 2a:

50% of the 100 MW (50 MW) flows on Path B-A

Conclusion: Path B-C is not independent of Path B-A. Path B-A must be rerated as part of the Path Rating studies for Path B-C. The Project Sponsor may also develop a Path Rating for Path B-C, but this additional Path Rating is not required.

Example 2b:

10% of the 100 MW (10 MW) flows on Path B-A

Conclusion: Path B-C is independent of Path B-A based on Test 1. Path B-A does NOT need to be rerated as part of the Path Rating studies for Path B-C based on this test. The Project Sponsor will need to develop a Path Rating for Path B-C. However, it should be noted that both Test 1 and Test 2 (see previous example in section 8.13.2) must be performed to definitively establish that a proposed Path is independent of another Path. Therefore, the final determination of Path independence requires the results of both Test 1 and Test 2 to indicate that the new Path is independent of each existing Path being tested.

III. WECC Progress Report Policies and Procedures

1. Introduction

This document is intended to provide the policies and procedures for notification and reliability assessment requirements related to projects planned within the Western Interconnection. WECC members are expected to be in full compliance with this WECC document on Progress Report Policies and Procedures.

2. Policies

Entities sponsoring new generation are project sponsors and may be WECC members or non-WECC members. If a non-WECC member sponsoring a generation project requests interconnection to the Western Interconnection, the WECC member accountable for generation interconnection administration (Interconnecting Utility) will take reasonable steps as the Interconnecting Utility to facilitate, and when applicable, will assist in the implementation of the policies and procedures specified herein.

Projects subject to these policies and procedures include:

1. All generation[15] projects (200 MW or greater) connected to the transmission system through step-up transformers. In the context of these policies and procedures, such projects include at a minimum new generation plants[16] currently in levels one or two, generation repower or upgrades that may significantly alter the operation of the generation facilities.
2. All new and upgraded transmission facilities with (voltage levels over 200 kV). Such projects include, but are not limited to, new transmission facilities, transmission re-designs or upgrades, permanent removal of existing transmission facilities, or other changes (e.g., operating procedures) that may significantly alter the operation of the transmission facilities.
3. Any facilities below these thresholds that may have a significant impact on the reliability of the Western Interconnection.

The project sponsor or Interconnecting Utility will begin providing appropriate notification of projects in accordance with the procedures stated herein to WECC soon after the project sponsor has made the project public.[17] The project sponsor or Interconnecting Utility is encouraged to make the project public as soon as possible.

The project sponsor or Interconnecting Utility will perform technical studies to ensure the reliable operation of the Western Interconnection when the project is placed in service. The project sponsor or Interconnecting Utility will provide Comprehensive Progress Reports of the technical studies to WECC in accordance with the procedures stated herein. If members have reliability-related concerns with a project, the project sponsor or Interconnecting Utility will be responsible for addressing the concerns under the auspices of WECC's Studies Subcommittee (StS) in accordance with the procedures outlined herein. Project sponsors are encouraged voluntarily to solicit interest in forming a study review group as the venue for performing the technical studies and developing the Comprehensive Progress Report.

[15] Generation projects include all resource types, including battery energy storage systems.

[16] Refer to Table 1 in Appendix B.

[17] A project sponsor can make a project public via trade journals, news releases, public notice in a newspaper, information released in an open public forum, issuance of a significant permit (air quality or water rights) by a government agency to the project sponsor, or notification to the interconnecting utility that the project will be moving beyond the system impact study phase.

3. Waiver of "Significant Impact" Status

The sponsor(s) of transmission projects with operating voltages[18] 200 kV and above and are not seeking a path rating may request waivers of the WECC Project Coordination Process. The request must either provide documentation of how the project is being coordinated in another forum, or provide an explanation of why the project is not expected to have any significant impact to the operation of the Western Interconnection. Project sponsors can request the waiver according to the following process:

1. The project sponsor includes a list of projects for which waiver is requested in a separate section in its Annual Progress Report to the StS with a copy to WECC staff. If the request for waiver is needed before the next Annual Progress Report is to be submitted, the project sponsor submits a request to WECC staff with copy to StS.
2. The following project information will be included, as a minimum:
    - Project name
    - Project purpose
    - Brief Project description, including expected termination points
    - Expected date of release to operations
    - Expected operating voltage
    - Either:
        i. Description of how the Project, has been coordinated through a transmission planning forum, such as a Regional or Subregional Planning Group, or another appropriate forum[19]. The description should include references to any transmission studies performed.
        OR
        ii. Explanation of why the Project is not expected to have a significant impact on the operation of the Western Interconnection.
            1. The following questions may be considered in determining whether a project has significant impact on the Western Interconnection:
            2. Are there any impacts to other systems—have studies demonstrated?
            3. Is there any impact on flow of energy on other systems?
            4. Are any WECC transfer paths affected?
            5. Is a flow control device needed or required as a part of the project?
            6. Is the project connected to other utilities systems?
            7. Do disturbances affect other entities?
3. WECC staff posts a list of the Annual Progress Reports and notifies the RAC, and StS. The waiver is granted unless a letter from a WECC member opposing the waiver is received within 30 days.
4. Any WECC member that believes the project should not be granted a waiver must submit a letter to the RAC chair with a copy to the project sponsor and WECC staff within 30 calendar days of the posting of the list. The letter must outline the reason(s) for not granting the waiver and include a request that the project proceeds with the Project Coordination Process.
5. WECC staff posts the letter opposing the waiver and notifies the RAC and StS.
6. The RAC chair determines if the waiver will be granted within 20 calendar days of posting the letter opposing the waiver. If the project sponsor is also the RAC chair, such determination will be made by the RAC vice chair.

[18] For transformer banks the operating voltage refers to the low side of the transformer bank.

[19] If the project is being coordinated through a transmission planning forum, the sponsor will provide an open invitation for participation to all WECC members and other interested stakeholders.

4. Procedures

The following procedures cover requirements for reporting project status and technical studies. The purpose of these project progress and study reports is to encourage early communication of plans and to maintain flexibility for changes during the period of advanced planning. These reports should contain enough meaningful data to stimulate constructive discussion with the intent to share information and experience with WECC members.

5. Progress Reports

5.1. Initial Progress Report

Soon after a project is made public, the project sponsor or Interconnecting Utility will submit, electronically if possible, the Initial Progress Report to WECC staff and StS members if a waiver of "significant impact" was not sought. The content of the Initial Progress Report will depend on the design status of the system upgrade, addition, or project, but at a minimum should include:

1. A brief physical description of the project, including points of interconnection, equipment capacities and voltages, and expected ratings.
2. The planned operating date.
3. The project status, including where the project is situated in the planning process and a tentative schedule for completion.
4. Facility owner(s) name, a contact person including title or position, address, telephone number and email address that can answer questions and comments or direct them to persons who can provide responses.

To the extent applicable, the project sponsor or Interconnecting Utility should coordinate the Initial Progress Report submittal requirements with data reporting requirements of the Project Coordination Process.

5.2. Comprehensive Progress Report

The purpose of the Comprehensive Progress Report is for the project sponsor to demonstrate that the project sponsor has met its obligations to be compliant with the NERC Reliability Standards and WECC Criteria.

After the project is made public, at a point that would allow opportunity for WECC member review and input, the project sponsor or Interconnecting Utility will submit the Comprehensive Progress Report to the WECC technical staff and StS members. The project would be considered in compliance with these procedures if the Comprehensive Progress Report was submitted at a point in the development process that would allow changes to the Plan of Service, if indicated by WECC member review and input.

The content of the Comprehensive Progress Report should include the following, with numbers one through five being mandatory:

1. The requirements specified under the Initial Progress Report.
2. A one-line and geographic diagram of the project showing points of interconnection, metering points, adjacent path locations, and control area boundaries.
3. Models and data that can be used by transmission planning software programs.20 This may include a block diagram, transfer functions, equations, and complete descriptions of the software modeling needed to study the new facility using transmission planning software programs. This information is not required if the necessary models are already available in the transmission planning software programs.

[20] Modeling guidelines can be found in the WECC Data Preparation Manual

4. A project milestone schedule that covers the current period through initial operation of the project. This schedule should be sufficiently detailed to allow for monitoring by the StS members.
5. A summary of transmission studies performed, or information on where the transmission studies can be located. With respect to impacts on other systems, the specific contingencies in the following table must be evaluated:

Figure 2: Contingencies and Performance Requirements for Assessment of Impacts on Other Systems

Contingency	Performance Requirements on Other Systems
Failure of a circuit breaker associated with a Remedial Action Scheme to operate when required, following: 1) the loss of any element without a Fault; or 2) a permanent phase-to-ground Fault, with Normal Clearing, on any transmission circuit, transformer or bus section.	Consistent with NERC Reliability Standard Requirements such as PRC-012 R4.1.5 (or its successor).
A credible common mode outage of two generating units connected to the same switchyard.	Cascading will not occur.

If the sponsor is planning to go through the Path Rating Process, then the Comprehensive Progress Report must also include the following (6-11):

6. A statement describing the Transfer Capability associated with the project, including the impact on other systems, the impact on existing transfer path ratings, and the project sponsor's compliance with the NERC Reliability Standards and WECC Criteria. This statement should include a declaration that indicates if the project will require (or not require) obtaining an accepted21 transmission path rating (or rerating).
7. A description of the interconnected-system conditions and or requirements on which the proposed Transfer Capability rating is based and/or required by the project.
8. The operating conditions including flows on key transmission lines and paths, load levels, and generation status that allow the project to operate within the guidelines defined in the NERC Reliability Standards and WECC Criteria.
9. The potential impacts to transmission facilities including non-simultaneous ratings and simultaneous path interactions. It is not the purpose of the Comprehensive Progress Report to identify mitigation measures or requirements to mitigate.
10. A representative list of power flow and stability cases run that demonstrate the project sponsor's compliance with NERC Reliability Standards and WECC Criteria.
11. Representative power flow outage results and stability plots that demonstrate the project sponsor's compliance with NERC Reliability Standards and WECC Criteria.
12. Flowgate Generation Deliverability analysis results, if required.

5.3. Annual Progress Reports

The project sponsor or Interconnecting Utility will submit the Progress Report to WECC staff and the StS chair every year in which an Initial Progress Report or Comprehensive Progress Report is not submitted. These reports will be filed annually for projects where there have been no significant changes in Plan of Service, capacity, or in-service dates since the Comprehensive Progress Report was

[21] Project sponsors or responsible parties desiring to obtain an accepted path rating (or path rerating) should comply with the detailed procedure contained in the Project Coordination and Path Rating Processes.

filed. These reports must also include non-significant additions or revisions to the projects. The Annual Progress Reports, at a minimum will include:

1. The requirements specified under Initial Progress Report and any additions or changes related to these requirements.
2. Changes to any or all items specified under the previously submitted Comprehensive Progress Report.

In the event of major design changes or project delays that may alter a project's impact on the overall system, a complete (updated) Comprehensive Progress Report must be submitted, in accordance with the procedures for Comprehensive Progress Reports.

For information on the reporting of resources, refer to the resources levels as found in Table 1 in Appendix B.

5.4. Review of Progress Reports

The following process will be used for the review of progress reports:

1. The project sponsor or Interconnecting Utility will submit the appropriate progress report in accordance with the respective procedure by March 1 of each year or as specified by the StS.
    - Progress reports should include a completion date and then removed the following year.
    - Cancelled projects should be noted as "Cancelled" before removing them from the progress reports.
2. WECC staff will compile and send a report to all StS members that shows the date and status of the last Comprehensive Progress Report for the various projects and the name of the person who should receive requests for this report.
3. Members are encouraged to review as many progress reports as possible. Comments and questions concerning progress reports must be directed to the person named by the project sponsor or the responsible party. Copies of correspondence relating to the project sponsor's compliance with NERC Reliability Standards and WECC Criteria, Policies, and Procedures should be sent to the StS chair or his designated representative.
4. If a progress report is not submitted, or if concerns related to the project have not been resolved, any reviewing member may request that the StS review the project in question by addressing a letter to the StS chair. Such requests for StS review will be submitted only after extensive efforts have been made by the reviewing party and the reporting party to resolve the concern.
5. If a StS review is requested, the StS chair will appoint an ad hoc committee to review the project in question. The ad hoc committee will report its findings to the StS on whether the project in question warrants further review.
6. If further review is necessary, the StS may then request the project sponsor or Interconnecting Utility to provide StS members with studies addressing the reviewing members' concern or demonstrating the project sponsor's compliance with NERC Reliability Standards and WECC Criteria, Policies, and Procedures.
7. The StS chair will solicit written and verbal comments from StS members regarding their review of the progress reports to determine conformance of the project's performance with NERC Reliability Standards and WECC Criteria, and the project sponsor's conformance with WECC Policies and Procedures. The outcome of the StS review will provide the basis of the annual StS review of progress reports to the RAC. The StS chair will present results of the annual StS review to the RAC at its final meeting of year.

Despite any review for compliance with NERC Reliability Standards that may be performed under processes described herein, the project sponsor retains the sole responsibility for compliance with NERC Reliability Standards.

Commented [MZ86]: Adding to provide additional clarity to the Progress Reports

6. Informal Reports Presented at StS Meetings

StS members may provide brief written or verbal informal project update reports during each StS meeting.

The StS chair may select one or more major projects of current interest to StS members to be reported on at each StS meeting. These more formal presentations should be no longer than 15 minutes each, with additional time allowed for questions and answers.

The presentations can be oral and/or written and may contain:

1. Map showing location, ownership, and voltage.
2. Schematic diagram including major equipment ratings.
3. Area load, generation, and interchange schedules used in technical studies.
4. Transfer capability associated with the project and/or effects on other Transfer Capabilities.
5. Evidence of compliance with the NERC Reliability Standards and WECC Criteria.
6. Description of the interconnected-system conditions and/or requirements on which the proposed Transfer Capability Rating is based and/or required by the project.

Disclaimer

WECC receives data used in its analyses from a wide variety of sources. WECC strives to source its data from reliable entities and undertakes reasonable efforts to validate the accuracy of the data used. WECC believes the data contained herein and used in its analyses is accurate and reliable. However, WECC disclaims any and all representations, guarantees, warranties, and liability for the information contained herein and any use thereof. Persons who use and rely on the information contained herein do so at their own risk.

Committee Approval

Approved by the STS: July 12, 2022

Version History

Modified Date	Modified By	Description
MM DD, 2025		
July 12, 2022	PRPTF	Updated step 8 in section 5.5.7
December 3, 2021	PRPTF	Updated document and formatting. Removed common corridor references and defined Project Sponsor. Updated committee references to align with current structure. Combined the Project Coordination, Path Rating, and Progress Report Processes into one continuous document.
October 15, 2015	PCC	PROJECT COORDINATION, PATH RATING AND PROGRESS REPORT PROCESSES Update to specify that Paths are Transfer Capabilities to align with the Path Operator Task Force White Paper

June 6, 2014	PCC	PROJECT COORDINATION, PATH RATING AND PROGRESS REPORT PROCESSES
		• Project Coordination and Progress Report Procedures
		  ○ Waiver Process
		  ▪ Credit for Outside Venue Coordination
		  ▪ Considerations for Significant Impact
		• Progress Report Procedures
		  ○ Comprehensive Progress Report
		  ▪ Minimum Requirements
		Additional Requirements for Rating Process

December 2012	PCC	PROJECT COORDINATION, AND PATH RATING PROCESSES
		• Document Name Change
		• Changes to Address 27 Key Issues
		  ○ "Fictitious Devices" in Rating Studies
		  ○ Requirements for Entering Phase 2 and Providing Models
		  ○ Proposed Projects which are Subsets of Existing Paths
		  ○ Similarly Situated Projects in Phase 2
		  ○ Phase 2 Rating Report
		  ○ Requirements to Remain in Phase 2 or 3
		  ○ Consequences of Inactivity
		  ○ Impacts of Changes to Projects Further Along in the Path Rating Process

		• Responsibility for Complying with NERC Standards Clarified • Will vs. Should • Parallel vs. Affected • Tornado Analysis • Definitions • Clarification of Modeling Assumptions Added Templates and Checklists
March 2010 and March 2011	PCC-TEPPC Coordination TF	OVERVIEW OF POLICIES AND PROCEDURES FOR PROJECT COORDINATION REVIEW, PROJECT RATING REVIEW, AND PROGRESS REPORTS • Revised title to reflect change from regional planning to project coordination • Reinforced that PCC has responsibility and oversight for all elements in the document o Define TEPPC and Subregional planning groups Flexibility in how project coordination review is performed (options for TEPPC and Subregional planning groups)
April 2005	PCC	OVERVIEW OF POLICIES AND PROCEDURES FOR REGIONAL PLANNING PROJECT REVIEW, PROJECT RATING REVIEW, AND PROGRESS REPORTS – Incorporated WECC PROGRESS REPORT POLICIES AND PROCEDURES from TSS (May 2002)
December 2001	PCC	PROCEDURES FOR REGIONAL PLANNING PROJECT REVIEW AND RATING TRANSMISSION FACILITIES— • Identifies how transmission project sponsors should work and interact with their peers when developing a project that has a significant regional impact. Describes the transmission rating process that project participants should follow to demonstrate their project meets the NERC/WECC Planning Standards for non-simultaneous and simultaneous conditions.
November 1993	PCC	INTERIM PROCEDURES FOR REGIONAL PLANNING PROJECT REVIEW AND RATING TRANSMISSION FACILITIES Incorporated Section on Regional Planning (Phase 0)
November 1992	PCC	POLICIES AND PROCEDURES FOR RATING TRANSMISSION FACILITIES (Phases 1, 2 and 3)
August 1991	PCC	NOTIFICATION PROCEDURES FOR CHANGES IN FACILITY RATINGS AND/ OR OPERATING PROCEDURES
Before 1991	TSS	ANNUAL PROGRESS REPORTING PROCEDURE

Appendix A: Definitions

Accepted Rating—A Path rating reviewed and accepted by WECC members. WECC grants this rating at the conclusion of reviewed planning studies and will be the rating of the Path associated with the Project when it is put in service if it is built according to the Plan of Service specified in the Phase 2 Rating Report. This is a comprehensive rating including both Simultaneous and Non-simultaneous Transfer Capabilities.

Adversely-Impacted Transfer Capability—The reduction of either the Simultaneous or Non-simultaneous Transfer Capability. A new project causes a significant and verifiable adverse impact that needs to be mitigated if it reduces the Transfer Capability of a rated Path in a Benchmark Case comparison.

Available Flowgate Capability (AFC) —Transfer capability remaining on a specific flowgate that is available for additional commercial transmission activity after accounting for existing commitments and reliability margins

Anchor Data Set (ADS)—A compilation of load, resource, and transmission topology information 10 years in the future used by the Regional Planning Groups (RPG) in the Western Interconnection as part of their regional transmission plans.

Available Transfer Capability Implementation Document (ATCID) —A transmission provider's formal, documented method for calculating and publishing Available Transfer Capability (ATC) or Available Flowgate Capability (AFC). It explains the chosen ATC/AFC calculation methodology, data inputs, assumptions, timing, posting practices, study cases, and the operational or commercial rules used to derive transfer capability values for use by market participants and system operators

Benchmark case—A case that models the existing system (including appropriate recognition of other projects in the Rating Process) in the time frame of the new project and shows the maximum Transfer Capabilities (e.g., the Existing or Accepted Rating) of existing Paths that may interact with the new project.

Capability—The maximum load that a generator, turbine, transmission circuit, apparatus, station, or system can supply under specified conditions for a given time interval, without exceeding approved limits of temperature and stress.

Capacity—Synonymous with capability.

Comparison Cases—Cases with the new Project showing a range of desired operation of new project and illustrating whether there are impacts or interaction with existing projects.

Consensus—Unanimous agreement.

Data Development and Validation Manual (DDVM) –An outline for developing and validating the data used in the Production Cost Model (PCM).

Data Preparation Manual (DPM)—Provides an outline of data requirements and reporting procedures necessary for Data Submitters to support the creation of Interconnection-wide cases for power flow, dynamic, and other transmission planning data.

Established Flowgate Generator Deliverability— This term applies to resources that have undergone Flowgate Generator Deliverability Studies and have been deemed as being deliverable to relevant load pockets of the system while accounting for contingencies, commitments, and operational limits.

Existing Rating—Transmission Path ratings that were known and used in operation as of January 1, 1994.[22] An Existing Rating is for a Path that is defined and included in the WECC Path Rating Catalog.

[22] WECC's three-phase Accepted Rating Process was implemented after January 1, 1994.

Flowgate—A transmission facility or set of facilities identified as limiting transfers.

Flowgate Generator Deliverability Study – A planning assessment that determines whether a specific generator's capacity can be reliably transferred to serve load or count toward capacity obligations.

Foundational Base Case—The first base case developed by a Project Sponsor(s) that would be ready for the first simultaneous assessment as agreed to by the Project Review Group (PRG). This Foundational Base Case must be defined in the PRG-approved study plan and must include data suitable for conducting dynamic stability studies.

Latent Capacity—Transfer Capability is considered "latent" when it can be acquired due to changes in the system conditions or by making transmission equipment additions (e.g., series or shunt reactive devices, reconductoring or re-tensioning portions of an existing line or phase shifters, Looping transmission line(s) within a Path into a new or existing switching station, remedial action schemes (RAS), etc.) on an existing path without adding new transmission lines to the path. Latent Capacity is not protected unless the Project Sponsor(s) completes the process in this Path Rating Process.

Mitigation plan—A comprehensive list of the measures that the Project Sponsor and PRG believe will be required to address issues found during the Path Rating studies in order to ensure compliance with NERC Reliability Standards and WECC Criteria, the entity or entities responsible for managing the issue in Phase 3 and the expected time frame for completion.

Mon/Con – Terminology used in Flowgate methodology which "mon" means monitored and "con" means contingency, results in a single mon/pair which is also used interchangeably as with the term "flowgate".

Non-Simultaneous Transfer Capability (or Limit)—The Capability, in megawatts, of a transmission circuit or path to transfer power reliably and in accordance with prescribed Reliability Criteria independent of concurrent flows on other circuits or paths. It is normally determined with all potentially interacting circuits or paths loaded below the levels at which limitations are observed.

Other Rating—A transmission Path rating, either proposed or planned, that is not an Accepted or Existing Rating.

Path—The facility or facilities between systems or internal to a system, for which schedules, actual flows, or both can be monitored for reliability purposes. Facilities in a path may originate and terminate at the same point (substation or generating station) or at different points. Two or more individual paths can be combined into a single path for rating purposes, although they may be separate scheduling paths. Paths are often called cutplanes.

Path Operator—The Transmission Operator(s) of the facilities that constitute a Path.

Path Owner—The Transmission Owner(s) or entity responsible for one or more Paths in the path rating catalog.

Planned Rating—The tentative rating assigned to a project that is in Phase 2 of the rating process.

Plan of Service—The complete set of facilities, remedial actions, and operating procedures proposed by a sponsor for a project, together with their in-service dates.

Project—A new generator or transmission facility or a change in rating of an existing generator or transmission facility through additions, upgrades, retirements, or the rerating of existing facilities that would result in a new Path or changes in existing Path ratings.

Project Sponsor (For Path Rating)—A Project Sponsor is an existing or potential future transmission owner (or other entity on behalf of the transmission owners) of facilities that constitute the path, who sent a formal request to WECC to either establish a new path rating or change an existing path rating on that path.

Proposed Rating—A preliminary rating proposed by a Project Sponsor.

Rating Process—The three-phase process described in the Path Rating Process.

Regional Planning Group—Entities responsible for completing technical analyses to prepare regional transmission plans annually or biennially to describe planned infrastructure additions to address identified reliability concerns.

Reliability Assessment Committee (RAC)—A WECC Board-level committee.

Reliability Criteria—WECC Reliability Criteria.

Remedial Action Scheme Reliability Subcommittee (RASRS)—A WECC committee that reviews the reliability aspects of existing and planned Remedial Action Schemes (RAS) and helps to enhance grid performance within the Western Interconnection by providing a uniform review process.

Similarly Situated Projects –If any two Projects are together in Phase 2B of the Path Rating Process, they are similarly situated and have a responsibility to mitigate interaction they have with each other until both become operational. Commonly referred to as "Similarly Situated."

Simultaneous Transfer Capability (or Limit)—The capability, in megawatts, of a transmission circuit or path to transfer power reliably and in accordance with prescribed Reliability Criteria in concert with other interacting paths, circuits, or generators. It is normally defined by its interactive relationship in the form of nomograms (parametric functions) with the flows on other transfer paths or circuits or the outputs of generators.

Subregional Planning Group—A coordinated planning group that is recognized by the Regional Planning Group.

Appendix B: Rating Method Discussion and Background

The following explanatory sections address several major issues in the Transmission Path Rating Process. The intent is to guide transmission studies toward a uniform basis for ratings.

Affected Path Stress Levels

The nature of AC electrical networks is such that the loss of a loaded transmission line in one path affects all affected paths. Each affected path will pick up a portion of the power that was flowing in inverse proportion to its impedance relative to the other affected paths. This ability of paths to affect each other has led to the development of nomograms that describe the simultaneous capacity relationships between affected paths.

The sponsor of a new rating has an obligation to address, and potentially mitigate, all criteria violations on affected paths that are identified by affected parties. This could imply multiple studies being run with every potentially affected path fully loaded. However, that would be an unrealistic and unreasonable study burden, both on the sponsor and on the PRG participants that are responsible for identifying problems. Therefore, WECC requires using a screening test procedure as a minimum study requirement. Screening studies must be performed that identify all affected paths that pick up an increment of 10% or more (based on that affected path's rating) for an outage on the path being rated with all phase shifters in a non-regulating mode.

This screening test is not intended to be used as a margin criterion nor does it imply that a change of 10% is required before mitigation is appropriate. The determination as to whether mitigation is required is made independently as described elsewhere herein. Once these affected paths are identified, both parties (the sponsor of the new rating and the owner of the affected facility) need to jointly decide how to determine the simultaneous capability of both paths. There are several possible outcomes of this determination: no simultaneous studies are required, joint studies will be performed, the sponsor will perform the studies with input from the affected party, or the affected party will perform the studies.

The obligation of the Project Sponsor to perform screening studies does not remove the responsibility that the owners of affected paths must identify for themselves the impact that a new facility or rating will have on their systems. All members need to make a determination for themselves as to whether they are affected and need to ensure that proper levels of stress are represented on their Transmission Paths in all applicable studies.

Latent Capacity

Transfer capability is considered "latent" when it can be acquired by improving an existing path without adding new lines to the path. Some examples of possible improvements include:

1. Installing shunt devices that improve the voltage profile and/or system damping;
2. Placing existing unused equipment into service;
3. Implementing a remedial action scheme; or
4. Adding new generation.

Questions have been raised whether Latent Capacity should be protected like the Accepted Rating. For the reasons listed below the protection of Latent Capacity is not allowed. They are:

1. The planning process for new facilities would become extremely complicated. New projects would have to deal, not only with existing owners' rights, but also with claimed Latent Capacity rights. Planning studies would have to be done with base cases that use fictitious devices to represent the system in an ideal state with no Latent Capacity left.
2. There are no published Latent Capacity numbers. Claims to Latent Capacity would have to be demonstrated by some other procedure. This would produce an unacceptable burden of new work with little benefit.

3. There are no published plans for placing future equipment in service. Planners would not know how to study future systems to ensure that no utility is affected negatively.

One of the major objectives promulgated in the rating process is that an Accepted Rating could be used in operation. Thus, the principles of realism, demonstration of flow, and no use of fictitious devices, have been developed. In this context, the determination of Latent Capacity violates some or all these principles. Latent Capacity does not exist until improvements are made and, therefore, cannot be used in operation.

For planning, regulatory and other reasons, members may find that identifying and documenting Latent Capacity would be useful. Some possible uses are:

- Knowledge of Latent Capacity may promote appropriate decisions in generator siting; facilitate Project Coordination; or assist in fulfilling transmission access requests.
- Latent Capacity that has been adequately reviewed and documented may gain expedited review if the StS determines that the original documentation is still applicable.

At their discretion, Project Sponsors may identify and document the Latent Capacity in the Phase 2 Rating Report.

Latent Capacity is not protected; it cannot be used in operation; and it is not recognized nor incorporated by others in their rating studies. The only means of protecting Latent Capacity is to have a committed Project and pursue that Project through the Path Rating Process.

Maximum Flow Test (MFT)

The ability of a path to acquire flow within an electric system is an intrinsic property of the electric system. The actual flow on a path is a result of the impedance ratios of the transmission lines in the electric system and the circumstances of geographic load and generation patterns, phase shifter operation, etc. Adverse unscheduled flow performance reflects a mismatch between scheduling practice (which is a commercial decision and from an electric point of view, arbitrary) and this intrinsic property.

The RAC requires that the rating process must include an examination of flow distributions to recognize physical properties of the system and, at least to some extent, should address potential effects if unscheduled flow. A reasonable way to address unscheduled flow is to establish Transmission Path Ratings at a level where no system reliability problems exist, and schedules will be limited by the maximum flow that can occur on the path under realistic conditions.

The Rating Methods Task Force (RMTF), now disbanded, gave careful consideration to how a rating should be related to scheduled and/or actual flows. For several reasons, the RMTF decided that ratings should be developed based on actual flows rather than schedules. First, the RMTF's position is that a rating should reflect a path's ability to carry flow. (The relationship between actual flow and scheduled flow is an unscheduled flow issue. Additionally, assigning path capabilities to schedules rather than actual flow rewards those paths that maximize unscheduled flows, thus penalizing parallel paths.[23]). Secondly, associating a rating with a schedule implies that the path should have that rating only when that schedule is in place. This would severely limit the usability of the rating. And thirdly, there are too many scheduling entities and combinations of schedules that produce the same flow on a given path for it to be practical to state a rating in terms of schedules.

The RMTF developed procedures and guidelines based on a path's ability to carry power and the Project Sponsor's ability to demonstrate adherence to NERC Reliability Standards and WECC Criteria. To prove adherence to the Criteria, the Project Sponsor must demonstrate through simulation that power will flow equal to the desired rating and meet all applicable Reliability Criteria.

[23] Including affected paths.

1. Flow-Limited Ratings

   The rating of a non-flow-controlled Transmission Path should be capped by the flow that can be achieved with realistic generation and load patterns (no use of fictitious devices or operating practices).

   The preferred method to calculate a flow-based rating limitation is the MFT. This test consists of developing a power flow test case that depicts a reasonable condition which produces a flow on the path at least equal to or greater than the proposed rating.

MFT attributes:

   a. The MFT must not use fictitious devices or have overloaded transmission facilities.
   b. Considerable latitude is allowed in the development of the test case. A reasonable load and generation dispatch pattern, which can support the rating, is appropriate.
   c. Since the Accepted Rating is limited by the MFT, any capacity above the MFT is Latent Capacity.

2. Realistic Simulation

   The RMTF believed considerable latitude is appropriate in the assumptions used to build the power flow case that sets the upper limit on the flow and the rating. The only requirement is that the case must represent a realizable geographic load and generation pattern within recognized operating procedures and be accepted by the PRG for that path. It is acknowledged that the likelihood of the load or resource pattern occurring in actual system operation may be low.

   In allowing this latitude, the RMTF recognized that there may be many hours in the year when the actual load and generation distribution may not result in the actual flow approaching the rating, even if the path is scheduled to its limit. This mismatch between schedule and flow does create unscheduled flow. However, the elimination of fictitious devices and capping the rating at the maximum optimistic flow that can be obtained represents an effort to address unscheduled flow issues in the planning and rating process.

3. Alternative Methods

   With the concurrence of all affected parties to a rating, the Project Sponsor may apply some test other than the MFT to demonstrate that unscheduled flow impact is within an acceptable level. If the Project Sponsor proposes to use some test other than the MFT, the sponsor should notify the StS and the RAC and explain the alternative test in enough detail before completing Phase 2.

4. Phase Shifter Operation

   If a path has flow control elements, such as phase shifters, then its rating must be within the range of loading that can be achieved with realistic generation and load patterns without violating the capabilities of the devices. Also, the Project Sponsor must have procedures to assure the devices will be operated consistent with the principles on which the path was rated.

5. Reverse Flow

   It may be impossible to meet an actual flow test when trying to rate a line in a direction counter to prevailing flows. Parties faced with such a circumstance should develop a net scheduling/allocation approach. It should be remembered that, once the rating of a transmission path has been established, scheduled transactions over the path are permitted in either direction providing the net schedule at any time does not exceed the path rating. For example, if the path rating has only been established in one direction, schedules are still permitted in both directions if the net schedule is in the same direction as the path rating direction and does not exceed the path rating.

6. Allocation

Allocation of rights on a path is a commercial issue that the owners of the path may need to resolve; however, it does not affect the rating of the path. The allocation method need not bear any resemblance to the rating method.

Flow Test Exemption

A transmission path's Accepted Rating is established in accordance with the processes set forth previously in this document. Most transmission facilities in the Western Interconnection have ratings that are limited by reliability constraints called "system-limited." A few extra-high voltage (EHV) transmission facilities in the Western Interconnection will have ratings that are limited by the highest flow on the path under realistic conditions and are not system-limited. These paths and their ratings will be referred to as flow-limited. A flow-limited path is restricted, not by a reliability problem, but by the impedance of the path, lack of generation, load, etc.

A path's Maximum Achievable Flow (MAF) is the highest flow that can be obtained under realistic conditions where a reliability limit is not reached. Because of system changes, the MAF may change over time; it may become less than the Accepted Rating. The following principles guide how Flow-Limited Ratings are protected:

1. Meet NERC Reliability Standards and WECC Criteria

   Having an Accepted Rating does not exempt a company from having to operate the system in a manner that meets NERC Reliability Standards and WECC Criteria. If it is demonstrated that a violation of these requirements occurs when a Transmission Path flow is less than its Accepted Rating, changes must be made to ensure the system will not be operated under those conditions. An MFT exemption applies strictly to Flow-Limited Ratings.

2. System Changes Made by Others

   A Transmission Path's Accepted Rating will not be lowered because the MAF on the path is reduced due to system changes made by others (i.e., the path can no longer meet the MFT). The rating should not be reduced for the following reasons:

   a. Existing path owners should not incur a reduced rating due to changes made by other systems that provided no benefit to the path owner.
   b. Existing path owners did not have control of the decision to make the system changes.
   c. The system is still being operated reliably.
   d. Existing path owners and those who have rights on that path need some assurance the rating of the path will not be reduced due to changes made by others.

   The potential drawback to this principle is scheduling the Path to the same level as before the system changes could presumably cause increased unscheduled flow.

3. System Changes Made by Path Owners

   A Transmission Path's Accepted Rating will be lowered if its owner makes changes to the system that reduce the path's flow. The Accepted Rating will be reduced by the amount the flow was decreased. The path owners should recognize that they may be required to go through the Path Rating Process when making their decision to change their system.

   The potential drawback to this principle is there may be cases where an owner decides not to make an improvement to its system that would benefit the interconnected system because the owner does not want to take a reduction in the Accepted Rating of a path.

4. Remote Systems Indifferent to Path Definition

   When an existing Path's flow is reduced by a new parallel line, remote systems should be operationally indifferent to whether the new line is defined in or out of the existing Path.

If a new project is built parallel to an existing Transmission Path, the new project's sponsor may decide not to be included in the existing Path. Regardless of the sponsor's decision, the existing Path will not have its Accepted or Existing Rating reduced and the Path rating(s) will be established in such a way that an entity outside of both Paths will be indifferent to whether the new project is included in the existing Path or not.

Fictitious Elements

WECC has established the principle that fictitious elements are not to be used in either simultaneous or non-simultaneous rating studies.

The concept of prohibiting fictitious elements does not pertain to planned facilities; i.e., those facilities that are expected to be in-service at the time represented in the rating study. Planned facilities may be used to obtain an Accepted Rating; however, that rating may only be used when those facilities are in-service.

If there are changes to the planned facility's project plan or schedule, then the section on Monitoring Project Progress in the Path Rating Process will apply as if the change was made to the Project associated with the Path being rated. In these cases, it may be required to repeat or update the requirements for Phase 2 of the Path Rating Process.

For example, an entity that is building a new transmission line may use rating studies that include a future generator. If the generator is delayed, it may be necessary to repeat the rating studies to obtain a new Accepted Rating without the generator and/or to establish the Accepted Rating at the new in-service date of the generator.

Fictitious elements are facilities or operation procedures used in rating studies that are modeled unrealistically or that do not exist. Examples of fictitious elements are:

- Generators—a generator that does not exist at the time of rating, will not be on-line during the time frame for which the path rating is being sought, or the dispatch is unrealistic, as determined by the PRG
- Load—unrealistic load conditions, such as load projections unsupported by those used in planning resources in the same time frame or modeling off-peak load in one area and on-peak load in another area under similar system conditions in the same study case
- Lines—change to the impedance of a line unless such changes are part of Plan of Service for the new Project undergoing the Path Rating Process
- Phase shifters—unplanned phase shifter or operation beyond its physical capability
- Shunt elements—add a non-existent or unplanned SVC
- Series elements—add unplanned series capacitors to a line
- Opening/switching lines—open a line that is normally closed unless it is part of the Plan of Service for the new Project
- Remedial action schemes—institute a scheme with no agreement from the provider or other affected parties

Fictitious elements may change and distort study results. At one extreme, fictitious elements may have little or no effect on the resultant ratings, and thus need not be represented. At the other extreme, they may grossly exaggerate the capability of the path being rated, either in terms of ability to meet the performance criteria or to increase the flow limit of the path.

Because the intent of the rating process is to develop an Accepted Rating that can be used in operation, it is necessary to reject the use of fictitious elements in rating studies. The Accepted Rating that is granted by the rating process can only be used when all facilities that were represented in the rating studies are in service.

The prohibition against the use of fictitious elements does not apply to reporting of Latent Capacity. Because the determination and reporting of Latent Capacity is strictly for information purposes, the owners may model the system in whatever manner they choose.

Resource Modeling Assumptions

The modeling assumption levels of each resource modeled in a ratings study base case would be presented to the technical study group (PRG) for their acceptance.

Table 2: Resource Levels

Level 1: Existing Generation	Only generation that exists, is under construction, or is committed with a planned in-service date within the time frame of the study.
Level 2: Signed Agreement	Generation with a signed Interconnection Agreement, executed Transmission Service Agreement, and the in-service date is before the time of study.
Level 3: Study Process	Resources that currently are undergoing the interconnection Open Access Transmission Tariffs Process such as the Generator Interconnection System Impact Study Process, a Transmission Service Request analysis is underway, or other appropriate state application process.
Level 4: Additional Generation Resources	Additional generation that is required to achieve acceptable flows in the initial power flow case. Project Sponsors are permitted to include resources that are identified in public reports including: an acknowledged Integrated Resource Plan or a discussion of the resource potential, development time frame, and evidence of feasibility.

The Project Sponsor should describe each resource by location, size, and fuel type and in enough detail to track whether the Plan of Service has been met. It may be the most appropriate to use only a percentage of the identified resources as can be judged by the PRG to be acceptable.

Use of Resource Modeling Levels

Each of the resource levels would be applicable to base cases as noted on the following table.

Table 3: Resource Modeling Levels

		Resources			
Project Phase 2 Study Cases		Level 1	Level 2	Level 3	Level 4
In service in 1 to 2 Years		•			
In service in 3 to 5 Years		•	•	•	
In service in 6 to 10 Years and beyond		•	•	•	•

The above modeling assumptions provide a guide for developing the initial power flow cases. In addition, the initial power flow case should only be considered as a starting point and not as the definitive case for determining the required transmission upgrades.

The individual PRGs should retain the flexibility to vary from the above Table. Levels 1 through 4 resources can be modeled, as agreed to by the PRG in the study case, as long as it is feasible for these resources to be on-line during the time frame for which the path rating is being sought. For example, for a new or increased path rating to be effective in year four, Level 1 through 4 resources that can be in service in the fourth year (or earlier) can be used if approved by the PRG. The resource assumptions will be clearly listed in the study report. If the resource assumptions, on which the Planned (or Accepted) Rating had relied, did not materialize, the path owner(s) must demonstrate that the Path Rating can still be supported.

System Representation

One of the objectives of the rating methods is to allow WECC members to establish accurate, fair, and equitable ratings. System representation (the way transmission facilities, generators, etc. are modeled) plays a key role in fulfilling this objective.

For rating studies, members should use the full loop and the most recent WECC standard power flow and stability base cases in their studies. The advantages of using the standard base cases are that members are familiar with them and every system representation should have similar amounts of detail, accuracy, and modeling (if the member follows the published system representation guidelines).

If a member replaces the representation of its system with a different representation (presumably with more details and more accurate data) and if the rating depends on this new representation, the member must demonstrate that the new representation is appropriate and be willing to submit the new representation to all future WECC base cases. In the unlikely event that the new representation affects the established Transfer Capabilities of other paths adversely, the member must resolve the adverse impacts with those whose path capabilities are affected during the Phase 2 review process.

Delay, Cancellation, or Changes to Resources Potentially Affecting Ratings

1. Some Projects may be affected by changes in resource developments as Projects proceed through Phase 2 and during Phase 3. Resources that Accepted Ratings are based on may be delayed, cancelled, or replaced with other resources. Also, modeling assumptions may ultimately prove to be incorrect (such as different machine models or customer interconnection facilities). Many generation resources assumed for the six-to 10-year planning horizon have a shorter development lead time than the major transmission lines required to deliver the output power to the load centers. In fact, development of some generation resources may not even commence until after transmission Projects have completed Phase 2 and provided evidence that these transmission Projects are feasible. Although these resources are not part of the Project Sponsor's Plan of Service, the Path Accepted Rating depends on them, so they should logically be treated as if they were part of the Plan of Service.
2. The anticipation is that actual resources that support the Planned and/or Accepted rating may change from those assumed at the beginning of Phase 2. Projects may vary by location, size, simulation models (e.g., wind). Project Sponsors should be able to continue through Phase 2 with their initial resource assumptions if replacement resources would have similar impacts on the system as those that were modeled in the Phase 2 studies. Further, Project Sponsors will be able to maintain Phase 3 status (Accepted Ratings) while making substitutions of resources and models if the replacement resources and models would have similar impacts on the system as those that were modeled in the Phase 2 studies.
3. The anticipation is that all resources assumed in Phase 2 for service may not be online at the time that the transmission Projects are energized. During Phase 3, Project Sponsors will be given latitude to submit schedules for bringing Projects on and these schedules may span several years. Project Sponsors will be able to maintain Phase 3 status (Accepted Ratings) by providing evidence that progress is being made as provided for in Phase 2 of this Path Rating Process.
4. The WECC System Operating Limits (SOL) study process will be used to "phase in" ratings or review the rating as substitutions of resources and different modeling assumptions are developed, as necessary, to maintain Phase 3 status at an Accepted Rating. This phase in or review would be treated as seasonal operating studies.
5. Sponsors of future transmission projects are provided the opportunity within this Path rating Process to request benchmarking of Accepted Ratings. Therefore, PRGs of Projects in Phase 3 need not challenge whether an Accepted Rating is still valid as there is already an avenue in this Path Rating Process to allow potentially affected members to undertake this challenge.

6. Sponsors of future transmission projects are provided the opportunity within this Path Rating Process to request benchmarking of Existing Ratings in order to verify the rating that has been established for the path can still be supported.

Appendix C: Simultaneous Studies, Similarly Situated Projects, and Combined Project Studies

Simultaneous Studies

All Paths associated with Projects with Planned Ratings must consider each other as appropriate in their planning studies. Once a Project has entered Phase 2 its associated Path has attained a Planned Rating.

To aid in the understanding of certain obligations that some Projects have to each other, Phase 2 is separated into Phases 2A and 2B with a bright line. Projects in Phase 2A must consider Projects in Phase 2B for inclusion in their study plans. Phase 2B is used to identify those Phase 2 proposed projects that have completed and obtained approval by the PRG of a study plan and the first base case needed to perform simultaneous studies. Phase 2A Projects that cross this bright line will be moved to Phase 2B.

The following describes generally the differences between Projects in Phase 1, Phase 2A and Phase 2B, and the transition from Phase 2A to Phase 2B:

1. Non-simultaneous Studies for Projects in Phase 1 are run on base cases that have not been reviewed by any group in WECC.
2. To transition from Phase 1 to Phase 2A, a proposed Project will have already provided data to WECC by following the process for completing Phase 1. The data are not necessarily included in WECC base cases in the base case compilation schedule (BCCS). Such data are used as information for other projects.
3. Projects in Phase 2B will need their study plans and base cases reviewed and accepted by the PRG; and therefore, will need to cover all elements required to be included for the Simultaneous Study.
4. Based on PRG requests, multiple simultaneous analyses may need to be performed, requiring multiple simultaneous base cases. However, the Foundational Base Case(s) that will establish this bright line is the first base case that would be ready for the first simultaneous assessment, as agreed to by the PRG.
5. Once the PRG is formed and the study plan and Foundational Base Cases approved by the PRG, the Project would move from Phase 2A to Phase 2B. Therefore, Phase 2A is the formation phase, while Phase 2B is the study phase.
6. As determined by PRG, a Project that transitions from Phase 2A to Phase 2B will consider all Projects already in Phase 2B and Phase 3 in its base case development. The PRG has the discretion to decide which Projects in Phase 2B and Phase 3 to include in the base cases because the proposed Project may not have interaction with all such Projects. While this approach gives the Project Sponsor flexibility to determine the projects to be included in the simultaneous study, it may carry some risk of re-studying if the Projects in Phase 2B or Phase 3 that were not included in the study should interact with the proposed Project.
7. Projects already in Phase 2B will not have to go back and re-study the effect of including Projects that later enter Phase 2B, but they may choose to do so for the purpose of evaluating interactions and mitigation solutions.

A Project entering Phase 2B will need to consider Projects already in Phase 2B. However, the process is not intended to be a queue. If interaction is identified by either of the Project studies, mitigation measures will be mutually agreed upon. For example, for two proposed Projects (X and Y), Project X is in Phase 2B when Project Y enters Phase 2B. Project X's study plan will not include Project Y. Upon meeting the requirements for Phase 3, Project X enters Phase 3 without studying Project Y. If Project Y finds an interaction with Project X (or Project X finds an interaction with Project Y), mitigation measures will be agreed upon before either Project can be placed in service.

Similarly Situated Projects

At any point in time, if any two Projects are together in Phase 2B, they are Similarly Situated and have a responsibility to mitigate interaction they have with each other until both become operational. Once a Project enters Phase 3, it will not be Similarly Situated with new Projects entering Phase 2B. Similarly Situated Projects must consider each other on an equal basis.

- Any interaction identified within the group of Similarly Situated Projects must be resolved in a mutually agreed upon manner by the affected Projects and the PRG(s).
- Similarly Situated Projects will need to coordinate the logistics of performing the requisite studies. For example, if a Project associated with Path A and a Project associated with Path B both interact with Path C, then the Project Sponsors will need to perform the following simultaneous studies: Path A vs. Path C, Path B vs. Path C, and Paths A and B vs. Path C.

Combined Project Studies

Some Projects that are Similarly Situated may affect the non-simultaneous rating of each other's Paths and in some instances more than one Project may be seeking a non-simultaneous rating on the same path. In either case, each Project will need to perform its respective simultaneous studies individually and perform a Combined Project Study with all affected Similarly Situated Projects modeled in the joint study. The need for conducting individual and combined studies is to cover cases in which all Projects move forward or not, and to address the inherent time gaps in Project operating dates. Each Project must be examined individually if one of the Similarly Situated Projects goes in service before other Similarly Situated Projects or is cancelled. As an example, this could happen if one of the Projects is a new line and the other is an upgrade of an existing line where the upgrade is completed long before the new line is in service. The individual studies ensure that individual Projects can be placed in service and operated reliably. The Combined Project Study will demonstrate reliable operation in the event all Projects are placed in service.

Project Sponsors, together with PRG members, will decide whether there is a need for a Combined Project Study, especially if the Project Sponsors are performing path rating studies on different paths. For example, a Combined Project Study may not be required if no meaningful interaction exists when each path is at its non-simultaneous rating. Project Sponsors are responsible for vetting the need of a Combined Project Study with their respective PRGs after they have been classified as Similarly Situated.

A Combined Project Study is required to assess the ability of two or more Similarly Situated Projects to achieve their respective non-simultaneous path ratings on a combined basis. This study requires Project Sponsors to perform a joint study, modeling their respective plans of service with actual power flows at their non-simultaneous ratings on the Paths to be rated. Some of the Projects that are Similarly Situated may affect the same Path. In that case, each Project must do simultaneous studies separately and do simultaneous analyses under a Combined Project Study with both Projects in the study.

For cases in which Projects propose non-simultaneous rating increases on the same Path, the power flow on the Path should be demonstrated at the combined non-simultaneous rating increase (e.g., two Projects seeking Path rating increases of 500 MW and 1,000 MW should be modeled with of increased flow). If the resulting power flow is less than the full combined non-simultaneous ratings, the parties will mutually agree on how to address the interaction. Additionally, the Combined Project Study must include all the simultaneous analyses that were identified in their respective individual study plans.

Appendix D: Phases 1–3 Email Templates

The following templates are intended for use by the StS Chair and for the Project Sponsor to provide the needed information to navigate the process.

Expediting the Process Template

Dear [Project Sponsor]:

After consulting the Path Rating Process, Section 3.3, the Expedited Rating Process combines Phase 1 and Phase 2 activities. Listed below are a few items in "Red" that [Project Sponsor] needs to address. Please let me know if you have any questions or comments.

Sincerely,

[StS chair]

Expedited Rating Process—(Note: Project remains in Phase 1 until complete; the Project does not achieve Phase 2 status.)

Step 1. The final Comprehensive Progress Report (CPR) should include non-simultaneous and simultaneous analysis. The final CPR will be submitted to the Studies Subcommittee (StS) and the Reliability Assessment Committee (RAC), having StS and RAC review performed concurrently: the StS 60-day review of the CPR and the RAC 30-day review on the conformance of the process.

Step 2. After the StS and RAC review of the final CPR, the Project will achieve Phase 3 (if no issues are identified).

—If the CPR included non-simultaneous and simultaneous analysis and no one requested interest to participate in a PRG, [Project Sponsor] needs to send a letter to the StS and RAC stating that all concerns and comments have been addressed and requesting the RAC to grant Phase 3 status.

Step 3. If issues arise that can't be resolved, the Project will need to go through Phase 2 and form a PRG.

Phase 1 to Phase 2 Transition Template

Dear Project Sponsor:

To facilitate the transition from Phase One to Phase Two, I would appreciate if you could provide a response to the Action Items that I have listed below that are shown in Section 3.2.3 in the Path Rating Process. Also, I would appreciate it if you could draft a Phase 2 Approval Letter for the Project Name. I have attached an example for your reference. If you have any questions, please let me know.

Sincerely,

[StS chair]

WECC Project Coordination and Path Rating Processes—Section 3.2.3—Completion of Phase 1

1. The Reliability Assessment Committee (RAC) has completed its assessment of the Project's conformity with the Project Coordination Review Objectives (applies only to those projects identified by RAC in which project coordination interest has been expressed).

   Action Item: Insert date the RAC issued an acceptance letter of the Project Coordination Report or a response why a Project Coordination Report was not required or issued.

   Project sponsor response:

2. The Project Sponsor has submitted a full project representation to WECC for inclusion in WECC base cases.

   Action Item: Provide confirmation that a full project representation has been provided to WECC.

   Project sponsor response:

3. The Project Sponsor has distributed a Comprehensive Progress Report accompanied by a letter to the Studies Subcommittee (StS) and RAC requesting Phase 2 Status for the project.

   Action Items: 1) Insert date when CPR was distributed by WECC for 60-day review. 2) Insert date when comments on Phase One CPR were due.

   Project sponsor response: 1). and 2).

4. If the above criteria have been satisfied and no objections have been received within 60 days of WECC's receipt of the request to enter Phase 2, the Project Sponsor(s) will so notify the StS chair and provide evidence that the project has satisfied all requirements.

   Action Item: Please provide a list of any comments or objections received during the 60-day review and how [Project Sponsor] addressed these comments or objections. Were [Project Sponsor's] responses to the satisfaction of the entity that submitted the comments?

   Project sponsor response:

Appendix E: Testing Path Independence

This appendix describes the two screening tests to be used to determine whether a path is independent of another path. These tests apply if the Project Sponsor has not decided in Phase 1 or in Phase 2A to include the proposed Project as a subset of an existing Path (or provided technical explanation to the contrary). The results of the tests are to be provided to the PRG to aid in determining if a proposed Project is part of the same path. The most efficient time for the Project Sponsor to conduct these tests would be in Phase 1 so the results can be included as part of the Comprehensive Progress Report, and available to the StS before the formation of the PRG.

If the proposed Project is determined to be a subset of an existing Path, the Project Sponsor is required to rerate the Path within the Path Rating Process. A Project that is a subset of an existing Path is not precluded from defining a separate path or from seeking a separate Path Rating. A Project Sponsor can also use a different method to determine whether the proposed Project is part of an existing Path, provided that the method has been accepted by StS and RAC:

To determine whether a proposed path is independent of an existing path, the Project Sponsor must perform two flow tests as outlined below.

The justification for using two tests is as follows. If a new Project is small relative to the path being tested, then Test 1 should clearly indicate a dependency between the two as the existing system should pick up a large part of the power scheduled on the new Project. Test 2 would not provide a good indicator since a small Project would not pick up much "loop flow" from the existing system. If a new Project is large relative to the path being tested, then Test 1 would not show much effect since most of the Project's flow would tend to stay on the Project, but Test 2 should show a dependency if a large part of the existing path's schedule now flows on the new Project.

Test 1:

1. Start with a pre-Project WECC base case.
2. Add the proposed Project to the case to create a post-Project base case. When adding the Project, do not initially schedule any flow on the new Project.
3. Schedule a fixed amount of power on the proposed Project (e.g., 100 MW or in the case of a Project with flow control devices, the Projects rated flow). If there are flow control devices included as part of a new Project, they may be used to control flow on the new Path to the schedule on that Path, or they may be bypassed, at the Project Sponsor's discretion. However, the flow control devices cannot be used, for purposes of this test, to artificially create "loop flow" on other Paths. If the flow control devices have enough control range, the new Path will be independent of all other paths.
4. If more than 25 to 40% of the scheduled power flows on the existing path being tested, then the proposed Project is deemed to be a subset of the existing path. If the proposed Project is deemed to be a part of an existing Path, then the proposed Project must rerate the existing Path as part of its Path rating studies. This independent Path test is NOT optional. Depending on the outcome of the independent Path test, the development of an independent rating could be an optional second analysis.

   If the independent Path test is performed and the new Project is determined to be part of another Path, then the Path that the Project is a part of MUST be rerated as part of the Path Rating Process. In this case, the development of an independent rating is optional. If a Project that is part of another Path develops an independent rating, then there will be two ratings developed as part of the Path Rating Process, as follows:

   - the independent rating, and
   - the rerate of the existing Path that the new Project is a part of.

If the independent Path test is performed and the new Project is determined to not be part of another Path, then an independent Path rating for the Project is required as part of the Path Rating Process

5. The Project Sponsor also has the option of developing an independent rating for the proposed Project. If an independent rating is developed, the Project Sponsor must also determine whether any interactions (e.g., nomograms) exist between the proposed Project and the existing Path.

Test 2:

1. Start with a pre-Project WECC base case.
2. Add the proposed Project to the case to create a post-Project base case. When adding the Project, do not schedule any flow on the new Project. If there are flow control devices included as part of a new Project, they may be used to control flow on the new Path to the schedule on that Path (e.g., zero MW) or they may be bypassed at the Project Sponsor's discretion. However, the flow control devices cannot be used, for purposes of this test, to artificially create "loop flow" on other paths. If the flow control devices have enough control range, the new Path will be independent of all other Paths.
3. If the new Project picks up more than 55 to 65% of the power that was flowing on the existing Path being tested, then the proposed Project is deemed to be a subset of the existing Path.
4. If the proposed Project is deemed to be a part of an existing path, then the proposed Project must rerate the existing Path as part of its Path rating studies. This independent Path test is NOT optional. Depending on the outcome of the independent Path test, the development of an independent rating could be an optional second analysis.

   If the independent path test is performed and the new Project is determined to be part of another Path, then the Path the Project is a part of MUST be rerated as part of the Path Rating Process. In this case the development of an independent rating is optional. If a Project that is part of another Path develops an independent rating, then there will be two ratings developed as part of the Path Rating Process, as follows:

   - the independent rating, and
   - the rerate of the existing Path that the new Project is a part of.

   If the independent Path test is performed and the new Project is determined to not be part of another path, then an independent path rating for the Project is required as part of the Path Rating Process

5. The Project Sponsor also has the option of developing an independent rating for the proposed Project. If an independent rating is developed, the Project Sponsor must also determine whether any interactions (e.g., nomograms) exist between the proposed Project and the existing Path.

Appendix F: Treatment of Projects Reverted to Earlier Study Phases

The Path Rating Process state that:

- A Phase 2A or 2B status may be lost if a Project in Phase 2 shows no evidence of any activity for a period after the achievement of Phase 2 status.
- An Accepted Rating status may be lost if a delay in meeting any Project milestones by 12 months or more occurs or if a change in the Project's Plan of Service adversely affects the Accepted Rating.

This Process provides for the PRG to determine whether the Project status will revert to Phase 2 with a Planned Rating or remain in Phase 3 with an Accepted Rating.

1. Proposed Projects in Phase 2B that are sent back due to inactivity as listed in Section 3.4, Table 1 will no longer be in the same "Similarly Situated" group. A Simultaneous study to consider them with this group of the Phase 2B Projects is then not a requirement for the remaining Projects in the group.
2. A proposed Project in Phase 2B or Phase 3 that undergoes significant scope changes (e.g., changes in termination points or changes in configuration that affect the interaction with the system) will be moved back to Phase 2A and will no longer be in the same "Similarly Situated" group.
3. Projects in Phase 2B are not required to (but can) re-study the interaction with another Project that is sent back from Phase 3 to Phase 2B with agreement by the PRG that the Phase 3 Project scope remains essentially the same. This is because Projects in Phase 3 would have 1) already been included in the base cases for the later Projects; and 2) the later Projects would have mitigated the impacts on Phase 3 Projects. So, moving a Project from Phase 3 back to Phase 2B would not affect the studies required for the other Projects in Phase 2B (or the base cases to be developed in Phase 2A).
4. Major changes in a Project's scope can result in changes in the proposed Project's own Path Accepted Rating, Simultaneous interaction of other Existing Paths or Accepted Paths, or Impact Accepted Rating(s) of other Path(s). If a Phase 3 Project is moved back as the result of a major change in Project scope, then the Project Sponsor and the PRG should discuss which phase the proposed Project will revert to. As determined by the PRG, the Project may revert to any earlier Phase. Reverting to Phase 2A may require re-forming the PRG, redeveloping the study plan, developing new base cases, and composing a new 9or revised) Phase 2 Rating Report. If no Consensus is reached in the PRG, then a "minority report," describing the PRG member's dissenting opinion, will be included as an appendix in the Phase 2 Rating Report.
5. For a Phase 3 Project with minor changes in scope and no increase in Accepted Rating (e.g., changes involving series compensation levels or RAS, which resulted in no criteria violation at the previous studied system conditions), the Project can be sent back to Phase 2B as determined by the PRG. This change will place the Project's Accepted Rating at risk. The Project Sponsor must test its Accepted Rating based on its new Project scope against its original Accepted Rating. If the study shows there is no adverse impact to the Accepted Rating then the Project can retain its Phase 3 status.

   If there is an adverse impact on the Accepted Rating, the Project must stay in Phase 2B and is required to mitigate impacts on Phase 3 Projects and will be similarly situated with other Projects in Phase 2B. If the mitigation undertaken is a lowering of the Project's Accepted Rating, then the Project can retain its Phase 3 status at the lowered Accepted Rating after studies were performed to support the new rating. All Similarly Situated Projects will need to perform studies to test their ratings against the new Accepted Rating of this Phase 3 Project.