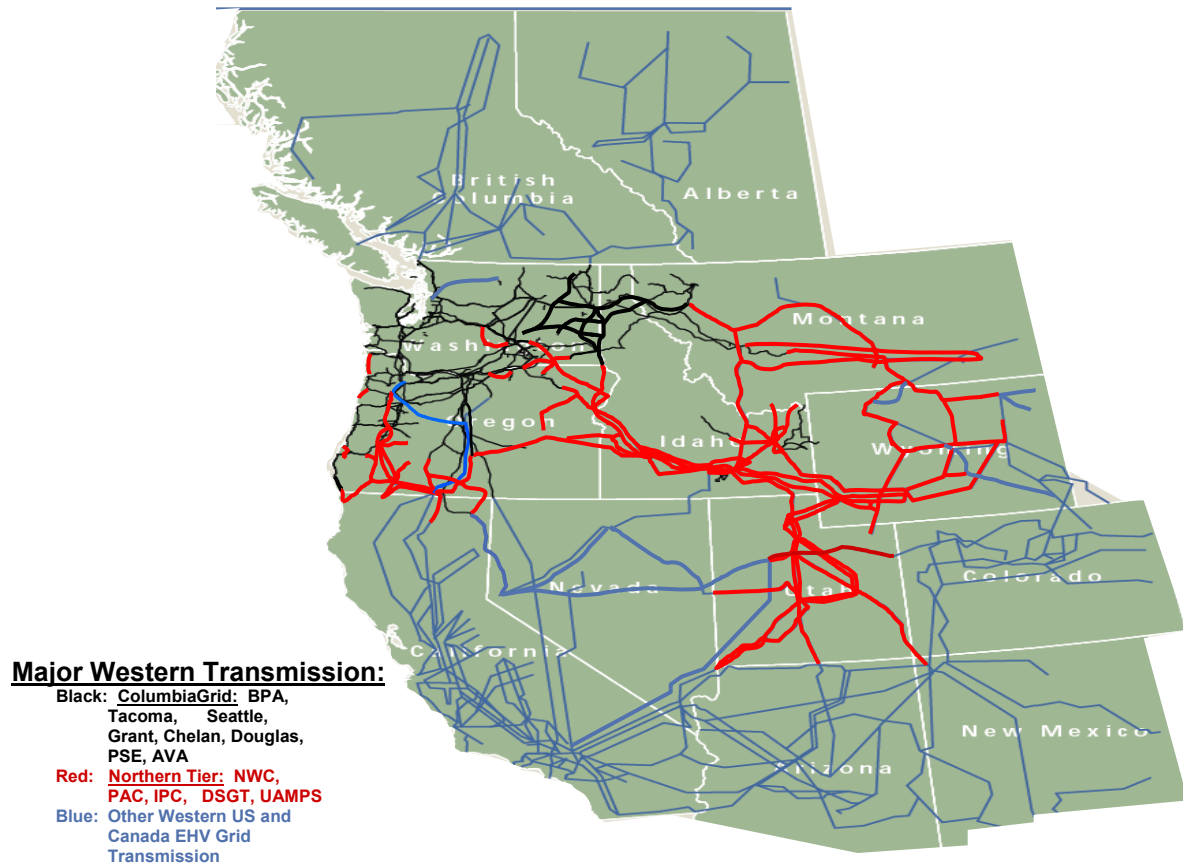


**Northern Tier Transmission Group**  
**Sub-Regional Planning “Straw” Proposal**  
**Posted May 29, 2007**

**Introduction: Northern Tier Transmission Group**

The Northern Tier Transmission Group (NTTG) members in consultation with stakeholders have combined to provide commercial benefits to customers of a larger integrated single system transmission network (Figure 1).



**Figure 1: Northern Tier Transmission Group**  
**Combined Member Transmission System**

The members are a group of interconnected like minded and similarly situated transmission providers and their stakeholders with similar load and resource, geographic, customer, and institutional characteristics. These members believe that it is within the art of the possible to combine their individual transmission systems together to provide certain commercial and operational benefits of a larger single system. Through initiatives, the members will jointly provide increased uniformity of transmission products and use, joint planning, coordinated

operations, virtual control area consolidation, and other actions that increase the value of their combined individual systems to all customers.

In this regard planning for this combined multi-member transmission system will be accomplished through the process described by this straw proposal that meets the Federal Energy Regulatory Commission (FERC) Order 890 planning requirements and principles.

### **Summary of Planning Proposal and Key Features:**

The proposal's key features are:

- Two Step Planning and Implementation process that provides for:
  - A combined membership Planning Committee and planning process incorporating the member Transmission Providers (TP's) individual local transmission planning processes with other sub-regional and regional planning process in the Western Interconnection.
  - Open architecture structure with NTTG Planning Committee open to all interested parties and stakeholders. NTTG members provide bulk of analysis and study support. NTTG members are allocated costs of planning process after other non-NTTG member participating members of Planning Committee pay a fixed flat-rate annual participation fee.
  - Stakeholder/customer input and review process upfront to evaluate transmission service and upgrade alternatives without and prior to formal Open Access Transmission Tariff (OATT) service request process.
  - Transmission Plan that informs stakeholders on technical performance, benefits, costs, and potential cost allocation of individual and joint plans
  - Analysis of economic benefits (as well as reliability) of projects to inform stakeholder/customer's decisions on formal service requests and participation
  - Within present OATT responsibilities & framework, gives a practical level of upfront cost allocation certainty
  - Method to batch or cluster requests for economic studies in planning step
  - Method to aggregate OATT service requests and implement joint projects in implementation step to meet multiple party needs that otherwise would be impractical or uneconomic on a single request basis.
  - Estimates of benefits re-dispatch costs, and congestion from aggregated requests in common resource areas or renewable energy zones
- Three level integrated planning process that
  - Produces synchronized, coordinated single system plan for Western Interconnection
  - Links and synchronizes NTTG Sub-Regional Planning with the Western Electricity Coordinating Council (WECC) Regional, other Sub-Regional, and individual TP Local transmission planning processes.
  - NTTG will coordinate with other Sub-Regional Transmission Groups via joint study teams, seams agreements, direct coordination, and coordination with WECC for west wide region and the Northwest Power Pool's (NWPP's) Northwest Transmission Assessment Committee (NTAC).
  - Utilizes a study plan identification process to consolidate, prioritize, assign, and coordinate study teams and study efforts among all three levels.

- Stakeholder Input Process that provides for coordinated stakeholder input at all three levels via stakeholder class representative election process.
  - Coordination of NWPP area wide planning using the existing NWPP Northwest NTAC forum to identify overlapping/affecting projects with other NW parties and Northwest sub-regional planning groups and to identify joint project study teams.
- Congestion and economic studies that
  - Utilize the WECC Transmission Expansion Planning and Policy Committee (TEPPC) database and services
  - Include the effects of neighboring control areas and the full western interconnection.
  - Are requested by stakeholder/customers, and the NTTG Transmission Use Committee in the annual NTTG study request and identification process
  - Will employ member system staff and TEPPC staff to perform studies.
- Balanced Steering Committee composed of member TP executives, State Commission, and Consumer Agency representatives from each footprint state that will manage the organization and approve activities, decisions, and resource requirements of the NTTG Committees.
- Cost Allocation Committee: Multi-state committee with regulatory and state agency representatives from each footprint state, and publicly and consumer owned NTTG member representatives. Committee develops and applies principles, and recommends cost allocation for expansion covered by the plan.
- NTTG Alternative Dispute Resolution (ADR) will be primarily performed by the NTTG Steering Committee. For disputes that cannot be resolved by the Steering Committee concerning planning, NTTG's ADR process will incorporate the WECC ADR process (See Appendix C of WECC Planning Coordination Committee Handbook attached here in Appendix 2). NTTG members will agree to expand the areas covered by WECC ADR but use WECC list of mediators/arbitrators and process. For disputes with outside parties that are members of WECC, WECC ADR will be used for most areas of dispute. Through seams agreements with other sub-regional groups, agreements will be made to expand WECC ADR into all required planning dispute areas including disputes which may develop in joint study teams and not otherwise resolved. If disputes cannot be settled otherwise or via WECC ADR with expanded areas by agreement, NTTG members will seek FERC ADR services.
- Uniform and coordinated products and data: NTTG Planning Committee will be tightly coordinated with the NTTG Transmission Use Committee. Product definitions, commercial parameters such as POD PORs, ATC calculations, historic use, re-dispatch costs, curtailment and congestion hours will be consistent in analysis performed in both committees.
- Secure but Visible and Transparent Data: NTTG will utilize WECC's secure, password protected data exchange methods, procedures, and processes to insure transparency, open, yet secure Critical Energy Infrastructure Information (CEII) compliant data exchange.

## **Background:**

Electric transmission provides a multitude of services. It provides OATT service to customers, integrates resources to loads, provides backup paths for reliable service, facilitates economic use of fuels, allows for effective control of moment-to-moment and minute-to-minute variations in load and system conditions, and takes up much landscape. As such the art of transmission planning must respond to and be influenced by customer requests, load forecasts, resource adequacy, transmission design, economic operation, system control, and siting/licensing. The individual transmission systems and control areas are all interconnected in the western grid and planning must be done not only on a local individual TP basis but also on a sub-regional and western interconnection wide regional level.

Currently each TP provides OATT service where individual point-to-point (PTP) customers require planning and design studies (feasibility, system impact, and facilities studies) for firm PTP service requests. Their network customers including native load customers are provided planning, expansion, and design studies on a combined basis following a TP's local annual planning process beginning with firm load and resource forecasts and involving formal reliability planning process.

Each individual TP must charge its own transmission rate. A customer requesting service across several TP systems must pay the sum of these individual charges (pancaked rates) and if new Available Transmission Capability (ATC) is required make individual requests with each provider and pay for individual system impact and facility studies.

The western transmission system integrates many diverse customers, generation fuel types, and control areas with varying operational control issues. While composed of the interconnection of many systems, the integrated system operates together as a complete synergistic system where actions on one system or in one corner of the western system can affect all parts. Therefore while each TP must today handle its own customers' requests, it must also integrate and coordinate transmission planning, design and operation with the rest of the western interconnection for its system to be reliable and effective. Historically this coordination has been performed in by the WECC. NTTG sub-regional planning will utilize as much of the existing WECC processes as possible.

In the Western interconnection it is common for service requests to cross multiple control areas and link to generation located several states distant from the ultimate load. Transmission customers and stakeholders desire in many cases transmission service across several or multiple TPs to deliver remote or economic resources across the western interconnection. With the present planning processes, this is difficult because a customer must now request transmission service and studies from each TP over the complete route it selected. To make practical and logical requests it must also have knowledge of the systems, plans and costs of the many different control areas in the West and knowledge of both the local system to connect into and the regional systems to cross. Therefore transmission stakeholders and customers must be involved, informed in, and informed about the planning processes of local, sub-regional, and regional processes.

The interconnected transmission system of the west spans long distances, many states, counties and governmental jurisdictions, and requires much right of ways. Therefore transmission

expansion is expensive and involves lengthy licensing and construction processes. Under the present OATT processes there are few methods for customers to aggregate service requests together which might support an otherwise impractical expansion project through joint participation and cost allocation. Many native load and network customers in various TPs are required by individual and separate state integrated resource planning processes to develop individual resource plans. These resource plans and their related transmission expansion plans affect the remaining systems and plans. Without knowledge of these resource and expansion plans, other TPs and customers can't formulate cost effective and logical aggregated or joint transmission service requests that would facilitate joint projects to be financed, licensed and constructed.

FERC Order 890 requires that individual TPs remedy these transmission issues by developing coordinated transmission planning processes that involve stakeholders and meet FERC's identified nine principles. The order also requires that the TPs prepare straw proposals to present at Technical Conferences in June and July. This straw proposal outlines the proposed coordinated transmission planning process that the Northern Tier Transmission Group members and stakeholders will adopt to comply with FERC's order 890 and that will be further detailed and used in each NTTG member's Attachment K.

The proposed NTTG planning process will integrate all aspects of transmission planning into a process that meets the nine principles detailed in the FERC Order 890, preserves the responsibilities of the individual TP required by their OATT, and delivers a coordinated plan that will:

- Be used and useful by stakeholder/customers, TPs and their regulators;
- Accurate, verifiable, able to be replicated by customers, and reflective of real conditions;
- Coordinated with neighboring Sub-regional and Regional Planning efforts as well as neighboring Control Areas and non-member TPs
- Informing - so that customers and stakeholders can:
  - Understand ATC, congestion, and expansion costs on paths of interest on the interconnected and joint member system,
  - Prepare informed transmission requests including requests for planning re-dispatch and/or conditional firm,
  - Allow for and facilitate the aggregation of studies and project planning, service requests, and processing such that customers and other stakeholders can combine together to request and implement joint projects through open season, common queue, coordination or other processes for joint participation, and cost sharing.
  - Propose joint projects that multiple TPs and stakeholders can pursue.
- Informing - so that TPs can elect to develop economic and/or joint projects with other TPs that are economic for existing or potentially new customers.

The planning process will facilitate:

- Aggregation of stakeholder needs (Load Serving Entity (LSE) Integrated Resource Plans (IRPs), service requests, forecast use, historic use),
- Combined "single" system planning analysis (feasibility, system impact study (SIS) type studies) of the member's transmission systems in aggregate,
- Identification of the best joint or multiple system expansion to meet the aggregated need,

- Split out or parsing of project benefits into the various categories used by state and federal regulatory agencies for cost recovery
- Estimation of technical benefits and their types to benefiting parties.
- Estimates of expansion costs
- Planning recommendations of appropriate cost allocation for projects assuming the planning assumptions and conditions.
- Estimates of congestion and re-dispatch costs on existing and future systems.

NTTG's straw proposal will describe how the member TP's OATT and local planning process dovetails with the Northern Tier Transmission Group (NTTG) and the other local/sub-regional planning groups, and mesh with west-wide regional transmission planning at WECC and the Committee on Regional Electric Power Cooperation (CREPC). It will focus in more detail on the NTTG Sub-Regional Planning Process that NTTG TP members will ultimately incorporate in their individual Attachment K tariff planning process descriptions filed with FERC.

The two step and three-level, coordinated process described is based in part on the predecessor Seams Steering Group – Western Interconnection (SSG-WI) Regional/Sub-Regional Planning model and utilizes as much as possible existing western transmission planning structures.

This paper will describe the straw proposal by explaining:

- The proposed Two Step NTTG Sub-Regional and Local Planning and Implementation Process shown in Figure 2,
- The Three Level Planning Process Figure 3,
- The relationship, data, product flow, and synchronization needed between local, sub-regional, and regional planning in the western interconnection shown in Figure 4, And a sequential timing diagram in Figure 6 that shows the relationships, timing of data inputs, analysis, output review, approximate meeting frequencies, and participation during the coordinated Annual Combined Synchronized Planning Cycle (ACSPC).

The linked Regional Planning Process proposed by the Western Electricity Coordinating Council's (WECC) Transmission Expansion and Policy Committee (TEPPC) shown in Figure 5.

### **Meeting FERC 890 Principles & Requirements**

The NTTG Transmission Planning process incorporates the following provisions to meet the FERC 890 Order nine planning principles and other requirements as summarized below:

1. **Coordination**: Three level Local, Sub-regional and Regional Coordination
  - NTTG will use the Three level planning coordination process described below.
  - NTTG is a member of WECC/TEPPC and will become a member of WECC
    - NTTG will work with TEPPC to enhance the coordination of TEPPC to meet Order 890 requirements
    - NTTG will work with WECC PCC, MIC and OC committees on alignment of planning and use business practices and other standards
    - NTTG will interface with NERC and NAESB through its WECC involvement
  - Participation in NTTG initiatives is open to all parties, including customers, providers, and state representatives.

- NTTG will develop coordination agreements with neighboring sub-regional planning groups for coordination of issues not covered through WECC coordination. Issues will include:
    - Flow based planning, congestion, and scheduling processes
    - Development and alignment of conditional firm and other re-dispatch products
  - Other Sub-regional planning groups that NTTG will coordinate with via direct coordination, seams agreements or join study teams include California ISO, West Connect (SWAT, CCPG, other), NWPP and Columbia Grid
  - Via public process, NTTG will expand its processes and augment existing procedures to meet 890 requirements
  - In the Northwest region of the Western Interconnection, NTTG members will continue to be members of the Northwest Power Pool and its committees. NTTG will look to the NWPP NTAC forum to coordinate projects that overlap with or effect non NTTG members, and to help select participants for joint study teams. NTTG and NWPP TPC will establish principles for coordination and include in Attachment Ks...
2. **Openness**: Open architecture and stakeholder/customer process, unfettered Board
- Transmission planning meetings and participation in plan development is open to all affected parties including:
    - All transmission customers,
    - State agencies
    - Interested stakeholders
  - Organization:
    - NTTG Board is Steering Committee composed of balanced group of transmission owner executives and state commissioners,
      - Unfettered and able to make evolutionary and direction changes as they deem needed
    - Public stakeholder/customer meetings will meet monthly with the Planning Committee. Planning Committee and it's work groups will meet weekly
    - NTTG website to post and link to activities
  - NTTG will participate in other regional and sub-regional planning forums:
    - As member of WECC PCC and TEPPC
    - Via coordination agreements with other sub-regional planning groups such as NWPP's NTAC, WestConnect, CaISO and other California Sub-Reg Plan Group, and ColumbiaGrid
3. **Transparency**: Data, criteria, ATC methods, etc. disclosure to all customers/stakeholders
- NTTG Transmission Providers will disclose via NTTG processes to all customers and other stakeholders the basic criteria, assumptions, and data that underlie its transmission system plans.
    - Data and assumptions for planning efforts will be shared and vetted in a process open to all stakeholders.
  - NTTG's ATC openness initiative:
    - Publicizes the methods and assumptions for components of ATC on scheduled paths within the NTTG footprint,
    - Allows public input for direction of future ATC studies

- Displays a combined path ATC “connect the dots” diagram for member systems.
  - NTTG’s website is publicly open to all parties (considering CEII concerns)
  - NTTG planning forums and work groups will be open to all interested parties.
4. **Information Exchange**: Planning information shared on a coordinated and open basis
- NTTG procedures will combine member’s network transmission customer submittals of projected loads and resources on a comparable basis (e.g., planning horizon and format) with point-to-point customers.
    - NTTG will allow market participants the opportunity to review and comment on draft transmission plans.
  - NTTG initiative to combine or synchronize its member’s Integrated Resource Plans, including network load projections and resource plans,
    - Will prepare and present this information in a public forum.
  - Future initiatives include:
    - process for joint transmission service request submittals
    - consolidation of queues for service requests
    - consolidation of control area operations.
  - NTTG’s ATC openness initiative will be coordinated and linked to planning data and studies.
  - NTTG will coordinate with and participate in other open sub-regional and regional planning forums and will continue to participate in these forums, or facilitate integration of these committees into the NTTG processes.
5. **Comparability**: All similarly situated customers/stakeholders are treated equally in processes
- NTTG will develop a transmission system plan that:
    - Integrates specific customer requests of the TP’s
    - Meets the study requests of transmission customers
    - Treats similarly situated customers (e.g., network and retail native load) comparably in transmission system planning.
  - NTTG will tackle both economic and reliability planning
  - NTTG’s sub-regional plans and initiatives will be created and presented in public forums, and will seek active participation of all effected parties and customers.
  - Possible future initiatives include developing processes for:
    - Joint transmission service request submittals
    - Consolidation or aggregation of service requests
  - By allowing direct involvement of transmission customers in the NTTG planning process, it is anticipated that all industry participants will be treated similarly.
6. **Dispute Resolution**: NTTG ADR to use WECC ADR with member agreement to use for planning related disputes
- Balanced Steering Committee (senior executives and state commissioners) will provide decision and dispute resolution for organization and committee activities.
  - NTTG will primarily use a consensus based dispute and decision process similar to CRPEC (Committee on Regional Electric Power Cooperation)



- NTTG's open process, including public forums, is designed to avoid disputes before they escalate to the Steering Committee, NTTG ADR, or FERC level.
  - Members will agree to expand coverage and utilize WECC ADR for planning disputes not specifically covered by present WECC ADR agreement ([Appendix 2](#)). For most disputes involving non NTTG members but members of WECC, NTTG will use WECC ADR. In seams agreements with other sub-regional planning groups, NTTG members will agree to use WECC ADR for planning disputes not explicitly covered in present WECC ADR. For disputes with other entities not included above and involving FERC jurisdictional planning disputes, NTTG members will resort to FERC Dispute Resolution.
7. **Regional Participation:** Participation in WECC TEPPC, NWPP's NTAC, coordination with neighboring sub-regional planning groups
- NTTG will participate as a sub-regional member in WECC/TEPPC regional planning process, and use the existing WECC data, information sharing protocols, and processes.
  - NTTG anticipates working with WECC to expand current WECC processes related to common ATC assumptions/methodology, congestion analysis, resource adequacy, and planning.
  - NTTG will seek direction from customers and resource owners to identify NTTG and TEPPC studies of high priority areas of congestion
  - NTTG anticipates creating a public process to evaluate system congestion, re-dispatch opportunities, conditional firm parameters. NTTG members along with TEPPC staff will perform economic and congestion studies annually.
  - NTTG is currently undertaking an initiative to synchronize or combine its member's Integrated Resource Plans,
    - including network load projections and resource plans,
    - will prepare and present this information in a public forum.
  - NTTG will explore Open Season Processes and other to facilitate aggregated customer requirements and service requests
8. **Economic Studies:** Economic and re-dispatch/congestion studies will be completed as part of the annual Plan. They will also incorporate direction and analysis from Transmission Use committee
- NTTG will create a public process to
    - Seek direction from regional customers and resource owners to study and identify "significant and recurring" congestion and high priority areas of congestion
    - Estimate system congestion and re-dispatch costs
    - Identify re-dispatch opportunities and conditional firm parameters
    - Integrate its members Integrated Resource Plans
  - As desired by customers, NTTG will include consideration of region wide economic and congestion reducing projects such as the Frontier project
    - Will coordinate with other effected areas spanned by such projects including sub-regions and WECC
  - NTTG will coordinate with WECC/TEPPC to expand the capability and use of the congestion and production cost models to enhance DOE type congestion studies as required to meet or exceed 890 requirements.

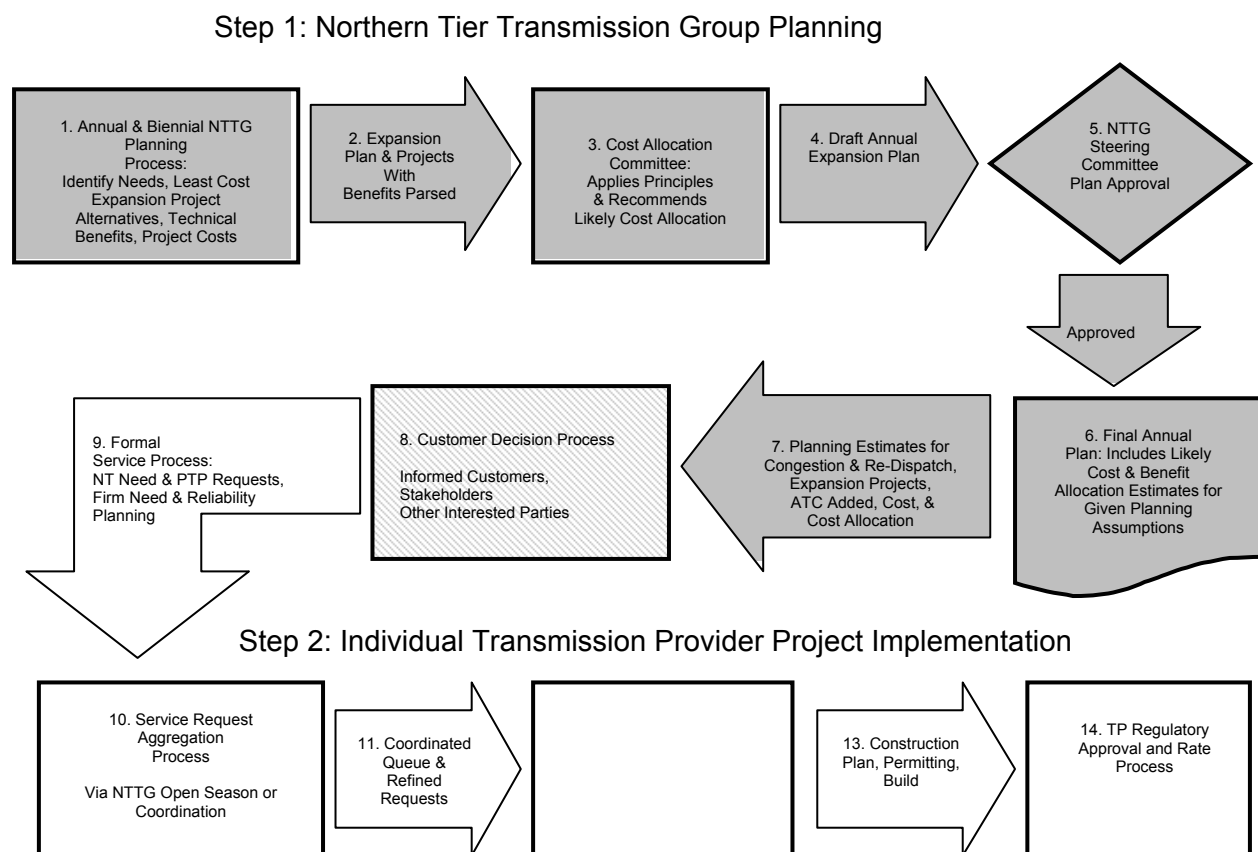
9. **Cost Allocation:** Multi-state Cost Allocation Committee to develop and apply cost allocation principles
- NTTG has established a Cost Allocation Committee that reports to the Steering Committee and interfaces with the Planning and Transmission Use Committees
  - Composed of State regulatory and agency representatives and publicly or consumer owned NTTG member representatives
  - Develop cost allocation principles and guidelines
  - Will apply principles to recommend cost allocation among beneficiaries of expansion projects with Planning Committee and Project Sponsor input on benefits associated with new projects
  - Review and explore new pricing, cost recovery, and joint tariff proposals for the sub-region
  - Represent NTTG on regional and national transmission pricing, regulatory and cost recovery forums
  - Develop cost recovery mechanisms for members to recover costs of participating in planning process.
10. **Other Requirements:**
- **Independent Third Party Coordinator:** As the NTTG organization evolves, the Steering Committee will evaluate the need for the Planning Committee to explore the benefits and costs of establishing or contracting with an Independent Coordinator of Transmission or other for planning.
  - **State Participation:**
    - NTTG is a collaborative organization with State and government agency participation and responsibility at all levels, from all states in the NTTG footprint.
  - **Flexibility in Implementation:** The similarly situated members and stakeholders of the NTTG footprint have worked together in an open stakeholder process to develop this planning process proposal to fit their specific situation and to effectively integrate their combined system into the Western interconnected grid in a seamless and single system fashion. The multi-state and multi TP system NTTG members and stakeholders appreciate FERC's flexibility in this development.
  - **Recovery of Planning Costs:** Funding work group of the Steering Committee will determine the appropriate funding amounts that NTTG members and other planning process participants are responsible for to fairly allocate the costs of participation in the planning process assuring cost recovery. NTTG members directly provide staff analysis and study support. NTTG members are allocated remaining costs of the planning process after other participating Planning Committee members pay a fixed flat-rate annual participation fee.
  - **Open Season for Joint Ownership:** Aggregation, batching, and clustering of transmission requests will be encouraged in both the Planning Step and OATT Service Request Implementation Step of the two step process. The member's OATT processes will be structured to align service requests to facilitate open season process or joint/linked service requests and subsequent processing.

## The Two Step Planning and Implementation Process

### Step 1: NTTG Planning:

Figure 2 outlines the proposed NTTG process that integrates the multiple TP members and stakeholder planning process which leads to OATT implementation and the formal service request process.

Figure 2: Two Step Planning and Implementation



The Step 1 procedures are intended to develop a plan to meet the member's needs on a single system basis after review of the aggregated needs and of input of stakeholders. The plan will inform customers and potential project participants of the technical capabilities and costs of the system to provide ATC, re-dispatch, conditional firm, or other products; identify needed expansion; and estimate cost and benefit allocation.

In the process indicated by Block 1 of Figure 2, the Annual and Biennial planning process collects needs and proposals from stakeholders, identifies and evaluates least cost project alternatives to meet the combined member and stakeholder needs, and estimates expansion costs. The transfer capability and reliability benefits of new expansion will be identified. This effort is

coordinated and synchronized with planning at the regional level and with other sub-regional efforts as described below in the Three Level Process.

Planning data (Block 2) will be sent to the Cost Allocation Committee (Block 3) which will review the costs and benefits of the expansion, the needs of both stakeholders and TPs, and will recommend cost allocation for new projects using the principles and project classification in the Cost Allocation Principles Straw Proposal Paper (Appendix 1).

Expansion plans including the planning level project costs and cost allocation estimates using given planning assumptions will be documented in the Annual and Biennial Plan Report which will go to the NTTG Steering Committee for review and approval (Block 5). Once approved, the Final Plan is issued to all interested parties (Blocks 6, 7). In the process in Block 8, customers will use the information in the plan to inform decisions as to whether or not to make a formal service request for transmission products or for expansion.

The plan will contain congestion and economic dispatch analysis produced by TEPPC and NTTG members estimating levels of congestion and re-dispatch options such that customers can make informed requests about ATC, re-dispatch, conditional firm, or transmission expansion. For expansion options, customers would have the ability to determine if their single request by itself would justify expansion, or if their single request needed to be aggregated or partnered with others to justify an otherwise impractical or overly expensive expansion project.

## Step 2: TP Implementation Process

This step encompasses the TP members formal OATT processes, construction, and regulatory / rate activities. Following the Customer Decision Process which was informed by the approved Plan, the TPs receive formal OATT requests for service and firm NT load and resource estimates from customers via their local annual reliability planning process (Block 9). Stakeholder expansion brought into the step 1 planning process and in the Plan that were speculative or dependent on favorable cost allocation, and for which they now elect not to pursue, will be deleted from the relevant reliability planning base cases.

The NTTG process will align the member's individual OATT timelines such that either through an open season, common queuing, or coordination process, customers can aggregate formal requests to the TP members so that joint projects or multiple TP projects can be studied and implemented (Block 10) in NTTG.

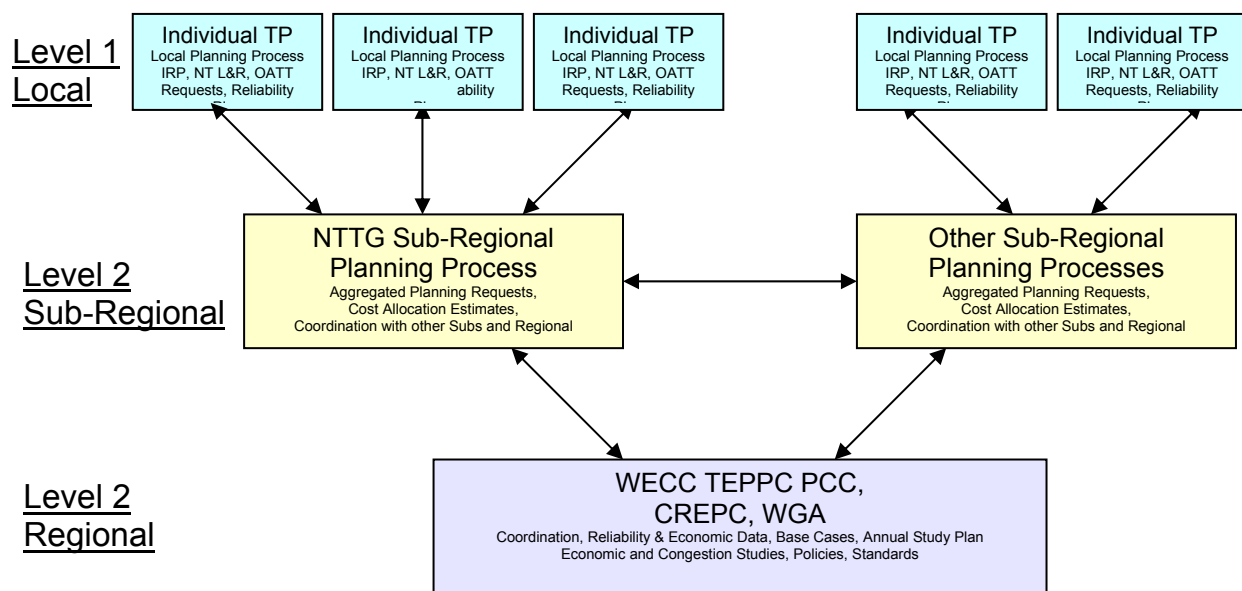
Coordinated, refined, and common queue requests can then be assigned to individual TPs or TP teams to perform detailed impact, and facility studies (Block 12). Facility agreements would be executed by the respective TPs. Construction planning, permitting, building, followed by Regulatory approval is indicated in Blocks 13 and 14. If the resulting expansion was similar to the Plan's expansion plan and assumptions, it is expected that the ultimate cost allocation and recovery approvals (Block 14) would align with recommendations in the Plan.

## **Three Level Coordination Process:**

Because the multi-owned and operated transmission grid system operates electrically as a single system, planning processes at the various levels need to be integrated.

NTTG's straw proposal will describe the following three level planning processes in the Western Interconnection (Figure 3).

- A. Local Process – Level 1
  - Individual TP transmission planning,
  - IRP planning,
  - OATT formal implementation process,
- B. Sub-regional planning processes – Level 2, and
- C. Regional processes – Level 3.



**Figure 3: Three Level Planning Process in the West**

Each of these processes must incorporate the functions of long-range load and resource adequacy planning, transmission reliability and economic performance analysis, expansion planning, and transmission control area operations analysis and planning in the west.

This section will further detail the Northern Tier Transmission Group Sub-Regional planning cycle process and how it will integrate into the individual NTTG TP member's local planning and OATT processes, and integrate with the western interconnection regional planning processes facilitated by the Western Electricity Coordinating Council (WECC) and the Committee on Regional Electric Power Cooperation (CREPC). The WECC and CREPC processes include the WECC/CREPC Load and Resources, and Resource Adequacy processes, the WECC Reliability Planning and Operating processes, the WECC TEPPC, and Western Governor's Association economic planning process.

These three levels, their relationships, data flow and reporting requirements are shown in Figure 4. The individual TP local planning processes are shown in blue. The Sub-Regional planning level is shown in yellow, and the regional WECC/CREPC planning cycle is shown in violet. NTTG's sub-regional planning proposal synchronizes with the three western level cycles and incorporates its member's local planning processes to allow stakeholders to understand and become involved at any level they desire.

### Detailed on Processes

This section describes in more detail the proposed processes and relationships for the TP Local Planning Process, the NTTG and other Sub-Regional Processes, and the WECC Regional Process. Figure 4 indicates the data and product flow between participants and processes some which will require formal agreements between organizations. These are shown with process arrows that are described below. Figure 6 indicates how the three level's work flows need to be aligned in time over the annual (and biennial) time frame. The decision on portions of the process that need to be annual or biennial will be determined after review of the fit of all Western Interconnection straw proposals and final NERC requirements and before finalization of TP Attachment K's.

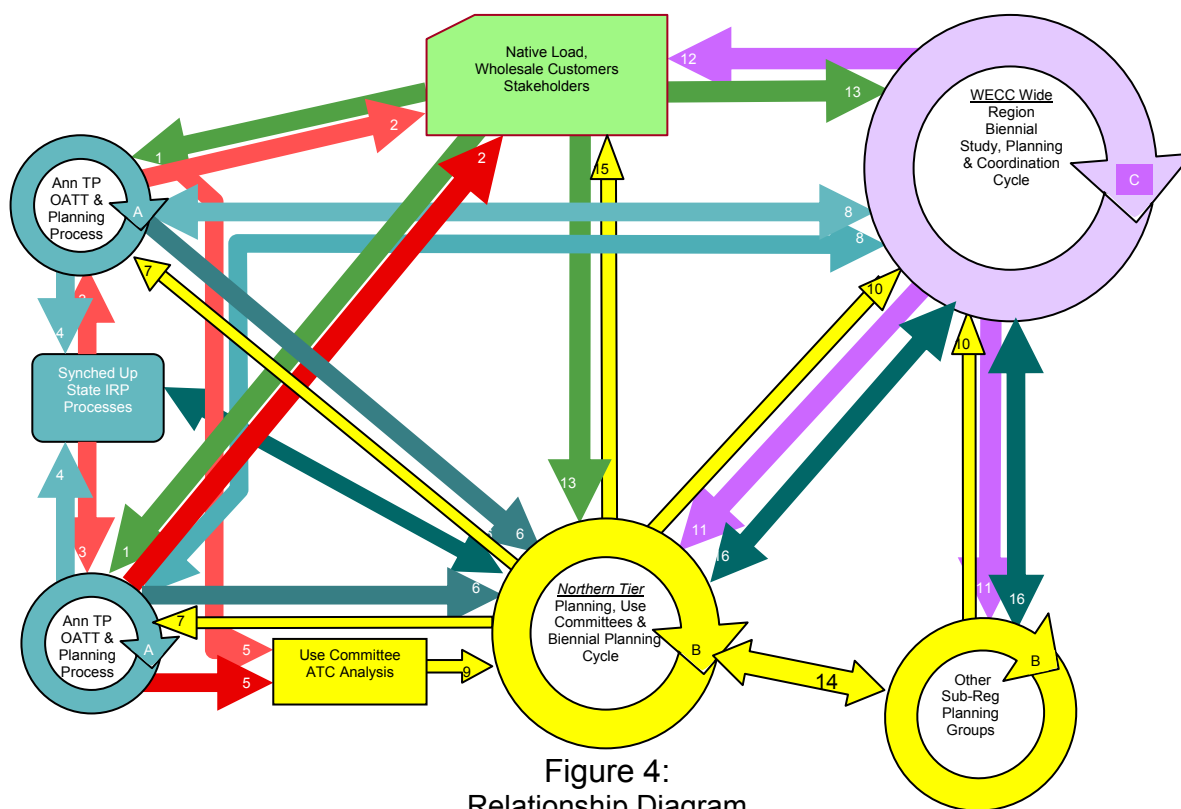


Figure 4:  
Relationship Diagram  
Synchronized Planning Cycles,  
Data and Product Flow  
**Western Interconnection**

**Blue:** Level 1 - Local  
**Yellow:** Level 2 - Sub-Regional  
**Violet:** Level 3 - Regional

#### A. Transmission Provider's OATT and Local Planning Process

Transmission service on an individual transmission provider's system is governed by its OATT. In the TP local planning process, stakeholder and customer involvement comes via OATT requests, annual network customer L&R identification (from associated IRP processes and other), and stakeholder review/meetings related to annual TP reliability planning studies. Since the TP is ultimately responsible for insuring compliance with FERC OATT and Order 890 requirements as well as NERC Planning Standards, customer requests remain to be handled formally under the OATT (represented by process arrow 1 and the Customer Stakeholder Green Box on Figure 4). Each TP planning process involves the following:

- Network load customers (LSE's) go through a load and resource adequacy IRP planning process with each respective state and an open stakeholder process. We propose that this be synchronized with all the Northern Tier states aligning on the calendar and process, and also aligning with the CREPC and WECC L&R Subcommittee's annual L&R and Resource Assessment process.
- TP annually acquires firm forecast of load and network resources from customer LSE's and updates system models
- TP does base system reliability study and expansion plan with customer/stakeholder input and participation.
  - Including requested reliability re-dispatch and analysis and economic expansion alternatives
- Point-to-point (PTP) Customer service requests may come into the TP during an open period
  - Including aggregated or joint requests from customers informed by Sub-Regional and Regional studies, congestion analysis, and planning reports
- System Impact studies performed for individual PTP service requests and which may result in queue position.
- Under this straw proposal, if no ATC is available and customers informed by the step 1 Plan request:
  - Planning Re-Dispatch or Conditional Firm Studies are performed by the TP as part of the system impact study
  - Re-dispatch and conditional firm studies utilize congestion studies performed by TEPPC and coordinated by NTTG to identify customer's generation re-dispatch possibilities in other control areas, to the extent possible. The requesting transmission customer would be obligated to make financial arrangements with non affiliate resources and those located in adjacent control areas.
- Under this straw proposal and in conjunction with the Transmission Use Committee, OATT data on service granted or denied goes into an ATC database and to the NTTG Transmission Use Committee for analysis and to formulate planning study requests to the NTTG Planning Committee. From historic posted Re-Dispatch, costs by unit go into the database and forwarded to Use Committee for reconciliation.
- TP will continue to provide WECC area coordinators with powerflow/stability and production cost data organized by control area, and 5 and 10 year plan of system configuration with new required additions to meet customer requests and reliability needs via the WECC reliability coordination procedures.

## B. NTTG Sub-Regional Planning Process

The purpose of the TP's OATT process is to provide and charge for service on the individual TP's transmission system. Planning analysis required is formally requested and charged to the requesting customers in cases where it is not rolled into transmission rates.

The NTTG straw proposal's purpose for the new sub-regional planning process is to inform customers, stakeholders, and other TP's of the condition of the interconnected system from a broader perspective so that they can make more informed individual service requests of individual providers, or aggregate and partner in pursuit of larger projects and service from coordinated multiple member TP's - service that one provider can't easily provide.

The purpose of the NTTG Sub-Regional planning process is to:

1. Combine individual member's service request forecasts, long range IRP requirements, transmission stakeholder requests and input, and NTTG Transmission Use Committee ATC requests into a combined membership wide load, resource, and service requirement tabulation and explore synergies with customers and stakeholders.
2. Forecast reliability and congestion performance of the member's individual and combined planned transmission system in meeting the combined needs requirements of 1 above. The analysis is performed using TP member staff and analysis capability. NTTG will rely on the TEPPC economic study process to help perform required regional congestion studies that will inform NTTG stakeholders as well as better identify expansion opportunities to be studied in the annual planning process.
3. Evaluate (performance and cost) a set of planning committee agreed upon expansion plan alternatives for the combined system, and report on performance and costs of each (See Planning Decision Process and Stakeholder Input below).
4. Prepare, present, and distribute a combined annual (and biennial for longer term) sub-regional plan that includes expansion alternatives, assumptions, and estimated expansion project benefits and costs, and recommendation of cost allocation as estimated by the Cost Allocation Committee.
5. By application of the cost allocation principles identified in the Cost Allocation Principles Straw Proposal Paper (Appendix 1), the Cost Allocation Committee will estimate the cost responsibility and cost recovery methods likely for the expansion projects.
6. Coordinate and manage planning with other neighboring sub-regional planning groups where needs and proposed projects overlap or affect one another. Manage by negotiating for NTTG stakeholders their desired alternatives to be included in the western combined regional/sub-regional Annual Combined Study Plan (ACSP) with WECC and the other Sub-regions. Also the NTTG Planning process and Committee will manage any NTTG participation in joint study teams established in the ACSP.
7. Coordinate and manage planning integration and processes with regional WECC/CREPC planning including compilation of annual study plan assignments and data.
8. Develop and maintain appropriate planning criteria, guidelines and standards; and interface with NERC, NAESB and WECC standards processes.



The NTTG sub-regional planning process responsibilities are assigned to committees as follows:

1. Planning Committee and its Planning Sub-Committees

Manages Annual Sub-regional Planning Process

- Prepares study plan and obtains TP planners to staff Planning Technical Sub-Committee to perform required studies
- Facilitates periodic Committee and Subcommittee meetings and process
- Receives Stakeholder requests and input
- Coordinates L&R and resource adequacy analysis and data with WECC
- Selects expansion options for study and inclusion in the study plan, and determines scenarios and assumptions used in studies.
- Prepares request to WECC for planning base cases and annual studies for WECC PCC Study Process
- Prepares economic and congestion study plan request to TEPPC, oversees compilation of production cost data for TEPPC and reconciliation of data with the Transmission Use Committee, manages economic and congestion studies performed by NTTG members.
- Oversees TP data exchange with WECC
- Develops study resource, manpower staffing (from TP staff) and budget plan for submittal to Steering Committee

Develops economic and expansion evaluation criteria to guide selection of plan projects.

Assembles Study Teams for project studies, Annual and Biennial Plan studies, and report preparation

- Study Team staffing comes from Transmission Providers and interested stakeholders

Oversees the performance of analysis by study teams to identify capabilities, benefits and costs of expansion alternatives, and the breakdown of benefits and costs to benefiting parties and into the types of benefits identified by the Cost Allocation Committee.

Assembles Sub-Regional Plan

- Prepares Plan Report and presents/distributes to interested parties
- Plan contains: the Sub-Regional Transmission Expansion Plan (also referred to as “SRTEP”) that shall enable the transmission needs in the NTTG Region to be met on a reliable, economic and environmentally acceptable basis.

Contents of the Sub-Regional Transmission Expansion Plan

- a) The Plan shall consolidate the transmission needs of the NTTG region into a single plan, which is assessed on the bases of maintaining reliability in an economic and

environmentally acceptable manner and in a manner that supports competition in the NTTG Region.

- b) Horizon at least 10 years.
- c) Will identify the costs and benefits of expansion alternatives to best meet the aggregated needs of the members and stakeholders and parse these costs and benefits into the cost types identified in the Cost Allocation Principles Work Group.
- d) Will estimate the most likely cost allocation and ownership method for each project and how costs are likely to be recovered.
- d) Congestion studies showing the costs of congestion (planning re-dispatch) with planned resources with and without the addition of expansion options. Will also estimate the hours of curtailment if re-dispatch from control area owned generation is insufficient for reliability.
- e) Will show results of incremental expansion on various representative constraining paths from load and generation areas of general interest (such as renewable energy zones) so that customers and stakeholders can determine the merits of further evaluation of joint projects or the value of participating in an open season.
- f) Will:
  - Identify projects that unnecessarily duplicate facilities;
  - Seek to avoid imposition of unreasonable costs but will identify the costs of expansion proposals
  - Consider the legal and contractual rights and obligations of TOs;
  - Provide, if appropriate, alternative means for meeting transmission needs;
  - Operating assumptions will be based on operational efficiency of wholesale markets;
  - Coordination with existing systems and with regional and local plans via the three level combined synchronized planning cycle

#### Coordinate with other Sub-Regional Planning Groups

- Prepares and manages Joint Study Team agreements
- Negotiates Coordinated regional/sub-regional study plan and study team assignments
- Monitors performance of joint study teams and coordinated study plan

Facilitates the coordination of individual TP OATT Service request processes to align process timing and queue positioning to handle aggregated requests for service involving multiple member transmission systems.

## 2. Cost Allocation Committee

- a) Develops the transmission line cost classification scheme through grouping types of transmission costs by transmission purpose from accepted practices

- b) Prepares cost allocation principles to be used when determining the appropriate cost allocation method for the various types of transmission costs.
  - c) Reviews planning recommendations on split of technical benefits resulting from added transmission expansion and facility rating.
  - d) Applies cost allocation principles and recommends cost allocation of expansion projects by parties for a particular Transmission Plan.
  - e) Reviews the final Annual and Biennial Plan report for recommendation to Steering Committee.
3. Transmission Use Committee (duties related to Planning)
- a) Performs statistical ATC and use analysis
  - b) Requests Planning Committee to perform (or negotiate with TEPPC to perform) joint ATC, congestion studies, and re-dispatch.
  - c) Explores conditional firm product potential availability from historic use
  - d) Determines clustered and joint use interest from analysis and from stakeholder input
  - e) Requests Planning committee to study expansion alternatives and forecast future planning re-dispatch and conditional firm terms and conditions
  - f) Reconciles economic planning production cost data and posted re-dispatch incremental costs
4. Steering Committee
- Provides overall NTTG management and dispute resolution
- Approves policies, guidelines, procedures and initiatives brought forward by the other committees
  - Insures appropriate resource allocation and cost recovery of committees operating costs
  - Fields, negotiates and resolves disputes not resolved at other committee levels and if needed recommends and oversees NTTG's use of WECC ADR. Disputes can be raised by any participants in the committees including stakeholders and customers.

#### Committees Composition:

The balanced Steering Committee is composed of an executive level representative from each of the member TPs and a state regulatory and/or consumer representative from each of the interested states in which the members have transmission. Decisions are made by consensus and assumed to be balanced and independent of any one member or group.

The Planning Committee is composed of TP member staff, interested stakeholders, and other participants who wish to be on the Planning Committee. The Cost Allocation Committee is composed of representatives of state regulatory and/or consumer affairs governmental agencies from each of the footprint states, and publicly or consumer owned members.

#### Planning Committee and Stakeholder decision process

The Planning Committee/Stakeholder decision process to select projects to include in the planning process and for other decisions is described below:

Stakeholders and participants are invited and encouraged to participate in all three levels of the Annual Combined Synchronized Planning Process. At the TP level their participation is formalized in the OATT tariffs.

In Northern Tier's sub-regional planning process, stakeholders and others that wish to participate are members of the Planning Committee and its sub-committees. The membership is organized into member voting classes that are organized via a self selection process. Classes include TPs, Transmission Dependent Utilities (TDU's), generating entities, end use customers, and regulatory/state agency categories (as negotiated with the other three level organizations between now and Attachment K finalization). Voting by class will be used to make decisions on study plans and to prioritize the number of planning alternatives to be reviewed in the annual study process. Members of the various classes will self select their voting representative to the Planning Committee's Policy Committee and instruct them on how to vote representing their class when voting is required. Classes will elect their representatives to vote their negotiated position at the Regional level (WECC TEPPC) when study prioritization limits the number of studies that can be completed in a study cycle.

The annual study plan will include review of congestion studies, historic use and ATC as recommended by the Use Committee, and future requests for study as posted on the planning committee website. The annual study plan will aggregate constrained areas and paths such that a reasonably limited set of representative projects will be studied that will inform participants on the merits of the majority of their more specific expansion proposals.

The Planning committee with recommendations from the Use Committee will develop a list of congestion studies for NTTG Planning members and WECC TEPPC to perform for the annual plan. If in the determination of the annual study plan, there are too many expansion projects to properly evaluate, the Planning Committee shall vote to determine the expansion projects included in the limited studies.

These recommendations will be made at the annual TEPPC Study Plan Development Workshop where the study plan for TEPPC and the Sub-regions will be established in a prioritization and allocation process. It is expected that the participant class voting representation process will be used also at the TEPPC level to vote on the set of studies if all cannot be accommodated. It will be recommended that the participant class structure and self selection method of selecting voting representatives be accomplished through an annual Participant Congress process and that customer/stakeholders will coordinate their requirements in the open process so that the TEPPC and Sub-Regional study plan development process rolled up from the sub-regional requests will be most equitable.

#### Coordination with Other Sub-Regional Planning and Transmission Groups:

In addition to NTTG, within the Western Interconnection there are several other Sub-Regional Planning Groups established. They include WestConnect's Colorado Coordination Planning Group (CCPG) and the Southwest Area Transmission Group (SWAT), the California Planning Groups being formed with the CaISO Planning Group, Columbia Grid's Planning Committee, and the two planning arms of the Northwest Power Pool (Transmission Planning Committee (TPC) and NTAC). Each sub-regional group is composed of member transmission providers with common interests, geography, resource type, jurisdictional/regulatory oversight, or customer demographics. Each has detailed knowledge of their member TP's issues and

requirements. Sub-regional groups of TPs and stakeholders with like interests and similar transmission needs provide for easier and more direct participation by interested parties. All listed sub-regional groups coordinate regionally through and under the umbrella of WECC.

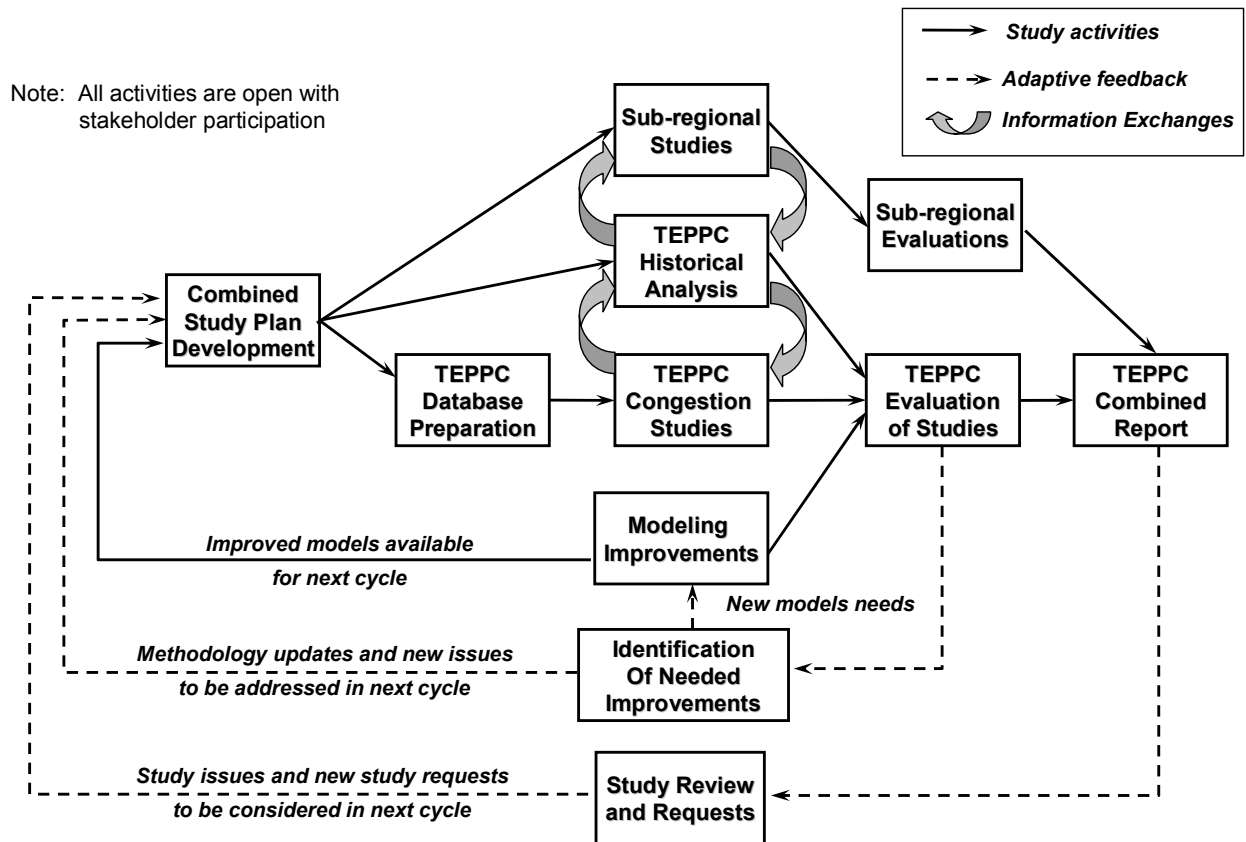
The Northern Tier Sub-regional Planning Group will also directly coordinate with neighboring Sub-regional Groups in addition to WECC. Where projects or interests overlap more than one sub-regional group, customers will be free to participate in the sub-regional group they choose and may initiate project ideas where they wish. When a project or expansion plan is such that it affects the members of more than one sub-regional group, the sub-regional groups affected will establish a joint study and stakeholder team to develop the required analysis and planning that will be reported in both sub-regional plans. An annual study plan development meeting will be coordinated by WECC in the Regional Planning Process to prioritize the number of joint and stakeholder planning studies requested to be done at the sub-regional and regional levels, and to identify and make visible the lead planning group for the studies. For a specific project, a customer or stakeholder will need only to participate in one planning organization.

### C. WECC / CREPC Regional Transmission Coordination and Planning Cycle

Within WECC, there are several regional west wide processes that coordinate planning data exchange, and coordinate both reliability and economic expansion planning. These are attached in Appendix 2 the WECC Planning Coordination Committee Handbook and Appendix 3 the WECC TEPPC “Proposed Western Transmission Planning Process Straw for TEPPC and Sub-regional Review”. Relevant process that involve the local, sub-regional, and regional level for planning include:

- Confidentiality Agreements for WECC Data and Planning Data
- Guidelines for Exchange of System Data
- Procedures for Regional Planning Project Review and Rating Transmission Facilities
- Procedures for Rating Transmission Facilities (Facility Rating Process)
- Annual Study Plan
- Base Case development
- Reporting Process for the Collection of Loads and Resources Data
- Data Compilation and Verification Process
  - Powerflow and Stability
  - Loads and Resources
  - Production Cost and Unit Commercial
- TEPPC (See Figure 5 for present TEPPC Planning Cycle)
  - Annual Congestion Studies
  - Economic Study Data Base compilation process
  - Production cost data reconciliation with Sub-Regions re-dispatch price posting data
- Standards Development Procedures
- Operations Coordination
- Market Interface Committee Procedures
- NERC NAESB Coordination and Liaison

## *A Synchronized Study Cycle*



**Figure 5: Western TEPPC Study Cycle**

Additional details on the WECC processes are found on [www.wecc.biz](http://www.wecc.biz). For example, the WECC Facility Rating Process is the transmission rating process that project participants should follow to demonstrate that their project meets the WECC Reliability Criteria for Transmission System Planning. This rating process takes place after planning of the facility and is the responsibility of the project sponsor. It provides protection to the existing capability of the system as well as establishes a verifiable rating for the new facilities. Not all projects need to go through the rating process.

This straw proposal proposes to use and keep intact as many of the WECC processes as possible. Following acceptance of the NTTG straw proposal and the corresponding WECC level straw proposal incorporated in this proposal, some tuning and alignment of these process will be accomplished (see Figure 4 and 6).

### D. Load and Resource Coordination and Resource Adequacy

Because it will be critical to align individual member planning processes and timing, NTTG will attempt to align its LSE's individual IRP process planning calendars. As part of this process NTTG will also attempt to align the NTTG IRP calendars with other western State's IRP processes so that consistent Load and Resource assumptions can be made in each of the three levels of planning cycles. This alignment will also give CREPC or the Western Interstate Energy Board (WIEB) and the WECC L&R Sub-Committee the opportunity to evaluate Resource Adequacy and encourage refinement of L&R planning up front in the planning cycle.

## **Process Agreements:**

The annual three-level, combined synchronized planning process relies on the planning cycles at each level exchanging data, studies, standards, information and reports at various and critical times of the year for each level to be successful. However, ultimately the TPs remain responsible for insuring a planning process that meets order 890. The TP's will be reviewed for FERC compliance and may be assessed civil penalties if any part of the synchronized process they rely on fails.

In order to insure the planning processes fit together, formal agreements will need to be established for data and products that need to pass between the TPs, Sub-regional Groups, and WECC/CREPC. WECC now has authority to assess penalties for certain late data and other reporting requirements. This straw proposal proposes that there will be Memorandums of Understanding or other formal agreements between the member TPs, their Sub-Regional Group, and WECC. Also proposed is that there are similar agreements between neighboring Sub-Regional groups in which joint study teams or other coordination is required for success.

Figure 4 illustrates the types of information, data, and products that flow between planning levels and cycles, and that therefore need to have agreements covering delivery, formats, quality, and timing. Figure 6 illustrates the timing alignment of processes in the combined planning cycle.

Below are descriptions of the process relationship arrows in Figure 4.

- |         |  |
|---------|--|
| Arrow 1 | OATT Service Request Process - Requests from Customers<br>Network <ul style="list-style-type: none"><li>• LR Forecasts from network customers</li></ul> PTP <ul style="list-style-type: none"><li>• Request for Study</li><li>• Request for Service</li><li>• Joint or Aggregated requests from customers based on Sub-Regional Plan</li></ul> |
| Arrow 2 | OATT Request Response from TP to specific customer <ul style="list-style-type: none"><li>• Impact Studies</li><li>• Queue Position</li><li>• PTP and NT Service</li></ul>  |
| Arrow 3 | IRP Process <ul style="list-style-type: none"><li>• Synchronized Network and Native Customer Load forecast</li><li>• Synchronized Resource Plans</li></ul>   |
| Arrow 4 | Customer L&R Forecasts   |
| Arrow 5 | Path ATC and Use History <ul style="list-style-type: none"><li>• Historical unit re-dispatch cost data</li></ul>   |
| Arrow 6 | Staffing for Sub-Regional level Planning Studies   |

- TP Annual 10 year Exp Plan
  - Base Case development request
  - Copy of data sent to WECC
- Arrow 7      NTTG and WECC Coordinated Annual and Biennial Plan
- Data Review
  - Data coordination standards
  - Other Rules and Standards
- Arrow 8      Data to WECC
- Confidential Powerflow and Stability Data
  - Confidential Production Cost Data
  - System Configuration and Constrained area bubble diagrams
  - Control Area configuration data
- Arrow 9      ATC and Expansion Study Requests
- Congestion Study requests
  - Joint congestion, re-dispatch, conditional firm study requests to Planning Committee
  - Validated Re-dispatch Prices report
- Arrow 10      Congested Area bubble diagram and system organization
- Data rules and organization into Control Area
  - ATC paths
  - Coordinated 10 Sub-Regional Plan and Report
  - Sub regional Guidelines and Standards
  - Aggregated base case development plan request
  - Coordinated L&R
- Arrow 11      Annual Prioritized Study Plan
- West Wide Annual and Biennial Year Plan
  - Standards
  - Congested Path Ratings
  - Annual Congestion Studies
- Arrow 12      Study Reports
- Informing Congestion Studies
  - Informing Biennial 10 Year Plan
- Arrow 13      Direct Customer Coordination and input into Planning Processes
- Direct Customer Planning Study Requests
  - Cluster Study Requests
  - Stakeholder determination of triage of study plan
- Arrow 14      Coordination of Overlapping or Affecting projects
- Establishment and management of Joint Study Teams
  - Data coordination



- Standards coordination
- Seams coordination
- ATC and other

Arrow 15 Informing Studies and Expansion Plans

- ATC Map and Use Products
- L&R Summary

Arrow 16 WGA WIEB CREPC Coordination

- Resource Adequacy Reporting
- Planning Reserve Analysis

### **Figure 6 – Annual Combined Synchronized Planning Cycle**

Figure 6 illustrates how the three level planning cycles fit together in the Annual Combined Synchronized Planning Cycle. This straw proposal uses this diagram as an example of the fit that will need to be coordinated and designed in the final detail for Attachment K. It is likely that to align with the WECC and other Sub-Regional Processes, that the NTTG Planning Process will have a two year process for long range expansion and an annual process for congestion and near term or fast track expansion. TPs are presently assessing the new NERC standards and will adjust as necessary. Each box represents at least one open stakeholder meeting and several meetings of the workgroup or committee participants.

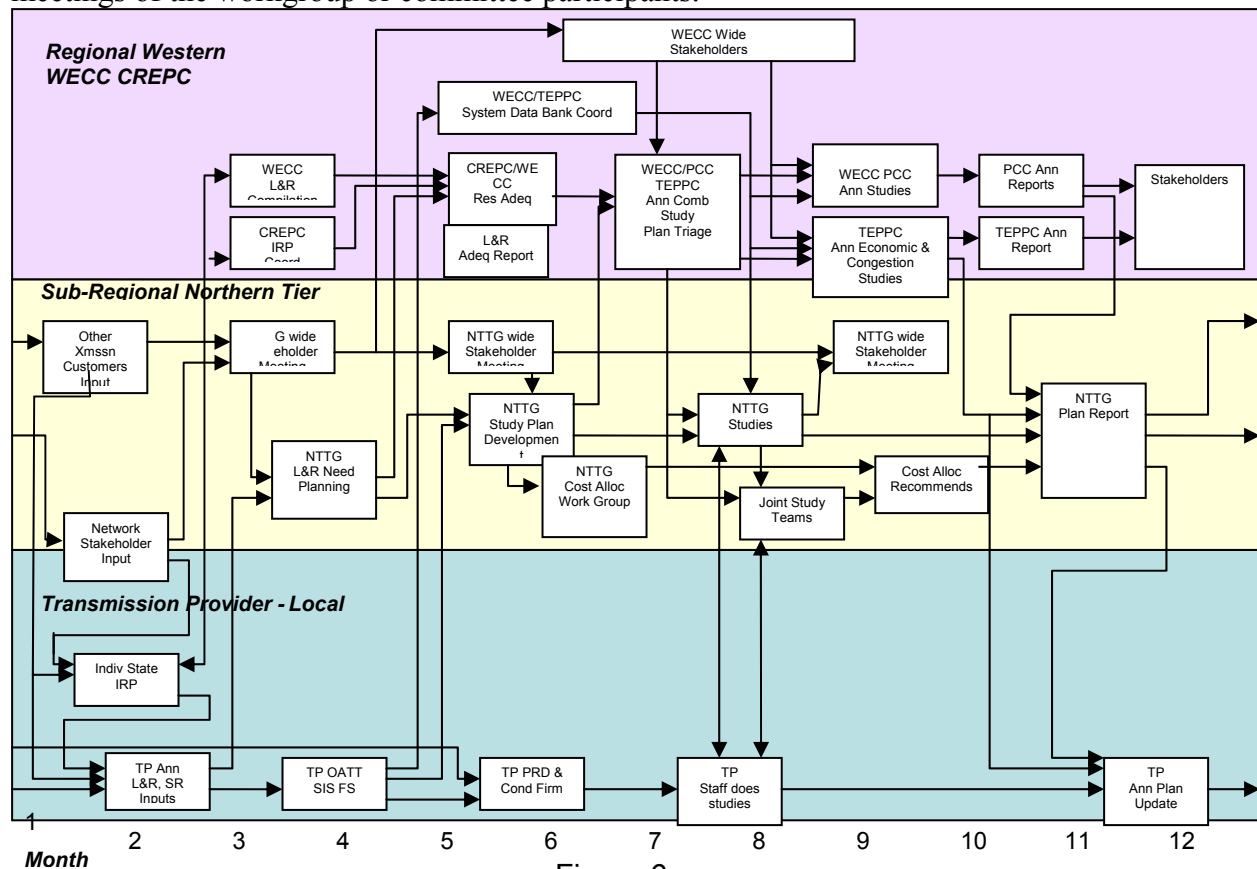


Figure 6:  
Annual Combined Synchronized Planning Cycle

**Attachments:**

- Figure 1 - Combined Northern Tier Transmission Group Member Transmission System
- Figure 2 - Two Step Planning and Implementation Process
- Figure 3 - Three Level Planning Process
- Figure 4 - Relationship, Data, Product Flow Diagram
- Figure 5 - TEPPC Study and Planning Cycle
- Figure 6 – Annual Combined Synchronized Planning Cycle - Sequence Diagram
- Appendix 1 – Cost Allocation Principles Work Group Straw Proposal Paper
- Appendix 2 – WECC Planning Coordination Committee Handbook
- Appendix 3 - WECC TEPPC Proposed Western Transmission Planning Process Strawman