

An Incremental  
Approach  
to Transmission System  
Improvements

August 10, 2005

# Who is TIG?

Avista Corp

City of Seattle

Clark County PUD

Douglas County PUD

PGE

PPC

Tacoma Power

BPA

Chelan County PUD

Cowlitz County PUD

Grant County PUD

PRM

PSE

WPUDA

- Emerald PUD and NRU signed the Participation and Funding Agreement as non-funding parties
- Other regional and state interests active participants

# What is TIG Trying to Accomplish?

- Address regional transmission problems incrementally
- Avoid creating new entities or activities that would be FERC-jurisdictional
- Retain regional control over transmission issues
- Rely on contracts and existing institutions
- Be cost-effective; minimize risk

# TIG Process

- Scope determined by initial “Charters”
  - Posted on website ([www.tig-nw.org](http://www.tig-nw.org))
- Footprint of Northwest Power Pool is potential geographic scope
- TIG attempted to craft solutions for the entire Northwest, not just those interests who chose to participate
- Accelerated process
  - April through July, 2005

# Philosophical Approach

- Simple, straightforward
- Build as you grow
  - Not try to do everything at once
  - Ability to self-correct
- Focus of initial implementation is on reliability/security and planning/expansion
  - Early enhancements regarding access
- Path forward to address complex commercial issues in the future
  - High-level proposals
  - Ability to incorporate Grid West technical work, as appropriate

# What TIG has Learned

- A lot can be accomplished without expanding FERC jurisdiction
- Similar efforts by responsible entities are working and producing tangible improvements
- Improvements will require financial and manpower commitments, but can be achieved
  - History of coordination
  - Prompting mechanisms

# How is the TIG Proposal Different?

- No new FERC-jurisdictional entity
- No expansion of FERC jurisdiction
- Governance (contracts)
- Cost
- Cost-control
- Incremental
- Local responsibility
- Alignment of responsibility with authority
  - Does not alter decision-making responsibility or fundamental relationships between utilities and their regulators and customers

# TIG Charter Areas

- Reliability and Security
- Planning and Expansion
- Common Northwest OASIS
- Market Monitoring
- Flow-Based Approach
- Legal Issues and Overall Structure

# FERC Jurisdiction

- The significant question for jurisdiction is whether a new entity has been created and, if so, whether it is a “public” utility within meaning of Federal Power Act
  - Public utility sells at wholesale and/or provides transmission in interstate commerce
- An entity that acts on behalf of a public utility is not necessarily a public utility itself; pertinent question is one of control

# FERC Jurisdiction

- MAPP is an association of electric utilities that provides certain transmission services over its members' facilities under a transmission tariff on file with FERC
- MAPP is not a FERC-jurisdictional public utility

# FERC Jurisdiction

- Initially, the MAPP services were provided under rate schedules of the individual jurisdictional members; for convenience, FERC requested that this be changed to a MAPP tariff
- As contractor for MAPP, MAPPCOR performs the following functions: (i) calculating ATC from data provided by members; (ii) operating the OASIS; (iii) receiving and evaluating transmission requests; (iv) granting or denying service; and (v) entering into service agreements

# FERC Jurisdiction

- Power exchanges may or may not be FERC-jurisdictional
- FERC has distinguished between “active” and “passive” power exchanges in orders determining which exchanges are FERC-jurisdictional

# FERC Jurisdiction

- FERC disclaimed jurisdiction over the Continental Power Exchange computerized bulletin board where price is determined through direct negotiation
- FERC found that APX was a public utility and thus jurisdictional because the computer program had an active role in setting the market-clearing price

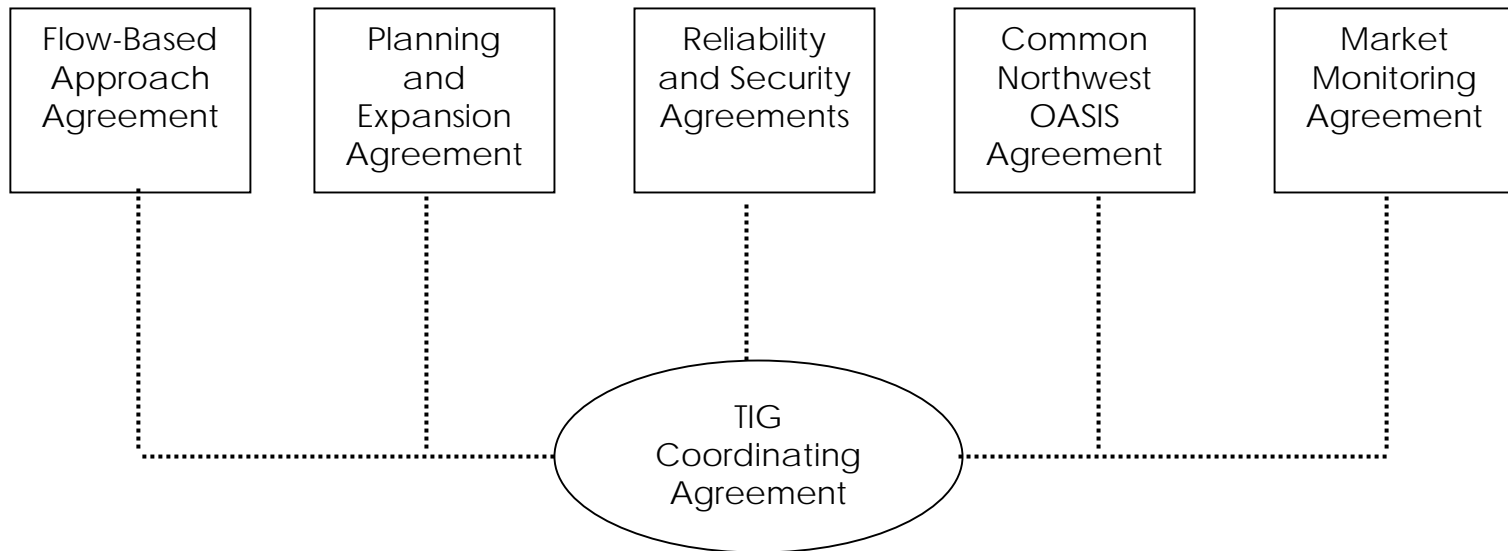
# Structure

- Individual functional agreements tailored to each situation (Implementation Agreements)
- Implementation Agreements stand alone; could be implemented individually or together
- Signatories are parties with responsibility to implement actions
- Umbrella coordination agreement (TIG Coordinating Agreement)

# Structure

- “Agents”, not “independent contractors”
- No new FERC oversight, beyond what exists today
- Existing Transmission Providers and market participants retain ultimate responsibilities

# Structure



# Committee Structure

- Implementation Agreements
  - Implementation Committees
  - Stakeholder Committees
- TIG Coordinating Agreement
  - Coordinating Committee
  - Executive Committee

# Reliability and Security

- Visibility
  - Enhanced monitoring, modeling, analysis, and data exchange
- Reserves- and Regulation-Sharing Programs
- Voluntary Coordinated Redispatch Process
- Voluntary Consolidation of Control Areas

# Visibility

- Enhance visibility of real-time (current hour), pre-operating hour (next hour), and day-ahead (24 hours prior to operating hour) operation to improve Northwest transmission system reliability and operating efficiencies
  - Pacific Northwest Security Coordinator system enhancements to include voltage and transient stability analysis capability; tools to analyze system conditions up to day-ahead to evaluate potential problems
  - Enhancements to the existing Northwest Power Pool outage management system

# Visibility

- Develop a common central database or clearinghouse (each TIG application could retrieve the information needed to perform its analysis from the common database)
  - Use to monitor performance trends, provide data to maintain system models, provide centralized reporting, and process information needed to analyze current and future reliability problems
  - Data in the database would be protected from disclosure and used solely for transmission analysis and improvements

# Reserves and Regulation

- Implement ACE Diversity Interchange
- Augment existing AGC systems with new generation control software
- Ease transfer of contingency reserve obligations among Control Areas (e.g., bulletin board or broker) and make delivery automatic
- Expand reserve-sharing pool to include Independent Power Producers
- Expand Northwest Power Pool staff to coordinate emergency plans

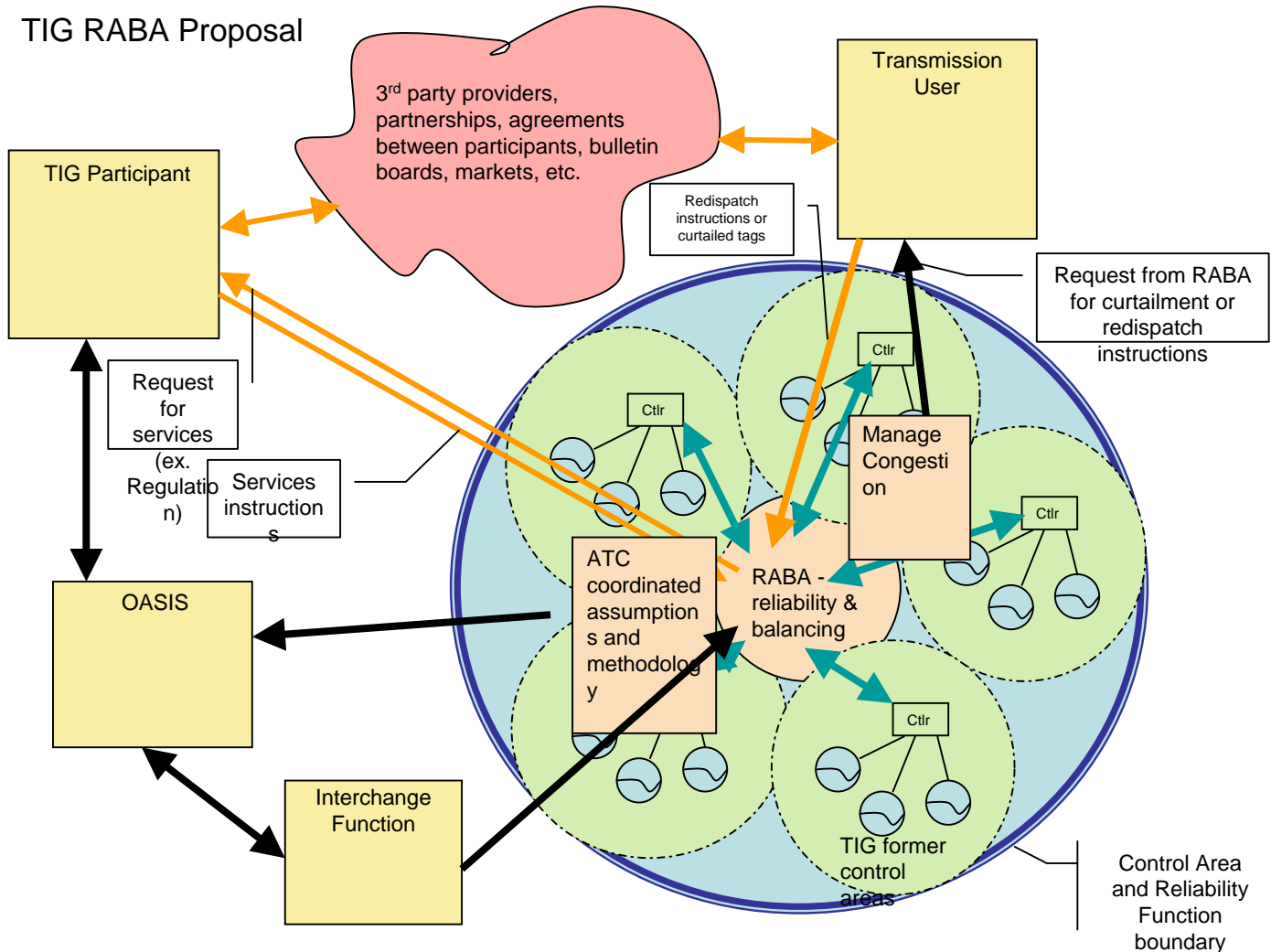
# Congestion Management

- INC/DEC bulletin board for generators to post voluntary bids (energy only)
- Bulletin board for transmission rights holders (and owners) to post bid/ask prices for schedule changes
- Broker minimizes costs
- Settlements are bilateral

# Voluntary Consolidation of Control Areas (RABA Features)

- Consolidation is voluntary
- Centralized Reliability Authority and Balancing Authority (RABA) for consolidators
- RABA orchestrates transmission operations – physical control remains in the hands of Transmission Owners
- Consolidators are responsible for bringing balanced loads and resources (including IOS)
- RABA calculates ACE and dispatches generation (based on economics and settled “pay as bid”) through the Transmission Owners’ existing control centers and control systems
- Congestion clearing through the use of participant’s generation offers or through the Voluntary Coordinated Redispatch Process

# TIG RABA Proposal



# RABA Infrastructure

- Primary (Dittmer) and backup control centers
- Redundant control systems (SCADA, AGC, etc.)
- Redundant data and voice communications
- Support systems (dispatcher training, data historian, load forecast, meter data, settlement, etc.)

# Phased Implementation

- 2005-2006 Requirements and design
- 2007 Systems and telecom development
- 2008
  - Q1 Transition to transmission operations
  - Q4 Transition to balancing operation

# Regional Transmission Planning and Approval

- Transmission plan development
  - Northwest Transmission Planning (“NTP”) staff and process
- Transmission plan approval
  - Transmission Expansion Review Council (“TERC”) Panel

# Principles

- Maintain roles of regulators and decision makers
- Provide open, transparent, and public processes
- Plan from a least-cost single-utility perspective
- Evaluate non-transmission alternatives
- Facilitate stakeholder participation
- Contract commitment and backstop authority via FERC, State, and local regulators
- Make ADR available for certain decisions

# Key Elements of Planning Process

- Independent Planning Staff
- Continued utility staff participation
- Open process for stakeholder involvement
- NTP Staff backstop for plan development
- Development of project sponsorship, participation, and support

# Planning Process Outputs

- NTP Staff leads development of a regional transmission plan including:
  - System assessment
  - Problem need statements
  - Plans of service
    - Reliability and firm obligations
    - Congestion relief
    - New load and generation requests for service
    - Local load service – information only (planning by local utilities)

# TERC – Plan Approval

- Approve biennial transmission expansion plan
  - 2-step approval process
  - Portions of the plan that are not approved are sent back to the NTP for further work
- Open process
- Provide opportunities for project sponsorship agreement
- Provide review and policy guidance to planning process
- Resolve disputes in planning process

# TERC Membership

- Membership organization
  - Transmission Owners
  - Transmission Users
- Decisions:
  - Elect TERC Panel members
  - Make revisions to voting procedures
  - Remand TERC Panel decisions
- State involvement (needed; TBD)

# TERC Panel

- Member representatives and independent panelists
  - 3 Transmission Owners
  - 3 Transmission Users
  - 3 Independents
- Approve or reject:
  - System assessment and problem need statements
  - Plans of service
  - Transmission Adequacy Standards
  - NTP budget
- Hire and evaluate NTP Staff manager

# Transmission Owner Commitments

- A participating Transmission Owner commits to:
  - Participate in the process and abide by the timelines
  - Sponsor or participate in a project, up to its legal ability, when it agrees with a TERC recommendation
  - Funds NTP Staff
  - Forms TERC

# Planning - Benefits

## Benefits:

- Regional transmission plan
- Well-defined planning and implementation process
- Independent transmission planning staff
- Closer tie between assignment of costs and benefits
- Timely decisions
- Improved means of resolving differences
- Open and public process
- Common regional queue for transmission requests
- Contractual commitment of parties
- Decision and regulatory responsibilities maintained

# Common Northwest OASIS

- Goals
  - Provide Transmission Users seamless purchase of transmission across all Northwest Transmission Providers
  - Provide Transmission Users better information on OASIS (offerings, queues, etc.)
  - Provide Transmission Providers tool to better manage OASIS
- Improved OASIS Features for the Northwest
  - Short-term (Northwest platform, common regional information)
  - Near-term (Common Northwest improvements: queue, ATC, products and services, enhanced information)
- Opportunity to participate in West-wide OASIS (westTrans)

# OASIS Decision-Makers

- Northwest Transmission Providers
  - Northwest Transmission Providers
    - Contract with vendor for “base OASIS system”
    - Appoint committee representative and alternate
    - Responsible for own OASIS compliance and individual OASIS improvements
  - Common Northwest OASIS Committee
    - Operates by vote – one per Transmission Provider
    - Develops Northwest OASIS proposal specifications
    - Commits Northwest Transmission Provider to pro-rata funding of Northwest OASIS improvements (current and future)
    - Customer Committee – Chair/Vice Chair non-voting members

# Other Involved Parties

- Transmission Customers
  - Current relationships
    - One-on-one with Transmission Providers
    - FERC complaint process
  - Northwest OASIS Customer Committee
    - Appoint representative and alternate
    - Join a Customer Group for membership
    - Fund “Customer-side” improvements
- Northwest OASIS Customer Committee
  - Operates by vote – one per Transmission User/Customer Group
  - Forum for discussion of Northwest and individual Transmission Provider OASIS issues
  - Coordinates and communicates Transmission Customer proposals for improvements
  - Chair/Vice Chair non-voting member of Common Northwest OASIS Committee

# Who Does What?

- Northwest Transmission Providers
  - OASIS compliance
  - Agree upon and implement Northwest OASIS improvements
  - Participate in training
- Northwest Transmission Users
  - Discuss and coordinate concerns and needs
  - Propose Northwest OASIS improvements
  - Participate in training
- OASIS Vendor
  - Provide OASIS and Northwest OASIS features
  - Provide Transmission Providers management and administration features

# Market Monitoring

- Independent market monitor
- Focus on transmission market and certain wholesale energy markets
- No enforcement authority
- Regular reporting to States, FERC, and public

# Market Monitoring

- Market Monitoring Committee
- Retention of vendor for monitoring services
- Vendor independent of market participants
- Incremental implementation: SOM Report in 2006, then additional analyses and investigations

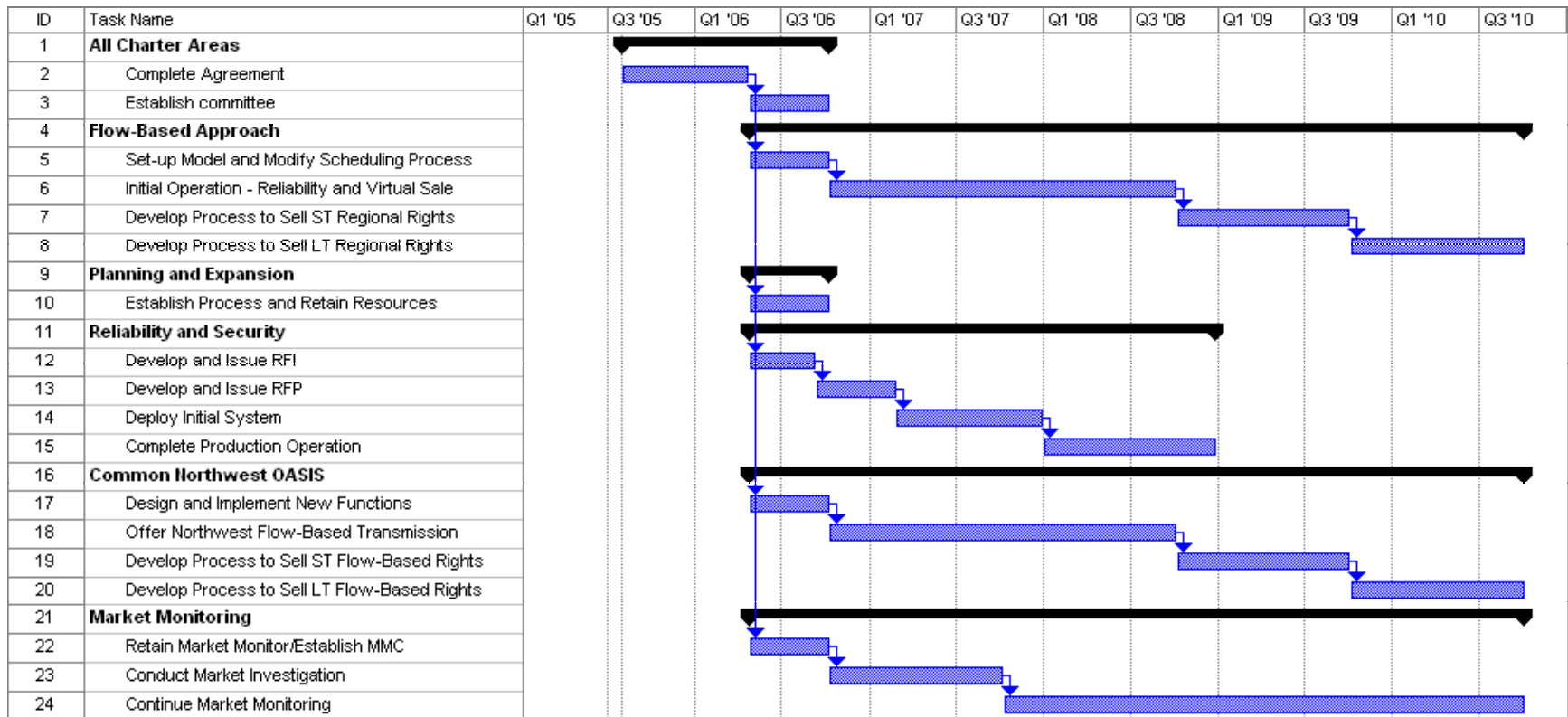
# Flow-Based Approach

- Goal
  - Transition to flow-based approach for reliability, operations, planning and expansion, and sale of new rights
  - Protect and honor existing transmission rights
- Functions
  - Model
  - Transmission Provider Assumptions
    - Bus groupings
    - Netting
    - TRM
    - CBM
    - Network rights
    - How pre-existing contracts would function
    - How conservative new sales should be
- Scheduling
  - Injection and Withdrawal
  - Bus Groupings

# Flow-Based Approach

- Implementation
  - Incremental with Clear Decision Points
  - Step One - Get Methodology in Place
  - Step Two - Use output for operational and reliability purposes; perform virtual transmission rights sales
  - Step Three
    - Phase 1 – Sell short-term system-wide injection and withdrawal rights
    - Phase 2 – Sell full complement of system-wide injection and withdrawal rights
- Timing
- Joint tariff for sale of ATC (existing but unused capacity; new capacity resulting from upgrades or new facilities)

# Implementation Timeline



# Next Steps

- Educate and inform region about proposal
- September Memorandum of Intent re Phase II
- Regional evaluation of proposal and other alternatives
- If agreement reached on some or all proposals, move to contract drafting