



***Integrated Proposal for
Decision Point 2***

July 27, 2005



Integrated Proposal

- Background
- Governance
- Market and Operational Design
- Pricing Design
- Estimated Benefits and Costs
- Funding
- Summary



An Integrated Proposal

- **Describes a one-utility approach to transmission system planning and operations to:**
 - ✓ Assure future reliability of system
 - ✓ Increase efficiency of operations
 - ✓ Assure timely addition of infrastructure

- **Developed to facilitate regional parties' evaluation at Decision Point 2:**
 - ✓ Scheduled for late September 2005
 - ✓ Seeking consensus to move forward with Grid West development and elect Developmental Board



Potential Grid West Area

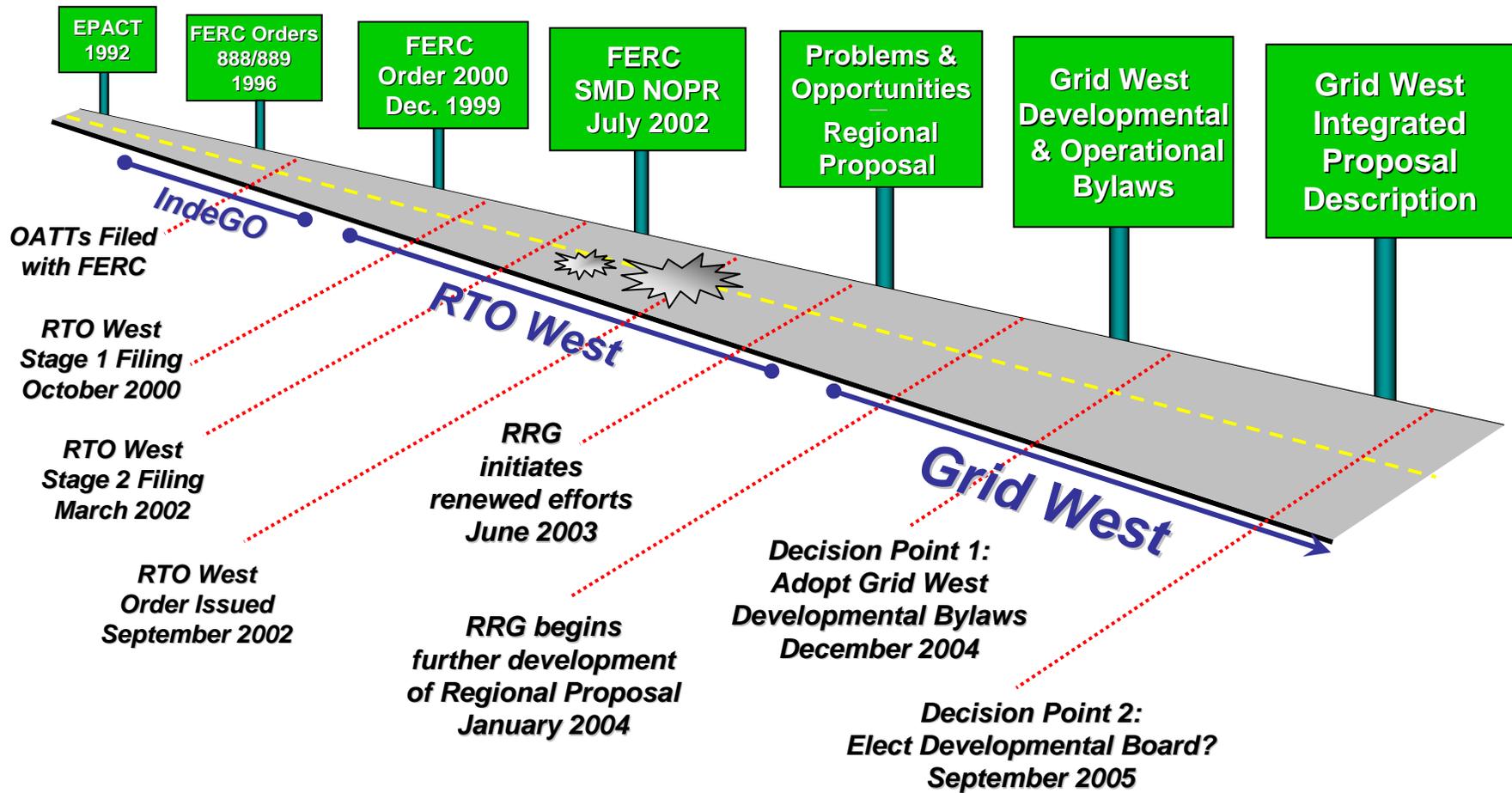
- **Over 62,000 circuit miles of transmission lines**
- **Includes most transmission facilities shown in this region owned by the following companies:**
 - Avista Corporation
 - Bonneville Power Administration
 - BC Hydro & Power Authority
 - Idaho Power Company
 - Nevada Power Company
 - NorthWestern Energy
 - PacifiCorp
 - Portland General Electric Company
 - Puget Sound Energy, Inc.
 - Sierra Pacific Power Company



Note: The Grid West proposal is designed to accommodate participation by Canadian transmission owners and operators in British Columbia and Alberta.



Proposal Built on 10 Years of Regional Effort



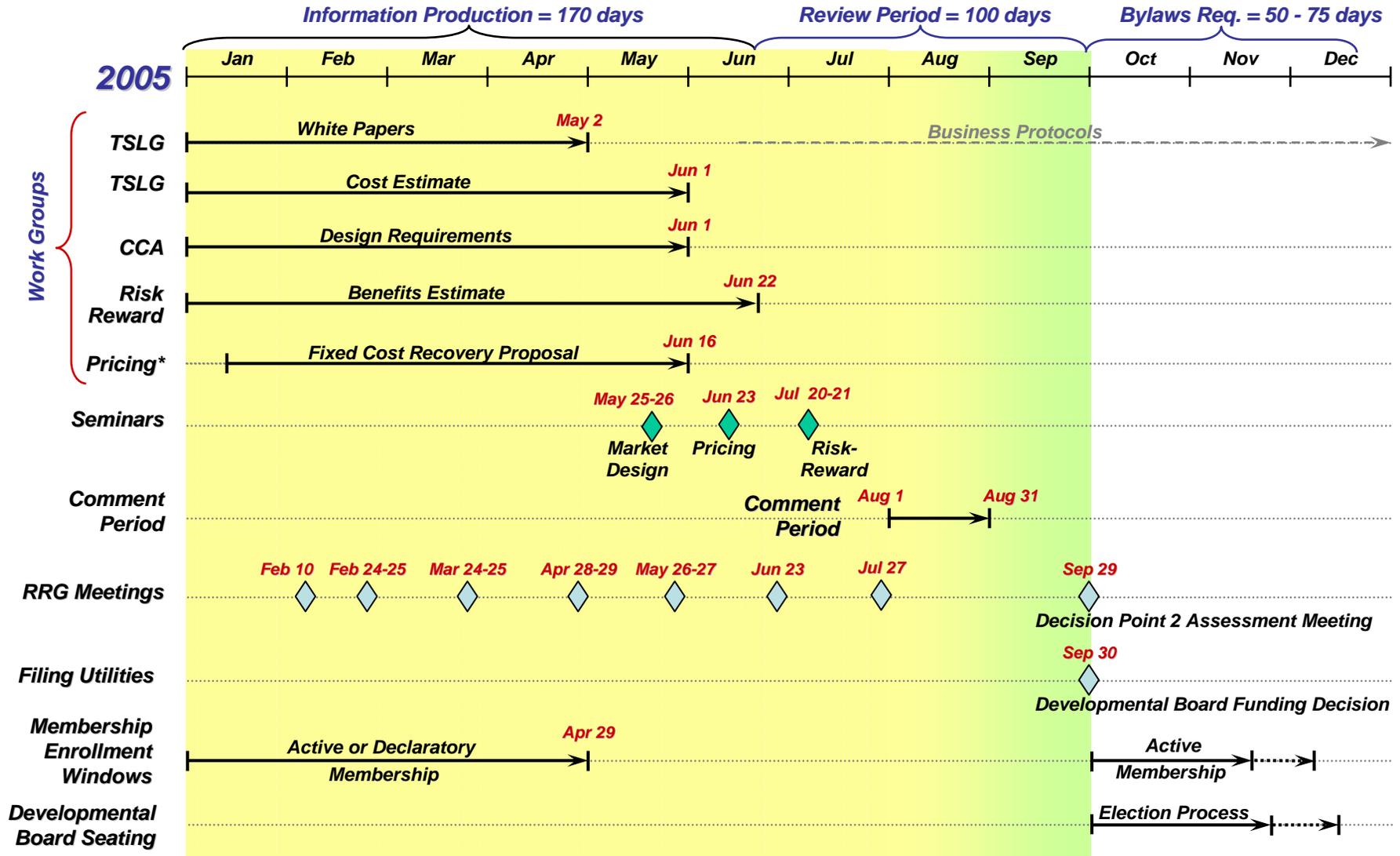


Grid West Decision Points

- **Decision Point 1 – Adopt Developmental Bylaws?**
 - ✓ Yes – December 9, 2004
- **Decision Point 2 – Fund further Grid West development and elect independent Developmental Board?**
 - ✓ Decision scheduled for late September 2005
- **Decision Point 3 – Offer transmission agreements to transmission owners?**
 - ✓ Deadline – 12 months after Dev. Board first meets
- **Decision Point 4 – Execute transmission agreements and adopt Operational Bylaws?**
 - ✓ Deadline – 12 months after Decision Point 3 offer



Timelines for Developmental Board Seating





Elements of Market and Operational Design

- The preservation of “legacy” transmission rights and obligations
- Centralized scheduling using physical transmission rights
- A flow-based commercial model of transmission usage
- A short-term transmission reconfiguration market for new rights (IWRs)
- A single queue for obtaining rights (IWRs) for new long-term rights
- An integrated approach to transmission planning and capacity expansion with a reliability backstop
- The option for Grid West transmission owners to voluntarily consolidate control areas



Recommendations for Pricing

- New long-term IWRs from existing capacity (AFC) priced based on the withdrawal point location
- IWRs that require system upgrade or expansion priced at greater of embedded or incremental cost
- Revenues from long-term and short-term IWR sales from AFC allocated to transmission owners in proportion to revenue losses resulting from Grid West implementation
- Any revenue loss from Grid West implementation not offset by AFC revenues replaced by a charge against all schedules (MW-hours)
- Grid West's development, start-up, and operating costs recovered through a Grid Management Charge assessed to all schedules (MW-hours)*

*collecting some costs on other bases (such as per-schedule) not ruled out



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Grid West Governance

- **Three governance stages:**
 - ✓ Before Decision Point 2 (Interim Board)
 - ✓ Decision Points 2- 4 (Developmental Board)
 - ✓ Operational Stage (Operational Board)
- **Ongoing regional consultation:**
 - ✓ RRG (until operational stage)
 - ✓ Members (including vote on going operational)
 - Members Representative Committee (MRC)
 - Board Advisory Committee (operational stage)
 - Committees with members (budget, planning, etc. – operational stage)
 - ✓ Governmental Committee



Grid West Governance

- **Five member classes:**
 - ✓ Major Transmitting Utilities
 - ✓ Transmission-Dependent Utilities
 - ✓ Generators, Power Marketers, Large Generating End-Use Consumers, and Others
 - ✓ End-Use Consumers
 - ✓ State and Provincial Energy Authority/Tribes/Certain Public Interest Groups



Grid West Governance

- **Five “Special Issues” (Operational Stage)**
 - ✓ Authorization for Grid West to exercise backstop measures with respect to chronic, significant, commercial congestion
 - authority to arrange for transmission construction
 - ✓ Departure from using the “company rate approach”
 - (load-based license-plate pricing)
 - ✓ Authorization to issue financial transmission rights
 - ✓ Authorization for Grid West’s market monitor to impose penalties or actively intervene in markets
 - ✓ Authorization to change a transmission owner’s loss methodology



Grid West – Not an RTO

- **FERC Declaratory Order has acknowledged key elements of Grid West proposal, including:**
 - ✓ “Not appropriate” to apply Order 2000 requirements if not filed under Order 2000
 - ✓ Grid West governance does meet independence standards
 - ✓ No authority to require changes to BPA legacy transmission agreements
 - ✓ Transmission owners may continue as transmission providers for legacy transmission service commitments
 - ✓ No deadline to shift away from license plate rate structure



Grid West – Not an RTO

Comparison – Grid West to SMD-Style RTO

<u>Grid West Basic Features</u>	<u>SMD-Style RTO</u>
<ul style="list-style-type: none"> • No generation resource adequacy standard imposed 	<ul style="list-style-type: none"> • Generation resource adequacy standard imposed
<ul style="list-style-type: none"> • No centralized unit commitment 	<ul style="list-style-type: none"> • Centralized unit commitment
<ul style="list-style-type: none"> • No day-ahead energy market 	<ul style="list-style-type: none"> • Day-ahead energy market
<ul style="list-style-type: none"> • Centralized scheduling with balanced schedule requirement <ul style="list-style-type: none"> ✓ Must have physical transmission rights to schedule ✓ Existing transmission rights are unchanged ✓ No explicit congestion charges ✓ New rights issued as physical IWRs ✓ Reconfiguration service with annual, monthly, intra-monthly, and day-ahead auctions 	<ul style="list-style-type: none"> • Centralized scheduling w/o balanced schedule requirement (can be energy-short) <ul style="list-style-type: none"> ✓ Transmission rights not needed ✓ Conversion of pre-existing transmission rights ✓ Explicit day-ahead congestion charges ✓ Obligation-type FTRs ✓ Only monthly and annual FTR Auctions



Grid West – Not an RTO

Comparison – Grid West to SMD-Style RTO

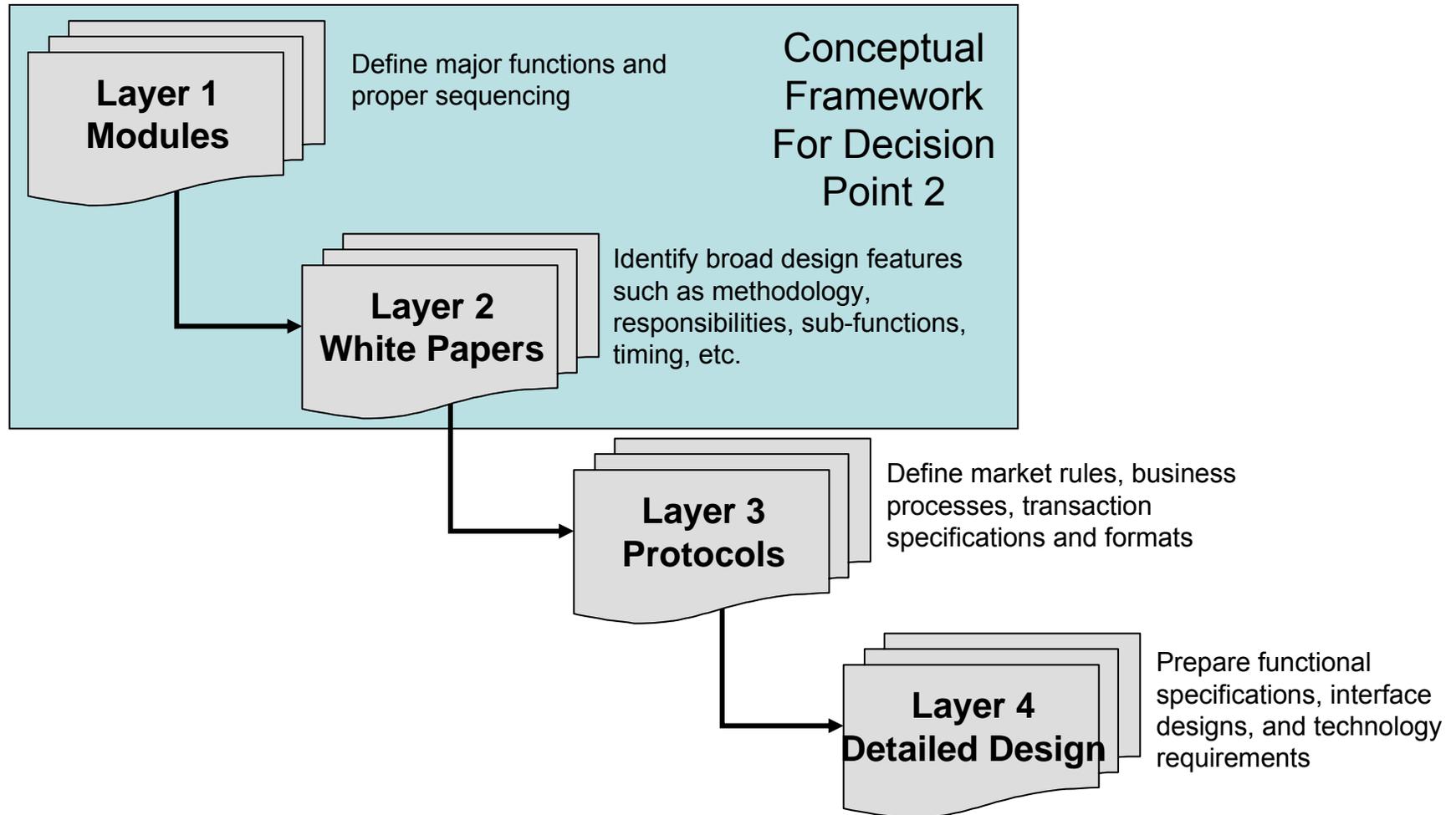
<u>Grid West Basic Features</u>	<u>SMD-Style RTO</u>
<ul style="list-style-type: none">• Loss factors established in advance for IWRs and legacy rights	<ul style="list-style-type: none">• Full marginal losses charged after the fact
<ul style="list-style-type: none">• Post-day-ahead adjustments	<ul style="list-style-type: none">• No post-day-ahead schedule changes
<ul style="list-style-type: none">• Real-time market for balancing service (only within control areas that voluntarily consolidate)	<ul style="list-style-type: none">• Real-time balancing service, with all deviations between day-ahead and real-time settled
<ul style="list-style-type: none">• Market monitoring	<ul style="list-style-type: none">• Market monitoring



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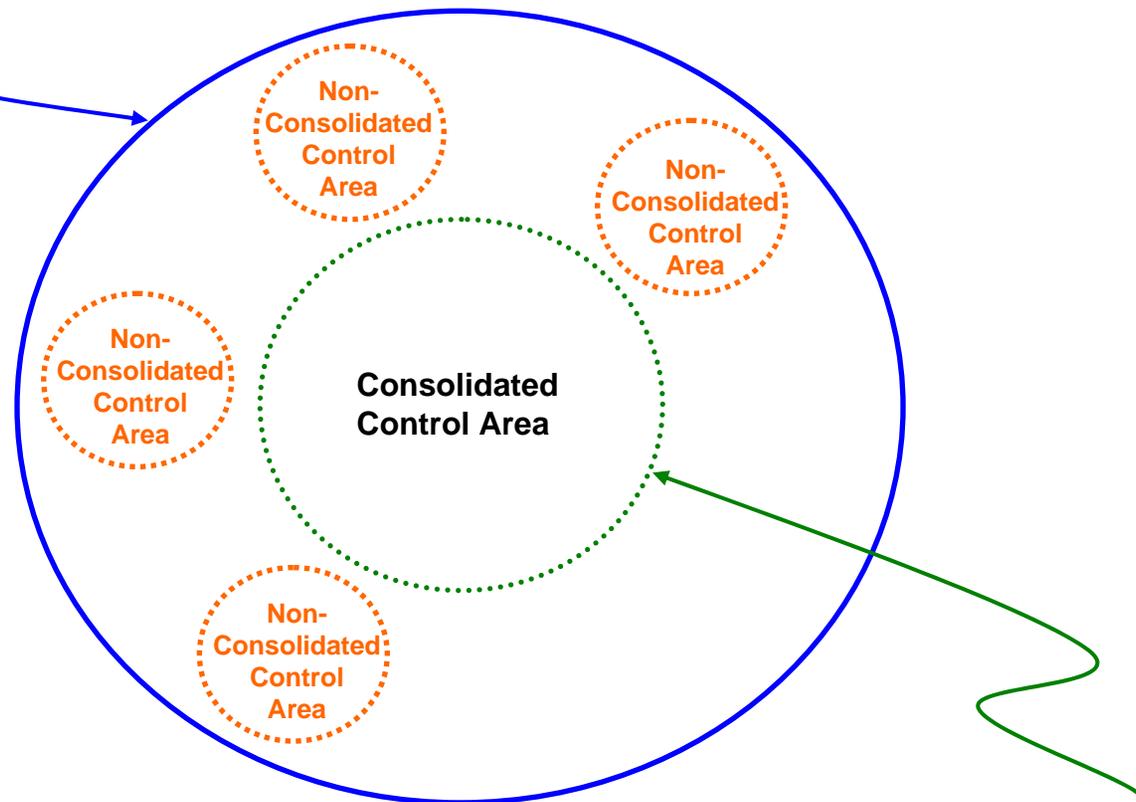
A Layered Approach for Market and Operational Design



Provision of Services

Regional Services

- Regional OASIS
- Reconfiguration Services
- Reliability Authority
- Regional Scheduling Services
- Market Monitoring
- Regional Planning & Capacity Expansion

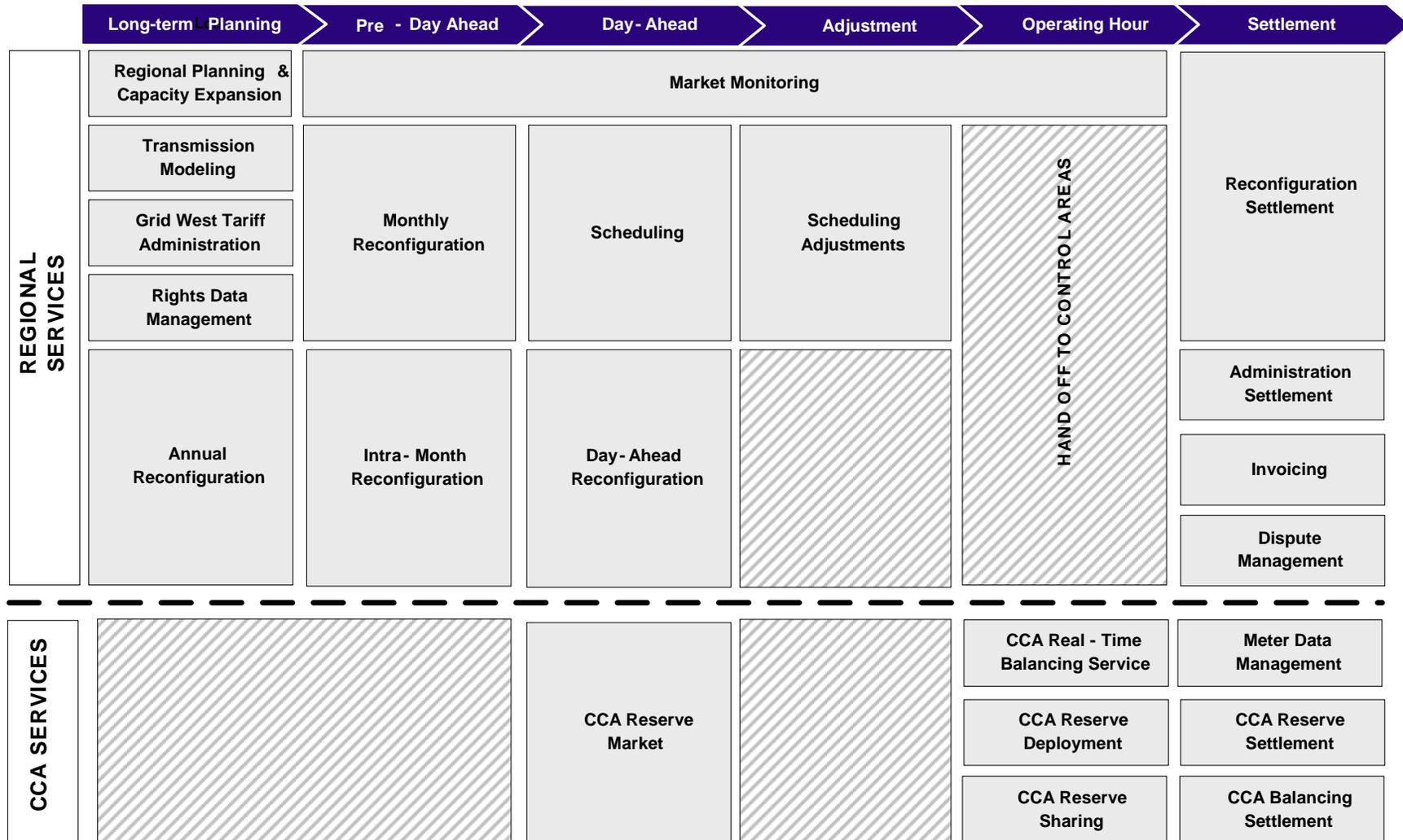


Control Area Services

- Reserve Market
- Real-Time Balancing Service

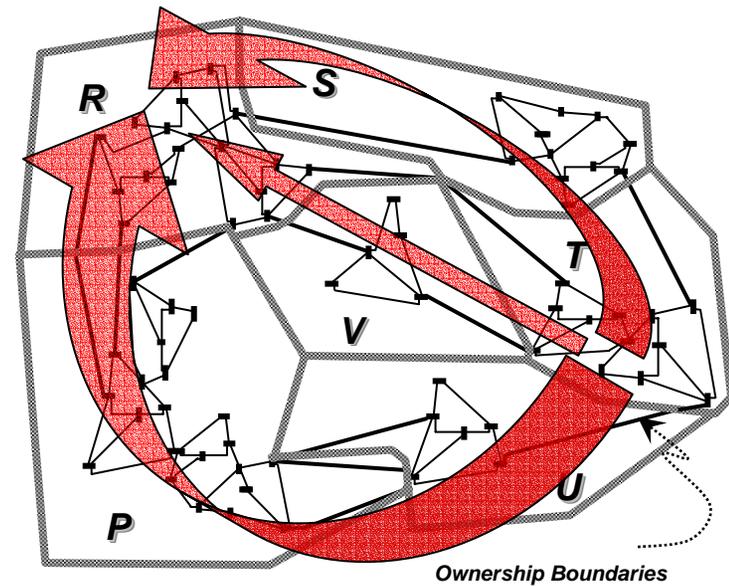
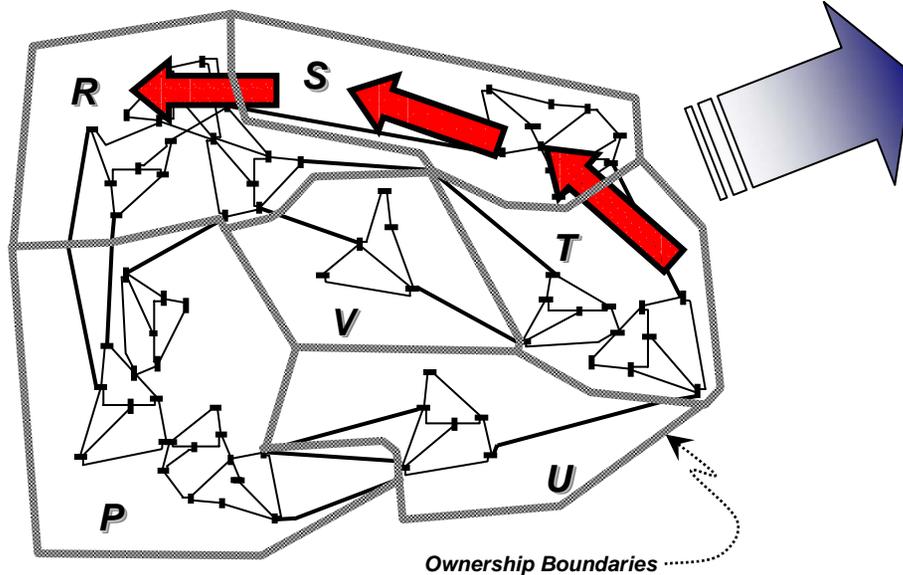


Market and Operational Functions



Adopting Flow-based Scheduling

Contract Path Past



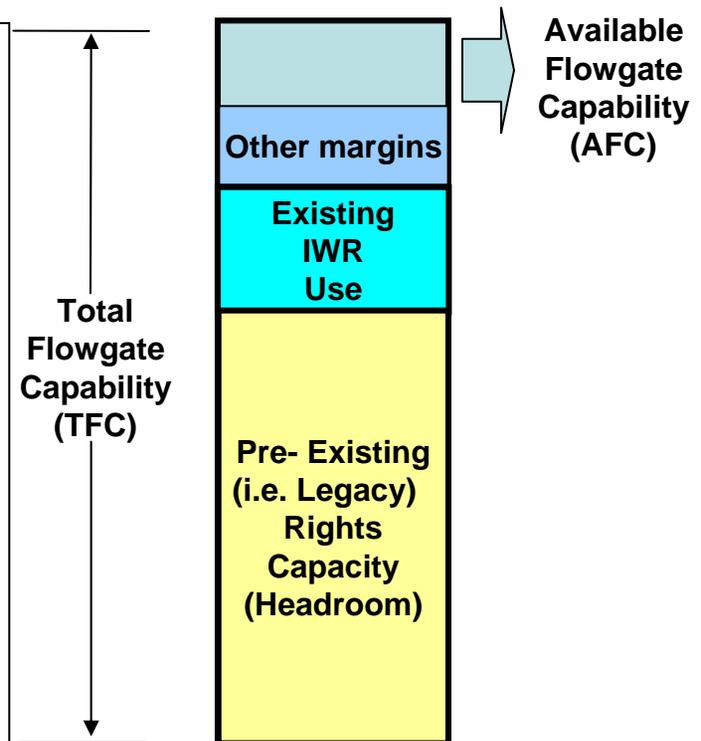
Flow-based Future



Release of Residual Capacity

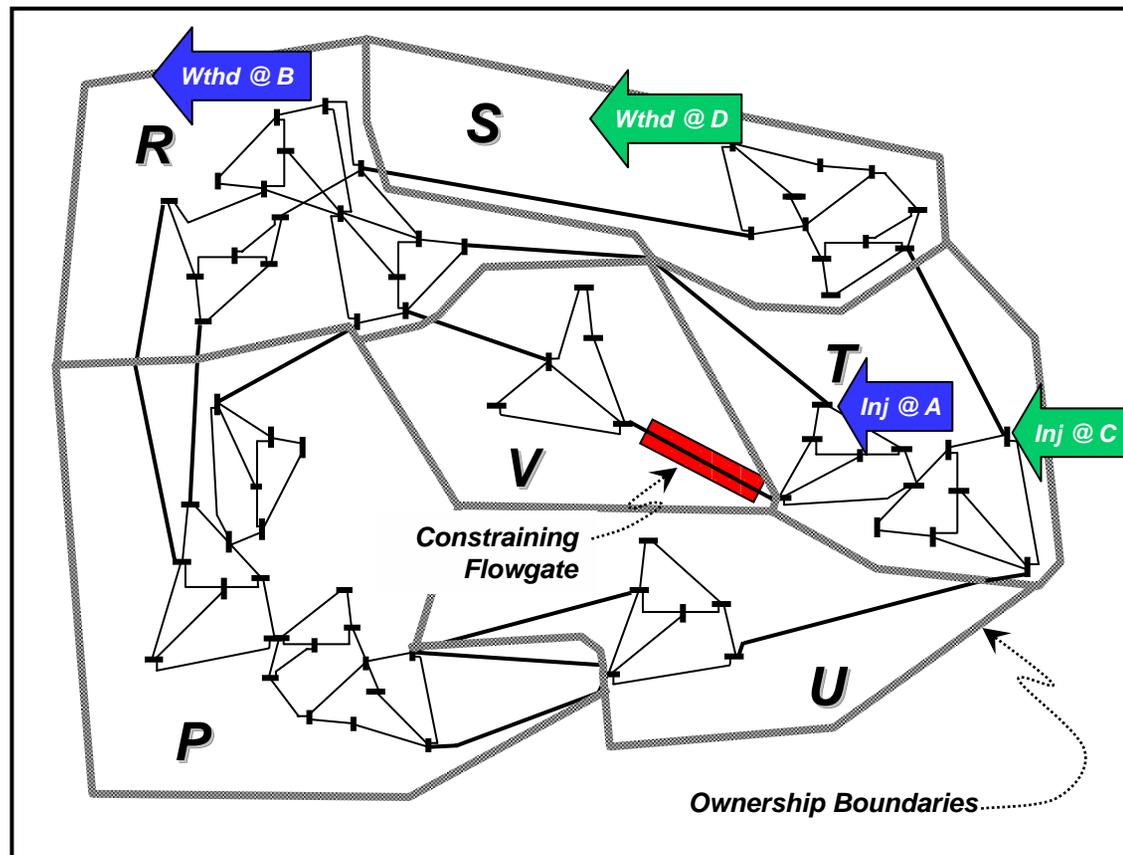
The design reserves adequate headroom for existing rights...

- **Available Flowgate Capability, along with offered IWRs, is made available to meet a request by IWRs buyers**
- **Grid West will have discretion in determining the percentage of the residual capacity to be offered in auction markets**
- **The payments received for release of residual capacity (i.e., AFC) is used to reduce potential lost revenue**

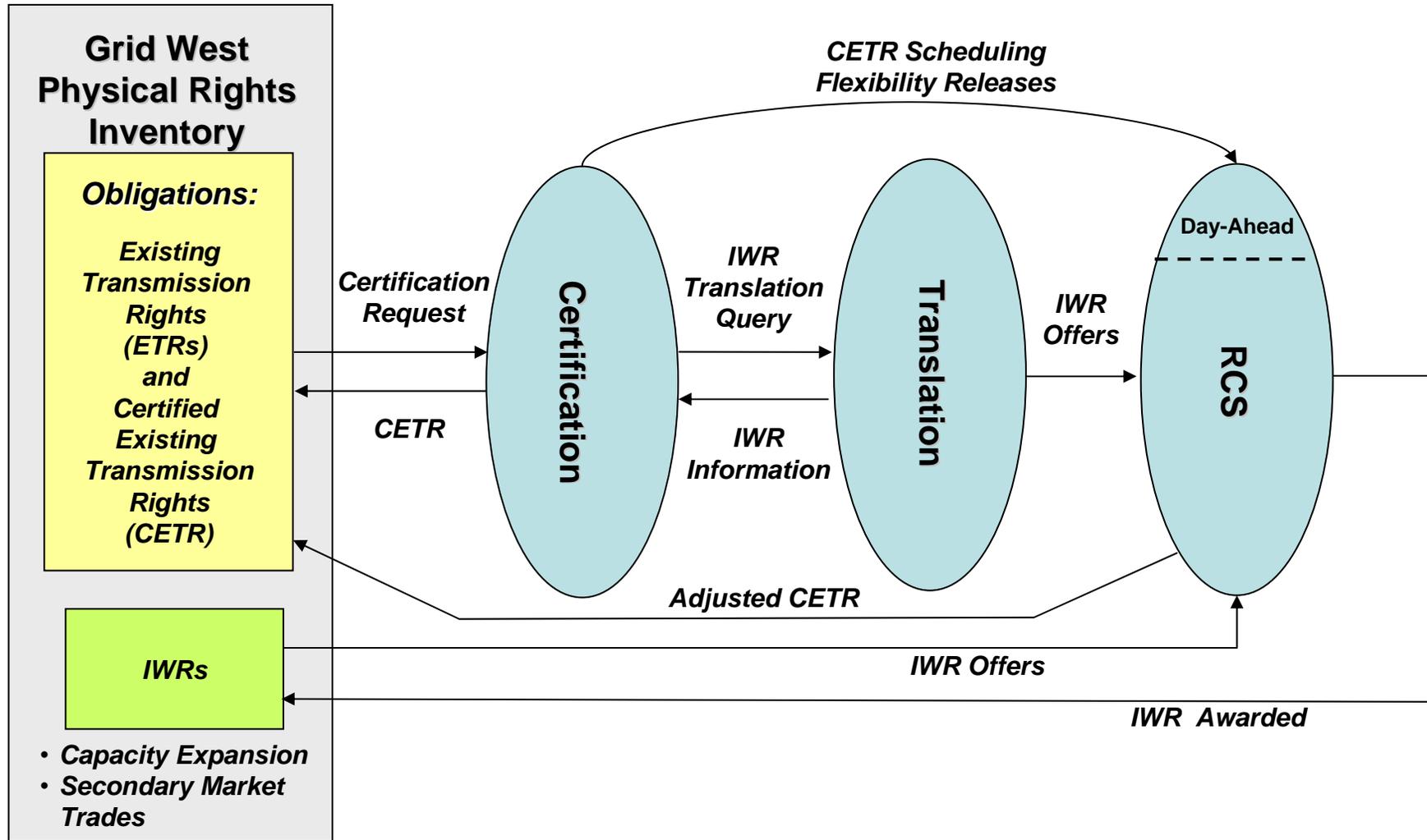


Reconfiguration Service (Short-Term IWRs)

- **Reconfiguration cannot be done on a bilateral basis.**
- **An independent party must operate the auctions and be responsible for managing capacity for the combined system...**



Rights Data Management





Planning & Capacity Expansion *(Long-term IWRs)*

- **Organization**
 - ✓ Planning Committee that includes Grid West members
 - ✓ Independent Grid West staff to support process
- **Planning Process – Biennial Plan Goals**
 - ✓ Meet transmission adequacy standards
 - ✓ Maintain transfer capability
 - ✓ Maintain or improve reliability
 - ✓ Consider alternatives (including non-wire approaches)
- **Capacity Expansion Processes**
 - ✓ Response to transmission service requests to provide long-term IWRs not available from AFC
 - ✓ Stakeholder funded expansion project granted long-term IWRs
 - ✓ Reliability backstop for transmission adequacy



Ancillary Services for Consolidated Control Area

- **Reserve Markets**
 - ✓ Contingency Reserve
 - ✓ Regulation Reserve
- **Real-time Balancing Service**
 - ✓ Balancing Authority for CCA
- **Grid West buys for CCA needs**
 - ✓ Accepts offers from suppliers both within and outside CCA
 - ✓ Selects from offers for most economic result for CCA participants



Regional Problems and Solutions

Underutilization of Existing Capacity

Although the system is fully subscribed, the transmission system is currently underutilized...

Identified Problem

- The contract path model fails to deal with actual flow effects
- There is no way to effectively trade transmission rights on a system-wide basis



Proposed Solution

- Move to a regional flow-based system of physical transmission rights, i.e., standardized injection-withdrawal rights (IWRs)
- Offer reconfiguration services to enable economically based trade in transmission rights



Regional Problems and Solutions

Operational Challenges

The transmission system has the following operational challenges...

Identified Problem

- When path/line loading problems occur, they are seldom known in advance but appear without warning in real-time
- Individual transmission owner curtailments either under- or over-correct line loading problems



Proposed Solution

- Reliability (Transmission) Authority
- Single-system view for issuance of transmission rights and scheduling
- Day-ahead evaluation of system loading when there is time for adjustment



Regional Problems and Solutions

Lack of Expansion

Lack of transmission expansion continues to be a problem...

Identified Problem

- Requests for service must go through multiple providers
- Connection between regional planning and actual expansion is weak
- Cost recovery is uncertain without a means to establish long-term rights and consider beneficiaries



Proposed Solution

- A single queue for transmission service requests
- Clear definition of the long-term, system-wide rights obtained by funding expansion (IWRs)
- Planning with transmission adequacy backstop



Regional Problems and Solutions

Need for Open & Transparent Ancillary Service Markets

There are currently few, if any, open and transparent A/S markets...

Identified Problem

- Need for open and transparent A/S markets (balancing & reserves)



Proposed Solution

- Voluntary consolidation of control areas
- Create open & transparent markets to meet CCA needs:
 - ✓ Reserve market
 - ✓ Real-time balancing service



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Overview – Revenue Sources

- **Three sources of revenues to meet existing system cost recovery requirements:**
 - ✓ Payments for legacy services (this will provide the great majority of cost recovery)
 - ✓ Allocation of revenue from Grid West sales of IWRs from AFC (short- and long-term)
 - ✓ “Replacement revenue” if needed

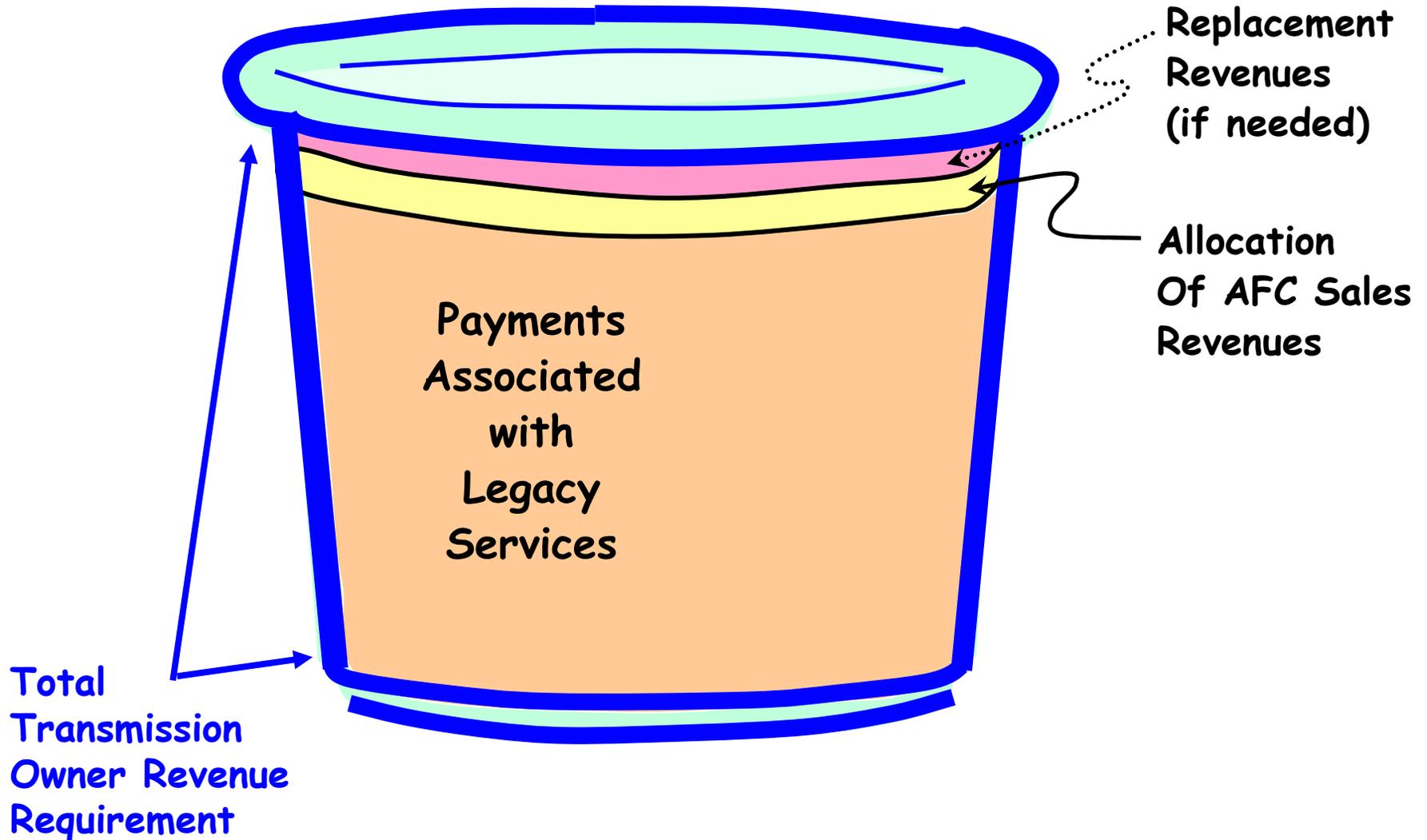


Overview – New Service

- **New long-term service is:**
 - ✓ Service to a customer that has no pre-existing transmission rights
 - ✓ Service to a customer that seeks rights beyond those conferred under legacy arrangements
- **All new long-term service rights will be IWRs**
- **Grid West will grant long-term IWRs from AFC if possible; if not – process to upgrade or expand system as needed**



Sources of Funds for Transmission Owners' Revenue Requirements





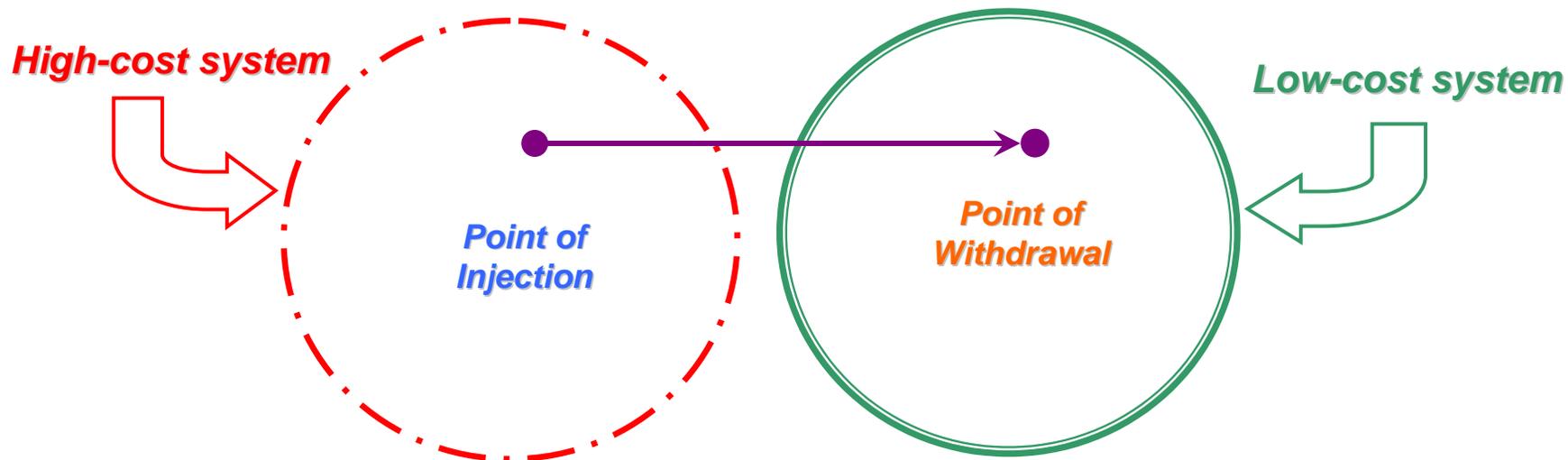
Pricing for New Service (AFC)

- **Pricing Work Group Recommendation:**
 - ✓ New long-term IWRs from existing capacity (AFC) priced based on the withdrawal point location
 - Fits Operational Bylaws concept of “company rate”
 - Some parties believe that other options should continue to be explored
 - Need to address issues related to overlapping, common, and contiguous facilities
 - Concerns about co-existence of long-term IWRs at cost-based rates with a short-term IWRs at auction



Long-Term IWR Pairs from AFC

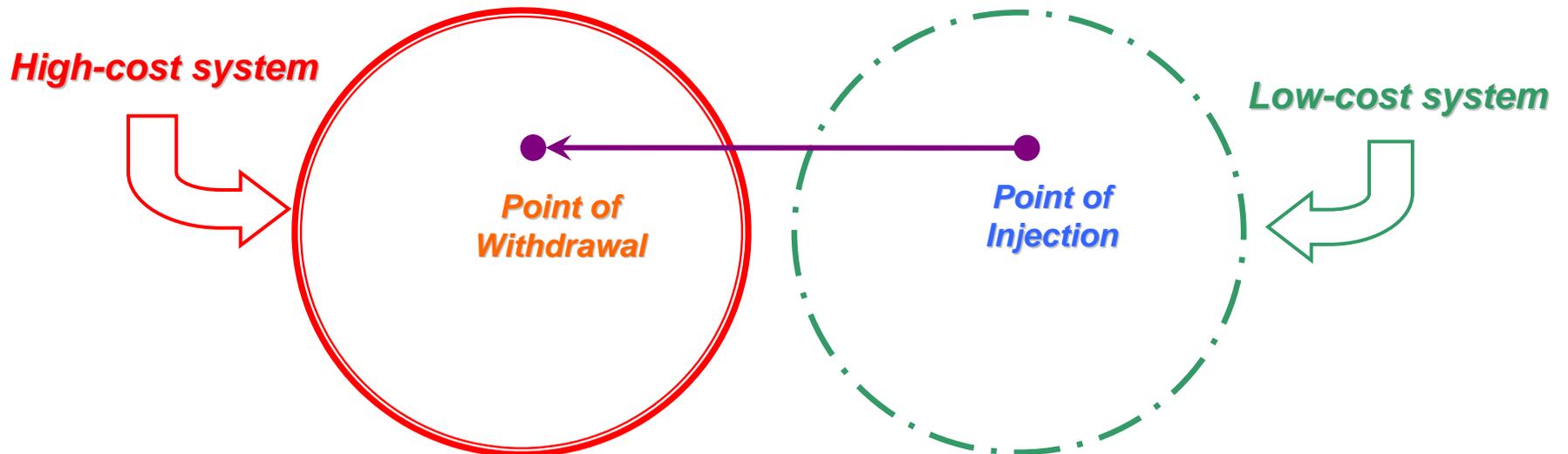
Example 1



Company rate of low-cost system would apply to IWR
(**point of withdrawal**)

Long-Term IWR Pairs from AFC

Example 2



Company rate of high-cost system would apply to IWR
(point of withdrawal)



Pricing for New Service – Upgrades and Expansion

- **Pricing Work Group Recommendation:**
 - ✓ IWRs that require system upgrades or expansion priced at greater of embedded or incremental cost
 - Tracks FERC’s “or” pricing policy; intended to send proper price signals and promote economic efficiency
 - Protects existing customers from rate increases driven by new service requests that require upgrades or expansion
 - Allows case-by-case determinations of who benefits from expansion, which could inform cost allocation decisions
 - Does not foreclose other approaches (such as open seasons, voluntary joint projects, etc.)



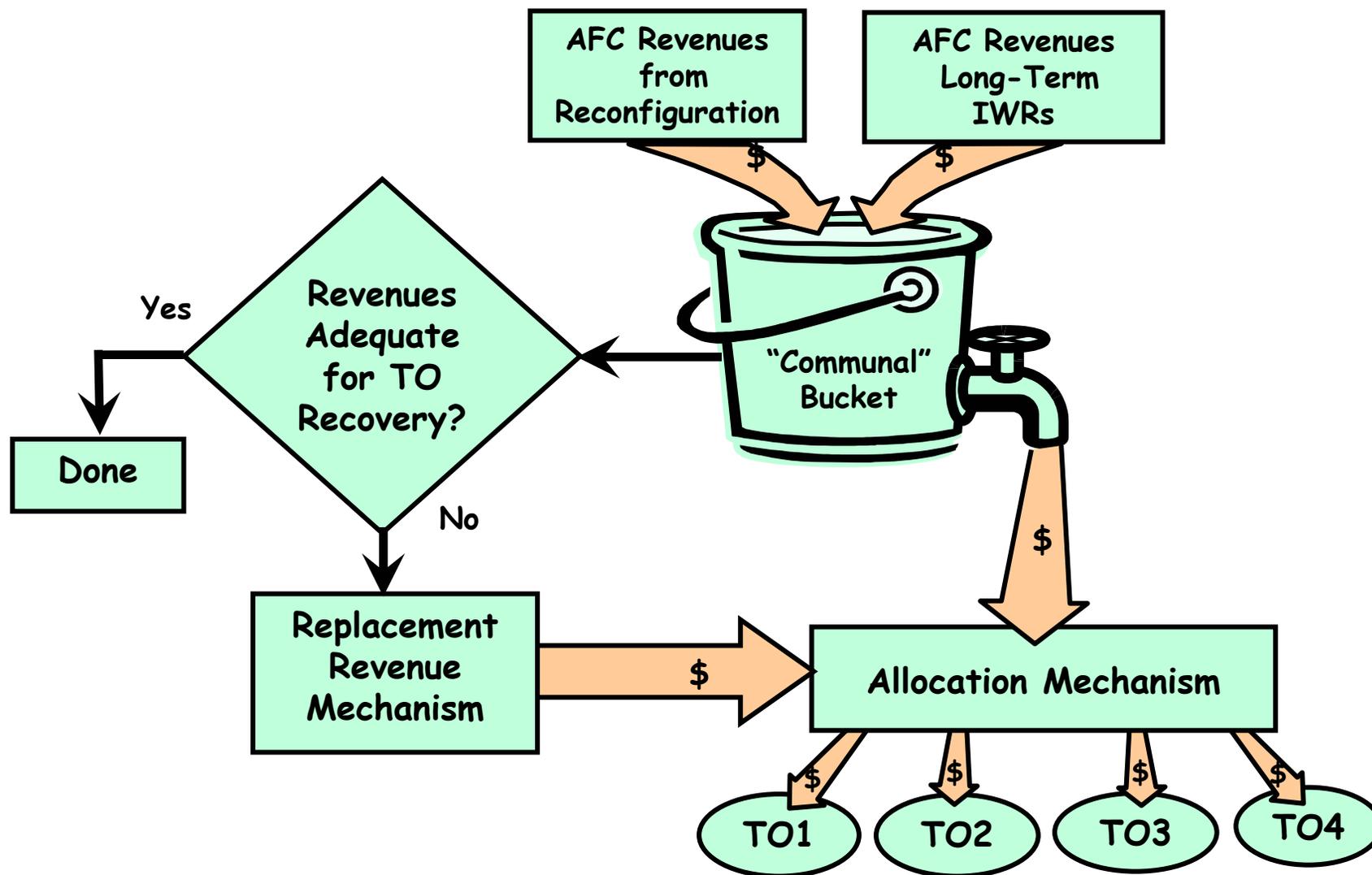
Allocation of AFC Revenues

- **Pricing Work Group Recommendation:**
 - ✓ Revenues from long-term and short-term IWR sales from AFC to be allocated to transmission owners in proportion to revenue losses resulting from Grid West implementation
 - Potential causes of “lost revenues”
 - Discontinuing individual transmission owners’ sales of short-term and non-firm transmission service
 - Removal of rate pancakes for multisystem rights
 - Lost revenues do not include business risks unrelated to Grid West or costs unrelated to transmission service



Allocation of Revenues from Grid West AFC Sales

(Long-Term and Short-Term)





Replacement Revenues

- **Pricing Work Group Recommendation:**
 - ✓ Any revenue loss from Grid West implementation not offset by AFC revenues to be replaced by a charge against all schedules (MW-hours)
 - ✓ Replacement revenues would be allocated to transmission owners in the same proportion as AFC sales revenues



Grid Management Charge

- **Pricing Work Group Recommendation:**
 - ✓ Grid Management Charge would be a formula rate to recover:
 - Start-up, operating, and development costs
 - Funding for Grid West development amortized over a finite time period
 - Market monitoring costs
 - Cost to administer planning and expansion process
 - ✓ Aggregate annual expenses of \$91 million would translate to \$0.31/MWh



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Benefits

Quantifiable

- Contingency Reserve
- Regulating Reserve
- Redispatch Efficiencies
- Bulk Electric System Reliability
- Power Delivery System Reliability
- Eliminating Rate Pancakes
- Reconfiguration-Transmission Utilization

Qualitative

- Improved Transmission Planning
- Long-term Siting Efficiencies
- Construction Deferral (G, T and D)
- Conservation and Demand-side Management
- Load Following
- Market Innovation
- Market Monitoring



Estimate of Quantifiable Benefits

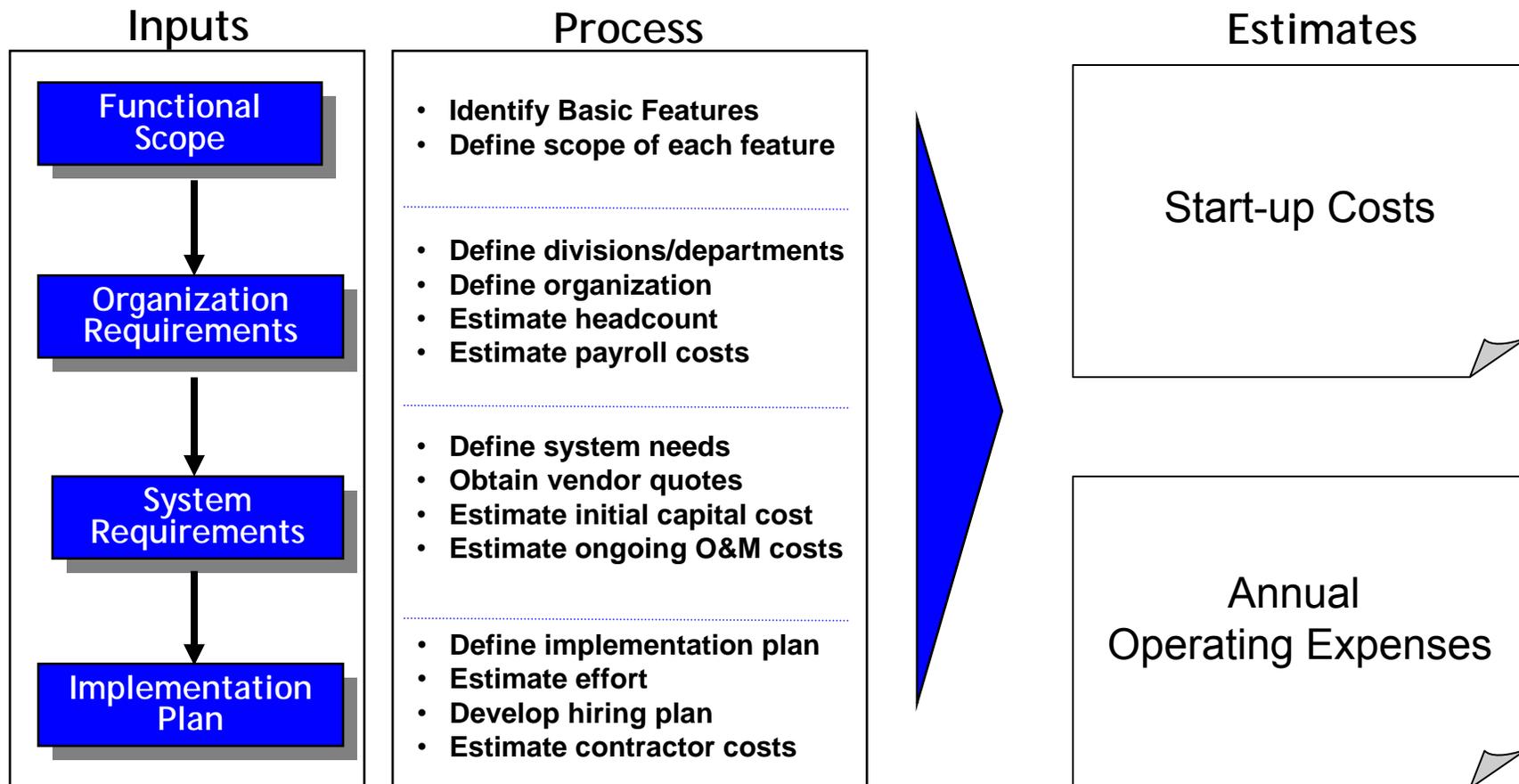
Cost Saving Category	4 Control Areas Consolidated			10 Control Areas Consolidated		
	High	Med	Low	High	Med	Low
<i>1. Contingency Reserve</i>	39	30	20	73	55	37
<i>2. Regulating Reserve</i>	10	8	5	26	21	14
<i>3. Redispatch Efficiencies</i>	61	56	41	412	332	105
<i>4. Bulk Electric System Reliability</i>	83	50	27	83	50	27
<i>5. Power Delivery System Reliability</i>	98	58	17	203	119	36
<i>6. Eliminating Rate Pancakes</i>	61	20	4	61	20	4
<i>7. Reconfiguration-Transmission Utilization</i>	52	30	18	52	30	18

(All figures in \$million/year)



Building a Cost Estimate from the “Bottom Up”

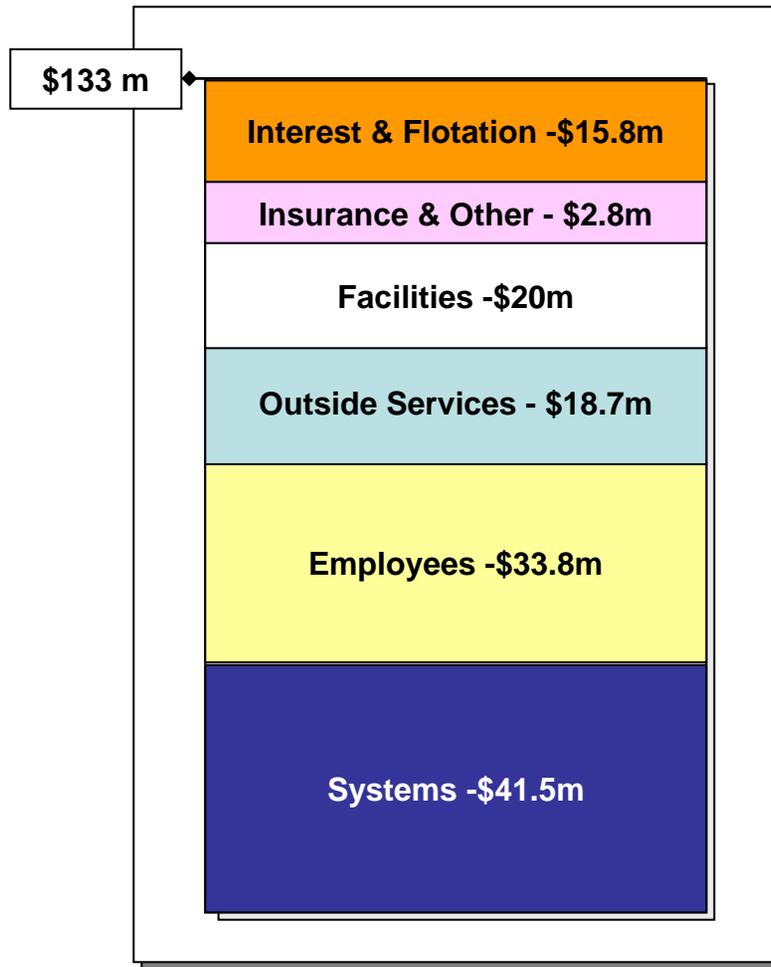
The cost estimate is based on Grid West’s specific functional design...



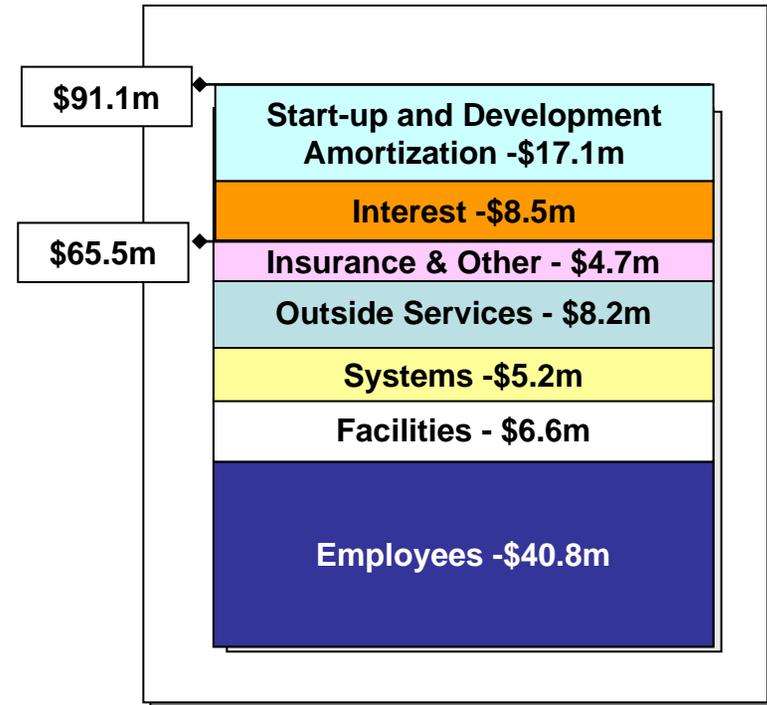


The Cost Estimates

Start-Up



Operating



Estimated Per Unit Cost
\$0.31/MWh

(Based on Grid West load of 291,000,000 MWh)



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Overview - Funding

- **An affirmative outcome at Decision Point 2 would mean:**
 - ✓ Sufficient funding is committed by transmission owners to cover the maximum two-year period to reach Decision Point 4 (whether to proceed to operational stage)
 - ✓ The requirement in the Developmental Bylaws that at least three Major Transmitting Utilities sign the Funding Agreement, one of which must be BPA, has been satisfied
 - ✓ Developmental Board is elected

Overview - Funding

- **Two-year funding:**
 - ✓ Developmental Board can draw maximum of two-thirds of total funding in first year (to provide flexibility to enter into two-year commitments)
 - Board must use funds to carry out purposes specified in Developmental Bylaws
 - ✓ Basic two-year funding total: \$18,810,000
 - ✓ Up to an additional \$1 million could be available if Grid West members approve pre-Decision-Point-4 planning activities
 - ✓ Maximum amount for developmental stage (Decision Points 2 to 4) is just under \$20 million



Funding Agreement

- **Covenant to respect independence of Developmental Board**
 - ✓ Recognition that Board is responsible for management and operations of Grid West
 - ✓ Funders agree to respect Grid West's independence in the exercise of its responsibilities
 - ✓ Funders may exercise their Grid West membership rights
 - ✓ Funders may enforce Grid West's obligation to use the funds to carry out the purposes of the Developmental Bylaws



Funding Agreement

- **Obligation to fund for two years continues even if another funder fails to advance its share of funds**
- **During the two years, a funder is relieved of the obligation to fund only if:**
 - ✓ Grid West is dissolved
 - ✓ The Operational bylaws are adopted
 - ✓ Within 60 days after Grid West offers a Transmission Agreement to owners, BPA and two other contiguous IOUs fail to propose to accept the offered Transmission Agreement, or at least to continue negotiations
 - ✓ A final judgment holds Grid West in material breach of agreement
 - ✓ Grid West is in bankruptcy
 - ✓ Grid West spends beyond the approved maximum funding



Funding Agreement

- **Each Funder will pay up to its pro rata share of the total committed funding**
- **BPA will fund by pre-purchasing Grid West services, and Grid West will provide credits that BPA can use to offset certain Grid West charges**
- **The investor-owned MTUs will loan Grid West money at the FERC interest rate for refunds**



Funding Agreement

- **Grid West is required to seek third-party financing on reasonable commercial terms to repay lenders and provide BPA credits**
 - ✓ The cost of the debt would be included in the GMC
- **If third-party financing is not available, Grid West agrees to collect amounts through the Grid Management Charge (GMC) sufficient to enable it to repay the loans and enable BPA to use its credit against the GMC in 15 years at most**



Funding Agreement

- **Grid West will grant Funders a security interest in its assets**
- **During Grid West's operational stage, typical commercial terms govern the financial relationship between Grid West and the Funders**
- **Grid West's loan repayments and BPA credits are prorated**
 - ✓ Each funder is repaid based on the ratio of the total funds it provided to the total of all funds provided for development



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Summary Points

- **Proposal is designed by and for the region:**
 - ✓ Uses best ideas from past regional work
 - ✓ Adopts good ideas found elsewhere
- **Proposal provides needed independence:**
 - ✓ Required to implement reconfiguration and ancillary service markets
 - ✓ Aids planning and expansion:
 - Access to commercially sensitive data
 - Single-system design viewpoint

Summary Points

- **Proposal is an integrated whole:**
 - ✓ Governance balances regional responsiveness and independence
 - ✓ Market and operational design meets region's functional needs
 - ✓ Pricing design eliminates rate pancakes and provides for transmission cost recovery
 - ✓ Provides estimated benefits and costs
 - ✓ Identifies funding for next development steps



What's New – What's Old

■ **Unchanged:**

- ✓ Use of physical rights model
- ✓ “Legacy” transmission rights
- ✓ Participation is voluntary for new markets or for control area consolidation

■ **Improved:**

- ✓ Better use of existing transmission system
- ✓ Single-system approach to transmission operations and planning
- ✓ Voluntary consolidated control area with ancillary service markets
- ✓ Market monitoring