



Joint Initiative

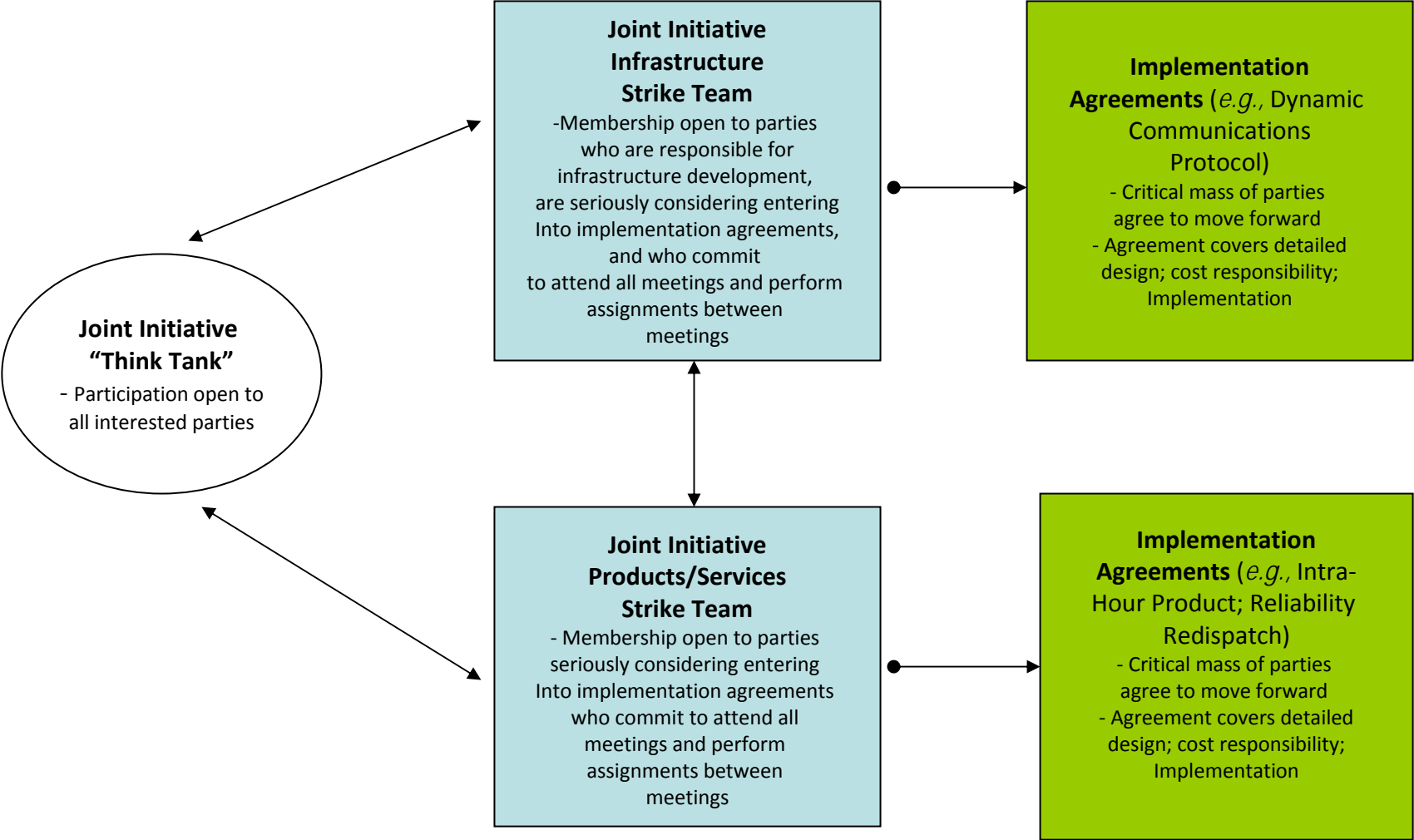
Wind Integration Forum Steering Committee

December 2, 2008

Goal

- Encourage and facilitate Western Interconnection parties to develop and implement high-value cost-effective regional products

Structure



Approach

- Beginning focus is narrow, could be expanded after initial successes
- Joint Initiative Strike Teams develop business case proposal
- Interested parties move to implementation agreement when critical mass is achieved; may not involve all Joint Initiative parties

Relationship with Wind Integration

- Uniquely situated to assist with timely integration of renewable resources
 - Short timeframe
 - Initial products straightforward (do not require tariff amendments)
 - Focus is on more efficient use of existing transmission, including greater ease in accessing system flexibility outside of Balancing Authority areas

Focus

- Currently focused on three areas that relate directly to wind integration issues
 - Greater flexibility in purchasing, scheduling and tagging within-hour transmission
 - Facilitate intra-hour bilateral transactions through automated “platform”; further define intra-hour products
 - BA communications protocol to facilitate dynamic communications between generator and system operators

Products and Services Strike Team

- Initial Goal

Provide system operators and market participants additional tools to more efficiently and reliably use multiple systems' capacity and flexibility

- How it will Assist with Wind Integration

Allows for within-hour schedule changes and facilitates bilateral transactions to address unanticipated generation patterns

Current Products and Services Strike Team Participants

APS

BPA

ColumbiaGrid

Xcel Energy

Grant County PUD

Northwestern

OATTi

PacifiCorp

PPC

PSE

Sierra Pacific

SMUD

Snohomish

Tacoma

WECC

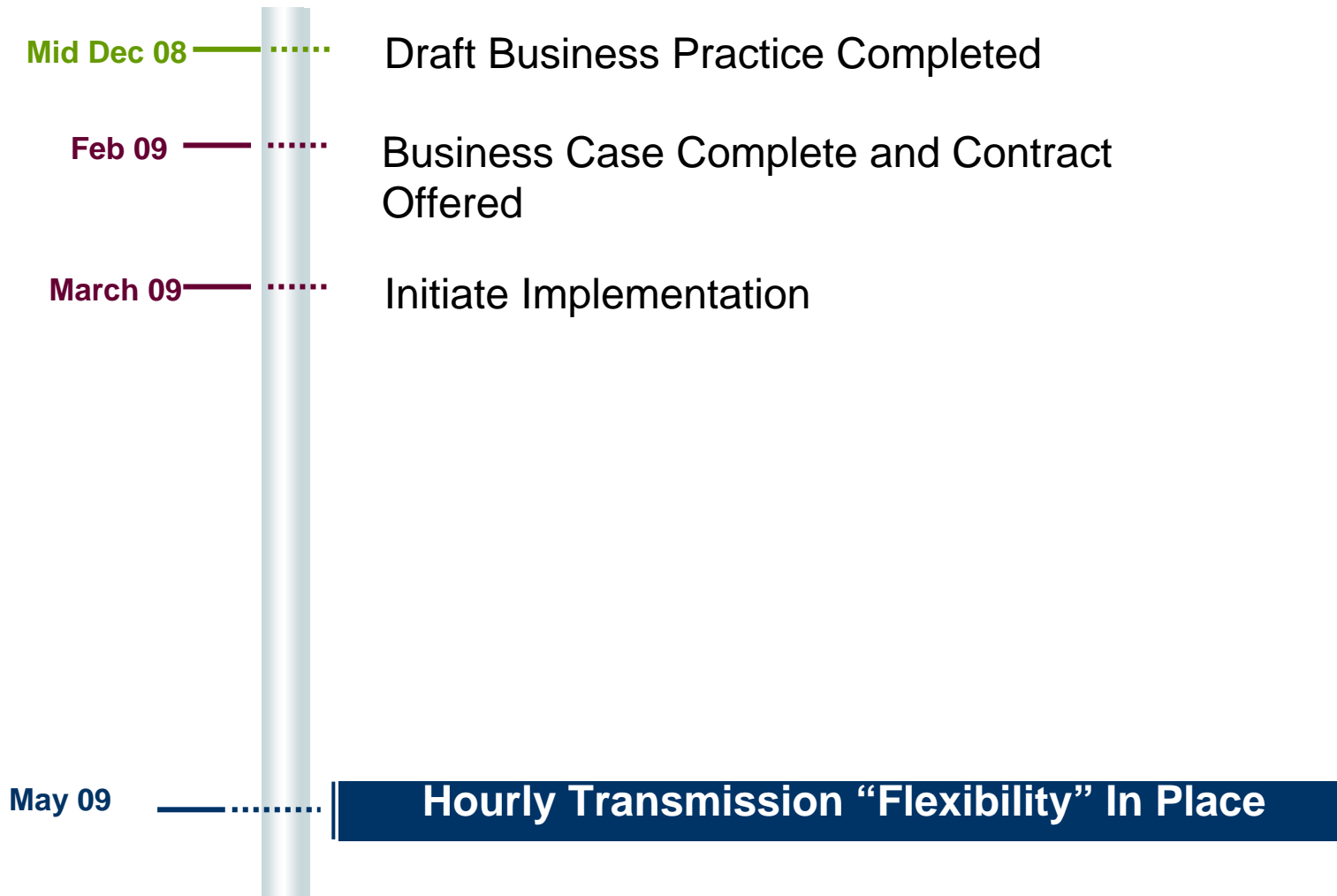
WestConnect

Hourly Transmission Service

Flexibility

- Business practice providing that hourly transmission products can be purchased and scheduled within the hour
 - How frequently for the initial implementation may be left to each Transmission Provider but the long term objective is every 10 minutes, or perhaps even more frequently
 - Better use of capacity within and outside of BA (bilateral transactions) by allowing shorter timeframes for scheduling

Rough Timeline



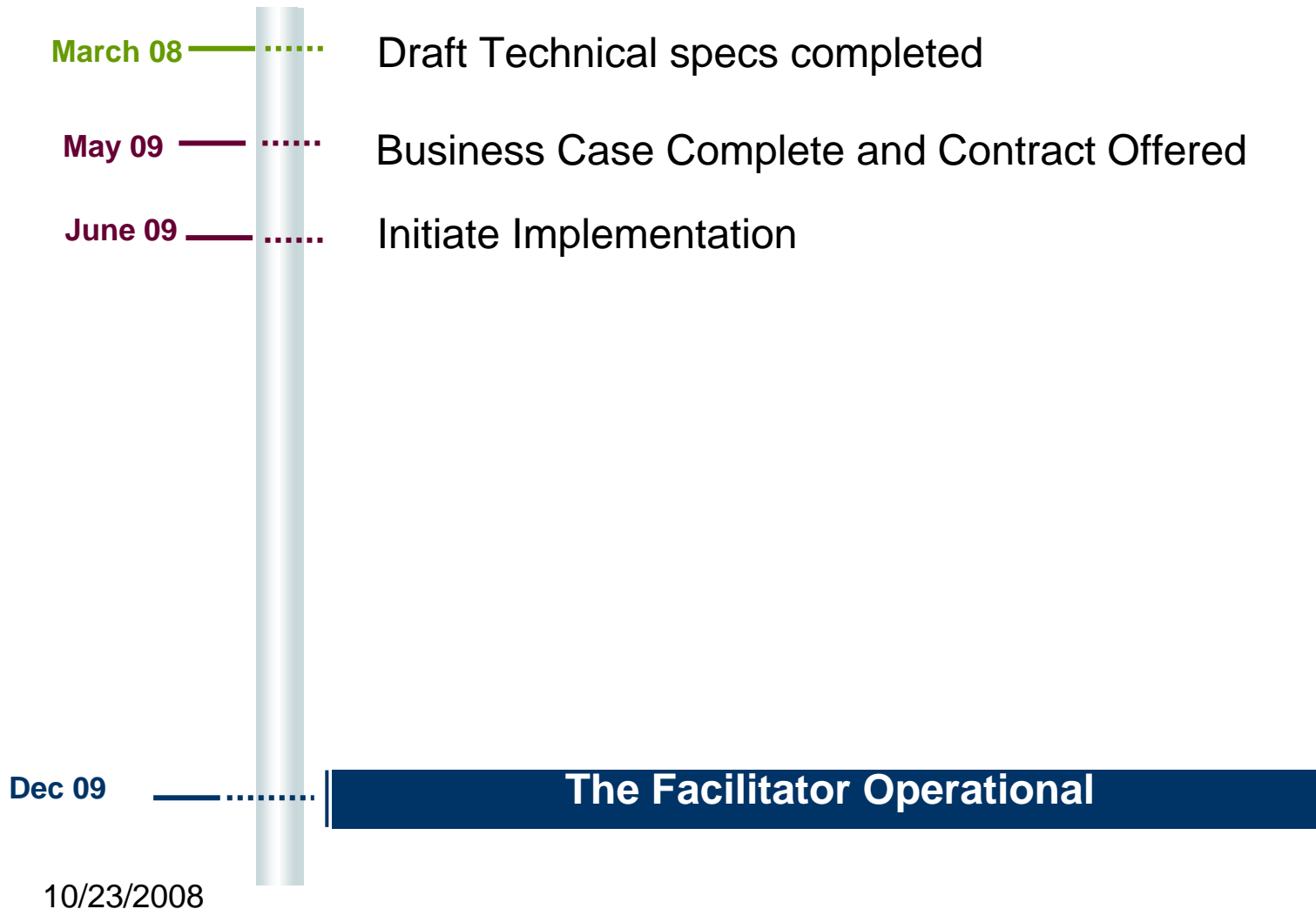
“The Facilitator”

- “The Facilitator” (Facilitates Bilateral Intra-Hour Products, such as Balancing, Redispatch, etc.)
 - Automated Information Exchange
 - Information regarding state of participating systems, including individual generator’s ability and prices to move up (inc) or down (dec)
 - Leads to greater visibility regarding needs, opportunities, and costs
 - Facilitates accessing flexibility both within and outside of a BA’s area as opposed to relying exclusively on BA’s system to support wind integration
 - Helps manage costs of integrating wind

“The Facilitator”

- Automated Mechanisms to access system flexibility swiftly and efficiently
 - Communications links
 - Links to OASIS for transmission purposes
 - May automate tagging, both setup and approval
 - Standard form contracts for bilateral transactions
 - Support financial settlement records for transactions

Rough Timeline



Infrastructure Strike Team

- Initial Goal

Create communication link(s) and associated data protocols to support the sale and next hour delivery of dynamic energy products (e.g., regulation)

- How it will Assist with Wind Integration

Provide more agile delivery mechanism for dynamic energy products (currently, dynamic scheduling must be arranged manually days, weeks, or months in advance)

Current Infrastructure Strike Team Participants

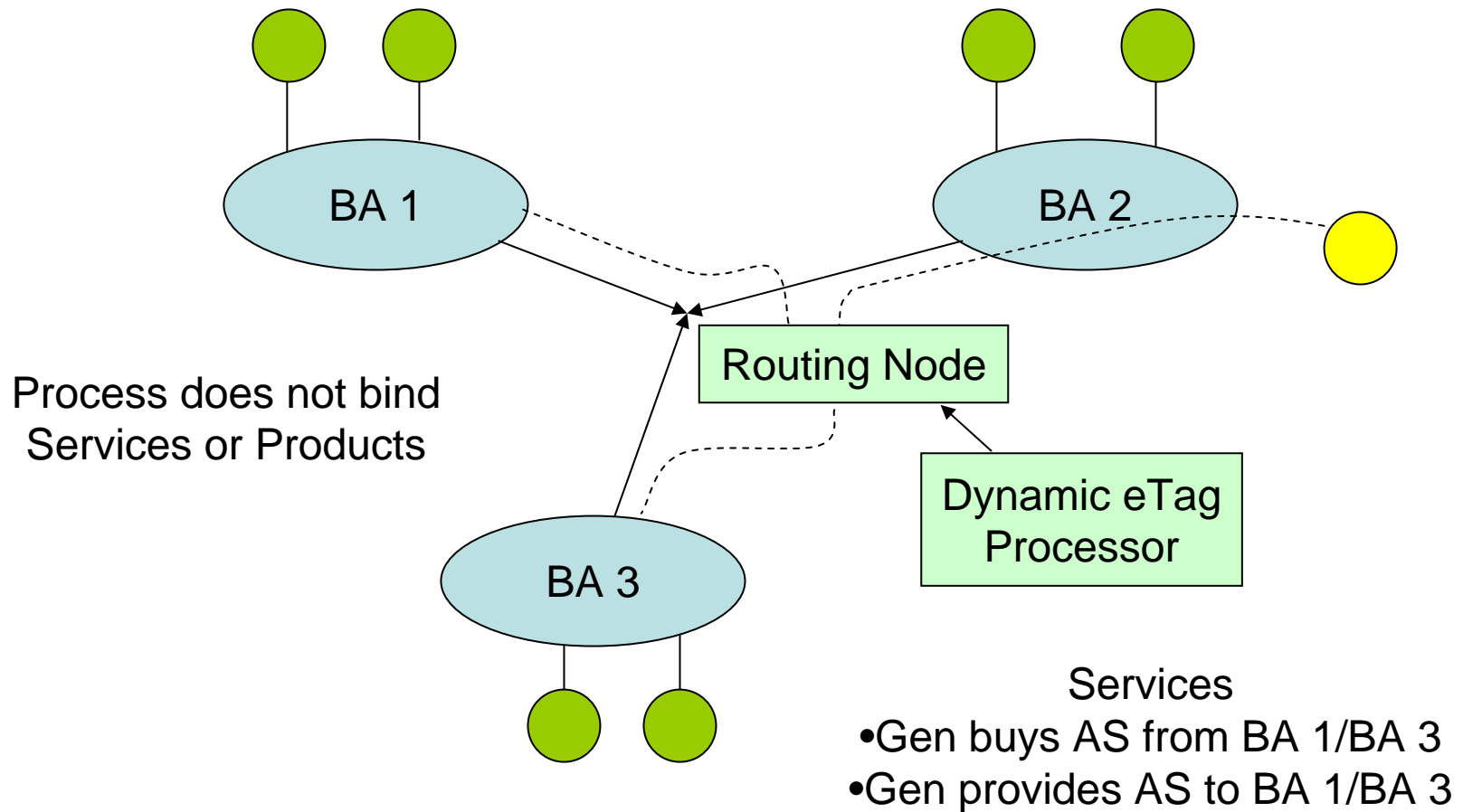
Balancing Area Participants:

- BPA
- Grant County PUD
- Idaho Power
- Northwestern Energy
- PacifiCorp
- Seattle City Light

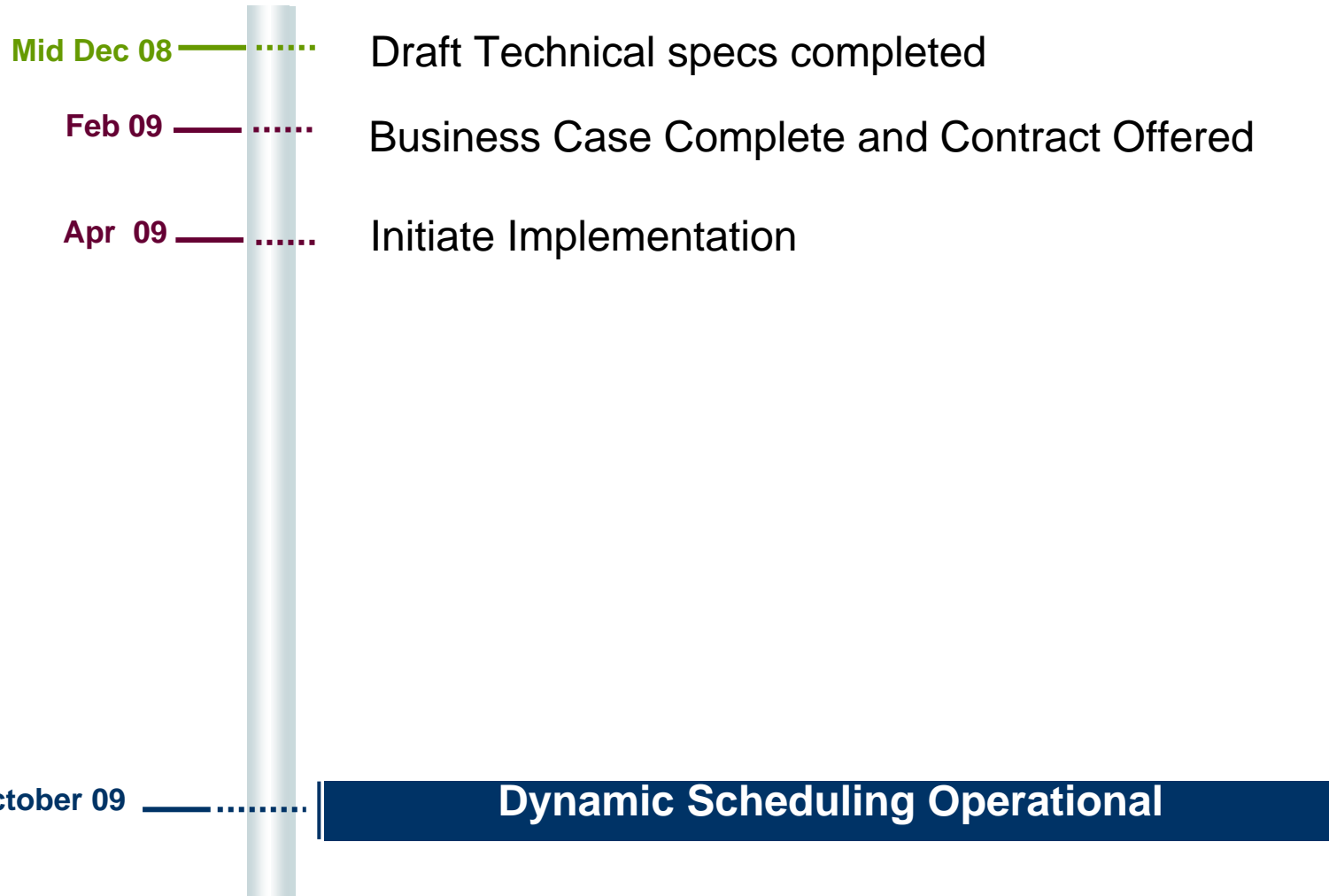
Other Interested Parties:

- Columbia Grid
- Northern Tier Transmission Group
- WECC
- West Connect

Conceptual Diagram



Rough Timeline



Keys to Success

- Involvement of right parties
- Staying focused
- Keeping things simple
- Close coordination with other “overlapping” efforts (e.g., WECC mid-hour tagging efforts, WSPP intra-hour products)

Opportunities for Involvement

- Infrastructure Facilitator
Sharon Helms (503-644-6262)
- Products and Services Co-Facilitators
Charlie Reinhold (480-215-0299)
Kristi Wallis (206-726-1699)
- Joint Initiative materials posted on CG website

www.columbiagrid.org



Questions