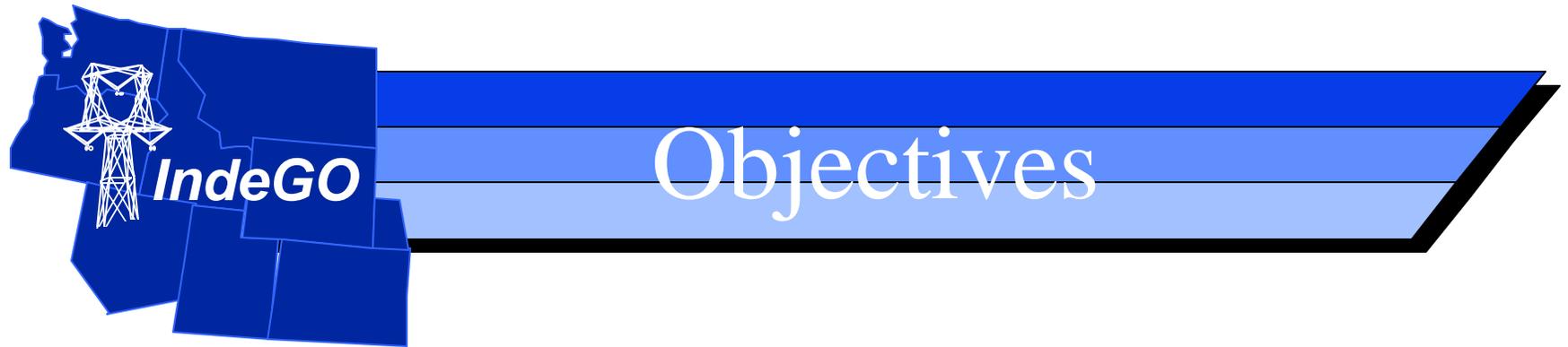


IndeGO

Congestion Management

Northwest RTO Congestion Management Workshop
June 6-7, 2000



- Maximize Economic Efficiency
 - Short Term – Economic Transactions Prevail
 - Long Term – Basis for Planning and Siting
- Work Within a Bi-Lateral Market
- Maintain Reliability



General Structure

- Basic Concepts
 - IndeGO accepts all schedule nominations
 - When expected transfers exceed capacity -
IndeGO buys a reverse transfer
 - Collect cost from users of congested path
 - Transmission Capacity Reservation (TCR)
Eliminates Congestion Charge

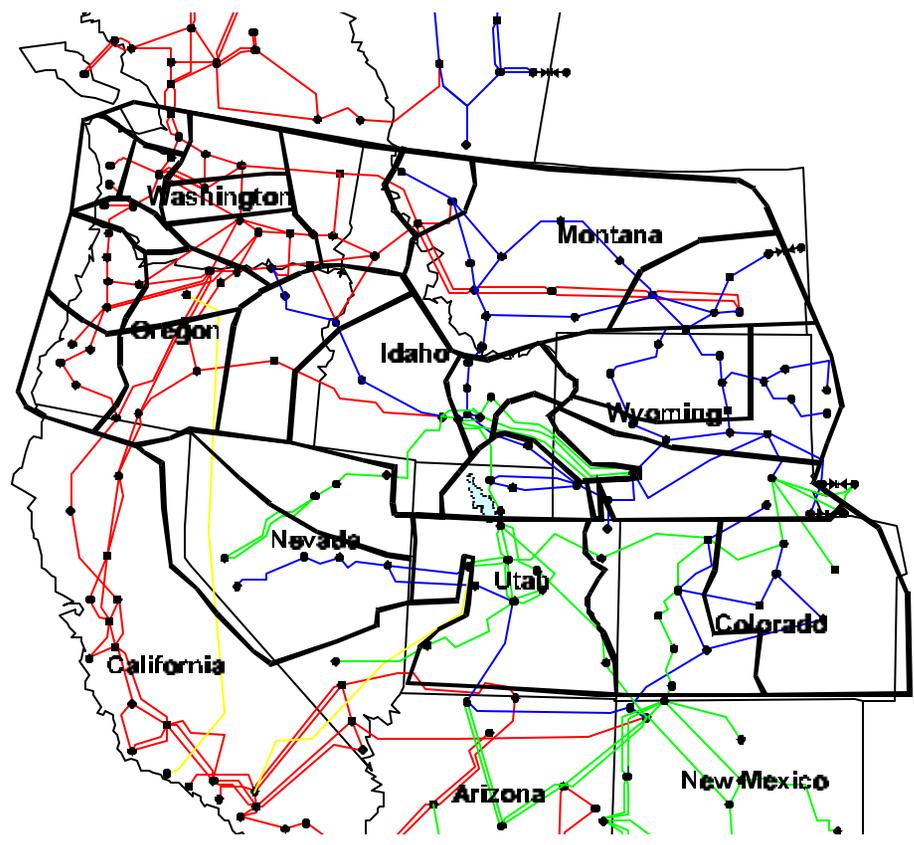


Defining Paths & Zones

- Paths have rated capacities and define Zones
 - Zone boundaries have commercially significant congestion
 - In-zone congestion is minor
 - Zones are electrically coherent
- Balance simplicity versus precision
- Provide for future adjustment



Congestion Zones





- At preschedule time IndeGO accepts all schedule nominations
- Bids for congestion clearing also taken
- IndeGO runs security model to predict overloads
- Forecast congestion costs are posted



Clearing Congestion

- Many tools:
 - Control devices
 - Purchase reverse transfers
 - May bid load adjustments
- No need to trace schedules
- Pays marginal price to all reverse transfers



Allocating Costs

- Congestion cost allocation is based on contribution to actual flow
- Flow distribution matrix allocates cost
- Matrix changes when network changes
- TCRs are not automatically changed

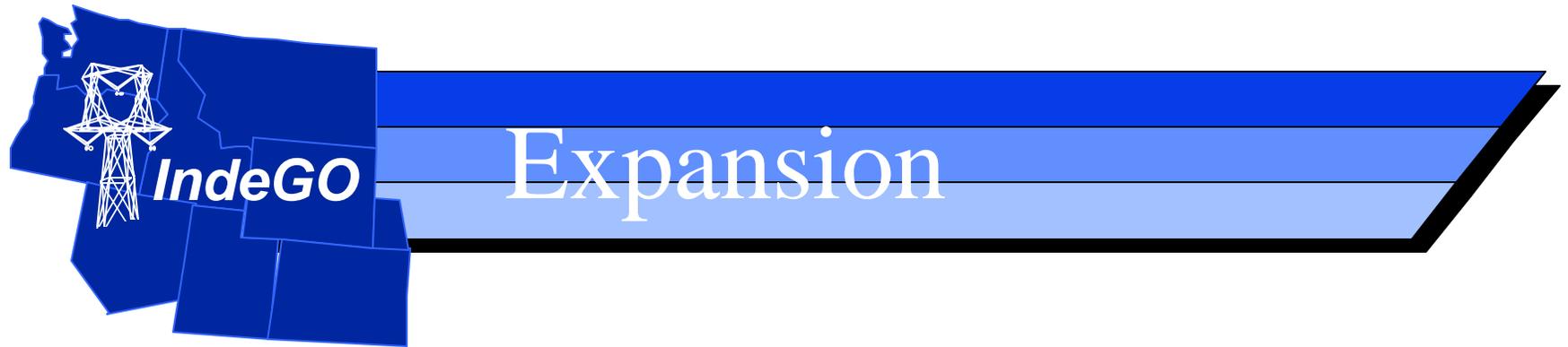


Capacity Reservations

- Use in lieu of cash to pay congestion bill
- Provides price stability like firm rights
- Time and path specific
- Capacity auctioned annually
 - Auction revenues offset access charges



- Reservations for native load, existing contracts, and new facilities
- Allows reserve price exemption from the annual auction
- Auction revenues go to TCR holders



- Expanding Inter-zonal Paths
 - Incentive is Congestion Charge avoidance
 - Reward for new construction is TCR
 - IndeGO identifies projects and capacities
- Expanding inside Zones
 - Funded through increase in Access Charge
 - Local area planning has prime responsibility



Real-Time Balancing

- Ancillary Service proposal purchased resources via auction for regulation and reserves
- Pricing recognized Congestion Zones