



Implementation WG Budgetary for RTO West August 31, 2000



Topics

- Assumptions
- Technology
- Facilities
- Organization and Staffing
- Budgetary Summary
- Future Plans



Assumptions

- “Lite” Functionality for Most Activities
- Vendor-Supplied Systems
- Interface to GMSs and SCADAs
- Use of Vacant (Brown-field) Sites
- Outsourcing



“Lite” Functionality

- Transmission planning based on “RTO Perform” planning of grid facilities
- Minimum RTO-based ancillary services markets
- Moderate centralization of congestion management activities
- Scheduling coordinators who are responsible for meter certification and billing and settlement for their customers
- Addition of Canadian entities would add to budget
- Functionality fully compliant with FERC 2000



Vendor-Supplied Systems

- Most systems will have to be purchased new from vendors and have been estimated on this basis
- Reuse (lease) of a few utility applications have been assumed:
 - OASIS
 - Outage Coordination
 - Security Applications
 - OTC Nomograms
 - Power System Monitoring and Analysis



External System Interfaces

- Data links to transmission owner SCADA systems
- Some direct RAS control
- Data links to scheduling coordinator generation management systems
- When contracted, some direct generation control



Control Center Sites

- Primary
 - Brown-field in Portland-Vancouver, WA area
 - (Evaluating Trojan building #3)
- Back-up
 - Brownfield is lowest cost, simplest option



Outsourcing

- Security coordination
- Information services
- Legal services
- HR support
- Market monitoring support
- Physical security
- Reprographics



Technology

- Computer systems and applications
- Communications
- Scheduling and billing/settlement



Computer systems and applications - Primary

	<u>Initial</u>	<u>Annual</u>
Scheduling & Marketing	\$11.1M	\$1.7M
Dispatch & Operations	\$20.6 M	\$2.3M
General Purpose/Support	\$ 6.5M	\$0.8M
Other/Contingency 10%	<u>\$ 3.8M</u>	<u>\$0.5M</u>
Total – Primary	\$42.0M	\$5.3M



Computer systems and applications – Back-up

	<u>Initial</u>	<u>Annual</u>
Scheduling & Marketing	\$1.0M	\$0.2M
Dispatch & Operations	\$7.7M	\$1.2M
General Purpose/Support	<u>\$0.9M</u>	<u>\$0.1M</u>
Total – Back-up	\$9.6M	\$1.5M



Communications

- Leased communications services
 - From transmission owners
 - From public network providers
- ICCP/T-1
 - Transmission SCADA
 - Generation GMS
- Included in computer/applications costs



Scheduling and Billing/Settlement

- Scheduling/billing/settlement/metering
\$11.3M
- Scheduling coordinator performs metering, billing, and settlement for its customers
- High cost uncertainty
- Possible outsourcing



Facilities

- Primary control center
 - Brown-field in Portland-Vancouver, WA area
- Back-up control center
 - Brownfield site
 - Location dependent upon risks
- Key selection criteria
 - Availability of qualified personnel
 - Access to utility communications infrastructure
 - Facilities Availability



Primary Site

- Brown-field
 - Existing class A (estimated) or class B facility
 - 75K square feet
 - Buildout, UPS, emergency generation, etc. to suit RTO functions



Back-up Site

- Brownfield site
- 10K square feet
- Replication of primary's computing systems for operations
- Proposed Routine Functions
 - Transmission coordination
 - Scheduling
- Immediate assumption of critical functions



Operations Center Costs (\$K)

	<u>Brown-field</u>	<u>Trojan</u>	<u>Dittmer</u>	<u>Back-up</u>
<u>Improvements</u> (one-time)	3,735	2,500	3,375	1,240
<u>Annual Cost</u> (Lease, utilities & maintenance)	1,633	915	1,280	275
<u>Total first year cost</u>	5,368	3,415	4,655	1,415



Organization and Staffing

- Impacts of “lite” assumptions
- Outsourcing
- Staffing estimates
- Headcount Comparisons



Impacts of “Lite” Assumptions

- Transmission planners – RTO Perform
- Congestion management desk
- Ancillary services desk
- Scheduler desks
- Billing analysts
- Settlement administrators



Staffing Estimates

Office of the CEO	3
Operations	117
Finance	37
Legal	5
Information Technology	46
Client services	19
Human resources	5
Market monitoring	<u>4</u>
Total	236



Headcount Comparisons

Headcount (present)

RTO West	236
New York	278 (198)
Mid West	250 (50)
ERCOT	200 (70)



Budgetary Summary

	<u>Initial</u>	<u>Annual O&M</u>
Computer systems, Comm., & applications	\$51.6M	\$ 6.7M
Facilities (brown field)	\$ 5.0M	\$ 1.9M
Staffing	\$17.0M*	\$33.4M
Outsource & other	\$ 5.7M	\$ 4.6M
Cost of capital	TBD	TBD
Total	\$79.3M+	\$46.6M+

*depends upon timeliness and efficiency of recruiting efforts



Current Plans

- Draft Transition plan
- Refinement of budgetary
- Documentation to support filing
- Agreement from RRG



Milestones

T Day – Transition Team formed (need a leader with funds and authority to obligate them)

RTO Day – Executive Team formed (CEO appointed, begins hiring permanent staff)

Trial Day – Trial operations begin (Start Day minus 60+ days)

Start Day – The ultimate test (Dec, 2001 or thereafter)

Run Day – Full performance (Dec 2003)

(There is no end state: suggested goal is an organization capable of continuous change)