

IMPLEMENTATION WORK GROUP

July 21, 2000
0830-1530

PDX Conference Center
Portland Airport

Meeting Minutes
Version 1 – July 24, 2000

Attendees:

Jack Bernhardsen	Pacific NW Security Coordinator	360-418-2956	jackbernhardsen@home.com
John Boucher	KEMA Consulting	503-258-0182	jboucher@kemaconsulting.com
Douglas Cave	BC Hydro	604-293-5802	douglas.cave@bchydro.bc.ca
Christine Elliott	Northwest Power Pool	503-464-2804	chris@nwpp.org
Jon Fisker	Portland General Electric	503-464-8346	jon_fisker@pgn.com
David James	Avista Corp	509-495-4185	djames@avistacorp.com
Jon Kaake	PacifiCorp	503-813-5734	jon.kaake@pacificorp.com
LeRoy Patterson	Montana Power	406-497-4387	lpatter@mtpower.com
Deanna Phillips	BPA/PBL	503-230-5164	dmphillips@bpa.gov
Vernon Porter	Idaho Power Company	208-388-2850	vporter@idahopower.com
Chris Reese	Puget Sound Energy	465-462-3055	creese@puget.com
Mike Ryan	Portland General Electric	503-464-8793	mike_ryan@pgn.com
Norm Stanley	PacifiCorp	503-251-5155	norm.stanley@pacificorp.com
Ralph Underwood	Seattle City Light	206-706-0240	ralph.underwood@ci.seattle.wa.us
Jim Vinson	BPA/TBL	360-418-2011	javinson@bpa.gov
Don Watkins	BPA/TBL	360-418-2344	dswatkins@bpa.gov
Gray Wright	Sierra Pacific Power	775-834-3282	gwright@sppc.com
Dick George	ESCA		

Calendar:

May 23, 2000	0830 - 1230	Work Group Meeting	Kingstad Center	✓
June 1, 2000	0830 - 1700	Work Group Meeting	Kingstad Center	✓
June 2, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	✓
June 9, 2000	0830 - 1530	Work Group Meeting	Ditmer Control Center	✓
June 16, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	✓
June 22, 2000	0830 - 1700	Work Group Meeting	Kingstad Center	✓
June 23, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	✓
July 14, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	✓
July 21, 2000	0830 - 1530	Work Group Meeting	PDX Conference Center	✓
July 28, 2000	0830 - 1530	Work Group Meeting	PDX Conference Center	
August 4, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
August 11, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
August 18, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	

Assignments:

Action Item	Responsible Parties	Status
Publish updated budgetary spreadsheet for technology (computer systems, applications, and communications) Include estimates for costs at the back-up center and for annual O&M	Don Watkins	Due 7/26/00
Provide cost estimate for IT system	John Boucher	Due 7/25/00
Convert presentation of control center budgetaries into a tabulation of primary and back-up costs (initial and annual) and a bulleted description	David James	Due 7/26/00
Publish updated organization chart, including going to the CM and AS WG's for comment. Calculate the salary and benefit costs associated with staffing.	Jack Berharsen	Due 7/26/00
Bulleted report – Summary and assumptions	LeRoy Patterson	Due 7/28/00
Bulleted report – Functional requirements (email to LeRoy)	Chris Reece	Due 7/26/00
Bulleted report – Organization and staffing (email to LeRoy)	Richard Goddard	Due 7/26/00
Bulleted report – Technology requirements (email to LeRoy)	Don Watkins	Due 7/26/00
Bulleted report – Control center requirements (email to LeRoy)	David James	Due 7/26/00
Implementation plan/Time line	Chris Reece	Due 7/26/00
Support of Legal WG's creation of filing documents – Dispatch protocols/provisions	Norm Stanley	As required
Support of Legal WG's creation of filing documents – Outage coord.	Jim Vinson	As required
Support of Legal WG's creation of filing documents – Metering	Ralph Underwood	As required
Support of Legal WG's creation of filing documents – OASIS provisions	Bob Harshbarger	As required
Support of Legal WG's creation of filing documents – Critical control facilities	Don Watkins, LeRoy Patterson	As required
Support of Legal WG's creation of filing documents – Generation provisions	Deanna Phillips, LeRoy Patterson	As required
Support of Legal WG's creation of filing documents – Load provisions	LeRoy Patterson	As required

Summary of Consensus:

1. Note that in any case where consensus is reached that later proves inconsistent with decisions made by work groups responsible for a specific policy, such as Ancillary Services, then the Implementation work group will bring its consensus into conformance with those decisions.
2. The cost of initial implementation is dominated by the technology costs, particularly applications. Initial facilities costs represent less than 5% of the technology costs.
3. The annual operations cost is dominated by the staffing costs with facilities representing less than 10% of the staffing costs.
4. Since the costs of facilities are not dominant, the costs for different primary alternatives are relatively close, and the costs for different back-up alternatives are relatively close, then the selection of sites should be based less on cost and more on other criteria such as availability of trained staff and implementation schedule risk.
5. Technology and staffing estimates have been based on “lite” implementations of transmission planning, ancillary services, and congestion management. If heavier solutions are accepted the estimates will increase.

Highlights of Meeting (Agenda Attached):

- ❖ Budgetary Estimates for Computer Systems, Applications, and Communications
Don Watkins
 - Discussion:
 - Don discussed his handout. This estimated Dittmer costs and assumptions. John pointed out that we are interested in determining reasonable cost figures, not selecting a vendor. Many IWG members are concerned that the \$5.7 million and \$9.5 million for Scheduling and Settlement systems are higher than necessary for these systems. Don dropped the \$1.5 million for “support/participate in open electronic transaction systems”, since he did not know what it was (possibly a placeholder for OASIS II).
 - We added \$100 k for specialized security coordinator tools and removed \$400 k for communication monitoring of private (company) communication systems. The backup power costs assume a single battery system with dual UPS. AGC costs represent BPA’s cost plus ICCP links to all Control Areas. The AGC is intended to implement Ancillary Services on a real time basis. Assumptions include a single AGC control area with signals going to balancing authorities. SCADA assumes connection via ICCP to existing control centers. IWG reduced the cost of SCADA to \$4 million from \$8 after comments from Dick George (ESCA). Mapboard costs remain at \$750 k, but use of new technology such as “in focus” may allow significant reductions in these costs. (A decision regarding the need for a physical mapboard must be made.) IWG changed the “Critical Path Nomograms for arming RAS” to “OTC/RAS arming and monitoring” and the cost goes to \$250 k. Dispatch electronic communication was increased to \$1 million. “Electronic dispatch logging” costs increased to \$500 k. Remove “logging” item for \$50 k. Compliance reporting was removed. It is part of other systems and the scope

of those systems will be modified to reflect the compliance aspect. Drop one of the ICCP line items and add the costs (\$600 k).

- Advanced application sections: IWG provided much discussion but the numbers were not changed.
- Office systems: Communication and IT system costs will be left as a placeholder, but the costs need more work. (Don asked for others to provide estimates.) John Boucher will get costs for support systems such as legal, payroll, financial, etc.
- Don will provide templates to uniquely identify line items, provide the basis for the estimate, and identify functions included in the scope of each line item. We need estimates for backup centers. Operating and maintenance costs will be estimated at 15% of capital costs unless better estimates are available.
- ❖ Budgetary Estimates for Primary and Back-Up Control Center Facilities
David James
 - Dittmer: BPA must keep some facilities in the basement. The facility is about 100,000 square feet. Estimated shell cost is about \$15 million. Note: BPA may have difficulty 'leasing' Dittmer, but they can 'permit' use of the building. The permit would include backup generator, landscaping and parking areas. Utilities, O&M, security, and depreciation are excluded from the lease cost. These costs presume that specific facilities and limited staff must remain at Dittmer.
 - A Vancouver building with 53,000 sq ft of Class A flex office space is available at a rate of \$18.50/sq ft/year with full service (includes taxes, maintenance, landscaping, housekeeping). An additional \$25/sq ft tenant improvement allowance that would cover the buildout of the 200 office space, conference rooms, etc. Emergency generator, UPS, dual feeds would all be extra. \$18 to \$19 per sq. ft. is typical for other buildings in this area.
 - Salt Lake City: Lease cost of \$16 - \$18 per sq ft for low-rise building, located in an area such as the Lloyd Center, Vancouver or near the airport. This works out to \$800-900 k per year for the lease, plus an adder for additional air, UPS, Generation and multiple feeds.
 - Reno: SPP has space and is ready to lease. They will bid for this, but we have numbers for budget purposes.
 - Backup site: Assume 5000 sq ft of space for operations personnel. Security for a facility up to 10,000 sq ft would run \$114,000 for security personnel plus \$80 k for card key access and video cameras. UPS for 65 kW and 20 minutes costs about \$33,000. David estimated other costs as well. The concept is that the backup site would have a third (and possibly a fourth) set of systems that must be kept current with software and data. PAC offered to lease a backup center for about \$100 k per year and includes security, backup power, etc. Additional one-time costs would be about \$100 k to 'bring the facility up to code'.
 - David will refine the costs and explanations.
- ❖ Budgetary Estimates for Start-Up and Operational Staffing Richard Goddard
 - For rotating shifts, they assumed six FTEs are required for positions likely to be more experienced and have more vacation. They assumed 5½ FTEs are required for positions requiring less experience.

- This group compared staff levels from each of the RTO-like organizations and created the draft that was distributed. They show 202 FTEs. Dotted lines indicate a potential contract service.
 - CFO: Reprographics should be a contract service (add \$300 k and remove 3 FTEs). The Administrative Assistant under Facility management was removed (remove 1 FTE). Total: 36 people.
 - COO: The shift coordinator is responsible for coordinating activities of all shift workers. Add Generation and Control Area services as a function under the Backup Center, ... 6 people. IWG renamed several boxes. IWG reduced the Planning Staff using the assumption of RTOWest light (15 total – 9 ops – 1 manager – 1 tech = 4 planning eng.). We removed the Scheduling supervisor. The OASIS administrator handles long term reservations, getting OTCs represented as ATCs, etc. Add 2 technical experts under the Manager, Scheduling and OASIS. This is a total of 82 people.
 - CIO: Eliminate the 24x7 support. The boxes were changed and the labeling changed. However, the total numbers reduced by one for 29 people.
 - General counsel: Add outsourcing and reduce staff by one for duplication for a total of 5.
 - Client Services and PR: Reduce Client Relations Specialist to 4 people. Add the scope to the Director position and remove the Customer training specialist. This leaves a total of 16 people.
 - HR: Add HR consulting to begin the organization: However, keep the 5 people.
 - Market monitoring: 3 people.
 - The final FTE count is $36 + 82 + 29 + 16 + 5 + 3 = 179$ FTEs
 - The RRG should know that systems and infrastructure estimates are upper limited, while staffing represents minimum levels. \$135 k, fully loaded, per person is the suggested estimate. This provides about \$24 million in staff costs with another \$1 million in consulting charges.
- ❖ Review of White Paper Bullets Documenting Basis for Budgetary Estimates
LeRoy Patterson
 - Distribute the previous draft copy of this report. - LeRoy
- ❖ Assignment of White Paper Bullets Supporting Filing Documents
 - Web sites: <http://Dstarnet.com> www.sierrapacific.com/utility/isa/documents
 - Dispatch Protocols/Provisions – Mountain West ISA document – Nory Stanley
 - Outage Coordination – Jim Vinson
 - Metering – Metering team – Ralph Underwood
 - OASIS Provisions – Bob Harshbarger
 - Critical Control Facilities – Section 9.1 of IndeGO TCA – Donneville, LeRoy
 - Generation Provisions – Deanna Phillips, LeRoy

Load Provisions – LeRoy

Updated copies of the handouts will be published by the respective authors this week.

The next meeting will be Friday, July 28, at the PDX Conference Center, Portland Airport. Report and presentation to the RRG will be finalized at this time.

**Implementation Work Group
Meeting – July 21
Agenda**

Budgetary Estimates for Computer Systems, Applications, and Communications	Don Watkins	0830 – 0945
Budgetary Estimates for Primary and Back-Up Control Center Facilities	David James	0945 – 1045
Budgetary Estimates for Start-Up and Operational Staffing	Richard Goddard	1100 – 1200
Review of White Paper Bullets Documenting Basis for Budgetary Estimates	LeRoy Patterson	1300 – 1430
Assignment of White Paper Bullets Supporting Filing Documents <ul style="list-style-type: none">• Dispatch Protocols/Provisions• Outage Coordination• Metering• OASIS Provisions• Critical Control Facilities• Generation Provisions• Load Provisions	John Boucher	1430 – 1530