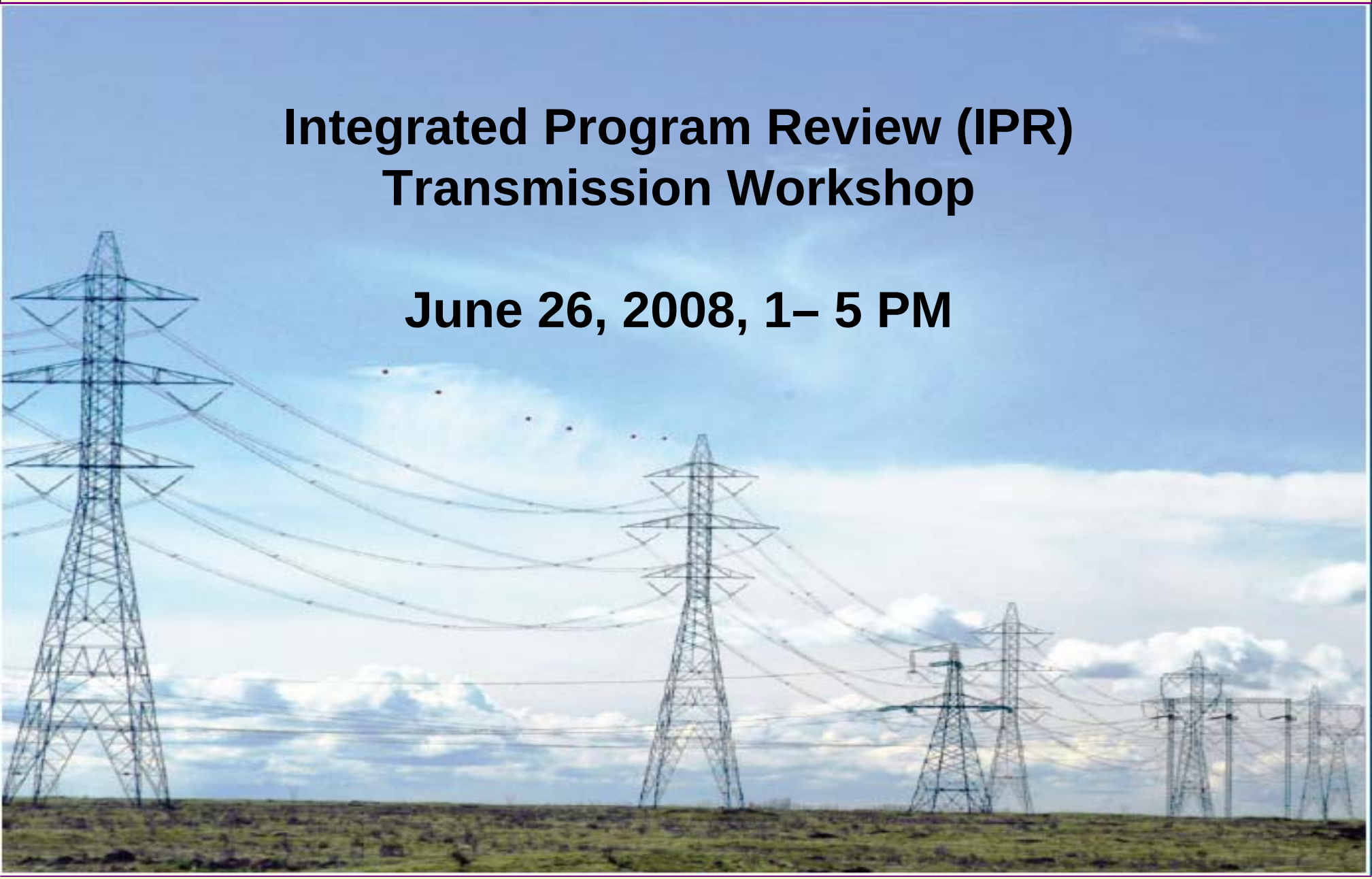
Integrated Program Review (IPR)
Transmission Workshop

June 26, 2008, 1– 5 PM



Agenda

- Overview of Transmission Services- *Vickie VanZandt (15 minutes) (Pages 3-4)*

- Transmission Expense Programs- Key Drivers *(1 hour) (Pages 5-8)*
  - Operations- *Randi Thomas (Pages 9-10)*
  - Maintenance– *Larry Bekkedahl and Robin Furrer (Pages 11-12)*
  - Marketing & Sales- *Cathy Ehli (Pages 13-16)*

- Transmission Asset Plan
  - Methodology & Approach- *Kevin Carman (20 minutes) (Pages 17-30)*
  - Overhead Line Asset Plan (as a case study) – *Mike Staats (30 minutes) (Pages 31-51)*
  - Stations-- 500 kV Transformer Strategy (as a case study) – *Christine Goldsworthy (20 minutes) (Pages 52-59)*
  - Expansion Portfolio – *Kendall Rydell (20 minutes) (Pages 60-69)*

- Q&A and Next Steps – *(Pages 70-72)*

- Financial Disclosure Policy *(Page 73)*
- Appendix– *(Pages 74-88)*
  - 2010-2011 Schedule of Expense Programs *(Pages 75-79)*
  - 2010-2011 Schedule of Capital Programs *(Pages 80-83)*
  - Transmission Expense Program Detail *(Pages 84-88)*

Purpose of Workshop

- Follow-up on May 15th overview of the expense and capital levels that will be addressed in the Integrated Program Review process

- Provide additional detail on program areas based on May 15th feedback

12	**Depreciation, Amortization and Interest, and Debt Management**	**Th. 6/26/2008**	**9am-12pm**
13	**Transmission - Capital & Expense**	**Th. 6/26/2008**	**1pm-5pm**
14	**Close-out on FY 2009 Power Costs**	**Wed. 7/2/2008**	**8:30am-9:30am**
15	**General Manager meeting on 2010-2011 costs (Steve Wright in attendance)**	**Wed. 7/2/2008**	**9:30am-11:30am**

Transmission Overview for FY 2010-2011

- Although transmission operating costs are increasing at a faster rate than inflation, revenues are also accelerating due in part to a careful offering of Available Transfer Capability (ATC). With revenues exceeding projections, rate pressures are minimized.

- Why are operating costs exceeding inflation?
  - New mandatory requirements (reliability, environmental, tariff, etc.)
  - New wind resources need access to the BPA transmission system
  - Increased demand for transmission capacity
  - Need to sustain our aging transmission assets
  - Need to catch up where we have historically underinvested (control house buildings, access roads, etc.)
  - Global competition for material

- What trends are offsetting operating costs?
  - Lower than expected debt service
  - Higher than projected revenues and Treasury reserves
  - Favorable FERC ruling on reactive costs and generator withdrawal of current reactive rate
  - EPIP efficiencies with increased performance management rigor
  - Efficiency gains from business automation

TRANSMISSION EXPENSE –

KEY DRIVERS

Transmission Expenses
Actuals FY 2006-2007 & Proposed FY 2009-2011

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
Program (Total Expenses)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2008-2009**	**FY 2009**	**FY 2010**	**FY 2011**
Transmission Non-Between Business Unit Ancillary Services	$ 20,058	$ 19,397	$ 18,517	$ 18,844	$ 17,844	$ 18,359	$ 18,901
Transmission Programs	$ 260,447	$ 259,339	$ 281,703	$ 280,099	$ 320,534	$ 348,863	$ 358,369
Non-Federal Debt Service	$ (663)	$ 2,121	$ 3,380	$ 8,804	$ 6,886	$ 5,890	$ 4,690
Net Interest Expense	$ 136,761	$ 133,806	$ 125,609	$ 160,011	$ 138,740	$ 151,188	$ 166,880
Depreciation	$ 171,310	$ 175,513	$ 177,900	$ 194,382	$ 190,648	$ 200,810	$ 211,538
Total Expense	$ 587,913	$ 590,176	$ 607,109	$ 662,140	$ 674,652	$ 725,110	$ 760,378
Total Increase/Decrease From Prior Year		$ 2,262	$ 16,933		$ 67,544	$ 50,458	$ 35,268

Rule of Thumb

A $6.2 million change in expense or revenue = 1% in Transmission Rates

A $66M change in capital = 1% in Transmission Rates

Transmission Expenses
Actuals FY 2006-2007 & Proposed FY 2009-2011

$ in Thousands

Transmission Description	Actuals FY 2006	Actuals FY 2007	2nd Quarter Forecast FY 2008	Rate Case Average FY 2008-09	IPR FY 2009	IPR FY 2010	IPR FY 2011
SYSTEM OPERATIONS	$ 40,232	$ 43,892	$ 48,588	$ 48,537	$ 53,655	$ 56,586	$ 57,511
SCHEDULING	$ 7,733	$ 6,508	$ 8,741	$ 9,673	$ 9,896	$ 10,308	$ 10,784
MARKETING	$ 11,352	$ 13,712	$ 13,111	$ 13,428	$ 17,841	$ 18,836	$ 19,538
BUSINESS SUPPORT	$ 24,628	$ 27,984	$ 24,724	$ 25,537	$ 31,531	$ 34,675	$ 34,828
SYSTEM MAINTENANCE	$ 85,096	$ 87,866	$ 100,878	$ 92,833	$ 108,101	$ 121,919	$ 126,691
ENVIRONMENTAL OPERATIONS	$ 2,843	$ 3,039	$ 3,359	$ 3,440	$ 3,567	$ 3,797	$ 3,996
SYSTEM DEVELOPMENT	$ 14,775	$ 15,017	$ 22,704	$ 21,560	$ 25,140	$ 26,503	$ 28,014
AGENCY SERVICES	$ 63,402	$ 53,789	$ 52,498	$ 54,953	$ 57,527	$ 62,640	$ 62,936
PENSION & POST RETIREMENT BENEFITS	$ 11,600	$ 10,550	$ 9,000	$ 12,139	$ 15,277	$ 15,598	$ 16,071
NON-BBL ANCILLARY SERVICES 1/	$ 20,058	$ 19,397	$ 18,517	$ 18,844	$ 17,844	$ 18,359	$ 18,901
OTHER INCOME AND EXPENSES ADJUSTMENTS	$ (1,216)	$ (3,018)	$ (1,899)	$ (2,000)	$ (2,000)	$ (2,000)	$ (2,000)
NON-FEDERAL DEBT SERVICE	$ (663)	$ 2,121	$ 3,380	$ 8,804	$ 6,886	$ 5,890	$ 4,690
NET INTEREST EXPENSE	$ 136,761	$ 133,806	$ 125,609	$ 160,011	$ 138,740	$ 151,188	$ 166,880
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Total	$ 587,913	$ 590,176	$ 607,109	$ 662,140	$ 674,652	$ 725,110	$ 760,378
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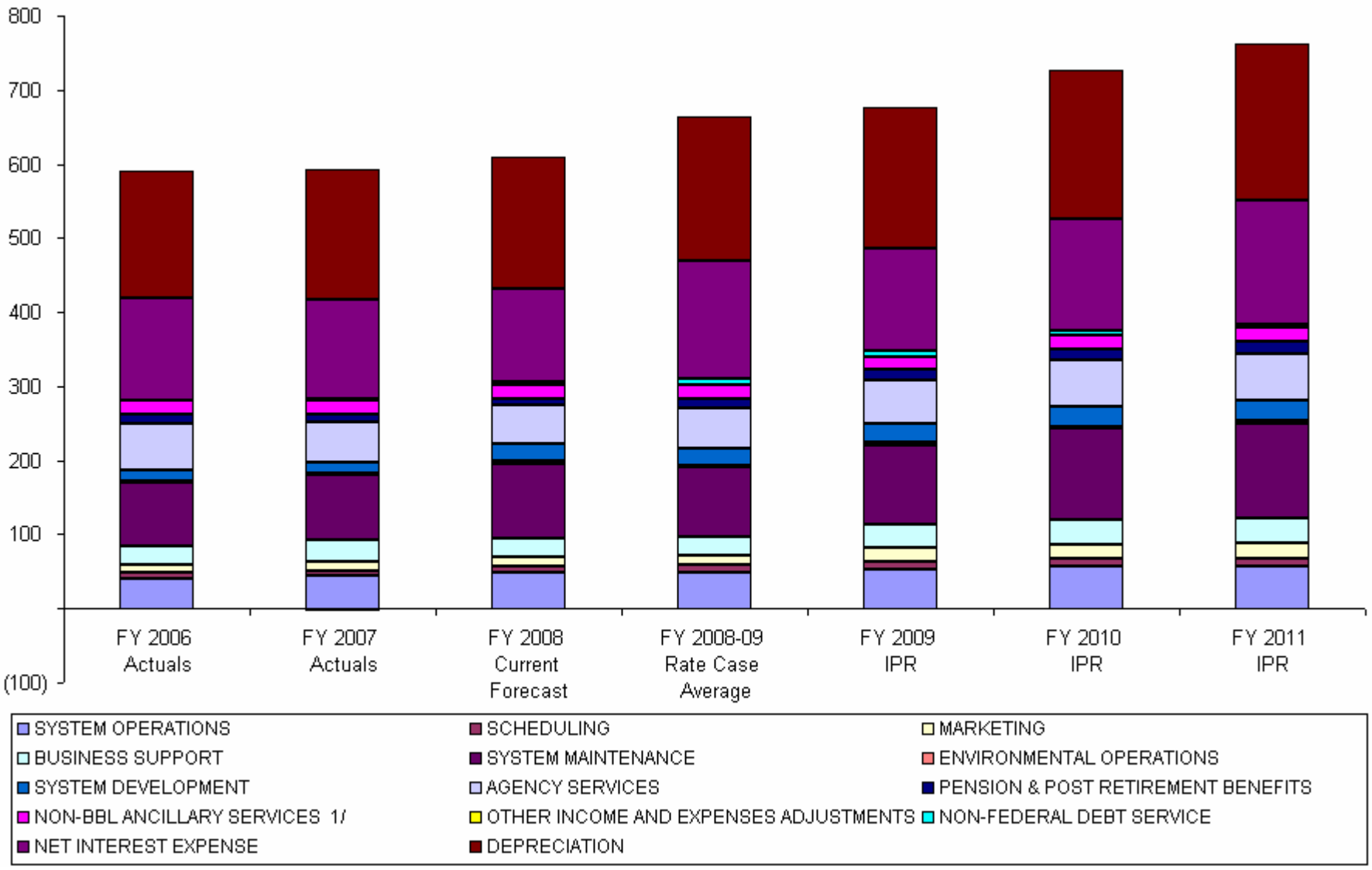
1/ Only 3rd Party Costs

Transmission Expenses
($ millions)



System Operations (1 of 2)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
SUBSTATION OPERATIONS	$18,193	$17,151	$17,307	$18,951	$18,027	$19,024	$19,206
POWER SYSTEM DISPATCHING	$8,271	$9,614	$9,840	$10,229	$11,021	$11,461	$11,864
TECHNICAL OPERATIONS	$3,204	$3,338	$4,374	$3,732	$5,624	$5,882	$6,096
CONTROL CENTER SUPPORT	$9,265	$9,492	$10,483	$9,531	$12,890	$13,172	$13,541
INFORMATION TECHNOLOGY	$1,299	$4,297	$6,585	$6,095	$6,093	$7,046	$6,803
Program Level Spending	$40,232	$43,892	$48,588	$48,537	$53,655	$56,586	$57,511
Total Increase/Decrease From Prior Year		$3,660	$4,696		$5,067	$2,931	$925

Program Background:

- System Operations contains expenses for technical operations, substation operations, control center support, power system dispatching, and Transmission IT costs, including Agency Services costs for IT that are allocated to Transmission Services.

Drivers of Change:

- Mandatory reliability compliance, documentation and reporting, have increased substantially.
- Increased workload to support wind integration.
- Increased demand for transmission capacity.
- Increased training needs due to constant influx of new equipment types, models, and technologies.

Forecast Risk:

- Finding qualified candidates for critical skill sets and having enough qualified staff to simultaneously train new employees and perform critical work.

System Operations (2 of 2)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
SUBSTATION OPERATIONS	$18,193	$17,151	$17,307	$18,951	$18,027	$19,024	$19,206
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Total Increase/Decrease From Prior Year		$3,660	$4,696		$5,067	$2,931	$925

Opportunities for Improvement:

- Provide tools to manage the system, e.g. automate remedial action scheme (RAS) arming, voltage control, and short-term wind forecasting.
- Increase management of conditional firm initiatives.
- Increase dynamic scheduling capability.
- Recognize opportunities to create more efficient inspection, documentation and switching processes and practices through internal and external benchmarking as well as collaboration amongst our fellow employees.
- Develop recruitment efforts that can supplement the success in the Apprenticeship Program.
- Digital communication to major federal projects and neighboring Balancing Authorities (BAs).

System Maintenance with Environmental Operations (1 of 2)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
NON-ELECTRIC MAINTENANCE	$9,587	$8,439	$9,138	$11,141	$13,996	$26,046	$28,055
SUBSTATION MAINTENANCE	$19,903	$19,706	$21,273	$17,381	$21,634	$22,243	$22,784
TRANSMISSION LINE MAINTENANCE	$18,989	$17,442	$21,832	$19,009	$26,596	$25,540	$26,179
SYSTEM PROTECTION CONTROL MAINTENANCE	$10,460	$9,535	$11,704	$9,821	$10,717	$10,798	$11,317
POWER SYSTEM CONTROL MAINTENANCE	$8,682	$8,248	$9,965	$10,743	$10,083	$10,147	$10,659
JOINT COST MAINTENANCE	$111	$181	$180	$226	$191	$196	$200
SYSTEM MAINTENANCE MANAGEMENT	$3,533	$7,535	$5,360	$6,890	$5,962	$6,111	$6,264
ROW MAINTENANCE	$11,377	$14,779	$19,111	$12,966	$16,330	$18,181	$18,508
HEAVY MOBILE EQUIP MAINT	$135	($179)	$0	$847	$0	$0	$0
TECHNICAL TRAINING	$2,319	$2,180	$2,314	$3,811	$2,592	$2,657	$2,723
ENVIRONMENTAL OPERATIONS	$2,843	$3,039	$3,359	$3,440	$3,567	$3,797	$3,996
Program Level Spending	$87,939	$90,905	$104,237	$96,273	$111,668	$125,717	$130,687
Total Increase/Decrease From Prior Year		$2,966	$13,332		$7,431	$14,049	$4,970

Program Background: Environmental Operations consists of environmental analysis and pollution prevention and abatement.

Drivers of Change:

- Aging transmission equipment and equipment obsolescence
- Reliability, cultural and environmental compliance
- Increased maintenance costs due to global competition for materials
- Increasing numbers of emergencies requiring significant efforts to keep critical equipment in service
- Increased ROW management
- Increased training needs due to constant influx of new equipment types, models, and technologies
- Regulatory Agency Compliance Inspections identified required corrective actions

System Maintenance with Environmental Operations (2 of 2)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
Program Level Spending	$ 87,939	$ 90,905	$ 104,237	$ 96,273	$ 111,668	$ 125,717	$ 130,687
Total Increase/Decrease From Prior Year		$ 2,966	$ 13,332		$ 7,431	$ 14,049	$ 4,970

- System wide environmental risk assessments of oil-filled equipment have identified significant number of facilities with oil releases that pose environmental non-compliance and risk exposure resulting in the need for environmental corrective actions.
- Development of Programmatic Agreement to address cultural resources compliance for transmission maintenance program.

Forecast Risk:

- Finding qualified candidates for critical skills and having enough qualified staff to train new employees and perform critical work.
- Sufficient resources to accomplish needed equipment replacement and capital additions programs.
- Having adequate resources with required level of training and skill to integrate new equipment into in-service systems without jeopardizing system stability.
- Failure to address environmental regulatory issues resulting in Regulatory Agency violations (increased oversight, directives, and costs to address corrective actions to achieve environmental compliance).
- Findings of non-compliance impacts BPA's environmental stewardship principles.
- Costs to address environmental compliance requirements increase over time.

Opportunities for Improvement:

- Development of Programmatic Agreements with Regulators to streamline the environmental compliance process.
- Work with Department of Justice to utilize the Federal Judgment fund to address BPA Potentially Responsible Party liabilities associated with third party superfund sites.
- Recurring equipment replacement programs that allow for a more predictable work load on both capital and expense work loads.
- Adequate staff to support recurring base workload for maintenance programs.
- Application of Work Plan and Scheduling System.

Marketing (1 of 2)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
TRANSMISSION SALES	$2,371	$2,673	$2,580	$2,257	$2,985	$3,120	$3,261
MKTG INTERNAL OPERATIONS	$572	$220	$88	$873	$0	$0	$0
MKTG TRANSMISSION FINANCE	$668	$380	$387	$664	$375	$388	$402
MKTG CONTRACT MANAGEMENT	$1,776	$2,895	$3,586	$3,006	$3,989	$4,349	$4,496
MKTG TRANSMISSION BILLING	$2,195	$2,840	$2,006	$4,018	$2,165	$2,197	$2,223
MKTG BUSINESS STRAT & ASSESS	$2,835	$3,379	$3,666	$2,471	$6,411	$6,771	$7,044
MARKETING IT SUPPORT	$433	$1,081	$798	$141	$1,916	$2,012	$2,112
MARKETING AND SALES	$503	$242	$0	$0	$0	$0	$0
Program Level Spending	$11,352	$13,712	$13,111	$13,428	$17,841	$18,836	$19,538
Total Increase/Decrease From Prior Year		$2,359	($601)		$4,730	$996	$702

Program Background: The marketing program contains expenses related to business strategy & assessment, marketing IT support, billing, finance, contract management, and internal operations.

Drivers of Change:

- Increasing knowledge requirements of Order 890 scope and implementation.
- Implementing conditional firm to provide service in advance of new construction.
- Need to re-evaluate fundamental business models to accommodate increasing industry initiatives.
- Need to assess strategy of commercial policies to meet changing customer profiles and business needs.
- Increased knowledge of complexity of reservation and ATC automation requirements and collateral business policy impacts.

Marketing (2 of 2)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
TRANSMISSION SALES	$2,371	$2,673	$2,580	$2,257	$2,985	$3,120	$3,261
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Forecast Risk:

- High constant change in industry—continues to evolve.
- Resources to comprehensively address compliance and vulnerability assessments.
- Availability of skilled candidates to fill critical positions.
- Constant fast work pace results in less attention on strategic evaluation of issues.

Opportunities for Improvement:

- Great time to expose staff to different venues to learn about changing industry- need to capture these opportunities.
- Spend time assessing vulnerabilities of business processes to be proactive vs. reactive when problems arise.
- Increased investment in customer relationships to build customer capital to carry us through myriad of changes.
- Focus on internal customer service to improve all aspects of decision processes and implementation.
- Improve goodwill amongst transmission organizations to ensure broader visioning when completing our mission.

Scheduling (1 of 2)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
MANAGEMENT SUPERVISION & ADMINISTRATION	$845	$523	$536	$1,053	$436	$458	$481
RESERVATIONS	$394	$578	$783	$464	$975	$1,023	$1,074
PRE-SCHEDULING	$652	$448	$474	$763	$427	$448	$470
REAL-TIME SCHEDULING	$3,583	$3,531	$4,125	$4,005	$4,599	$4,808	$5,028
SCHEDULING TECHNICAL SUPPORT	$1,953	$1,219	$1,574	$2,715	$2,217	$2,271	$2,369
SCHEDULING AFTER-THE-FACT	$306	$209	$1,249	$673	$1,242	$1,301	$1,363
Program Level Spending	$7,733	$6,508	$8,741	$9,673	$9,896	$10,308	$10,784
Total Increase/Decrease From Prior Year		($1,226)	$2,233		$1,154	$413	$475

Program Background: The scheduling program contains expenses for reservations, pre-scheduling, real-time scheduling, scheduling after-the fact, and technical support.

Drivers of Change:

- Increased required knowledge of reliability expectations and proposed ATC methodology.
- Complexity of webTTrans scheduling and reservation transition.
- Numbers of customers seeking help with webTTrans conversions/compatibility for/to their systems.
- Degree of documentation needed to ensure repeatability of core scheduling processes.

Forecast Risk:

- Increasing industry changes require more attention toward the future (resource and skill match issues).

Scheduling (2 of 2)

$ in Thousands

	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
MANAGEMENT SUPERVISION & ADMINISTRATION	$845	$523	$536	$1,053	$436	$458	$481
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Opportunities for Improvement:

- Leverage automation implementation to redirect resources to needed areas.
- Partner with Account Executives to inculcate stronger customer service (internal & external) focus.
- Leverage automation of our scheduling and reservation processes (which are the most sophisticated in OATI's portfolio) to influence industry direction in emerging policies and practices (potentially limiting the impact of proposed changes).

TRANSMISSION ASSET PLAN -- METHODOLOGY & APPROACH

Transmission's Asset Plan

- Transmission's Asset Plan is a documentation of our near and long term investment strategy to meet our objectives.
- It includes a description of asset health, demands expected to be placed on assets, risks to meeting our objectives and our specific investment plan.

Long-Term Outcomes for Transmission Assets

BPA transmission assets meet:

- transmission reliability standards
- transmission availability requirements
- transmission adequacy guidelines
- transmission development expectations in regionally integrated plan
- environmental requirements
- other regulatory and legal requirements
- infrastructure requirements to meet generation integration and service requests
- safety and security standards

. . . at least life cycle cost.

Strategy to Achieve Strategic Objectives

- Assess transmission system against system performance metrics
- Assess current condition of assets
- Identify risks to Transmission Services' long term outcomes using identified asset performance and condition gaps
- Identify projects/programs with associated costs, to mitigate risks to long term outcomes
- Analyze and update critical system spares

Transmission Services prioritizes projects and programs using the following criteria:

- Asset criticality to the Transmission System
- Asset risk to the Transmission System
- Urgency - currently critical (short term) vs. trends (long term)

Asset Plan- Logic & Scope

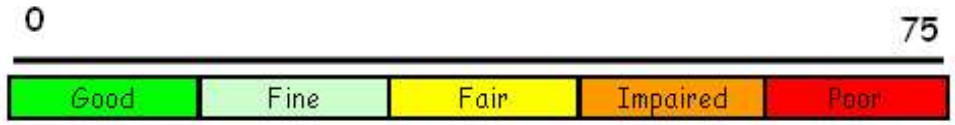
Transmission has two distinct, but interrelated asset planning processes – how we expand the transmission system and how we manage or sustain our existing assets.

Expansion: Consists of investments required to meet load growth, generation interconnection/congestion management, which improve system reliability or capacity.

Sustaining: Consists of capital replacement programs, expense refurbishment programs and corrective maintenance programs.

Condition and Risk Assessment Methodology
(Page 1 of 2)

- Component Health
  - Physical Condition
  - Obsolescence
  - Remaining Life
  - Aggregate score



- Risk to Operating System
  - Automatic Outages
  - Availability
  - Aggregate score

Condition and Risk Assessment Methodology

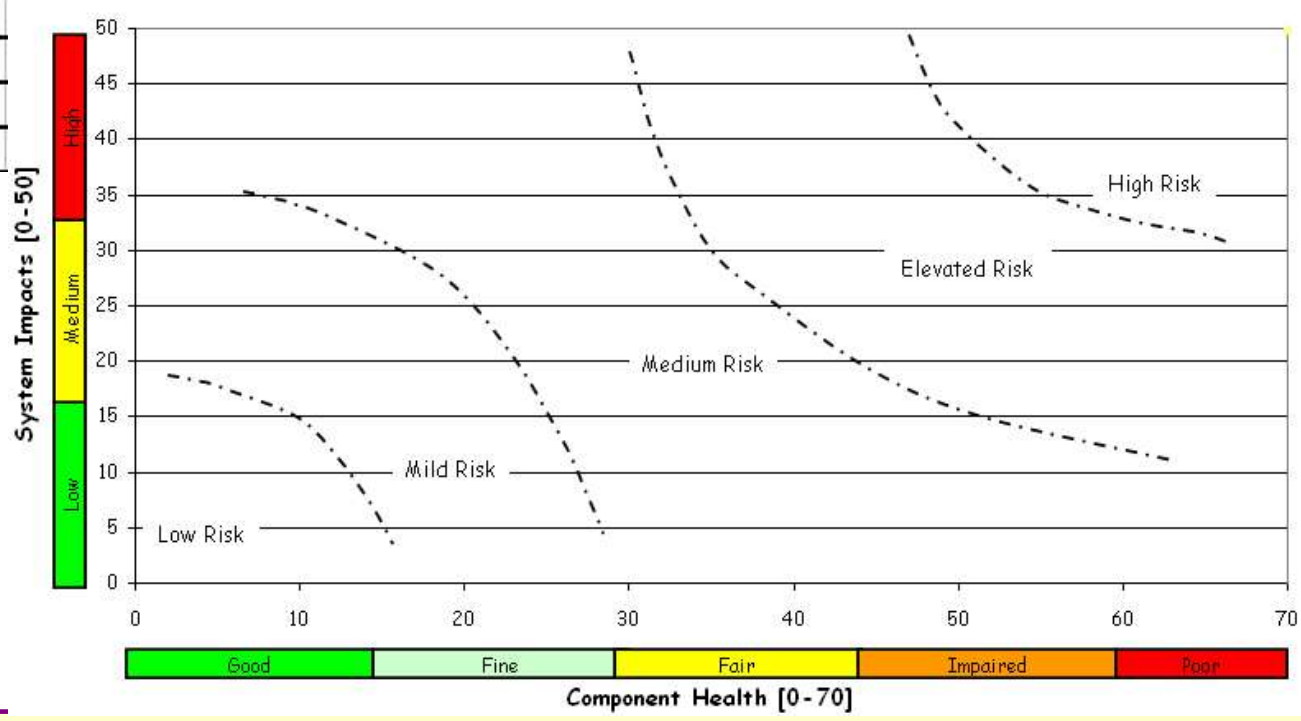
(Page 2 of 2)

Overall Component Health Demographics

	Major Component	Physical Condition: Good	Physical Condition: Fair	Physical Condition: Poor	Obsolescence: Good	Obsolescence: Fair	Obsolescence: Poor	Remaining Life: > 20	Remaining Life: 10-20	Remaining Life: < 10	Asset Health
Passive	Conductors										
	Towers										
	Fiber Cables										
	Tower Footings										
	Guys										
	Counterpoise										
Active	Connectors										
	Insulators										
	Dampers										
	Wood Poles										
	Spacers										
	Airway Warning										

Health Assessment

Risk Assessment



Transmission's Asset Plan – Sustaining Capital & Expense

The sustaining portfolio consists of capital replacement programs, expense refurbishment programs and preventative/corrective maintenance programs. Replacement and refurbishment Investments are required to maintain overall asset health and therefore, maintain system capacity and performance. Typical projects include the replacement of damaged, aging or obsolete equipment or technology.

The Sustaining Capital Portfolio consists of the following major asset groupings:

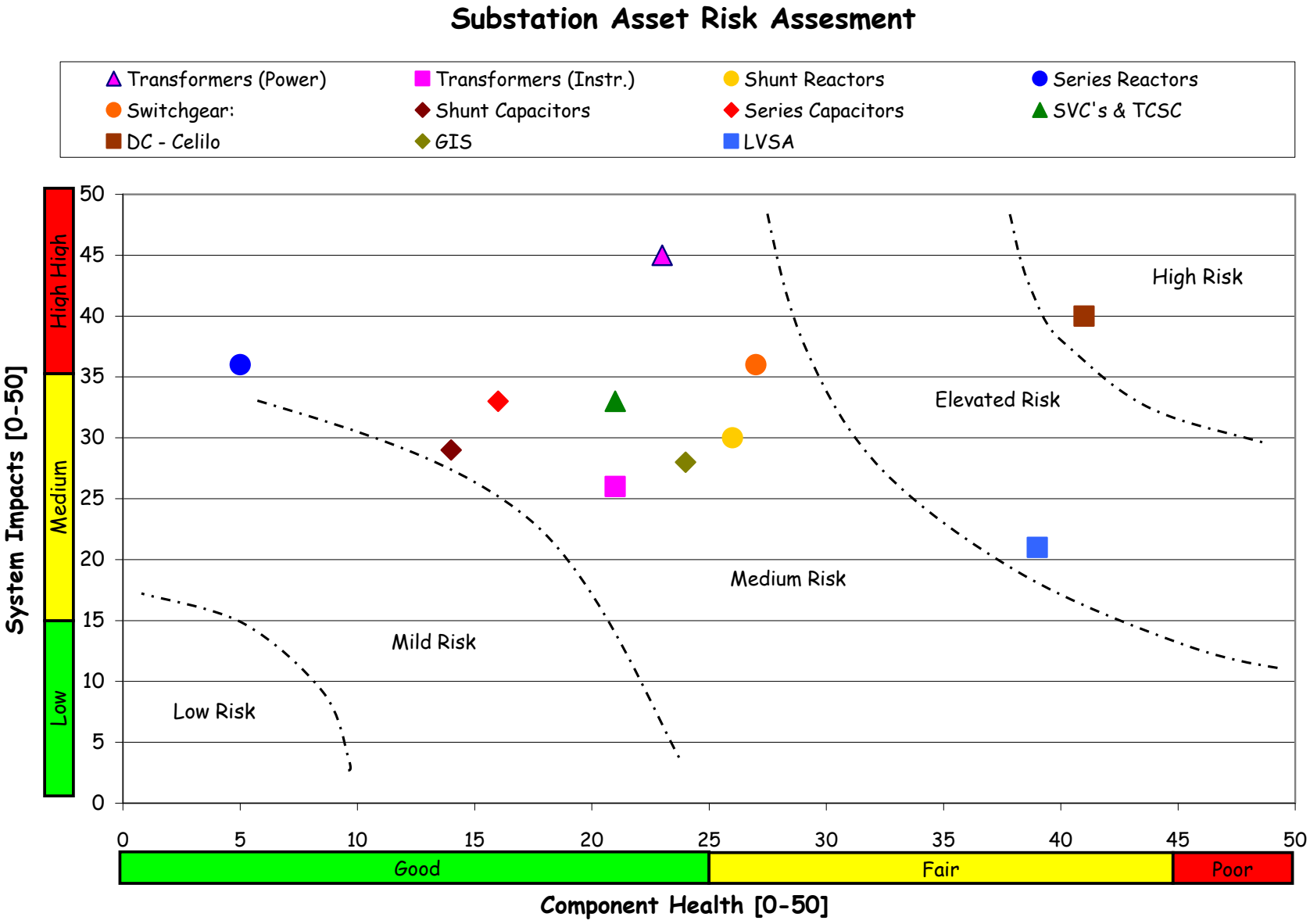
- Lines (covered as a case study on pages 31-51)
- Stations (500kV transformers covered as a case study on pages 52-59)
- System Protection and Control
- Power System Control
- Control Centers

Goals of Asset Health Assessment

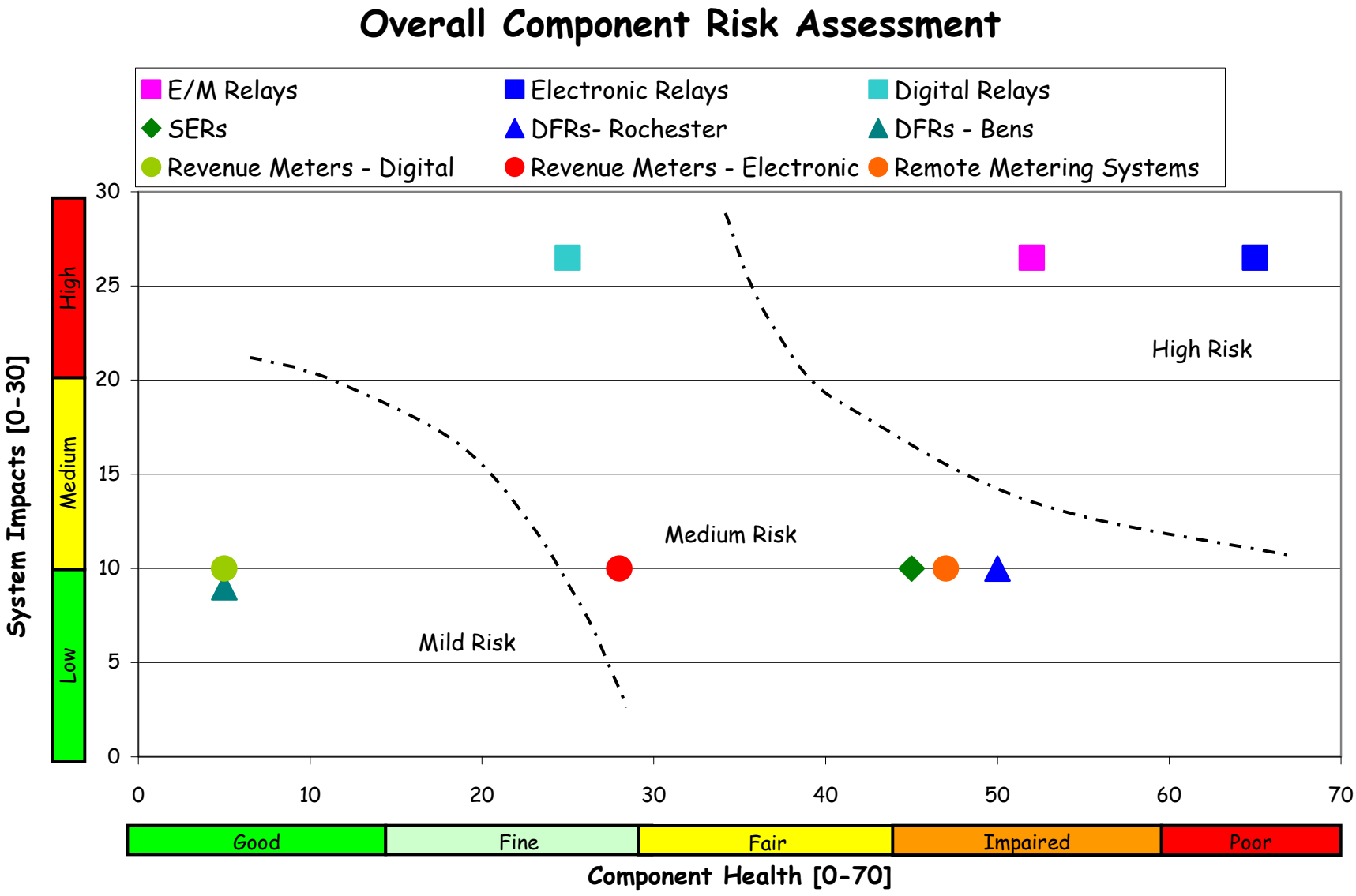
Review Aging Transmission Assets:

- Characterize each asset group as an aggregate
- Include age & health demographics
- Assess risk to system operational integrity
- Characterize each major component

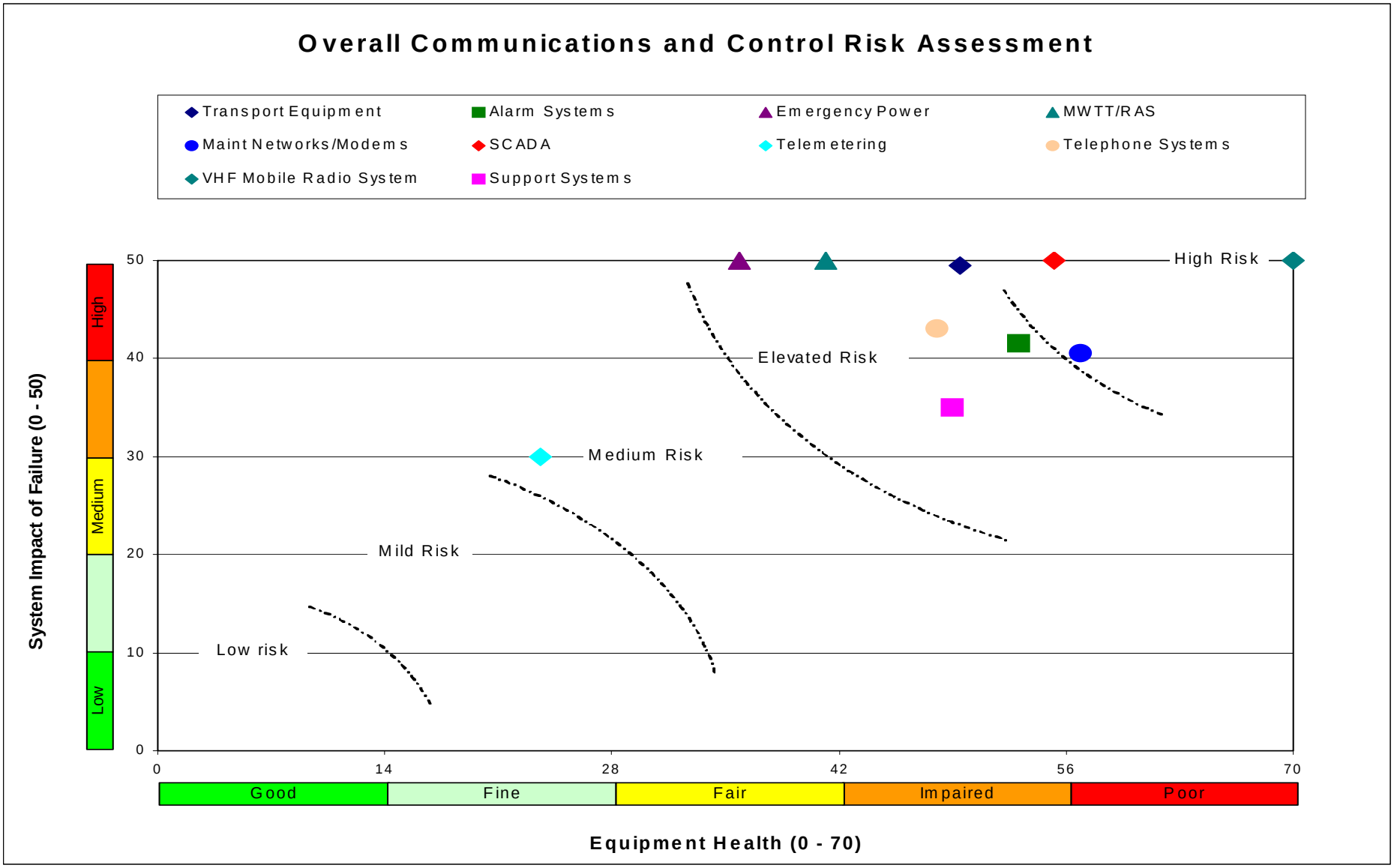
Stations
Risk Chart



System Protection and Control Risk Chart



Power System Control Risk Chart



Dittmer & Munro Control Center Infrastructure Risk Chart

1 CCN Network Prod. Infr.*
2 CCN Ntw. Mgt. Infr.*
3 CCN Serv/Ntw Services*
4 CCN Test/Sim/Dev Infr.
5 CCN User Interface*
6 Mapboard/Video Wall
7 Dispatch Phone Sys. (tbd)
8 Voice Recording
9 Electrical UPS Infr.*

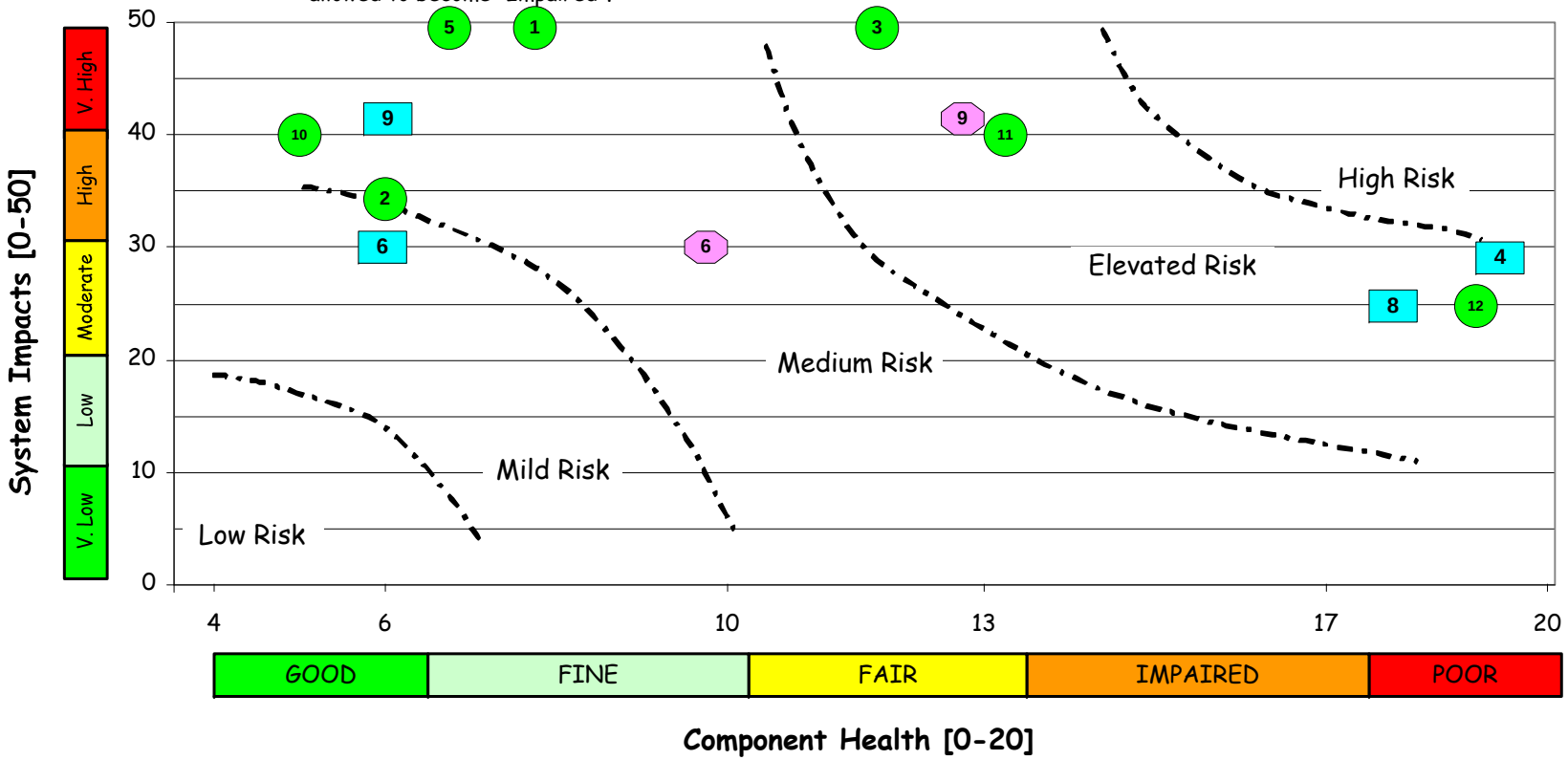
10 Timing System
11 CSM Displays /Infr.
12 Cyber Security*

1 CCN Network Prod. Infr.*
2 CCN Ntw. Mgt. Infr.*
3 CCN Serv/Ntw Services*
4 N/A
5 CCN User Interface*

6 Mapboard/Video Wall
7 Dispatch Ph. Sys.(tbd)
8 Voice Recording (tbd)
9 Electrical UPS Infr.*
10 Timing System
11 CSM Displays /Infr.
12 Cyber Security*

Same Score MCC & DCC
DCC Infrastructure
MCC Infrastructure

*Note that Highly Critical systems should not be allowed to become "Impaired".



Dittmer & Munro Control Center Systems & Applications Risk Chart

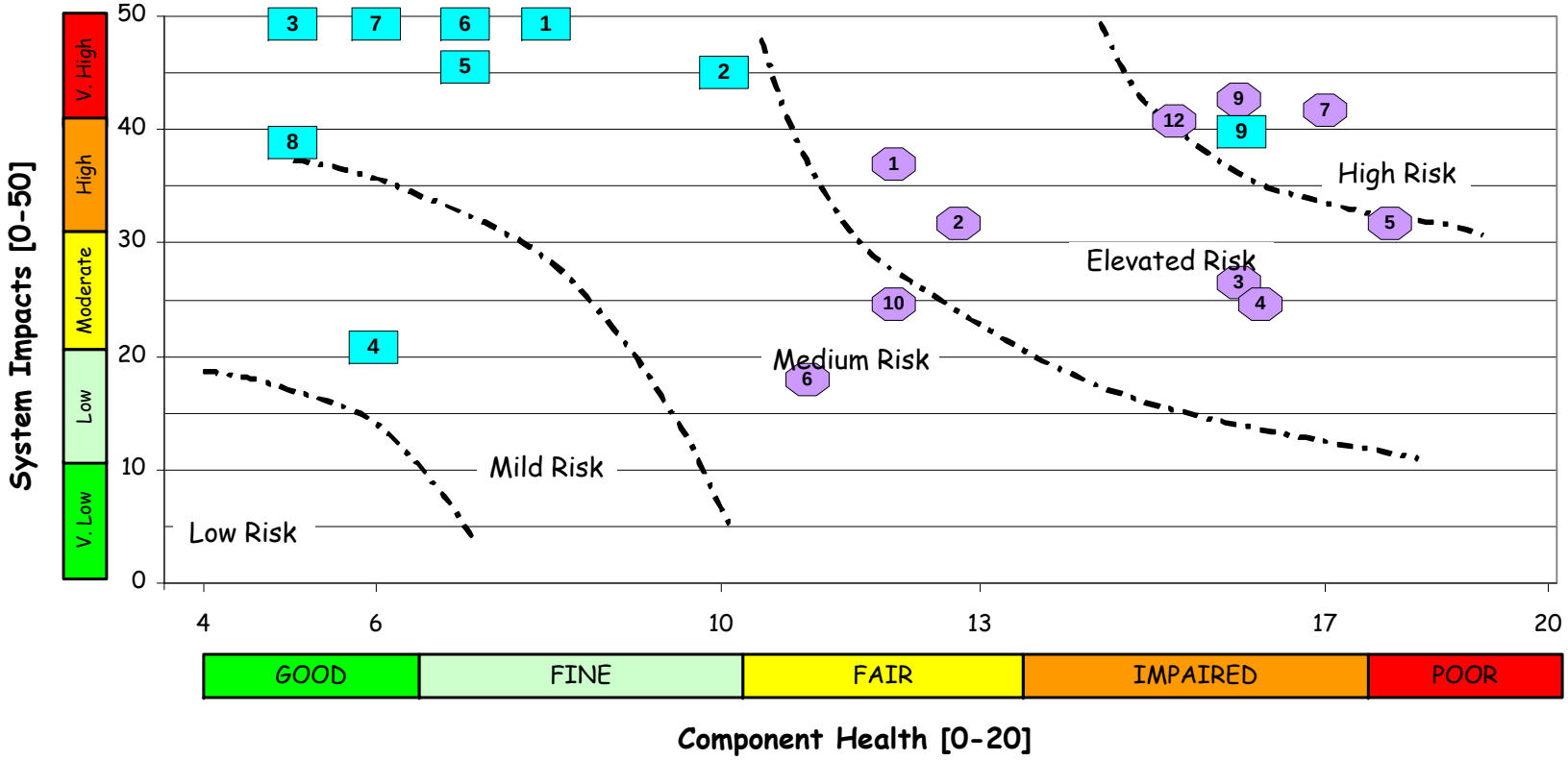
1. SCADA Master Systems *
2. AGC Systems *
3. AC RAS Masters *
4. SCADA ICCP
5. Gen ICCP *
6. Web Full Graphics *
7. SCADA Frontends *
8. PI Grid Ops
9. Dispatch Log (DART)
11. Crit. Bus. Sys. Support
12. ICRS

1. *PSST*
2. *Dispatch Training Facil.*
3. *SEMM Master*
4. *Fault Locator Master*
5. *Badger Master*
6. *MW Monitor*

7. RODS
8. OPI
9. CSM Tools
10. Test & Devel. Infra.
11. Relay Info. Sys.
12. Curtail. & Redisp.

Systems at DCC & MCC
Systems at DCC Only

*Note that Highly Critical systems should not be allowed to become "Impaired".

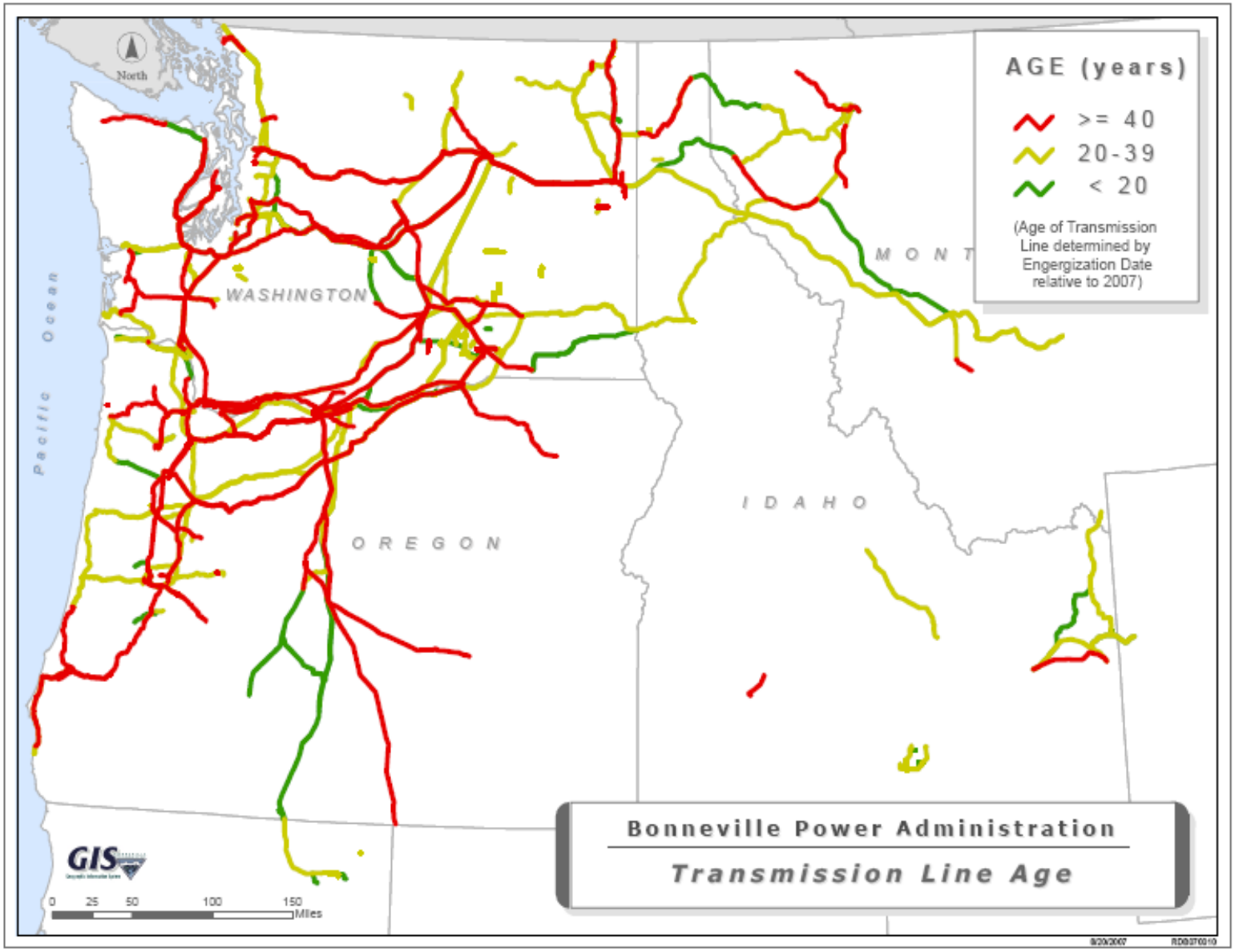


OVERHEAD LINE (OHL) ASSET PLAN-CASE STUDY

Briefing Summary

- Project Goals and Deliverables
- Characterize Aging Overhead Asset
- Assess Health and Risk of Components
- Assess Overhead Asset – Present State
- Recommendations – Future State
- Next Steps – Report Journey

Key Program Drivers- Aging Infrastructure- Transmission Lines



15,300 circuit mile

>70,000 cable miles

~90k structures

~5.3M insulators

Average age

- 45 years

50% built

- Prior 1962

Age legend

- >= 40 yrs red
- 20-39 yrs yellow
- < 20 yrs green

Note- This map is a high level overview and when there are multiple lines in a corridor, the age of the lines is averaged.

Project Charge and Goals

- Review Aging Overhead Transmission Asset
  - Characterize as an aggregate
  - Provide age & health demographics
  - Characterize each major component

- Scope
  - Transmission infrastructure outside the fence
  - Excludes communication towers

Aging Review Organization

- Very large installed infrastructure
  - Circuit miles-- 15,200
  - Cable miles-- >70,000
  - Structures-- 89,560
  - Insulators-- ~ 5.3 million
- Assess present asset health
- Assess risk to operational integrity
- Describe future state vision

Major Line Components

Identified 12 major components for review

Degrading Dozen

Passive

- Conductors
- Towers
- Fiber Cables
- Tower Footings
- Guying Systems
- Counterpoise

Active

- Connectors
- Insulators
- Dampers
- Wood Poles
- Spacers
- Airway Warning

About Passive and Active

- Passive
  - Infrequent loading cycles
  - Severe weather, impact events, etc.
  - Towers, cables, footings, guys, counterpoise

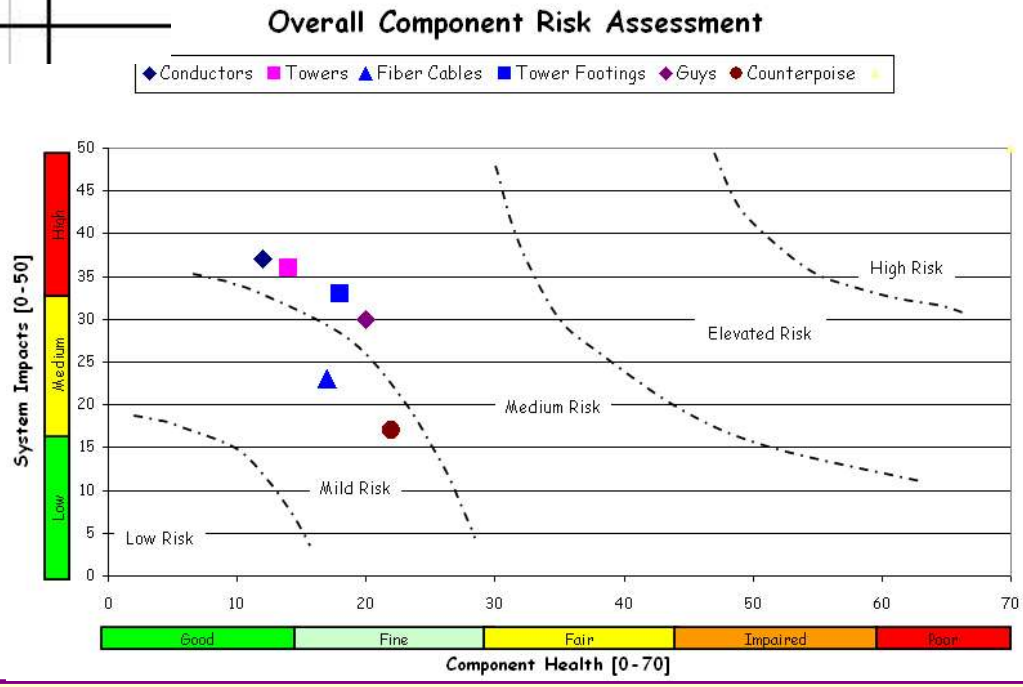
- Active
  - Daily or hourly loading cycles
  - Continuous significant loading with age
  - Dampers, spacers, connectors, insulators, wood poles

Overall Component Health Demographics

	Major	Physical Condition			Obsolescence			Remaining Life			Asset
	Component	Good	Fair	Poor	Good	Fair	Poor	> 20	10-20	< 10	Health
Passive	Conductors	■				■	■				Good
	Towers	■				■	■				Good
	Fiber Cables		■	■	■						Fine
	Tower Footings		■	■		■	■				Fine
	Guys		■	■	■				■	■	Fine
	Counterpoise			■	■				■	■	Fine
Active	Connectors										
	Insulators										
	Dampers										
	Wood Poles										
	Spacers										
	Airway Warning										

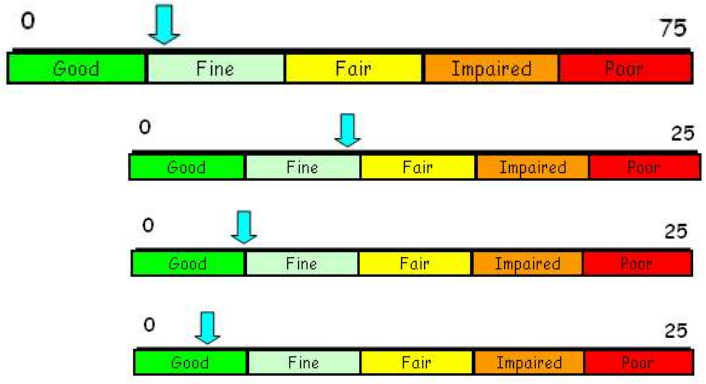
Passive Component Health Assessment

Passive Component Risk Assessment



Fiber Optic Cables (Passive)

Health – Fine … Risk - Mild

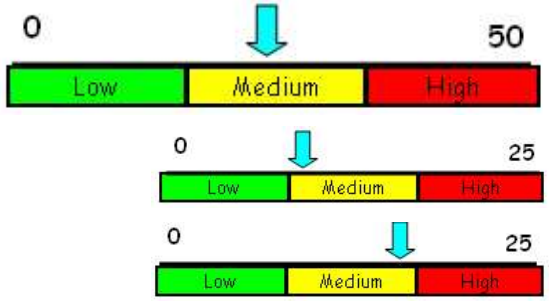


Component Health – Fine (17/75)

Physical Condition (9)

Obsolescence (5)

Remaining Life (3)



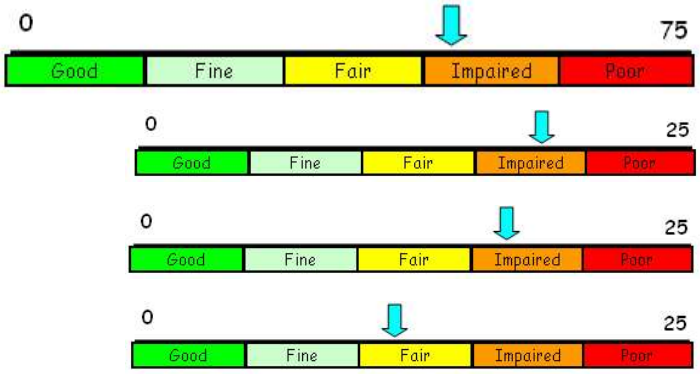
Risk to Operating System – Medium (23/50)

Automatic Outages (9)

Availability (14)

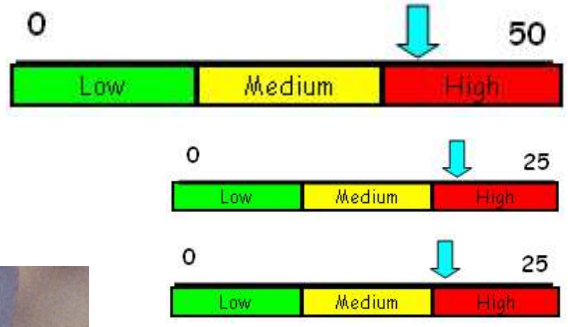
Connectors (Active)

Health – Impaired … Risk - High



Component Health – Impaired (47/75)

- Physical Condition (18)
- Obsolescence (17)
- Remaining Life (12)

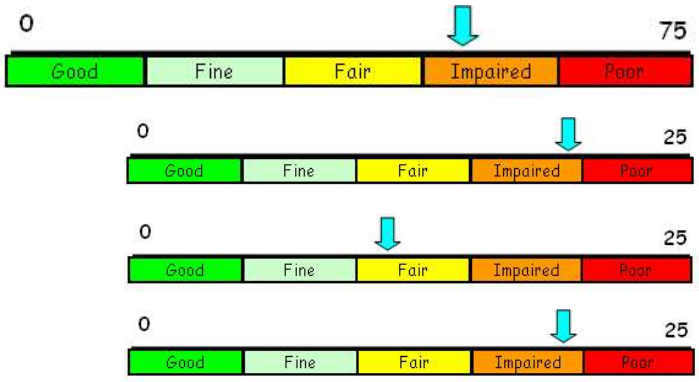


Risk to Operating System – High (37/50)

- Automatic Outages (19)
- Availability (18)

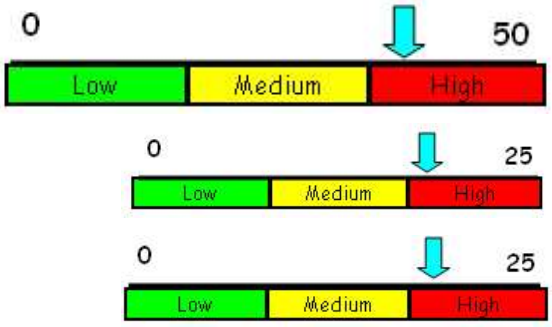
Insulators (Active)

Health – Impaired … Risk - High



Component Health – Impaired (49/75)

- Physical Condition (19)
- Obsolescence (12)
- Remaining Life (18)

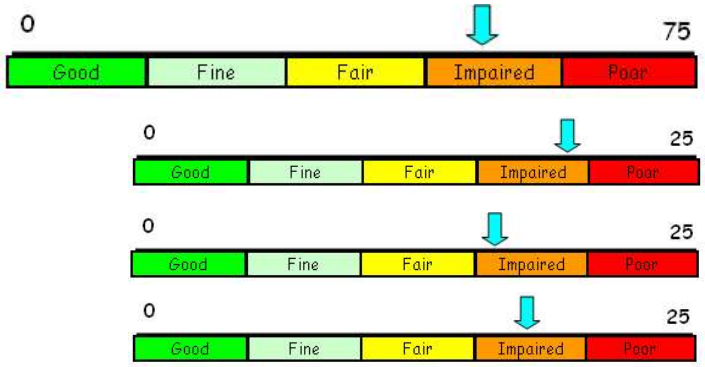


Risk to Operating System – High (37/50)

- Automatic Outages (18)
- Availability (19)

Dampers (Active)

Health – Impaired … Risk - Low

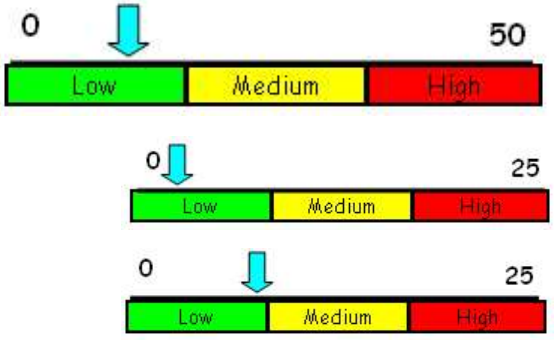


Component Health – Impaired (51/75)

Physical Condition (18)

Obsolescence (16)

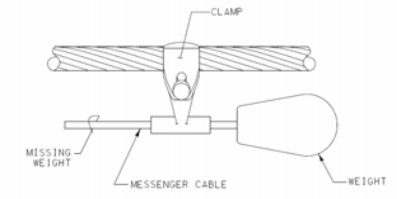
Remaining Life (17)

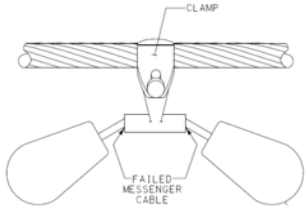


Risk to Operating System – Low (11/50)

Automatic Outages (3)

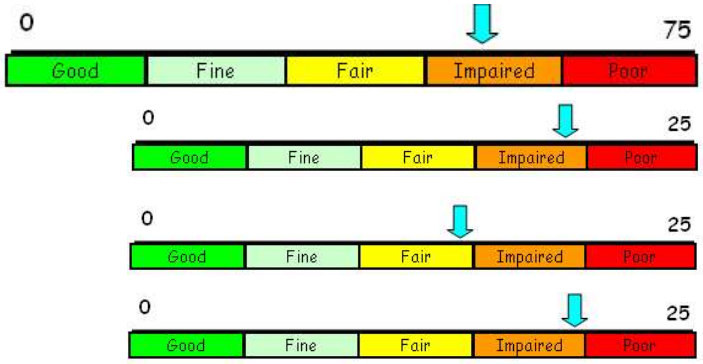
Availability (8)





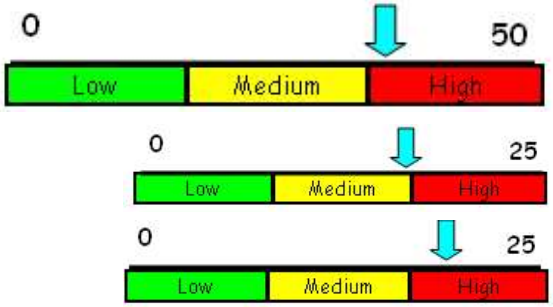
Wood Poles (Active)

Health – Impaired … Risk - High



Component Health – Impaired (51/75)

- Physical Condition (18)
- Obsolescence (14)
- Remaining Life (19)



Risk to Operating System – High (35/50)

- Automatic Outages (16)
- Availability (19)

Spacers (Active)

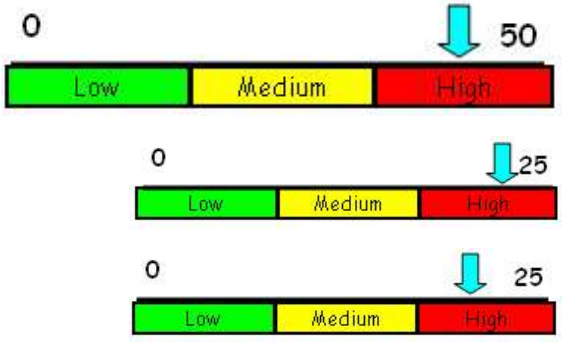
- Health – Poor … Risk - High

Component Health – Poor (63/75)

Physical Condition (22)

Obsolescence (18)

Remaining Life (23)



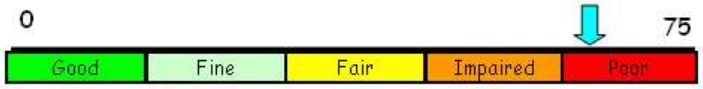
Risk to Operating System – High (42/50)

Automatic Outages (22)

Availability (20)


Airway Warning (Active)

- Risk - Regulatory
- Airway Lights: Health – Poor



Component Health – Poor

- Marking Spheres: Health - Impaired

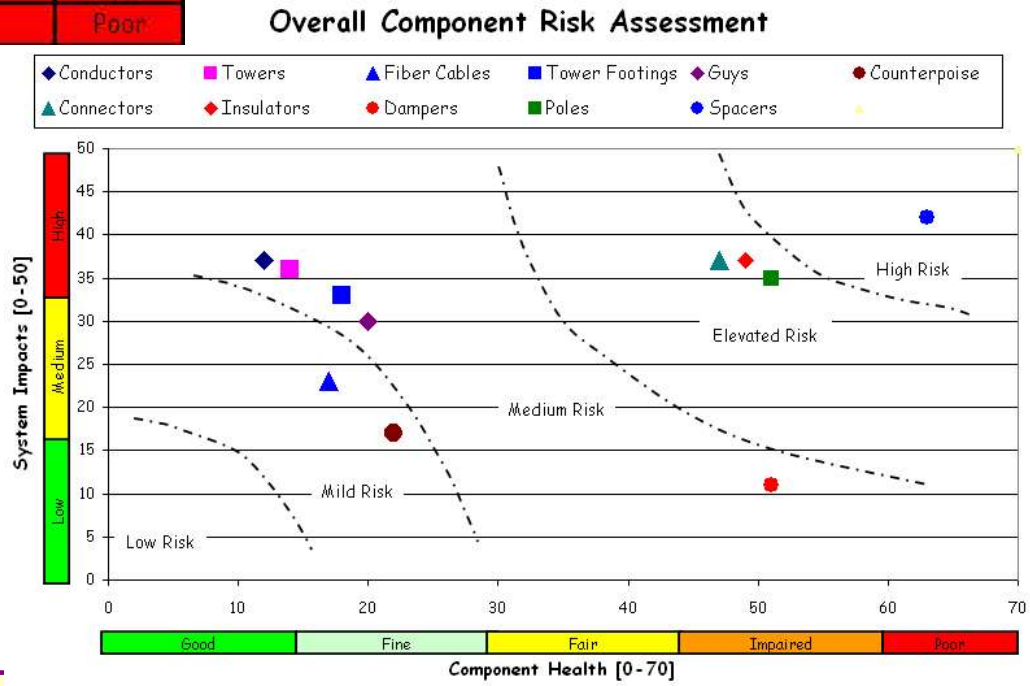
Component Health – Impaired

Overall Component Health Demographics

	Major	Physical Condition			Obsolescence			Remaining Life			Asset
	Component	Good	Fair	Poor	Good	Fair	Poor	> 20	10-20	< 10	Health
Passive	Conductors	■				■	■				Good
	Towers	■				■	■				Good
	Fiber Cables		■	■	■						Fine
	Tower Footings		■	■		■	■				Fine
	Guys		■	■	■				■	■	Fine
	Counterpoise			■	■				■	■	Fine
Active	Connectors			■			■		■		Impaired
	Insulators			■		■			■	■	Impaired
	Dampers			■			■		■	■	Impaired
	Wood Poles			■		■				■	Impaired
	Spacers			■			■			■	Poor
	Airway Warning		■	■			■			■	Poor

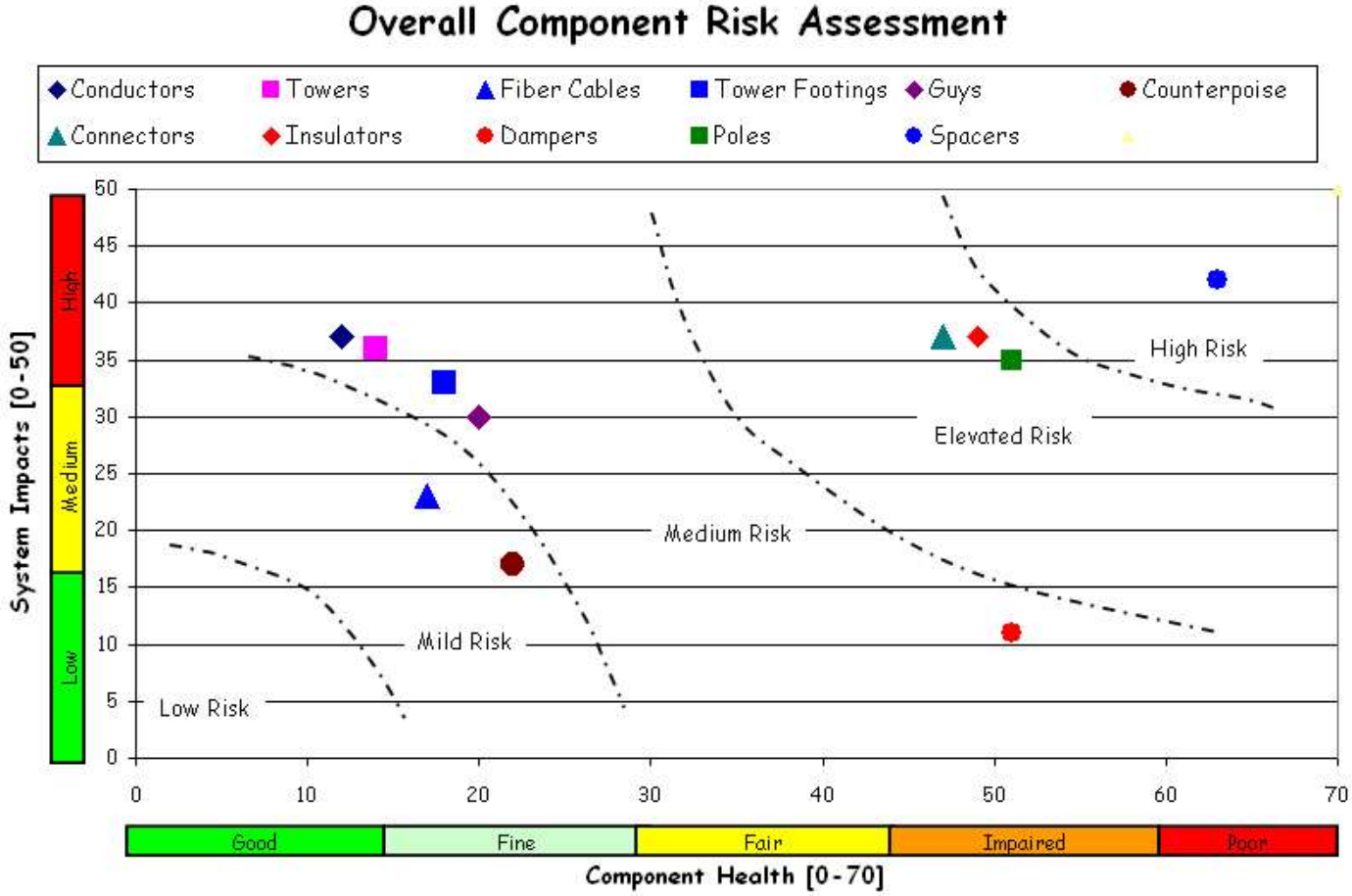
Overall Component Health Assessment

Overall Component Risk Assessment



OHL Risk Assessment

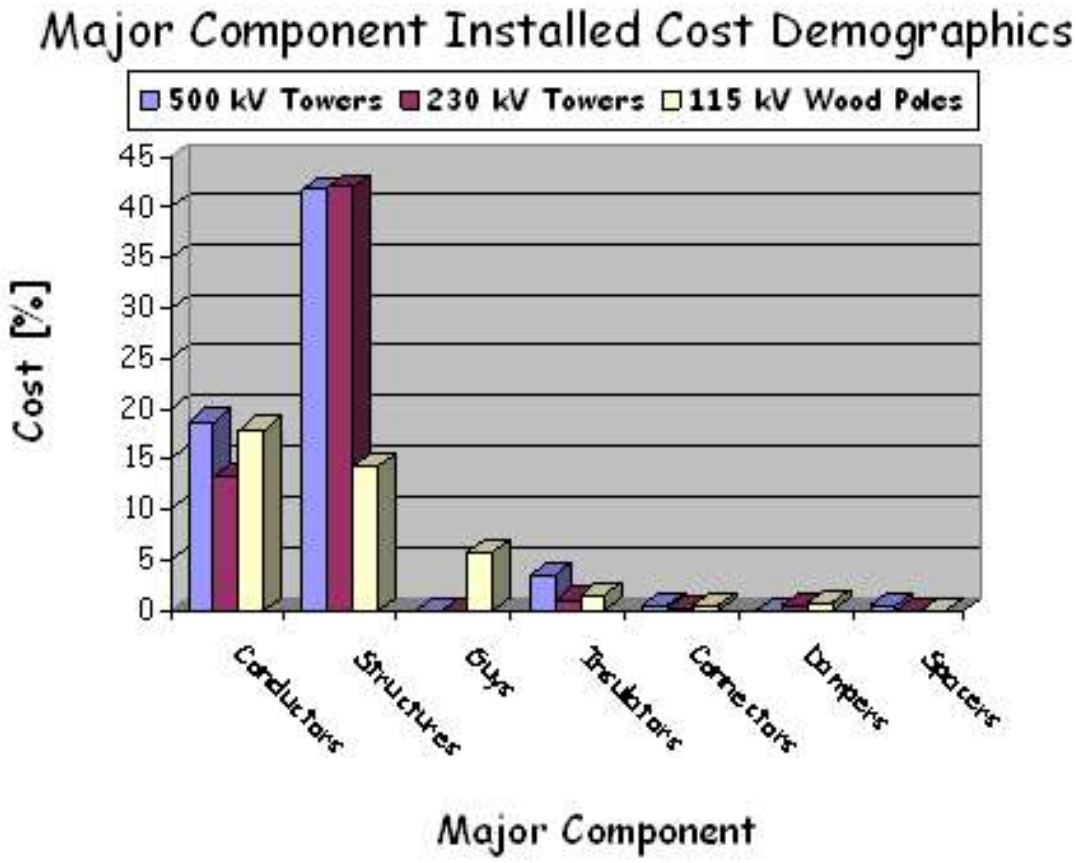
- Priority Ranking
  - Replace/Refurbish Programs
  - Field Condition Assessment Resources
  - Monitor and Analysis Resources and Tools
- Passive
  - Mild/Medium Risk
- Active
  - Medium/High Risk



Relative Component Costs

- Relative Costs: Passive vs. Active
  - Initial installed costs
  - Passive components – 94%
  - Active components – 6%

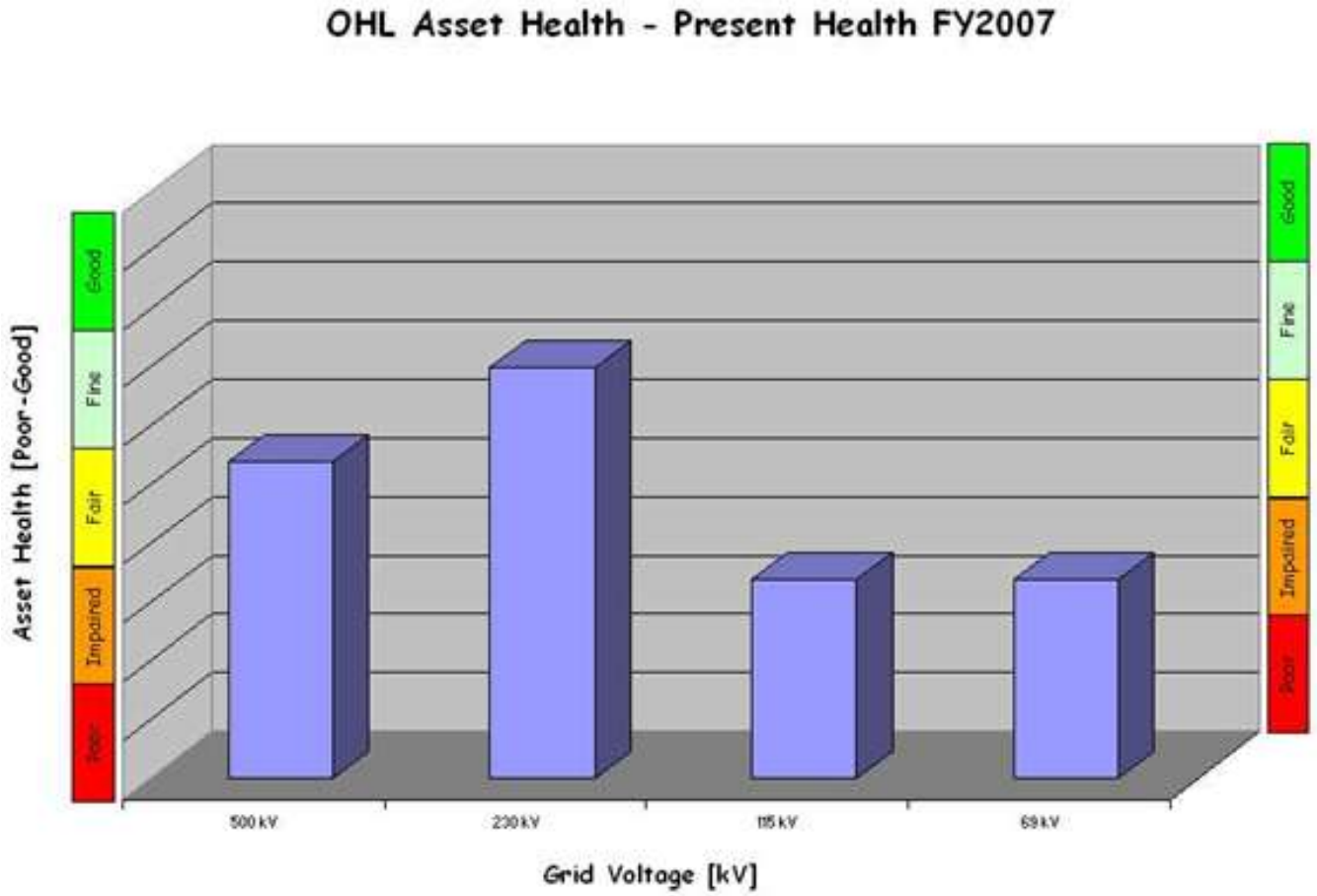
- Active Components
  - Protect Passive
  - Enable Passive
  - Replacement Expected
  - Spacers 1.3% of Replacement Cost



OHL Health – Present State

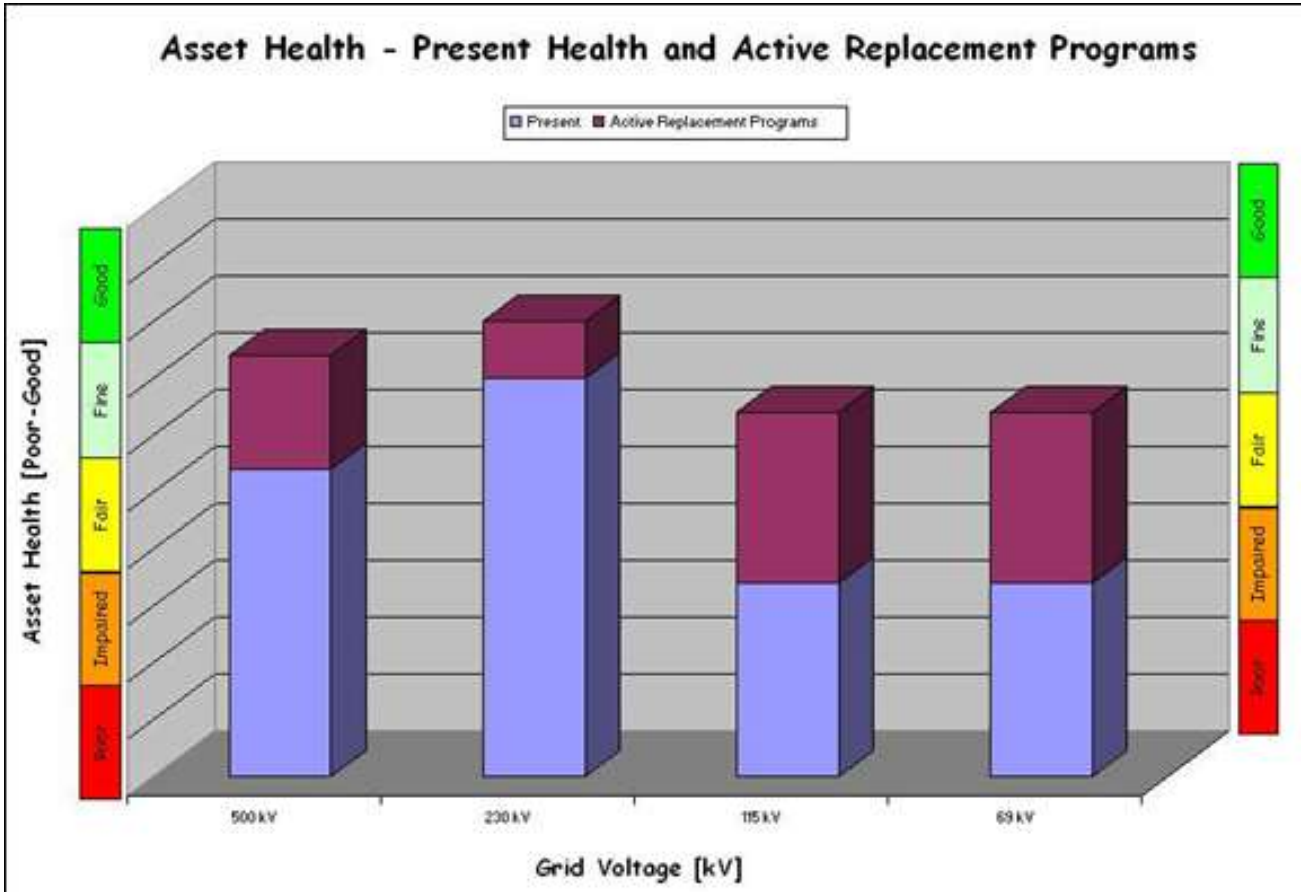
- Assessment Base
  - Aging Health Assessment
  - Transmission Line Maintenance (TLM) Health Assessment of WECC Lines
  - Engineering & TLM Observations

- Rankings
  - 500 kV - Fair
  - 230 kV - Fine
  - 115 kV - Impaired
  - 69 kV - Impaired



Complete Replacement Programs

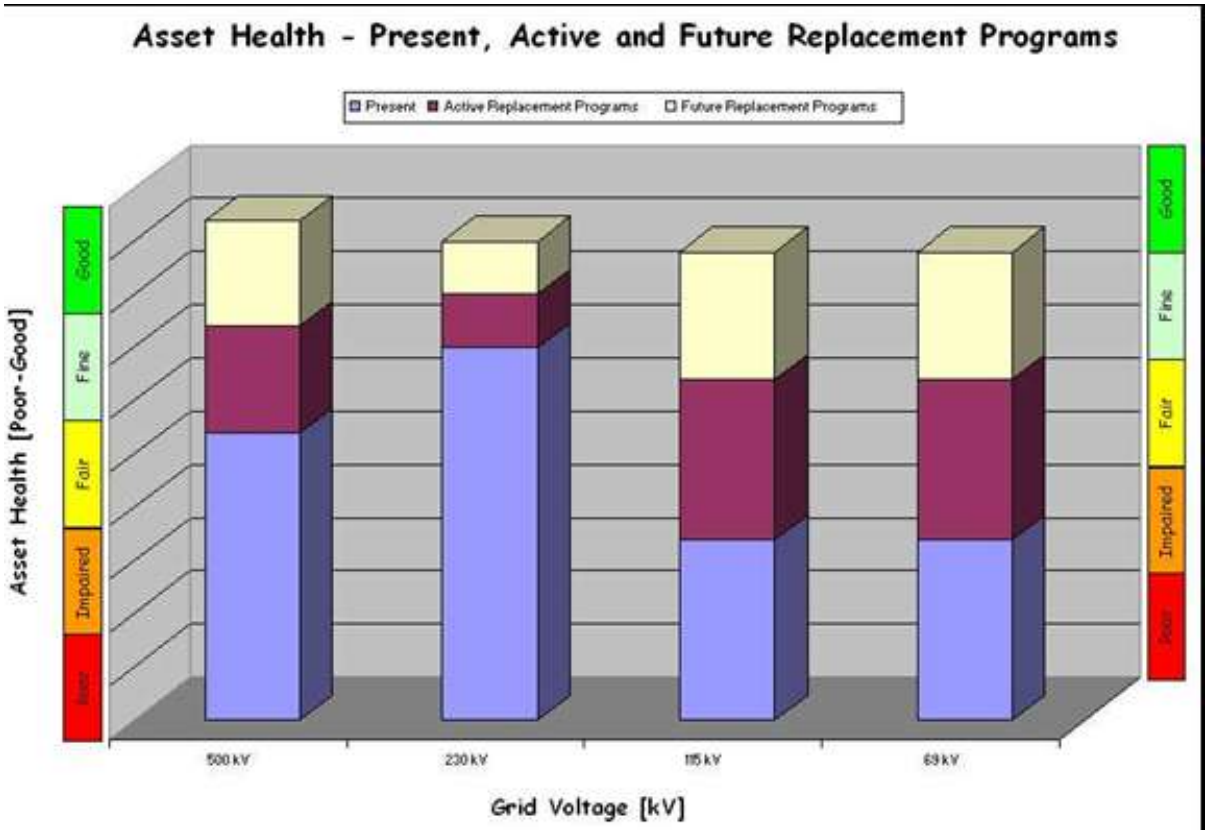
- Three Active Replacement Programs
  - Spacer Replacement (7 Years)
  - Wood Pole Replacement (10 Years)
  - Airway Lighting Replacement (5 Years)
- Rankings
  - 500 kV - Fine
  - 230 kV - Fine
  - 115 kV - Fine
  - 69 kV – Fine
- Issues Remain



Add Refurbishment Programs

- Add Four Refurbishment Programs
  - Connector Replacement (10 Years)
  - Insulator Replacement (10 Years)
  - Damper Replacement (5 Years)
  - Fiber Cable Abrasion Repair (4 Years)

- Rankings
  - 500 kV - Good
  - 230 kV - Good
  - 115 kV - Good
  - 69 kV - Good

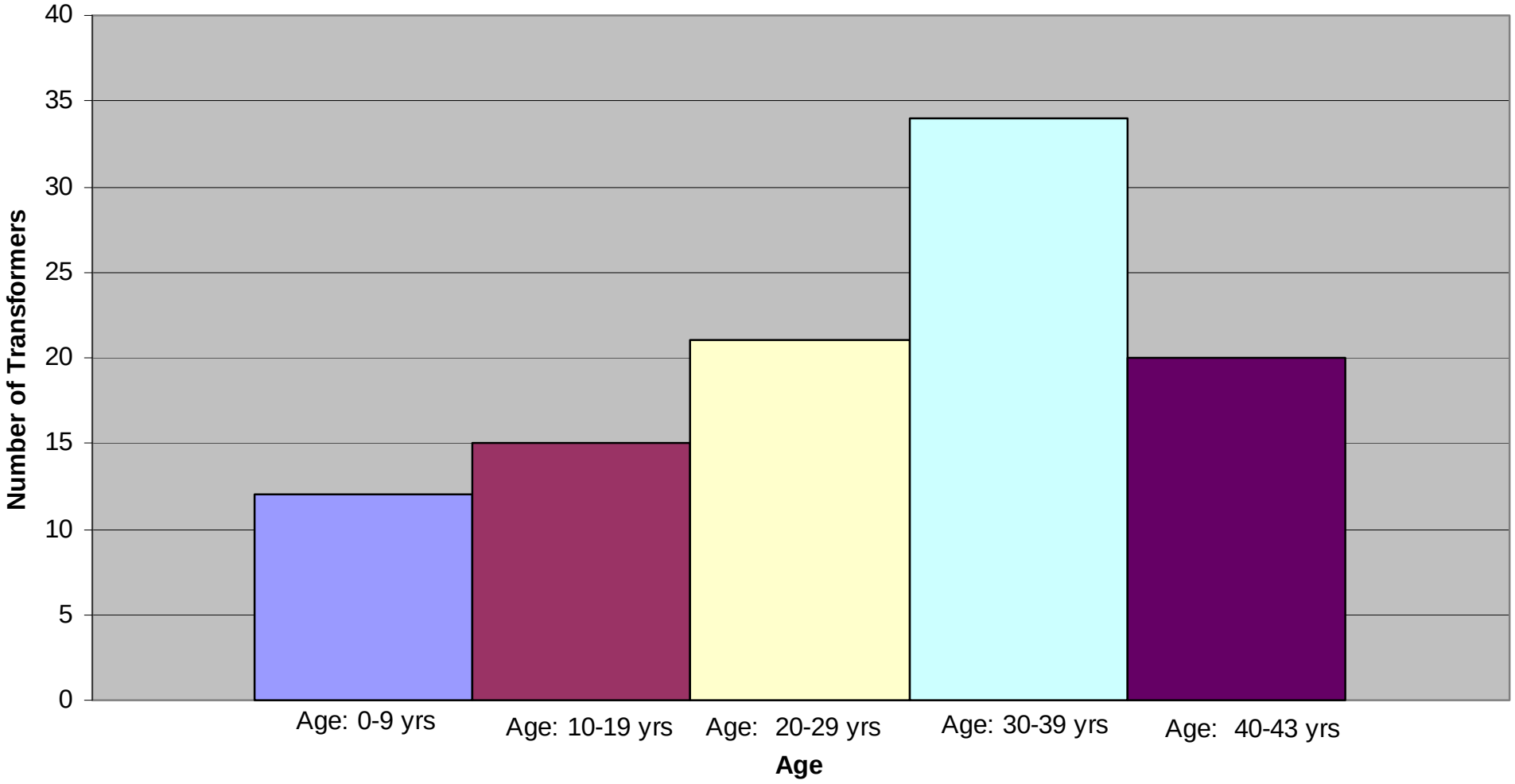


TRANSMISSION ASSET PLAN – 500 kV TRANSFORMER STRATEGY

500 kV Transformer Overview

- 500 kV Transformers represent a risk to BPA due to their age and criticality.
- Transformers fail both expectedly and unexpectedly.
- Additional Risks:
  - 2 year lead times for new EHV transformers
  - Transportation difficulties
  - Difficulties obtaining outages for regular maintenance & testing
  - Approximate 500 kV transformer mean time between failures is 1 per year or 1 every 18 months.
- Successful life extension means managing the transformers effectively to end of life to maximize the investment.
- Combine Life Extension and Reliability Centered Maintenance philosophies to achieve a desired benefit with acceptable risk.

500 kV Transformer Age Distribution



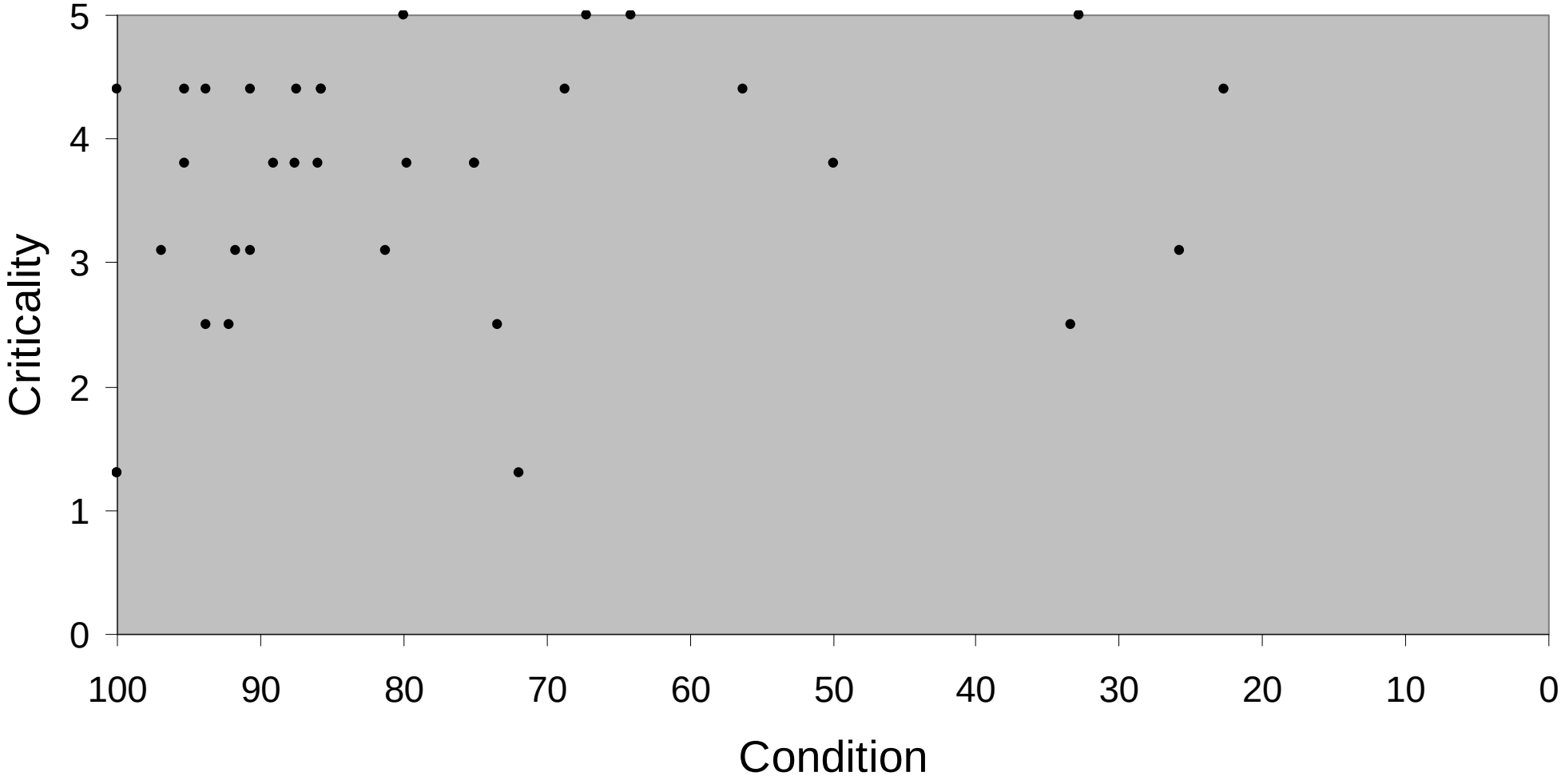
500 kV Condition Assessment

- Purpose: Quantify and communicate transformer condition
- Establish a uniform condition scale to prioritize transformer condition and focus attention
- CEATI program used to combine transformer data into asset information – program uses specific transformer condition indicators including gas in oil (GIO) analysis and power factor test results.
- Result: 500 kV transformers are overall in good condition.
- Condition assessment is performed independent of criticality evaluation.

500 kV Criticality Assessment

- All 500 kV transformers are system critical.
- Quantify criticality to evaluate risk
- Generation integration, load service, transfer impacts evaluated and quantified
- Contingencies established
- Criticality assessment is performed independent from condition assessment.

500 kV Transformer Risk Charts – Installed Transformers



500 kV Spare Transformer Recommendations

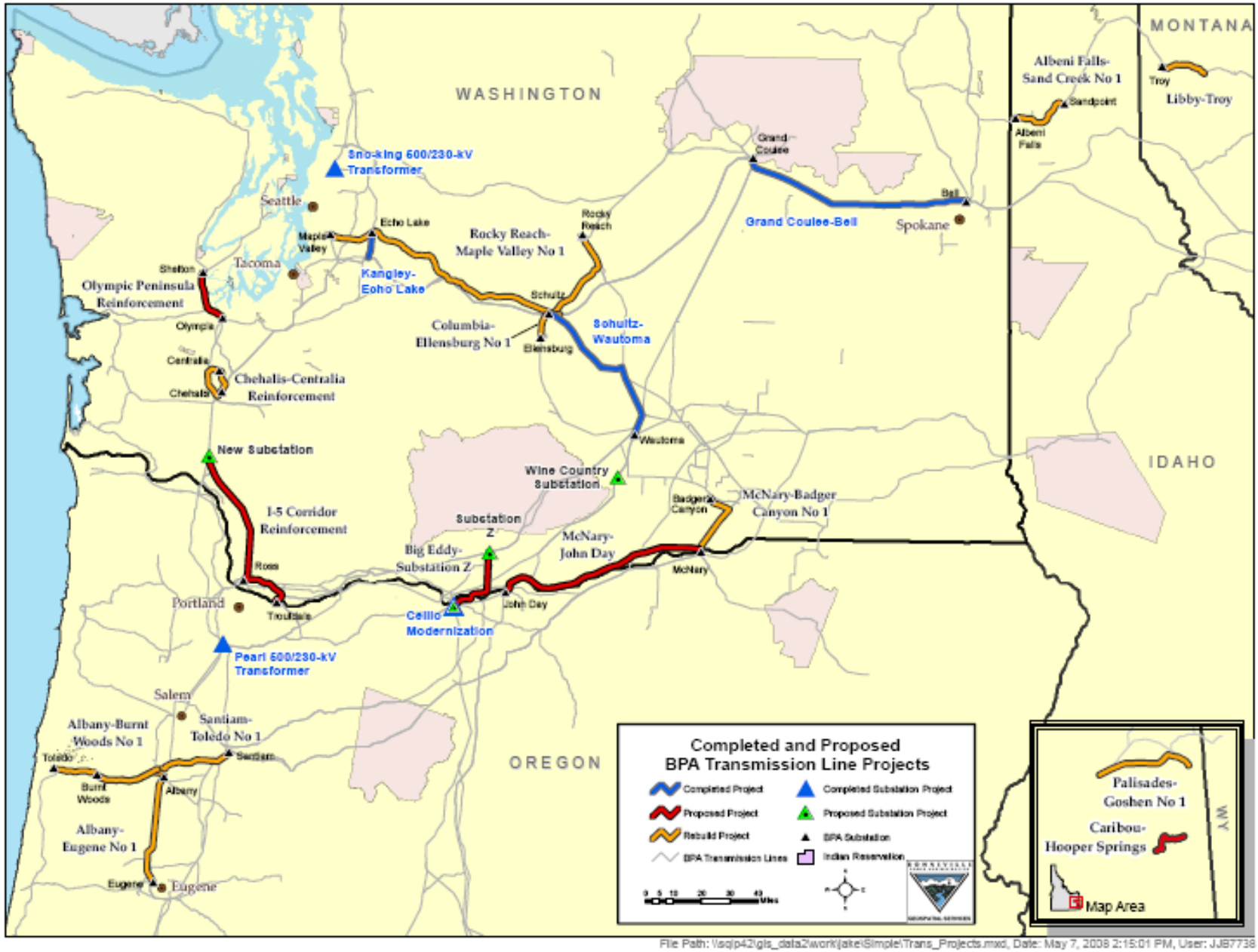
- Recommendation to reduce risk to an acceptable level – Install additional spare transformers at substations identified as posing a significant risk to BPA due to condition and criticality and modify other important substations to allow easier spare installation.
- Result – BPA will be able to re-energize a bank after a transformer failure within 24 hours if a spare transformer and jack bus arrangement are installed.
- Additional transformers will be placed at Ponderosa, Sickler, Monroe, Alvey, and Hot Springs.
- Also, the Big Eddy 500 kV transformers will be relocated to Olympia and McNary to serve as spare transformers.

500 kV Transformer Fleet Strategy

- Anticipate new installations and failures to reduce the risk associated with long lead times
- Target strategic transformer replacements in order to add 500 kV spare transformers at other critical substations
- In two years review the success of sparing strategy and recalculate mean time between failure and transformer condition/criticality.

TRANSMISSION EXPANSION PORTFOLIO

BPA's Major Infrastructure Projects



Expansion Projects- Key Drivers

Key Drivers for Expansion Projects:

- Maintain Reliable Service to Loads
- Compliance with Mandatory WECC and NERC Reliability Standards
- Generation Interconnection and Open Access Requirements
- Relief of Transmission Congestion
- Voltage Support

Expansion Details- West of McNary Generation Integration Project

McNary-John Day 500-kV Line - Build a new 500 kV line (approximately 75 miles long) from McNary Substation to John Day Substation. **(2012)**

Big Eddy-Station Z 500-kV Line - Build a new 500 kV line (approximately 28 miles long) from Big Eddy Substation to a new substation (Station Z) on the Wautoma-Ostrander 500 kV line. **(2013)**

Purpose of the project is to address the following:

- A large amount of wind generation is being proposed west of McNary Substation (near the McNary, Slatt and John Day areas).
- Provide firm transmission service and facilitate reliable interconnections for proposed generation projects.
- Increase system reliability to the Portland load area.

This is a Commercial Infrastructure Project.

Expansion Details - I-5 Corridor Project

I-5 Corridor: Construct a new 500 kV line (approximately 70 miles) between southwest Washington (in the vicinity of Castle Rock, WA) and northwest Oregon (alternatives of Troutdale or Pearl are being considered). **(2014)**

Purpose of the project is to address the following:

- Transmission Service Requests for long-term firm transmission
- Relieve congestion along the I-5 Corridor transmission system
- Increasing summer peak loads and contractual obligations to serve them
- Reduce dependence on overly-utilized generation tripping

This is a Commercial Infrastructure Project.

Expansion Details – COI Addition

<u>COI (California-Oregon Intertie) Addition</u>: Add two groups of 500 kV series capacitors at Bakeoven Substation, two groups of 500 kV shunt capacitors at Captain Jack Substation, and one group of 500 kV shunt capacitors at Slatt Substation. These additions, combined with upgrading the John Day-Grizzly 500 kV lines, will provide 4800 MW capacity on the COI. **(2012)**

Purpose of the project is to address the following:

- Transmission Service Requests for long-term firm transmission
- Relieve congestion along the COI
- System Reliability

Expansion Details- Portland Area Reactive Support

<u>Allston 500 kV Shunt Capacitors</u>: Install a 500 kV shunt capacitor group at Allston Substation. **(2010)**

Purpose of the project is to address the following:

- Reactive support for growing loads in the Portland vicinity
- Maintain voltage schedules
- Improve voltage stability

Expansion Details- Celilo Upgrades

Celilo Upgrades: Refurbish the converters and upgrade the controls at Celilo for the Pacific Direct Current Intertie (PDCI). **(2012)**

Purpose of the project is to address the following:

- Replace aging and obsolete equipment at Celilo
- Maintain existing capacity on the DC Intertie
- Continue reliable operation of the DC Intertie

Program Discussion- Main Grid Load Service Projects

Main Grid Load Service Projects:

- Redmond 230/115 kV Transformer Addition – 2010
- Mid-Columbia Area Reinforcement – 2012
- Tri-Cities Area Reinforcement – 2013
- Central Oregon 500/230 kV Transformer Addition - 2013

Program Discussion- Area and Customer Service Expansion

Area and Customer Service Expansion Projects:

- Lower Valley Reinforcement (Hooper Springs) – 2010
- Lebanon Shunt Capacitor Addition – 2010
- Drummond Shunt Capacitor Addition – 2010

Q&A and NEXT STEPS

Comment Periods

- Comment Period for FY 2010 and Beyond for Power and Transmission Costs
  - Draft decision letter sent out mid-July
  - Comment period July 7 through August 15
  - Decisions reported in a closeout letter September 1

Ways to Participate

- All forums are open to the public and will be noticed on the IBR external Web site at: http://www.bpa.gov/corporate/Finance/IBR/IPR/. All Technical and Managerial workshops will be held at BPA Headquarters.
- Close of comment for FY 2009 Power costs was June 19, 2008. The comment period for all other IPR costs is through August 15, 2008. You have several options to provide comments to BPA:
  1. Attend one or more of the scheduled workshops and give BPA your comments.
  2. Discuss your input with your Customer Account Executive, Constituent Account Executive, or Tribal Liaison.
  3. Submit written comments to Bonneville Power Administration, P.O. Box 14428, Portland, OR 97293-4428.
  4. Submit comments via e-mail to: comment@bpa.gov or submit on line at: http://www.bpa.gov/comment.
  5. Comments can also be sent via fax to (503) 230-3285.

BPA's Financial Disclosure Information

1. All FY 2008-2013 information was provided in May 2008 and cannot be found in BPA-approved Agency Financial Information, but is provided for discussion or exploratory purposes only as projections of program activity levels, etc. This information is a derived estimate for presentation purposes and cannot be found in BPA-approved Agency Financial Information but is provided for discussion or exploratory purposes only as "*projections of program activity levels, etc*."

2. All FY 2007 and earlier information was provided in May 2008 and is consistent with audited actuals that contain BPA-approved Agency Financial Information.

APPENDIX

Expense Program Levels FY10-FY11 ($000s) (Page 1 of 5)

Program & Other Operating Costs	FY2010	FY2011
Transmission System Operations		
Information Technology	7,046	6,803
Power System Dispatching	11,461	11,864
Control Center Support	13,172	13,541
Technical Operations	5,882	6,096
Substation Operations	19,024	19,206
Sub-Total Transmission System Operations	**56,586**	**57,511**
Transmission Scheduling		
Management Supervision & Administration	458	481
Reservations	1,023	1,074
Pre-Scheduling	448	470
Real-Time Scheduling	4,808	5,028
Scheduling Technical Support	2,271	2,369
Scheduling After-The-Fact	1,301	1,363
Sub-Total Transmission Scheduling	**10,308**	**10,784**

Expense Program Levels FY10-FY11 ($000s) (Page 2 of 5)

Program & Other Operating Costs	FY2010	FY2011
Transmission Marketing		
Transmission Sales	3,120	3,261
Marketing Internal Operations	0	0
Transmission Finance	388	402
Contract Management	4,349	4,496
Transmission Billing	2,197	2,223
Business Strategy & Assessment	6,771	7,044
Marketing IT Support	2,012	2,112
Meter Data	0	0
Sub-Total Transmission Marketing	**18,836**	**19,538**
Transmission Business Support		
Executive and Admin Services 1/	7,998	8,264
Staff Management	0	0
Legal Support - Expense	2,928	3,027
TBL Internal G&A 1/	12,944	13,336
Aircraft Services	1,160	1,203
Logistics Services	8,103	7,405
Security Enhancements	1,542	1,594
Sub-Total Transmission Business Support	**34,675**	**34,828**

Expense Program Levels FY10-FY11 ($000s) (Page 3 of 5)

Program & Other Operating Costs	FY2010	FY2011
Transmission System Maintenance		
Non-Electric Maintenance	26,046	28,055
Substation Maintenance	22,439	22,985
Transmission Line Maintenance	25,540	26,179
System Protection Control Maintenance	10,798	11,317
Power System Control Maintenance	10,147	10,659
System Maintenance Management	6,111	6,264
Right Of Way Maintenance	18,181	18,508
Heavy Mobile Equipment Maintenance	0	0
Technical Training	2,657	2,723
Sub-Total Transmission System Maintenance	**121,919**	**126,691**
Transmission Environmental Operations		
Environmental Analysis	78	80
Pollution Prevention & Abatement	3,719	3,915
Sub-Total Transmission Environmental Operations	**3,797**	**3,996**

Expense Program Levels FY10-FY11 ($000s) (Page 4 of 5)

Program & Other Operating Costs	FY2010	FY2011
Transmission System Development		
Research & Development	6,121	7,005
TSD Planning & Analysis	8,539	8,811
Capital to Expense Transfer	3,000	3,000
Inventory Management	1,000	1,000
Regulatory & Region Association Fees	6,055	6,331
Environmental Policy & Planning	1,789	1,867
Sub-Total Transmission System Development	**26,503**	**28,014**
TBL Transmission Acquisition		
Leased Facilities	16,136	16,678
Settlements	500	500
Non-BBL Ancillary Services	1,723	1,723
Sub-Total Transmission Acquisition	**18,359**	**18,901**
Transmission Other		
Civil Service Retirement System (CSRS)	15,598	16,071
Undistributed Cost Reduction	(2,000)	(2,000)
Non-Federal Debt Service	5,890	4,690
Sub-Total Transmission Other	**19,488**	**18,761**
Sub-Total System Operations & Maintenance	**310,472**	**319,024**

Expense Program Levels FY10-FY11 ($000s) (Page 5 of 5)

Program & Other Operating Costs	FY2010	FY2011
Between Business Line Expenses		
Ancillary Services	NA	NA
Corps/Bureau/Network/Delivery Facilities	NA	NA
Station Service	NA	NA
Sub-Total Between Business Line Expense	**0**	**0**
Corporate Expenses		
Shared Services Costs	0	0
Corporate Overhead Distributions	62,640	62,936
Sub-Total Corporate Charges	**62,640**	**62,936**
Total Expense Program Levels	**373,112**	**381,960**

1/ Executive and Admin Services includes expenses for Executive Management, Asset Management, Continuity of Operations, and non-project travel and training costs.

Sources: Program Levels as reviewed in the IPR Kickoff Meeting, May 15, 2008

This information has been made publicly available by BPA on May 15, 2008, but due to the detailed nature or the manner in which it is grouped, the numbers cannot be separately identified in any other publicly released Standard Financial Report or other Agency Financial Information.

Capital Program Levels FY10-FY11 ($000s) (Page 1 of 4)

Program Description	Energization Date	FY 2010 Forecast	FY 2011 Forecast
MAIN GRID PROJECTS			
McNary-John Day 500 kV Line	2012	85,079.8	81,397.5
Line Relocations on Tribal Lands	On-going	3,722.2	3,798.5
Wautoma-Ostrander tap (Station Z) to Big Eddy	2013	5,317.5	26,047.2
Allston 500 kV Shunt Capacitor	2010	4,254.0	0.0
Keeler-Forest Grove 115 kV Line Upgrade	2012	0.0	1,085.3
Central Oregon 500/230 kV Tx	2013	0.0	5,426.5
LaPine 230 kV Shunt Capacitor Addition	2010	1,329.4	0.0
Midway-Vantage 230 kV Line Upgrade	2011	8,508.0	4,341.2
Vantage 230 kV bus sectionalizing breaker addition	2010	2,127.0	0.0
White Bluffs 115 kV Bus Sectionalizing Breaker	2010	1,063.5	0.0
I-5 Corridor Reinforcement	2014	10,635.0	65,118.0
Redmond 230/115kV Bank #2	2010	8,508.0	0.0
Clatsop 230/115KV Tx	2012	0.0	2,170.6
Mid-Columbia Area Reinforcement	2012	0.0	4,341.2
Tri-Cities Area Reinforcement	2013	0.0	2,170.6
Network Open Season Additions	On-going	4,254.0	4,341.2
Other Associated Gen Integration	On-going	4,000.0	4,000.0
NERC Criteria Compliance	On-going	9,000.0	9,000.0
Main Grid Reactive Facilities	On-going	4,000.0	4,000.0
Various Additions	On-going	4,000.0	4,000.0
Completion of Prior Yr Items	On-going	106.3	108.5
Cap-to-Exp Adjustments	On-going	(3,000.0)	(3,000.0)
Non-Wires Program	On-going	3,000.0	3,000.0
Sub-Total Main Grid		**155,904.7**	**221,346.3**
AREA & CUSTOMER SERVICE PROJECTS			
Lower Valley Reinforcement (Hooper Springs)	2010	22,333.5	0.0
Drummond Shunt Cap	2010	1,595.2	0.0
Lebanon 115 kV Shunt Capacitor	2010	2,658.7	0.0
Area Service Reactive Additions	On-going	2,127.0	3,255.9
Customer Service Additions	On-going	3,000.0	3,000.0
Sub-Total Area & Customer Service		**31,714.4**	**6,255.9**

Capital Program Levels FY10-FY11 ($000s) (Page 2 of 4)

Program Description	Energization Date	FY 2010 Forecast	FY 2011 Forecast
UPGRADES & ADDITIONS PROJECTS			
System Controls	On-going	7,444.5	7,597.1
Celio Upgrades - various	2012	23,397.0	21,488.9
CC Systems	On-going	8,508.0	8,682.4
Fiber Optics (Incls Terminations)	On-going	12,762.0	15,194.2
VHF mobile radio system upgrade to P25	2014	1,063.5	5,426.5
Albany-Eugene Rebuild	2010	8,508.0	0.0
Access Roads	On-going	10,635.0	10,853.0
Tucannon-Walla Walla 115 kV Line Rebuild	2011	11,698.5	11,938.3
Misc Sub Additions	On-going	5,000.0	5,000.0
Ponderosa Transformer Critical Spare	2011	0.0	3,907.1
Monroe Transformer Critical Spare	2011	0.0	3,907.1
Sickler Transformer Critical Spare	2011	0.0	3,907.1
Hot Springs Transformer Critical Spare	2011	0.0	3,907.1
Alvey Transformer Critical Spare	2011	0.0	3,907.1
Palisades-Goshen 115kv - wood pole replacement	2012	1,719.7	1,754.9
Albeni Falls-Sand Creek 115kv reconductor	2010	372.2	0.0
Sub-Total Upgrades & Additions		**91,108.2**	**107,470.7**
SYSTEM REPLACEMENTS PROJECTS			
Transmission Line Replcmts	On-going	5,317.5	5,426.5
Wood Pole Replacement	On-going	6,381.0	6,511.8
NCI Replacements	On-going	319.0	325.6
Spacer Damper Replacements	On-going	10,635.0	10,853.0
Substation Replacements	On-going	14,357.2	14,651.5
Transformer Replacements	On-going	0.0	35,163.7
System Protection Replacements	On-going	7,444.5	7,597.1
Power System Cntrl Replacements	On-going	10,635.0	16,279.5
Helicopters	2010	4,254.0	0.0
Tools and Equipment	On-going	7,000.0	7,000.0
Tacoma - Transformer Replcmt	2010	4,466.7	0.0
Bellingham Transformer Replacement	2010	2,127.0	0.0
Celilo Control Replacements	2012	4,041.3	16,279.5
Celilo Transformer Replacement	2010	1,732.4	0.0
Malin Shunt Reactor Replacement	2010	212.7	0.0
Misc. Facilities - From NWR	On-going	55,570.5	18,335.0
Sub-Total System Replacements		**134,493.8**	**138,423.2**

Capital Program Levels FY10-FY11 ($000s) (Page 3 of 4)

Program Description	Energization Date	FY 2010 Forecast	FY 2011 Forecast
ENVIRONMENT PROJECTS			
Total Environment (PP&A)	On-going	5,530.2	5,752.1
Sub-Total Environment (PP&A)		**5,530.2**	**5,752.1**
SUB TOTAL TBL CAPITAL (DIRECT)		**418,751.4**	**479,248.3**
INDIRECTS			
TSD Program Indirect		21,839.1	22,286.8
TSD MS&A		8,823.3	9,004.2
Support Services Cap Distribution		10,588.6	10,805.6
AFUDC (includes non-Federal AFUDC)		13,645.0	15,179.0
Corporate Distributions		31,204.2	31,420.2
SUB TOTAL TBL CAPITAL (INDIRECT)		**86,100.2**	**88,695.8**
TOTAL CAPITAL REQUIRING BORROWING AUTHORITY *<Note 1*		**504,851.6**	**567,944.1**
Customer-Financed /Credits/Radio Spectrum/PFIA *<Note 2*			
Generator Interconnection *<Note 3*	On-going	49,984.4	51,009.1
Line and Load Interconnection *<Note 3*	On-going	13,825.5	14,108.9
COI Addition Project *<Note 3*	2012	12,762.0	23,442.5
Radio Spectrum	2012	8,592.0	8,726.0
Projects Funded in Advance	On-going	5,000.0	5,000.0
Total Customer-Financed/Credits/Radio Spectrum/PFIA		**90,163.8**	**102,286.4**
15% Lapse Factor		**(89,551.4)**	**(101,323.6)**
TOTAL CAPITAL (Direct, Indirect & Customer Financed)		**505,464.0**	**568,906.9**

Notes:

<1 Source: This category includes capital expenditures that use either Treasury or Master Lease Financing.

<2 Source: This category includes those facilities where BPA retains ownership but which is funded by a third party.

<3 Projects shown have not been approved and depend upon signing transmission agreements requiring the customer advance payments in return for future transmission credits before going forward.

Capital Program Levels FY10-FY11 ($000s) (Page 4 of 4)

Capital Plan for Facilities

Program Description	Completion Date	FY 2010 Forecast	FY 2011 Forecast
Condition Assessment Requirements	2011	1,744.0	1,778.0
Placeholder for unassessed and future assets	On-going	1,428.0	1,457.0
Tri-Cities Maintenance HQ	2010	8,204.0	-
Dittmer Annex	2010	34,009.5	-
Snohomish Warehouse	2010	85.0	
Asset Decommissioning	On-going	100.0	100.0
Facilities-related Business Resilience Placeholder	On-going	10,000.0	15,000.0
Total Facilities Capital		**55,570.5**	**18,335.0**

Non BBL Acquisition & Ancillary Services

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
LEASED FACILITIES	$11,545	$12,136	$15,286	$14,853	$15,621	$16,136	$16,678
SETTLEMENTS	$1	$0	$1,000	$941	$500	$500	$500
NON-BBL ANCILLARY SERVICES	$8,511	$7,261	$2,230	$3,050	$1,723	$1,723	$1,723
Program Level Spending	$20,058	$19,397	$18,517	$18,844	$17,844	$18,359	$18,901
Total Increase/Decrease From Prior Year		($660)	($881)		($673)	$515	$542

Program Background: Non-BBL Transmission acquisition and ancillary services includes payments to third-parties for leased facilities, settlement agreements, and non-BBL ancillary services for contingent energy, re-dispatch, generation supplied reactive, and stability reserves.

Drivers of Change:
- Use of master lease agreements for financing capital projects.
- Increased need for staff and systems to manage congestion on the existing transmission system using more precise re-dispatch and curtailments.

Forecast Risk:
- Identification of capital projects qualifying for the master lease program.
- Increased costs of master leased projects due to global competition for materials.
- Fluctuation in interest assumptions associated with master leased projects.
- Uncertainty of settlement exposure.
- IPP's may file with FERC for outside the band reactive payments.
- Amount of redispatch actually used.

Opportunities for Improvement:
- Develop long-term strategies to manage lease arrangements.
- Quantify dispute exposure to predict settlement potentials.

Agency Services and Retirement Benefits

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
Additional Post-Retirement Contribution	$11,600	$10,550	$9,000	$12,139	$15,277	$15,598	$16,071
Agency Services G & A (excludes direct project support)	$63,401	$53,789	$52,498	$54,953	$57,527	$62,640	$62,936
Shared Services (excludes direct proj sup)	$1	$0	$0	$0	$0	$0	$0
Program Level Spending	$75,002	$64,339	$61,498	$67,092	$72,804	$78,238	$79,007
Total Increase/Decrease From Prior Year		($10,663)	($2,841)		$11,306	$5,434	$769

Non-Federal Debt Service, Depreciation, Amortization & Net Interest Expense

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2007-2009	FY 2009	FY 2010	FY 2011
NON-FEDERAL DEBT SERVICE	($663)	$2,121	$3,380	$8,804	$6,886	$5,890	$4,690
DEPRECIATION & AMORTIZATION	$171,310	$175,513	$177,900	$194,382	$190,648	$200,810	$211,538
NET INTEREST EXPENSE	$136,761	$133,806	$125,609	$160,011	$138,740	$151,188	$166,880
Program Level Spending	$307,408	$311,440	$306,889	$363,197	$336,274	$357,888	$383,108
Total Increase/Decrease From Prior Year		$4,031	($4,551)		$29,385	$21,614	$25,220

Program Background:

- On average the typical program components are:
- - 43 percentage Net Interest – Comprised of interest on bonds and appropriations netted against interest credit from the Bonneville Fund.
- - 56 percentage Depreciation – The depreciation of revenue-producing assets and on-going infrastructure investments through BPA and third-party funding of transmission assets.
- - 1 percentage Non-Federal Debt Service – The interest and AFUDC for projects associated with the Large Generator Integration Agreements, primarily wind projects.

Drivers of Change:

- Increased capital investment
- Change in projected interest income due to change in cash balances
- Debt management actions

Business Support

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-2009	FY 2009	FY 2010	FY 2011
EXECUTIVE AND ADMIN SERVICES	$4,923	$6,726	$8,299	$8,118	$7,773	$7,998	$8,264
LEGAL SUPPORT	$1,629	$1,893	$2,553	$2,250	$2,852	$2,928	$3,027
TBL INTERNAL GENERAL & ADMINISTRATIVE	$12,717	$12,295	$6,849	$7,655	$12,168	$12,944	$13,336
AIRCRAFT SERVICES	$723	$608	$1,131	$1,344	$1,119	$1,160	$1,203
LOGISTICS SERVICES	$3,685	$5,436	$4,967	$5,133	$6,128	$8,103	$7,405
SECURITY ENHANCEMENTS	$950	$1,026	$924	$1,039	$1,490	$1,542	$1,594
Program Level Spending	$24,628	$27,984	$24,724	$25,537	$31,531	$34,675	$34,828
Total Increase/Decrease From Prior Year		$3,356	($3,260)		$6,807	$3,144	$154

Program Background: Business Support includes expenses for logistics services, aircraft services, legal services, internal general & administrative services, and executive and administrative services.

Drivers of Change:

- Increasing maintenance levels needed to support the security systems (cameras, alarms, card readers, automated gates and fencing) from Level II enhancements.
- Implementation of the 2-year work plan and an increasing Transmission capital program have caused some increases in Logistic Services workload.

Opportunities for Improvement:

- Increased use of strategic sourcing for purchasing materials and developing strategic partnerships with vendors to ensure we can get materials at the best cost.
- Analysis and optimization of inventory to reduce inventory levels and ensure we have the right materials.

System Development (Engineering)

$ in Thousands	Actuals		2nd Quarter Forecast	Rate Case Average	IPR		
	FY 2006	FY 2007	FY 2008	FY 2008-09	FY 2009	FY 2010	FY 2011
RESEARCH & DEVELOPMENT	$2,997	$2,845	$3,625	$3,431	$5,266	$6,121	$7,005
TSD PLANNING AND ANALYSIS	$3,743	$4,447	$4,661	$3,518	$8,286	$8,539	$8,811
CAPITAL TO EXPENSE TRANSFER	$5,820	$1,926	$3,000	$3,000	$3,000	$3,000	$3,000
INVENTORY MANAGEMENT	$805	$921	$3,565	$4,500	$1,000	$1,000	$1,000
REGULATORY & REGION ASSOC FEES	$354	$3,790	$6,463	$5,824	$5,876	$6,055	$6,331
ENVIRONMENTAL POLICY/PLANNNING	$1,056	$1,088	$1,390	$1,287	$1,713	$1,789	$1,867
Program Level Spending	$14,775	$15,017	$22,704	$21,560	$25,140	$26,503	$28,014
Total Increase/Decrease From Prior Year		$242	$7,686		$2,437	$1,363	$1,510

Program Background: System engineering consists of costs in support of the research and development program, transmission system planning and analysis, region association fees, including the allocated costs for industry restructuring, and costs associated with cancelled capital projects and inventory adjustments.

Drivers of Change:

- Increased analysis and planning to support repair and replacement of the aging transmission infrastructure.
- Mandatory NERC/WECC reliability compliance, as well as, cultural and environmental compliance.
- Increased training needs due to constant influx of new equipment types, models, and technologies.

Forecast Risk:

- Lack of quality assurance/control organization threatens large infrastructure programs.
- Under funding of replacement programs will increase failure rates of equipment.

Opportunities for Improvement:

- Continue to review and optimize the use of standard designs and materials.
- Implementation of a 2 year work plan (as opposed to the single year plan we used to have).
- Using a risk template for major infrastructure improvement projects.