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Webbers Falls Major Rehab Update



Southwestern Regional Hydropower Conference

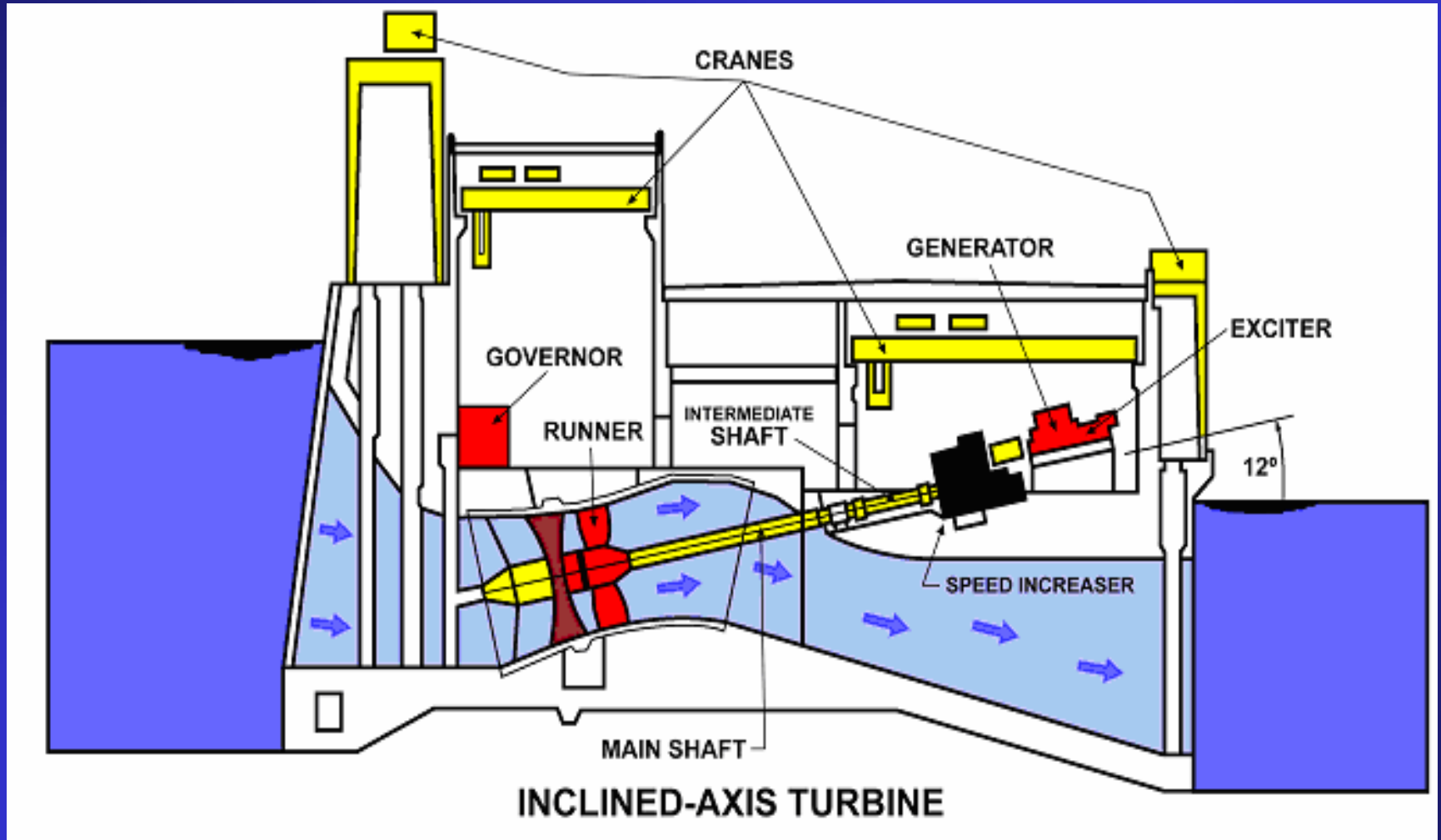
7 June 2006



Webbers Falls Major Rehab



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Webbers Falls Major Rehab Situation



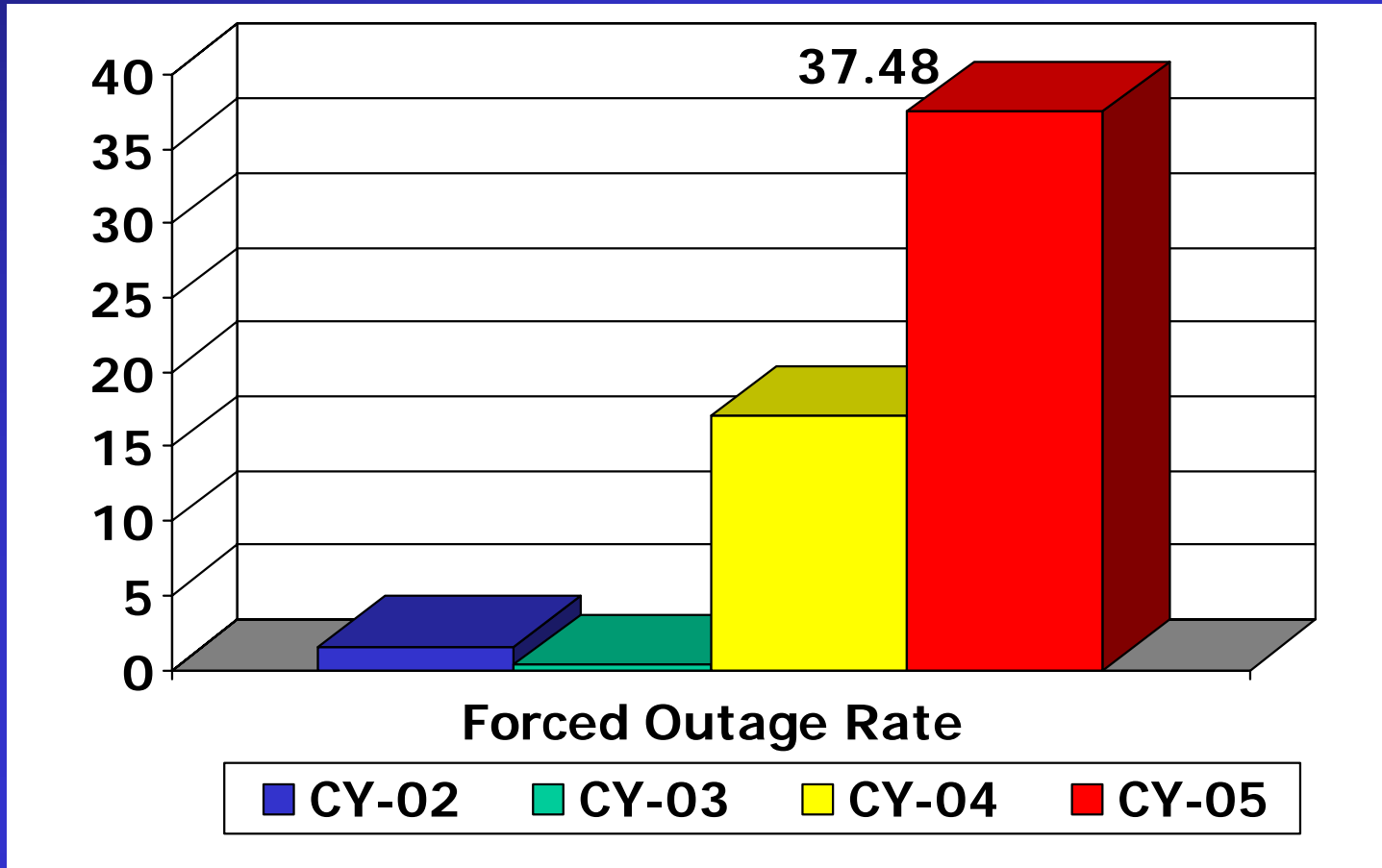
- **Situation - One unit not operational with a cracked shaft. One unit near failure with a deteriorated stub shaft bearing and one unit near failure with a deteriorated speed increaser bearing.**
- **No appropriated dollars to date.**
- **In FY05 the powerhouse availability was 60%.**



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Webbers Falls Major Rehab Forced Outage Rates (OMBIL Data)





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Webbers Falls Major Rehab



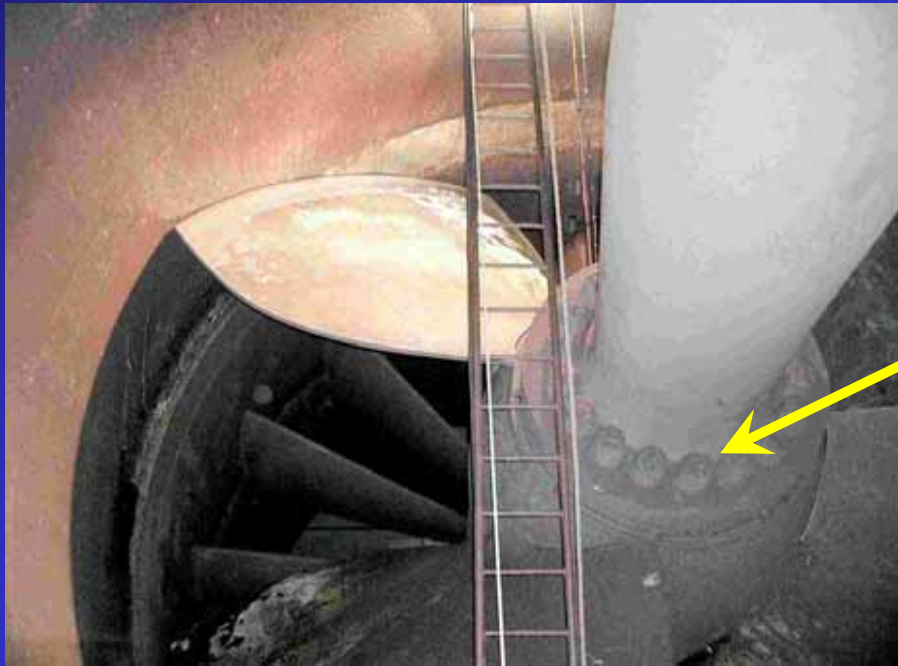
Background

- **Webbers Falls powerhouse unscheduled major breakdowns:**
 - **9/77-3/79 - generator failure – Unit 3**
 - **4/80-2/83 - cracked main shaft – Unit 1**
 - **6/80-9/83 - cracked main shaft – Unit 2**
 - **1/81-12/84 - cracked main shaft – Unit 3**
 - **5/96-12/99 - speed increaser gear – Unit 1**
 - **7/04 – Present - cracked main shaft – Unit 3**



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Webbers Falls Major Rehab Turbine Failures



6/27/2006

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Webbers Falls Major Rehab Rehabilitation Report



- Major Rehabilitation Evaluation Report approved for Plan "D" in July 2001.
- Plan "D" - Replaces the turbine runners, rewinding the generators and performing other technological improvements.
- 2 MW per unit (8.5%) increase by up-rating.
- Plan "D" BCR – 2.13 (2001 Rehab Report)



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Webbers Falls Major Rehab Project Status



- **Webbers Falls Turbine Replacement included as a contract option under the Ozark contract.**
- **\$5 Million savings by combining Webbers Falls and Ozark turbine replacement under one contract.**
- **Webbers Falls Turbine options un-awarded - expires May 08.**
- **Recomputing the RBRCR for the FY08 budget using updated energy, capacity and probability of failure values.**



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Webbers Falls Major Rehab Project Status (Cont.)



- **Completed Activities to Date:**
 - Excitation System Replaced
 - CO2 System Replaced
 - Generator Air Coolers Replaced
- **FY06 Activities:**
 - \$2.3M – Rehab Bridge Cranes
 - \$830K – Replace Cooling Water Piping
 - \$320K - Replace Breakers
- **Not funded in the FY07 President's Budget**



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Webbers Falls Major Rehab Project Status (Cont.)



FY07 Requirements

- \$1.8M – Rehab Tailrace and Intake Cranes
 - \$4.0M - Generator Rewind
 - \$2.0M - AC Distribution System, Elec. Cabling, Controls
-
- FY08 requested funding to fully exercise the three turbine options.



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Webbers Falls Major Rehab

Project Status Rehab Total Cost Breakdown

- 2006 Current Cost Est. - \$65.2M
- Turbine Rehab Cont. - \$45.7M
- Generator Rewind Cont - 4.0
- Low Speed Gears - 5.0
- Intake/Draft Tube Cranes - 2.3
- Misc. Electrical Mech. - 2.5
- S&A/Contingency - 5.7
- Total - \$65.2M



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Webbers Falls Major Rehab Conclusion



- One unit down and two marginally operating units at risk of imminent failure.
- Webbers Falls' Options Expire May 08.
- Funding – Is not in the FY07 President's Budget.
- Rehab creates new hydropower benefits for the nation.
- Administration appears to be supportive of hydropower.