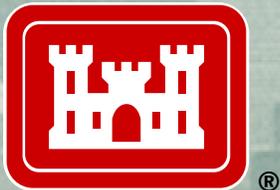


# Ozark Powerhouse Major Rehabilitation

████████████████████

23 June 2016



US Army Corps of Engineers  
**BUILDING STRONG**®



# Ozark Scope, Cost and Schedule

- **Project Scope:** Rehabilitation of the Ozark Powerhouse to include replacement of five turbines, rehabilitation of all cranes, rehab of water Treatment, and misc aux systems
- **Current Project Cost:** \$130.7 M
- **Current Turbine Contract Amount:** \$105.0 M
- **Anticipated Completion Date:** July 2018



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# Ozark Funding Status

<b>Ozark Rehab Project Estimate</b>	<b>\$130.7M</b>
Cranes, Gates, Generator Coolers, Plant Prep	\$3.9M
Turbine Contract (minus \$4.4M low speed gear for WF)	\$100.6M
Unit 5 Low Speed Gear Finishing	\$1.3M
Unit 4 Stay Vane Rehabilitation	\$1.2M
Engineering, Project Support, Contract Mgmt (est)	\$17.6M
Remaining Escalation Payments, based on 10th year rates	\$3.2M
Contingency@10% of remaining turbine contract	\$2.0M
<b>Funding Received to Date</b>	<b>\$125.7M</b>
Regular Appropriations	\$54.7M
Recovery Act Funding	\$30.1M
FY06-FY07 Customer Funding	\$20.1M
FY12 Customer Funding	\$12.8M
FY14 Customer Funding	\$8.0M



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# Ozark Turbine Replacement Contract

## Major Modifications to date-

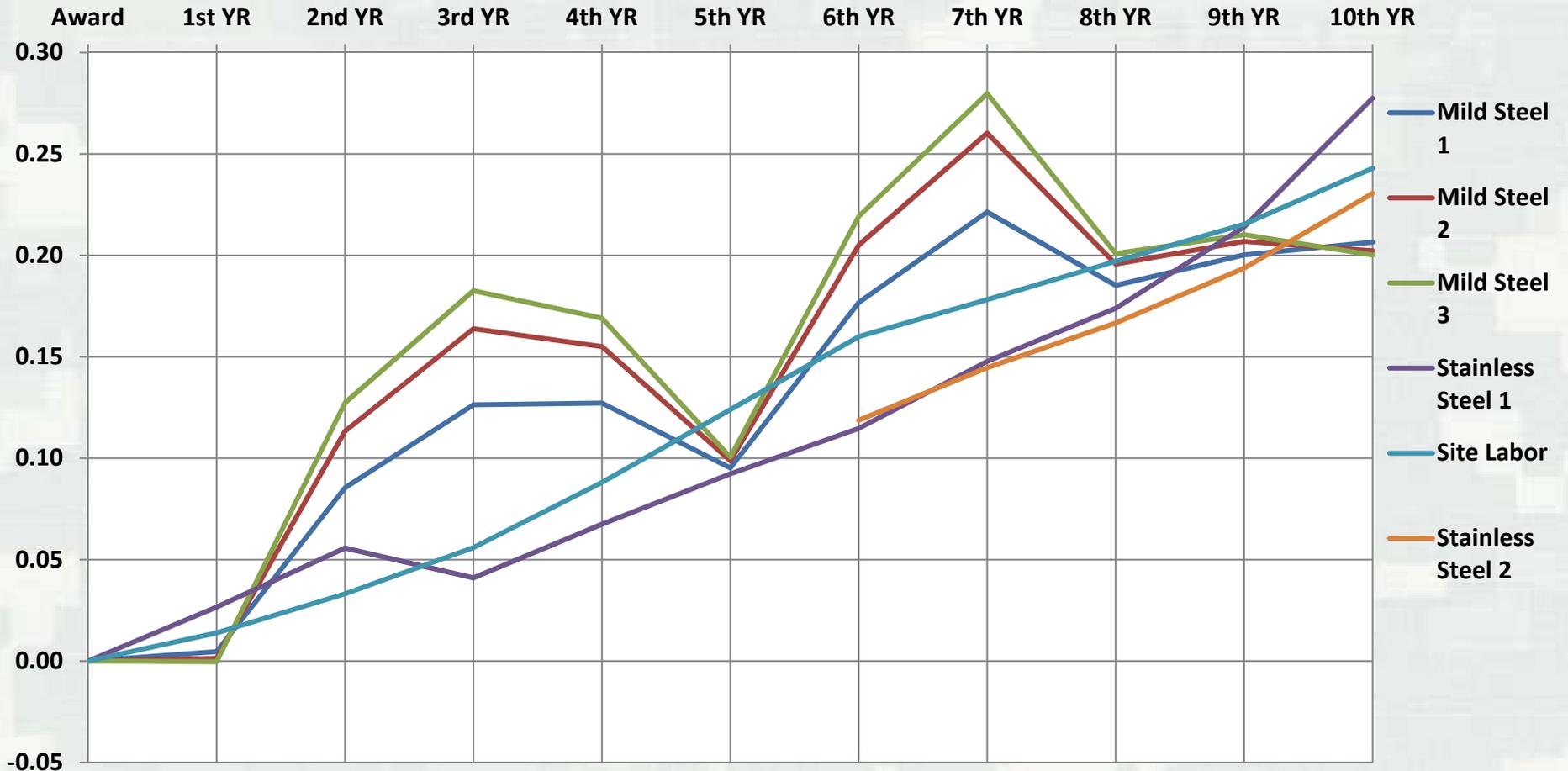
Replace Cooling Water Systems-	\$800,000
Replace Unwatering Systems-	\$1.0 Million
New Upper Shafts, 4 units-	\$4.7 Million
Correct Misalignments, Unit 4-	\$2.0 Million
Paint Blades and Wicket Gates	\$800,000
Stay Vane Repair, 3 Units –	\$1.9 Million
Additional Interior Painting	\$1.4 Million
Escalation Thru June 2015	\$8.7 Million



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# Ozark/Webbers Falls Economic Price Adjustments (escalation)



Escalation Through June 2015



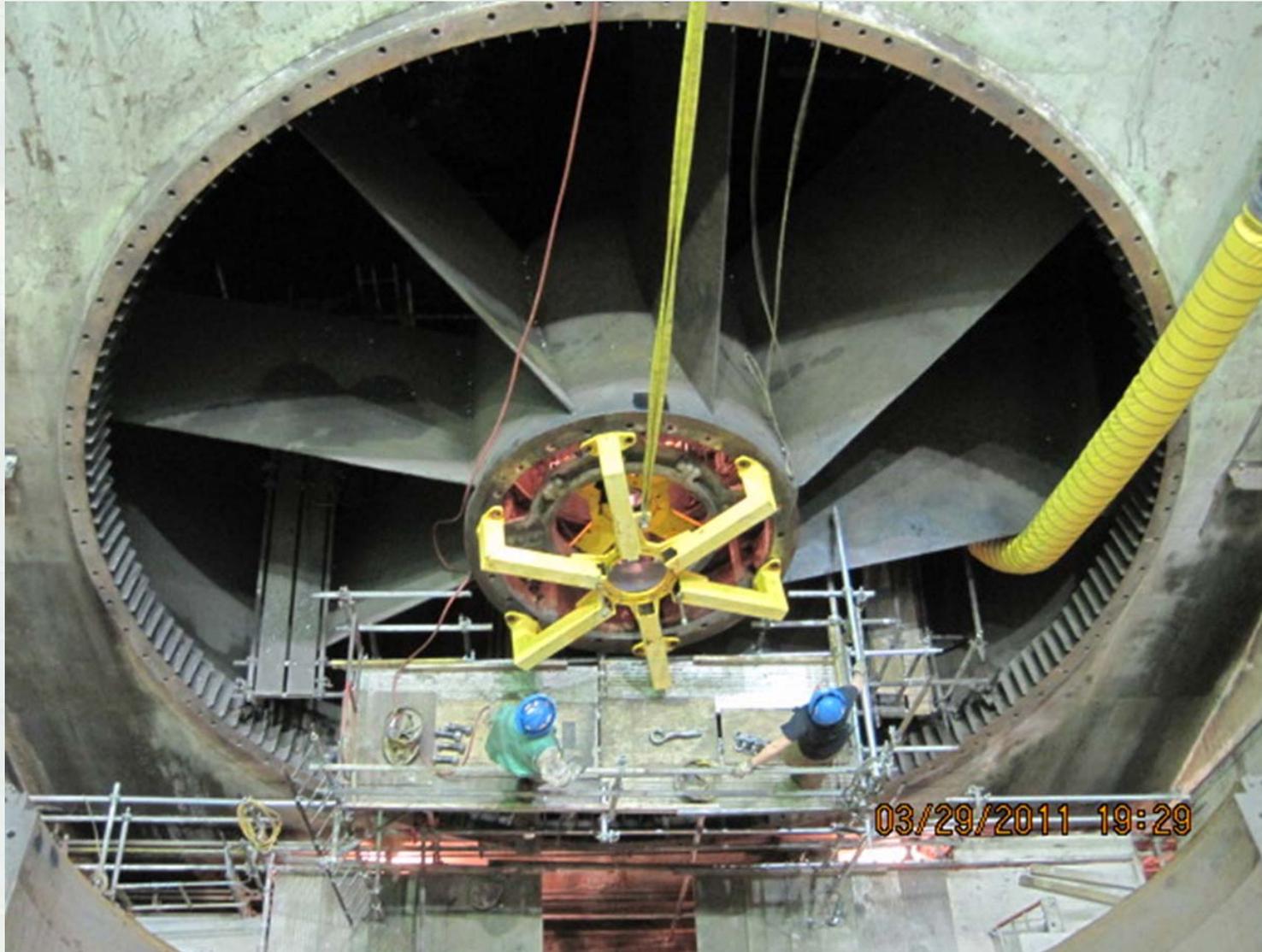
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# Challenges/Lessons Learned

- **Ozark Unit 4 Stay Vane Cracking**
  - We are on the 3rd attempt at crack repair
  - HDC has developed a comprehensive plan for rehabilitation
  - TVA has been commissioned to work under HDC direction
  - Repair includes removal of past patches and pressure grouting behind the stay vane liner
  - Three of eight vanes are complete, three more in progress



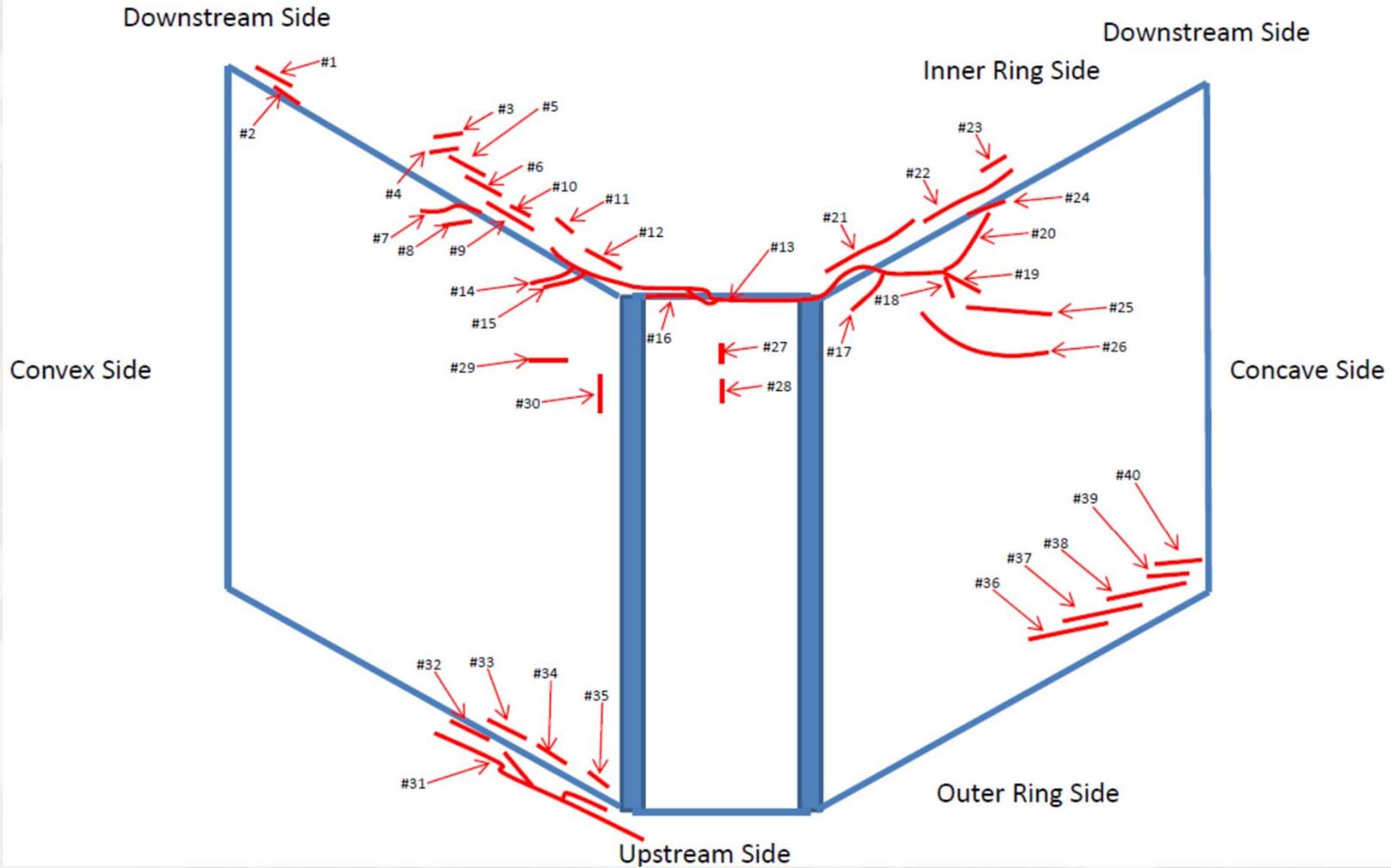
# Unit Stay Vanes



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# Ozark Hydro Plant Unit #4 Stay Vane Layout

## Stay Vane #5



# Successes

- Ozark unit 4 has passed the 100 day test
- Ozark unit 2 is fully operational
- Ozark unit 3 is in 100 day test
- Ozark unit 1 water passage rehab is nearing completion
- Ozark unit 5 is unwatered, to be turned over for dis-assembly first of July



# Questions?



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