

# Rock Island Powerhouse 2 Crane Modernization

## Commission Presentation

October 15, 2018



# Rock Island Powerhouse 2 Crane Modernization

Presentation Purpose:

Review staff recommendation to revise scope and budget for RI PH2 Gantry and Bridge Cranes



# Rock Island Powerhouse 2 Crane Upgrades

## Agenda

- Project Objectives
- Lessons Learned from Rocky Reach Crane Refurbishment Projects
- Staff Recommendation
- Pros/cons and risks
- Budget
- Next steps



# Rock Island Powerhouse 2 Cranes

**Gantry Crane - Original 1978**

**Bridge Crane – Original 1978**



# Project Objectives

- Restore full function of the cranes.
- Improve safety and access for operation and maintenance
- Minimize cost and schedule impacts from unknowns that arise during construction.
- Minimize crane downtime.
- Minimize impact to other projects.
- Maximize Warranty and Design Life
- Use lessons Learned

# Rocky Reach Cranes

## Lessons Learned

### Intake Gantry Crane



#### Bid Options:

- Refurbish all
- All new
- Selected all new for only \$200k more that refurbish

#### Contract Changes

- Awarded Contract Price \$4.59M
- Final Contract Price \$4.79 M

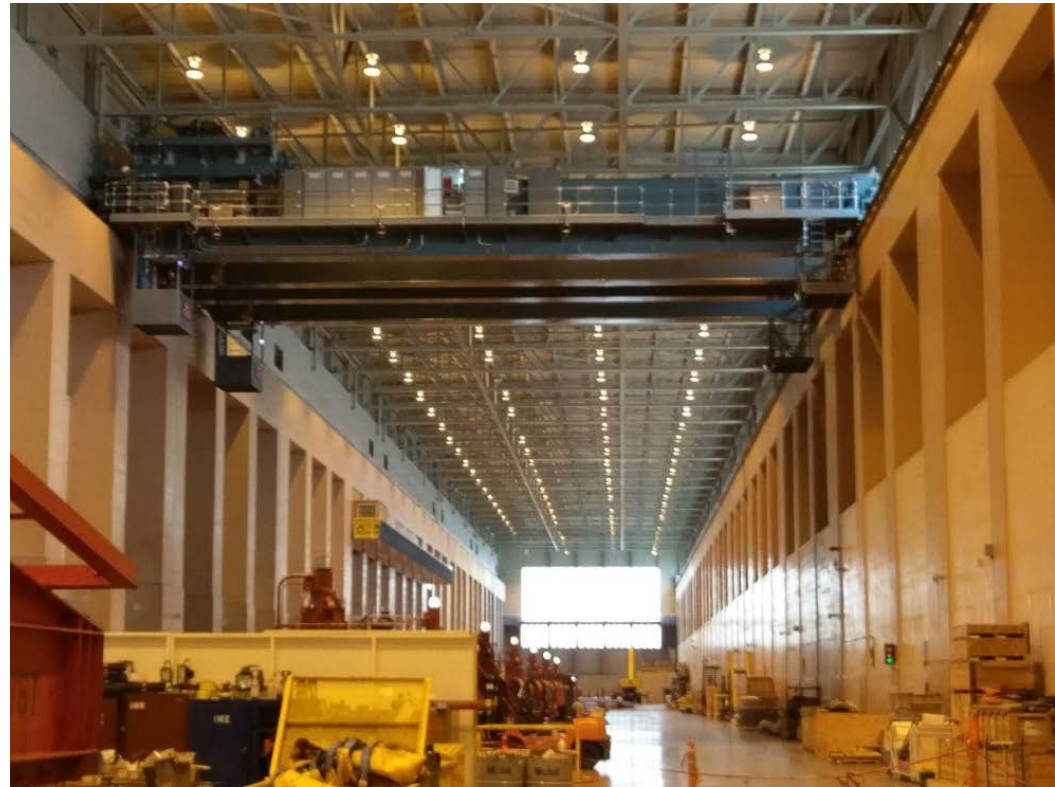


# Rocky Reach Cranes

## Lessons Learned

### Bridge Cranes

- Emergency Drum Repairs - \$790k
- Bridge Crane Refurbishment
  - Awarded Contract price \$4.4M
  - Final contract price \$5.6M
- Significant damage found to trolley structures and bridge trucks
- Repairs took an additional 4 months. Caused delay to several other projects.

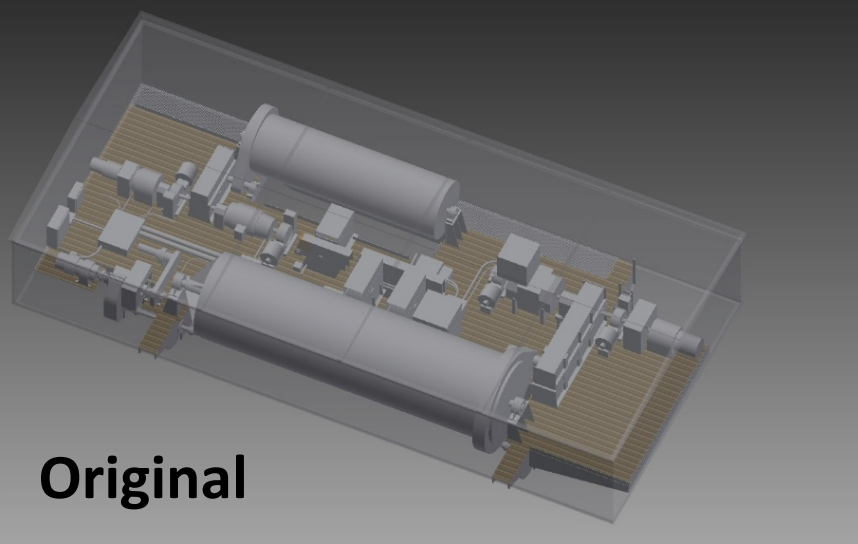


# Actions to meet Objectives

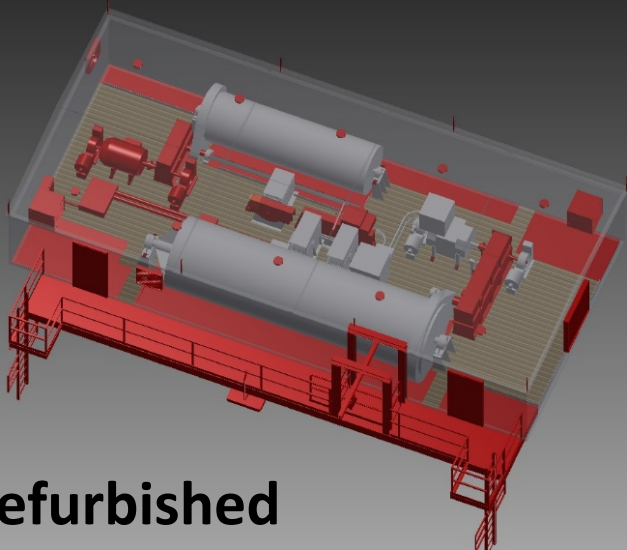
- Purchase new equipment when cost effective.
  - Purchase new trolleys
  - Purchase all new cranes
- Minimize field refurbishment work.
  - New trolleys built in the shop
  - Fully shop test all equipment
  - Overcoat painting in the field
- O&M and Safety Objectives
  - Fill-in open deck areas
  - Add walkways and handrails
  - Fully functional operators cabs.



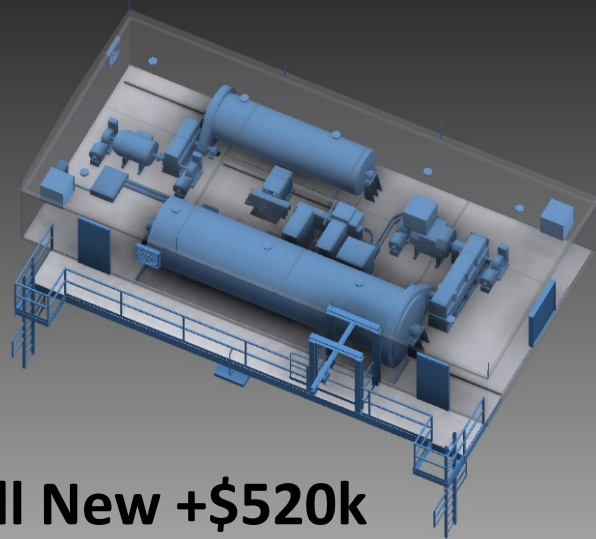
# Gantry Crane Trolley Alternatives



**Original**



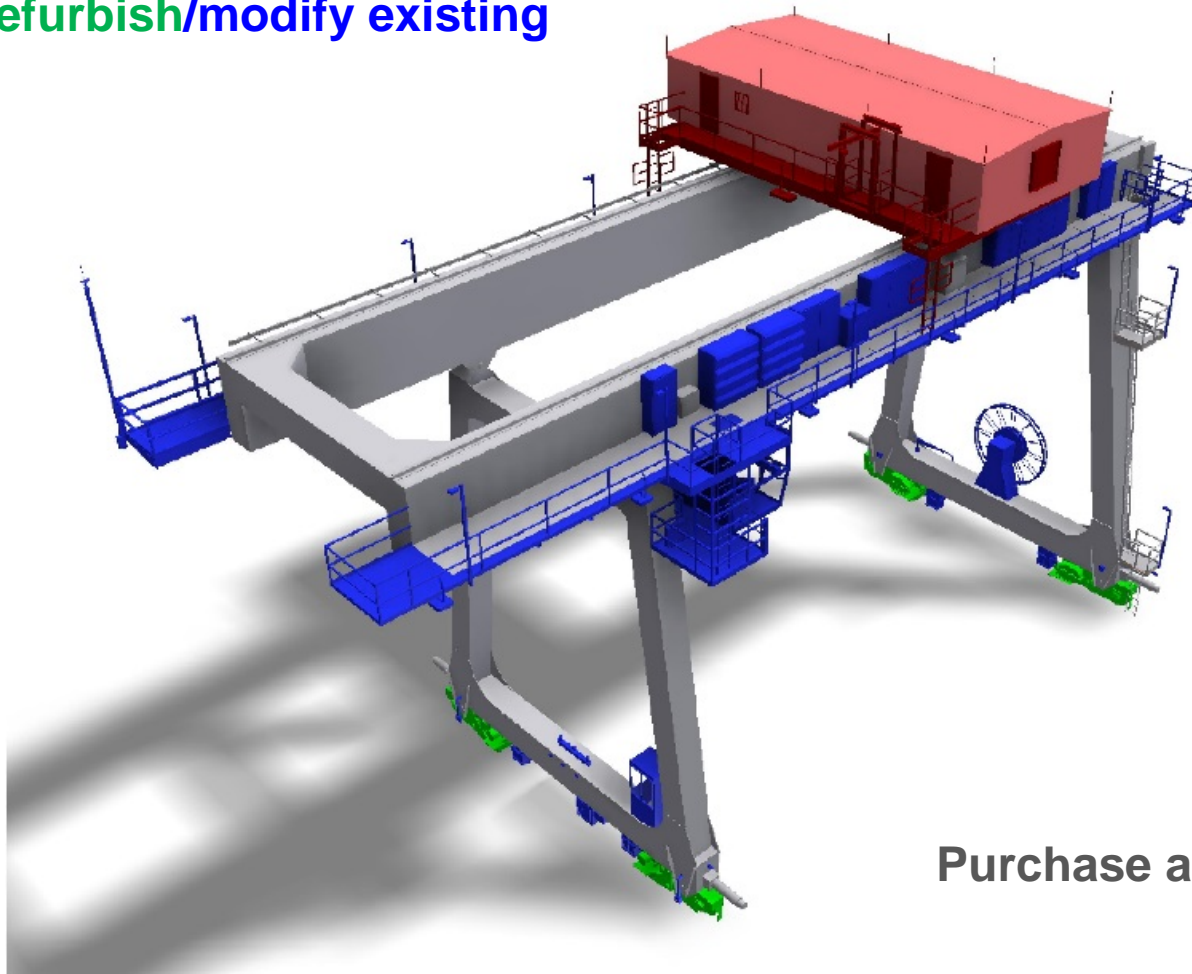
**Refurbished**



**All New +\$520k**

# Gantry Crane Alternatives

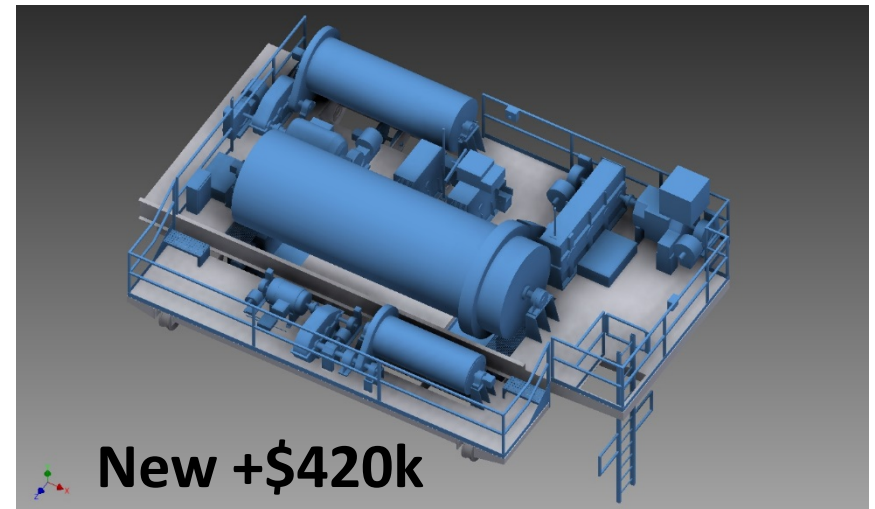
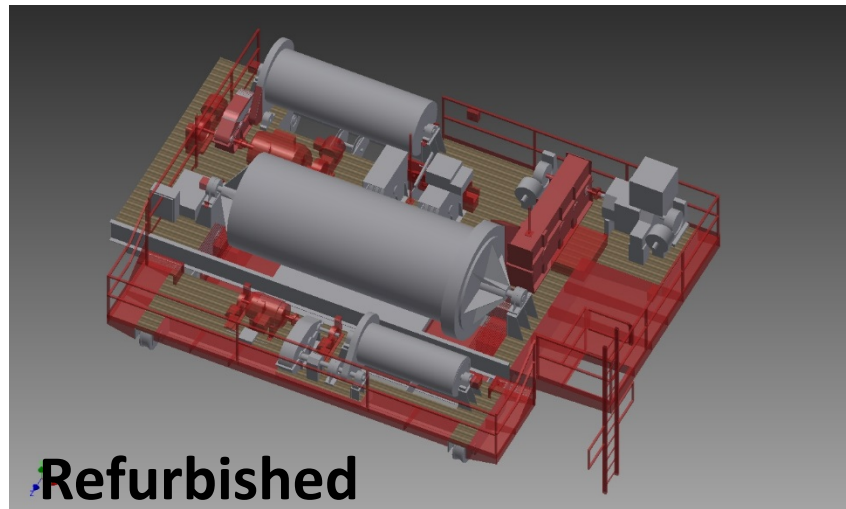
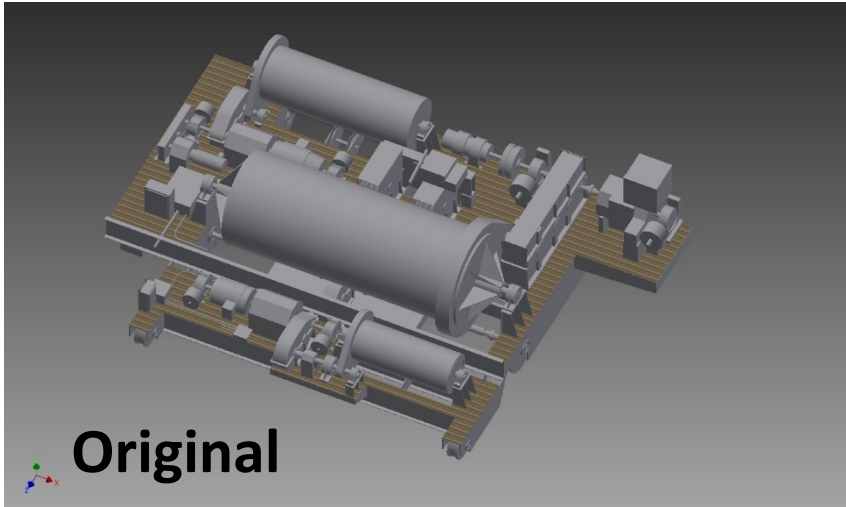
Refurbish/modify existing



LEGEND	
RED	NEW TROLLEY
BLUE	NEW GANTRY EQUIPMENT AND STRUCTURES
GREEN	REFURBISHED EQUIPMENT
GRAY	STRUCTURE TO INSPECT AND REPAINT

Purchase all new – Cost +?

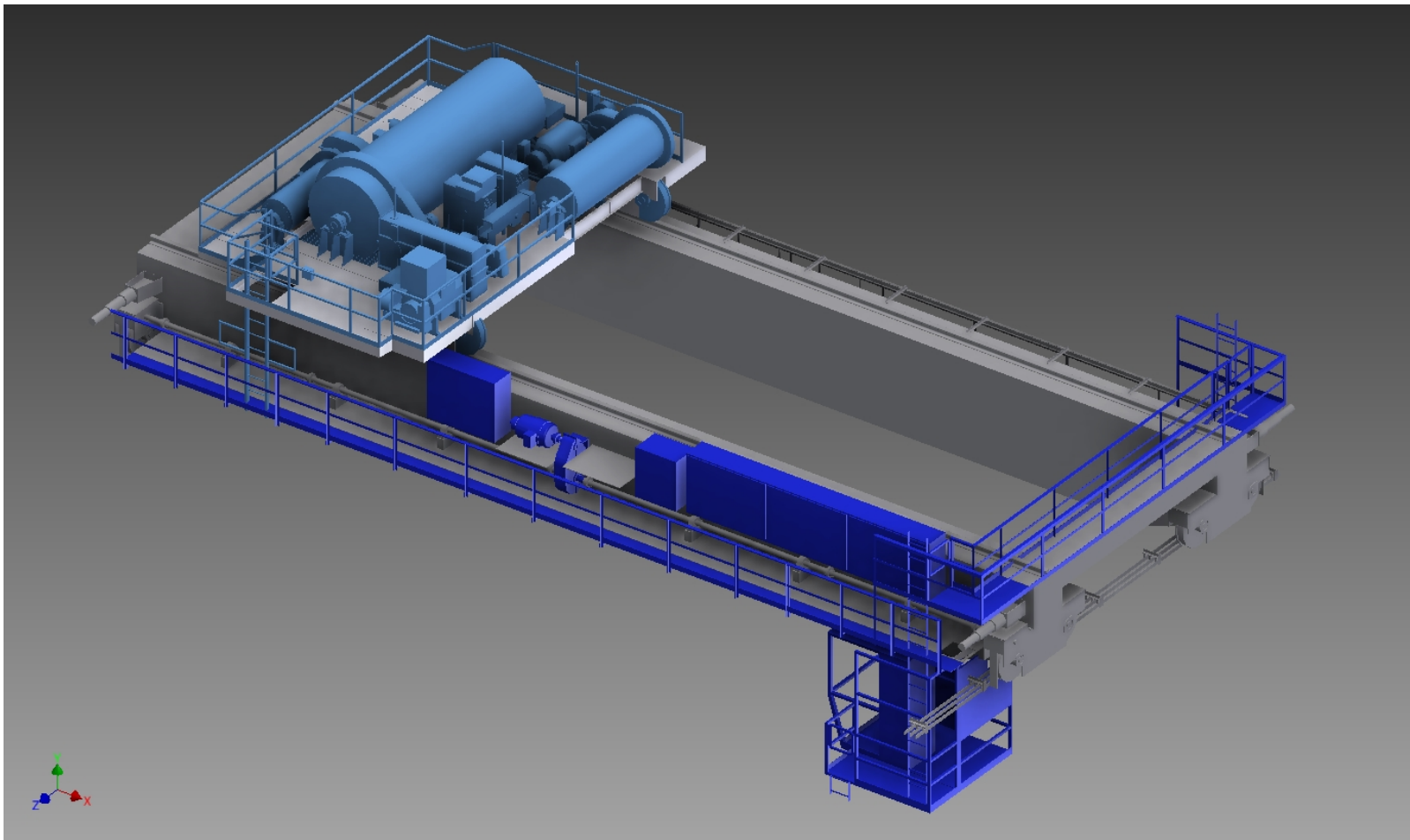
# Bridge Crane Trolley Alternatives



# Bridge Crane Alternatives

Refurbish/modify existing

Purchase all new - Cost + ?



# Option Cost Comparison

<b>Gantry Crane</b>	<b>Original Budget – Refurbish Trolleys</b>	<b>Revised Budget - Refurbished Trolleys</b>	<b>Revised Budget - Replacement Trolleys</b>	<b>Estimate for all New Crane</b>
<b>Capital</b>	\$2.58M	\$4.63M	\$5.76M	\$TBD
<b>O&amp;M</b>	Not Budgeted	\$1.59M	\$975k	\$350k To demo existing
<b>Total project Cost</b>		\$6.22M	\$6.74M	
<b>Cost delta</b>			\$520k	

<b>Bridge Crane</b>	<b>Original Budget – Refurbish Trolleys</b>	<b>Cost estimate - Refurbished Trolley</b>	<b>Cost Estimate - Replacement Trolley</b>	<b>Cost Estimate - All New Crane</b>
<b>Capital</b>	\$2.87M	\$3.9M	\$4.96M	\$TBD
<b>O&amp;M</b>	Not Budgeted	\$960k	\$350k	\$200k To demo existing
<b>Total project Cost</b>		\$4.89M	\$5.31M	
<b>Cost delta</b>			\$420k	

## Reasons to spend additional \$ on new trolleys

- Reduced crane downtime (est. 2 months).
- Less impact on other projects: facilities construction, PH1 rehab, spillway rehab, BOP
- Reduced risk of extra costs during field work (RR bridge cranes \$2M more).
- Schedule uncertainty to repair unknown conditions (RR 4 months longer).



# Recommendation

- Gantry Crane
    - New trolley: 250T/70T hoists
    - Reuse gantry structure. Complete over-paint.
    - Refurbish gantry trucks
  - Bridge Crane
    - New trolley: 250T/35T/15T hoists
    - Reuse bridge structure. No need to repaint.
    - No work to bridge trucks (overhauled in 2012)
- Get pricing for all new cranes

## Next Steps

- Revised cost estimate included in 2019 Budget
  - Additional \$3.2M for Gantry Crane
  - Additional \$2.1M for Bridge Crane
  - Budget for O&M costs
- Update Bid Package for new trolleys
- Provide Bid Option for new cranes
- Prepare resolution to Advertise Bids
  - (Nov. 5 Board meeting)



Questions?