Wolf Creek Nuclear Power Plant

Custom RX Head (RVHFA) Work Platform
RF-22 Refueling Outage April 2018
BHI Energy Power Services Is Comprised Of The Following Team Members...
Wolf Creek’s Expectations From Utilizing A Custom Fabricated RX Head Access Work Platform…….

- Improve industrial safety by eliminating work deck trip hazards
- Reduce outage critical path time
- Lowering man rem expenditures & craft manpower labor cost
- Decrease the number of craft man hours required for construction
- Access package must be more user friendly for first time builders
- Mitigate the amount of tube & clamp staging components used
- Ability to have the structure support lead shielding blankets
- Free up floor space around hatch to expedite move in of equipment
Benefits Of Having Excel Custom Fabricated RVHFA Specialty Scaffold Package……

- Enables the fabrication of unique Excel parts by Deltak as required for work the platform to perform properly & efficiently.
- Cantilevers inserted into RX head stud holes allowed for quicker erection of RVHFA work platform & eliminated building off floor.
- Cantilevers supported the entire large structure & lead blankets required to shield the shine coming from beneath the RX Head.
- Custom length & adjustable horizontal bars allow construction of various shapes of work bays going around the entire head.
- Use of custom diamond plate work deck components allowed for them to fit odd sized work decks and eliminated trip hazards.
- Excel positive locking ledgers & bearers resulted in fewer parts being utilized for construction & mitigated use of hand tools.
- Unique custom parts were all tested, qualified and PE certified in a manner that allowed them to meet all OSHA requirements.
Full Scale Mockup Phase In Walker LA, Used Demo Replicate Of RX Head Flange With Interior Scaffold Structure Installed For Stabilization Purposes Only
Installing Custom Cantilever Bullet Nosed Brackets Into RX Head Demo Mockup Unit Stud Holes
Installing First Set of Inner & Outer Excel Vertical Legs On Top Of Custom Cantilever Brackets
Starting Installation Of Excel Adjustable & Fixed Horizontals Into Excel Vertical Legs Assemblies
Installation Of Inner Legs That Allowed For installation Of Horizontal Bars
Installing The Initial Aluminum Deck Panel At The Access Ladder Bay Area That Was Beginning Of First Full Work Deck
Installation of First Full RVHFA Work Platform Deck Complete
Installing Diagonal Bracing
First Work Deck And Next Full Wrap Of Horizontal Bars Complete
Installation of Additional Upper Level The Required Horizontals Bars & Diagonal Bracing
Installation Final Upper Wrap And Top Work Deck With Smaller Size Aluminum Deck Pans
Continued Installation of Top Level With Smaller Size Deck Pans
Installation Of Swing Gate, Ladders And Low Profile Aluminum Deck Pans
Installation Of The Upper Work
Deck And Hand Rails
Construction Of The Custom RVHFA RX Head Package Is 100% Complete
Custom Cantilever Inserted In RX Head Stud Hole With Excel Vertical Leg Installed
Lead Blankets Installed Below The Custom Cantilever Insert On Horz Bars To Reduce Dose Rates From Streaming From Under RX Head
Cantilevers Bracket Inserts Were Capable Of Supporting Weight Of The Entire Structure Without Having To Sit On Refuel Floor
RVHFA Low Profile Aluminum Work Platform Deck Plates With Inspection Doors In Closed Position
RVHFA Aluminum Work Platform With Inspection Doors Open For Easy Craft Access To Perform Visual Examinations
RVHFA Structure Comprised Of Custom Size Fixed Bars & Telescoping Expandable Bars Which Significantly Reduced The Historical Requirement For Using Tube & Clamp
RVHFA Work Platform With Swing Gates & Ladders & Diagonal Bracing In Place
RVHFA Work Platform Sitting Next To Ctmt Exterior Wall Which Was Accomplished With Smaller Reduced Size Deck Pan Inserts
RVHFA Work Platform Sitting Next To Equipment Hatch With Reduced Footprint From Compact Design Allowed For More Efficient Move In Of Equipment Into Ctmt
Wolf Creek Payback Estimates Associated With Utilization Of Custom RVHFA Work Platform

- Reduced overall outage critical path time by 6 hours, build time went from 1.5 shifts down to 1.0 shift (Based on 12 hr shifts)
- Decreased the craft labor man hours required for installation by 112 (58%) man-hrs from 192 man-hrs down to 80 man-hrs
- Decreased the number of craft labor personnel utilized for construction by 4 (33%) craft from 12 craft down to 8 craft
- Lowered project man rem expenditures for RX Head platform installation by 600 (66%) Mrem from 900 Mrem down to 300 Mrem
- Dropped craft manpower labor cost used for installation by $6.2K (58%) from $10.7K down to $4.5K
- Reduced amount of tube & clamp staging components used by roughly 95%, reduced quantity of actual parts handled by 45%
- Increased efficiency of CTMT move in through the equipment hatch by reduced foot print of more compact RVHFA package
Custom Excel RVHFA Work Platforms Have Been Previously Utilized At The Following Plants

- Millstone
- Turkey Point
- St Lucie
- Indian Point
- Vogtle
- Calvert Cliffs
- Palisades
- Oconee
- McQuire
- Catawba
For Any Questions Please Contact The Following:

Wolf Creek Nuclear Power Plant (WCNOC)
John Frye Cell : 620-490-0888
jofrye@wcnoc.com
Construction Manager

BHI Energy Power Services LLC (BHI)
Carl Stone Cell : 864-332-7139
Carl.Stone@bhienergy.com
http://www.bhienergy.com/

Excel Modular Scaffolding (EMSLC)
Jim Elkins Cell : 508-942-0555
Jim.elkins@excelscaffold.com
http://www.excelscaffold.com/

Deltak Manufacturing Inc. (DMI)
Louis Gautreaux Work : 225-777-4775 X-412
louis.gautreaux@deltakmfg.com
http://www.deltakmfg.com/