

Project Engineering Information Update

PDO CV25 (Train Load Out Conveyor) NEW TAKE-UP SYSTEM

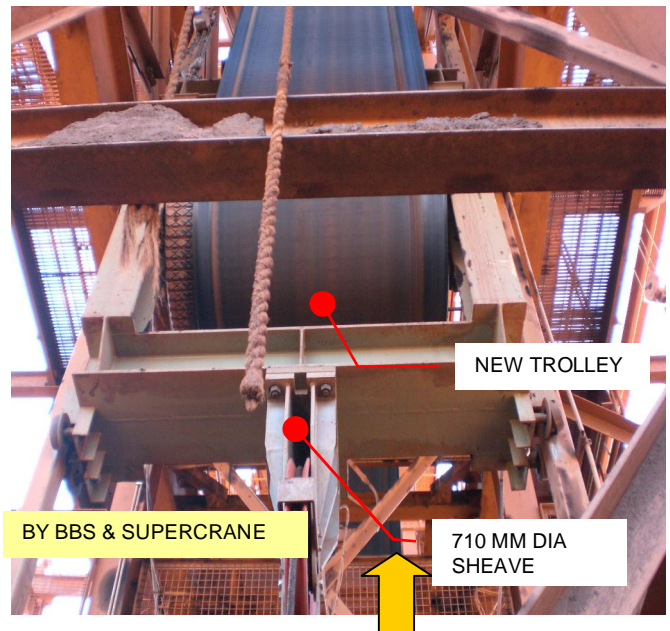
16 December 2007

SIX (6) CONTRACTORS INVOLVED IN THIS PROJECT:

- 1) **PARABURDOO PROJECT ENGINEERING TEAM;**
Desk top studies, conceptual design, pre-feasibility study (Life Cycle Cost analysis of design Options), design review with Plant, feasibility study, Construction Supervision and Project Management.
- 2) **BUCKLAND ENGINEERS AUSTRALIA (BEA-Perth base);**
Detail Engineering design & documentation for Tender based on the selected option
- 3) **SOUTH WEST GROUP (SWG-Bunbury base);**
Detail or Shop drawings for construction, fabrication and installation
- 4) **SUPERCRANE(Perth base);**
Design and manufacture of sheaves, winches, wire ropes, portable drives, festoon safety hooks system, trailer and Gen set. Also involve in supervision of installation and commission
- 5) **BILFINGER BERGER SERVICES (BBS-Newman base);**
Material procurement, fabrication and installation of all structural works and commissioning
- 6) **HECTARE HOLDINGS (Carnarvon base);**
Civil and earth works including all concrete works, rebars and footings, installation of all holding down bolts for new take-up tower, sheave and wire rope termination plate.
- 7) **LAP TEK SYSTEM (Perth base);**
Installation of all lubrication lines for Sheaves Bearings.



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MODIFICATION WORK ON NEW TROLLEY

- RE-ADJUST WHEELS WITH NEW EXTENDED SHAFT THAT IS ADJUSTABLE SO THAT THEY CAN TRAK ON GUIDE RAILS AS PER ORIGINALLY DESIGNED
- ADD NEW WHEELS TO TRACK ON THE INSIDE OF THE GUIDE RAIL TO MAINTAIN SQUARENESS TO CONVEYOR BELT
- CUT BEAMS ON TROLLEY FRAMES AS DISCUSSED WITH PLANT TO ALLOW FOR CONVEYOR BELT TRAKING OR BELT MISALIGNMENT...

NOTE: ALL THESE WILL HAPPEN IN THE NEXT SHUT

**Project Engineering Paraburdoo
Pilbara Iron - Rio Tinto Iron Ore**

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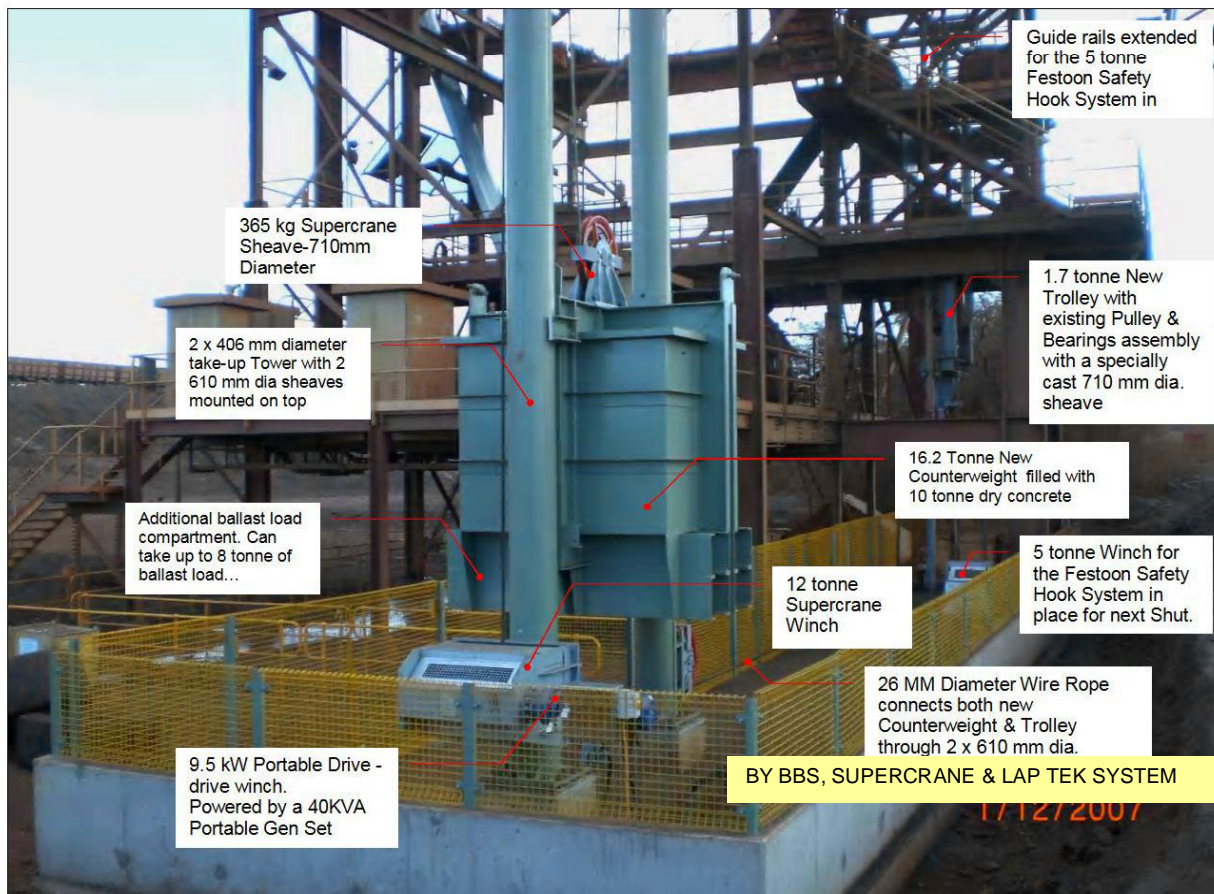
OBJECTIVES OF THE PROJECT

THIS IS AN INNOVATIVE PROJECT IN A SENSE THAT A HYBRID OF BOTH HORIZONTAL AND VERTICAL GRAVITY TAKE-UP SYSTEM HAS BEEN DEVELOPED AND IMPLEMENTED ON A VERTICAL OR FESTOON SYSTEM TO SOLVE THE FOLLOWING ONGOING PROBLEMS AND RIO TINTO NON COMPLIANCE ISSUE ON SOME OLD CONVEYORS WITHIN GREATER PARABURDOO OPERATION;

- SAFETY HAZARDS – AVOID PERSONNEL STRAPPING INTO SAFETY HARNESS IN ORDER TO CLIMB ONTO COUNTERWEIGHT WITH THE USE OF DOZER AS IN THE OLD SYSTEM TO DANGEROUSLY DE-TENSION CV25 FOR MAINTENANCE.
- DECREASE CV25 MAINTENANCE DOWNTIME & MINIMISE NUMBER OF PEOPLE INVOLVED IN DE-TENSIONING CV25 FOR MAINTENANCE WORK!
- COMPLIANCE TO RIO TINTO REQUIREMENT OF LOWERING COUNTERWEIGHT ONTO THE GROUND FOR CONVEYOR MAINTENANCE ON A FESTOON SYSTEM (VERTICAL TAKE-UP SYSTEM) AS IS THE CASE NOW WITH MOST HORIZONTAL GRAVITY TAKE-UP SYSTEM SITE-WIDE.

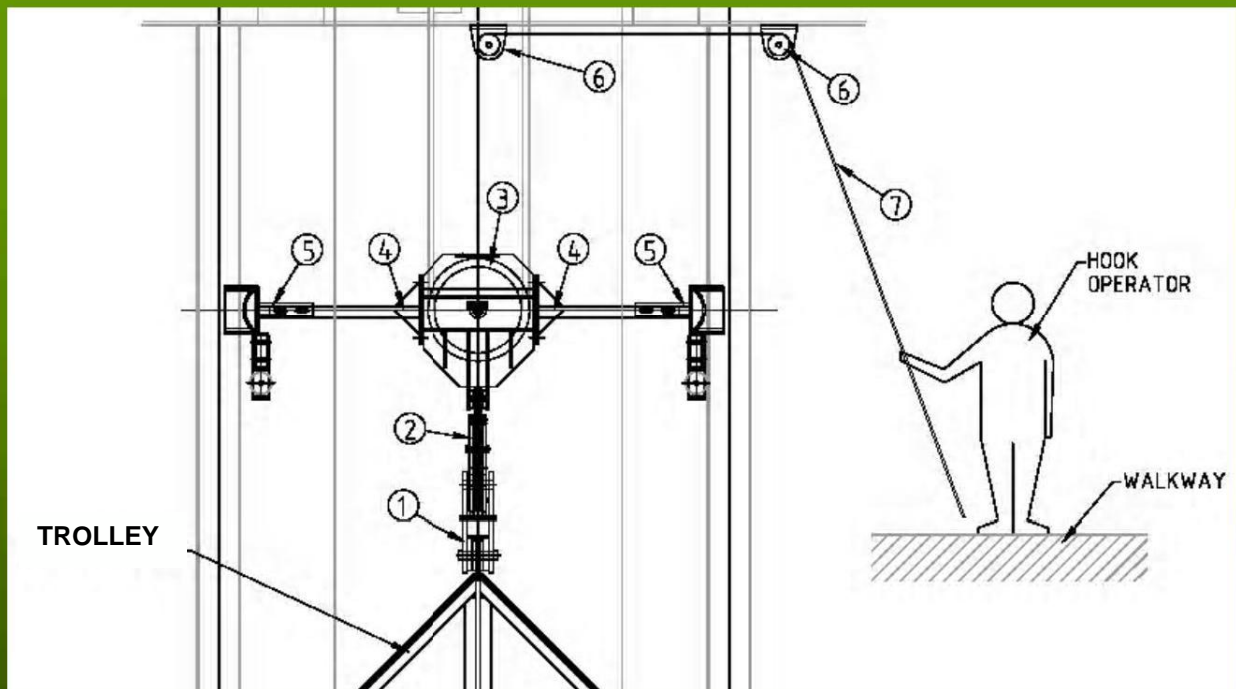
NOTE: ALL THESE OBJECTIVES WILL BE REALISED WHEN THE FESTOON SAFETY HOOK SYSTEM IS FINALLY INSTALLED AND COMMISSIONED IN THE NEXT SHUT

PDO CV25 TRAIN LOADOUT CONVEYOR NEW TAKE-UP SYSTEM IN OPERATION



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SUPERCRANE FESTOON SAFETY HOOK SYSTEM TO BE INSTALLED & COMMISSIONED IN THE NEXT SHUT BY SUPERCRANE & BBS

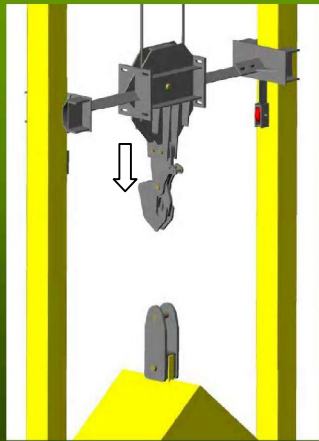


COMPONENTS

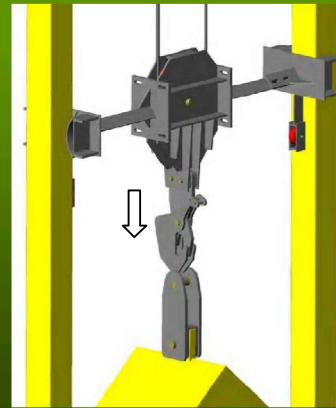
1. CLEVIS ADAPTOR
2. FESTOON SAFETY HOOK
3. SHEAVE BLOCK
4. GUIDE ARM
5. GUIDE SHOE
6. DEFLECTION PULLEYS
7. HOOK OPERATING ROPE

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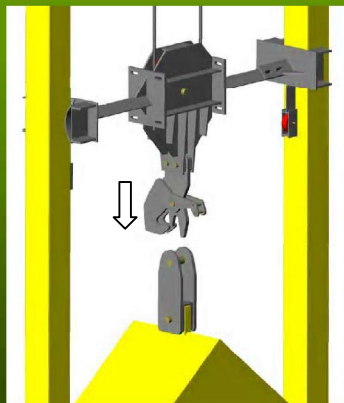
OPERATION OF SUPERCRAPE FESTOON SAFETY HOOK SYSTEM FOR CV25 TO BE INSTALLED IN THE NEXT SHUT



1. WHEN CONVEYOR MAINTENANCE IS REQUIRED THE SUPERCRAPE FESTOON SAFETY HOOK IS LOWERED FROM ITS STORAGE POSITION BY A FIVE TONNE WINCH BY PRESSING DOWN ON PANDENT CONTROL

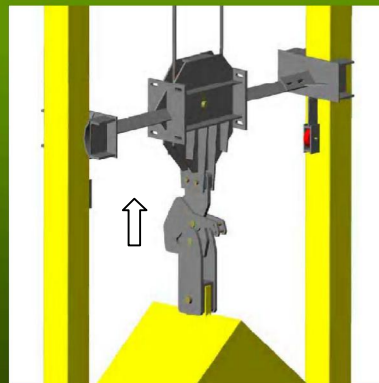


2. THE UNIT IS LOWERED SO THE LEADING EDGE OF THE HOOK FALLS JUST BELOW THE UPPER MOST POINT OF THE CLEVIS ADAPTOR BRACKET



3. THE JAWS OF THE HOOK ARE OPENED BY PULLING THE HOOK OPERATING ROPE

4. THE UNIT IS NOW LOWERED SO THE CLEVIS LIFTING PIN LIES JUST BELOW THE RADIUS OF THE LOCATION JAW



5. TENSION IS RELEASED FROM THE OPERATING ROPE. THE JAWS OF THE HOOK CLOSE AND TROLLEY CAN NOW BE LIFTED BY A FIVE TONNE WINCH BY PRESSING UP ON THE PANDENT CONTROL

6. THE TROLLEY IS NOW RAISED TO A POINT WHERE THE SAFETY CHAINS CAN BE ATTACHED. WHEN THE CHAINS ARE CONNECTED THE HOOKS CAN BE RELEASED BY REVERSING THE PROCEDURE. CONVEYOR MAINTENANCE CAN NOW BE CARRIED OUT AS NORMAL...