

Redesign of Coal Stacker/Reclaimer SR2 – Paiton Energy

Stacker/Reclaimer SR2 at Paiton Energy's Power Plant in East Java suffered boom collapse after losing one of its support stays. MMH Engineering performed all the design engineering works for the replacement boom and temporary works.



Using a suite of engineering tools including finite element analysis (FEA), MMH Engineering redesigned the components of SR2 as listed below. The design was performed in accordance with International standard ISO-5049.

Re-Designed Elements

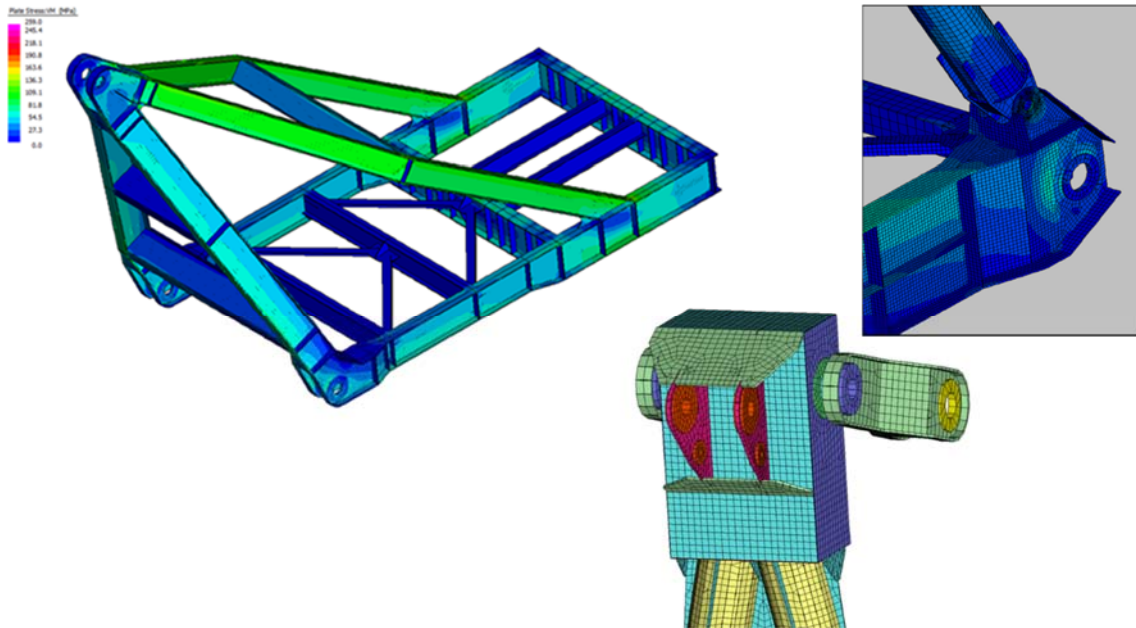
- Bucketwheel Boom
- Counterweight Swing Frame
- Precast modular concrete counterweight blocks
- Jib Post Support
- Main Tension Bar
- Boom stays

Overall, MMH re-designed approximately 60% of the machine's structural elements

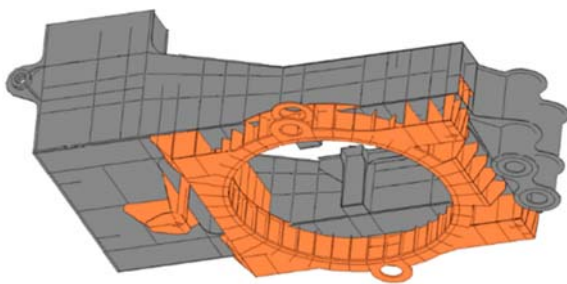
**CONTACT DETAILS**

Code Compliance

Using FEA enabled the engineering team to assess the existing undamaged structure to a higher fidelity than possible when only utilising more conventional analysis techniques. This resulted in MMH identifying compliance issues with critical existing structural elements. The rebuild process afforded the opportunity for the client to rectify non-compliant structural elements.

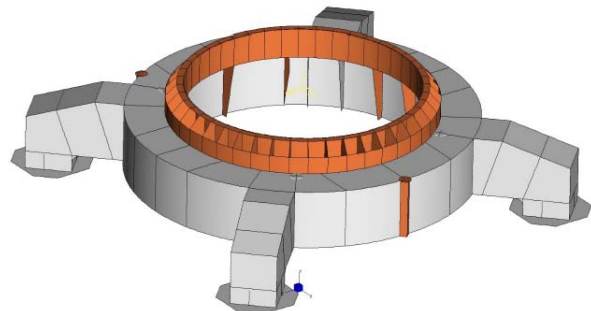


OPPORTUNITIES FOR UPGRADE



In order to enable installation of the new slew gear MMH designed retrofitted companion structures to the existing slew frame and portal. New integrated jacking points were also designed to be installed in-situ on the machine.

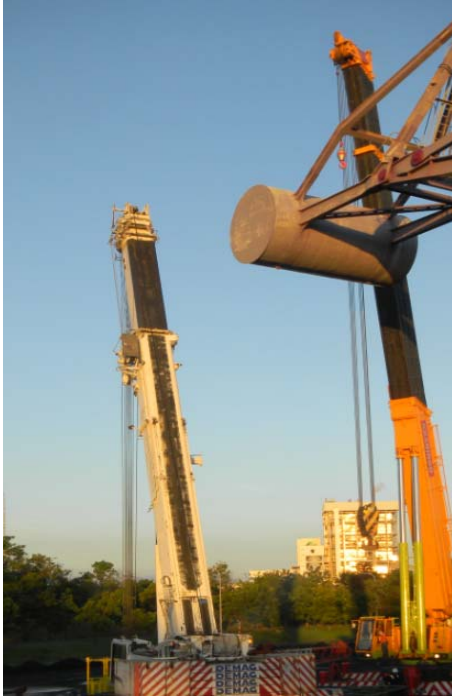
Leveraging on MMH's design experience and expertise on balanced machine design the client was able to discern an opportunity to upgrade and modernise their plant. The existing slew system consisting of slew bogies on rails was replaced by a slew bearing unit common with the newer machines on site.



CONTACT DETAILS

CONSTRUCTION SUPPORT

MMH worked closely with the TEAM Engineering's construction team to design temporary support structures as well as lifting frames for major lifts both during the de-construction phase as well as the construction phase.



MMH's experience in providing engineering support to slew bearing changes on similar machines was also invaluable to the contractor in devising a construction methodology that is safe and effective.

**CONTACT DETAILS**