

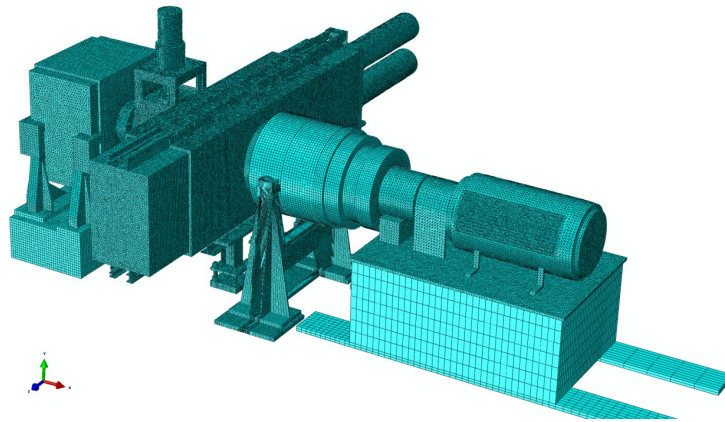
## Saba Metallurgical & Plant Engineering Services, LLC

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### Screen Changer – Mechanical New Design Evaluation (Finite Element Analysis, ASME Section VIII Div. 2 Elastic Analysis)

**Project Description:** A new screen changer was 3D modeled and converted to a finite element analysis (FEA) model. Components densities are altered to match equipment weights. Dead-weight is applied via gravity. Static stresses are linearized, categorized and evaluated according to ASME Section VIII Div. 2 elastic stress analysis rules. Fatigue was not evaluated at this stage of the design.

**3D CAD and FEA Models:** The FEA meshed model is shown below:



**FEA and Code Results:** Excessive torque to the equipment was observed due to the overhang weight. Supports were modified to significantly mitigate this deflection. Resulting static stresses and manufacturer-limited deflections were found acceptable with this modification. The following image shows the deflection results of the finalized design.

