CASE STUDY TEMPLATE

CASE STUDY NUMBER:	Case Study 26
DESCRIPTION:	3/4" Clamp Enclosure
CLIENT:	TENGIZCHEVROIL

SERVICE:	Steam
Line size	3/4"
Design Pressure	23Bar
Operating Pressure	20Bar
Design Temperature	240°C
Operating Temperature	210°C
Material	CS
Line Class	300#

ANOMALY DESCRIPTION:
A leak was detected on an old clamp. And a shutdown for replacing the line and removing the clamp was not possible.
ROOT CAUSES
The existing clamp was too old to re-inject, so there was a need to cover the entire clamp inorder to stop the leak. The leak was caused by the old age of exsting clamp and/or sealing compound. The existing enclosure also posed a safety risk as the enclosure was kept on the line longer than the original design lifetime.

INTEGRITY CONCERNS (INCLUDING PICTURES)
The old clamp will not be able to keep the piping in position in the case of complete failer of the original defect. In case of complete failure, the pipe will slip off the clamp easily due to degradation of existing clamp and result in a plant upset.

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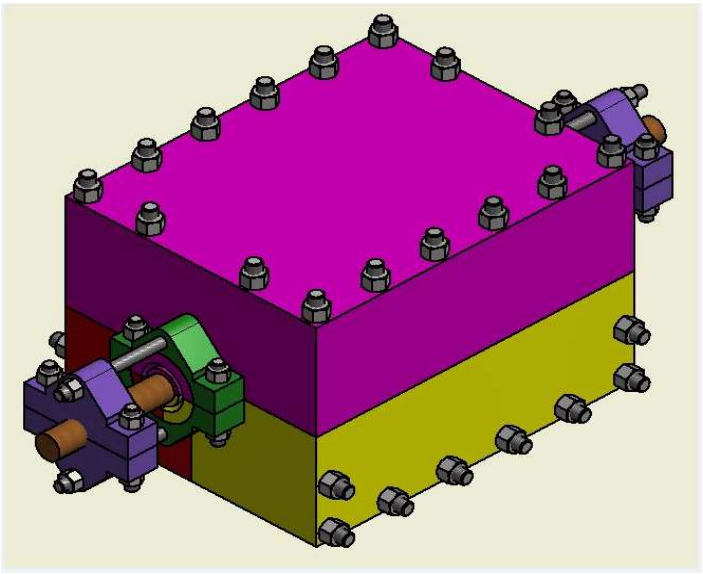
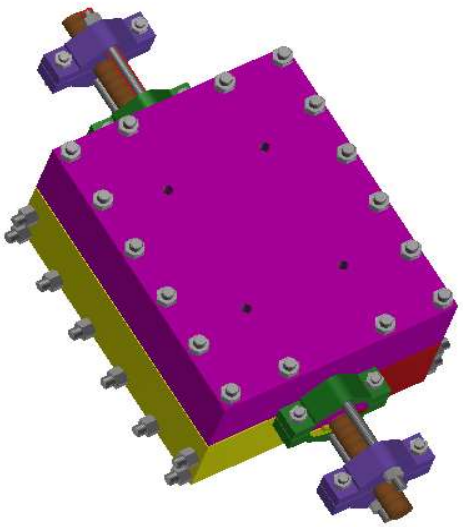
THE BERUSEAL SOLUTION (WITH PICTURES)

Due to the above structural concerns (and clamp leak), a clamp was designed according to ASME VIII Div 1 to cover the existing (old) clamp. An interlink stronback system was also incoperated into the design to prevent piping-seperation in case of complete failure of the original defect. Therefore, the interlink strongback system helps to maintain the structural integrity of the piping. Due to space constraint it was decided to manufacture and design a three part enclosure CNC machined from 120mm plate. The three part enclosure would allow the bottom half to slide into position ontop of the existing structural beam that could not be removed.





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INSTALLATION PICTURES

CONCLUSION

A successful seal was obtained by injecting a polymer compound into the clamp cavity. After injecting compound, no leaks were observed therefore a successful seal was achieved.