CASE STUDY TEMPLATE

CASE STUDY NUMBER:	Case Study 20
DESCRIPTION:	2" VALVE ENCLSOURE
CLIENT:	

SERVICE:	
Line size	2"
Design Pressure	22,5
Operating Presure	21
Design Temperature	239
Operating Temperature	200
Material	SA-333 Gr6
Line Class	300

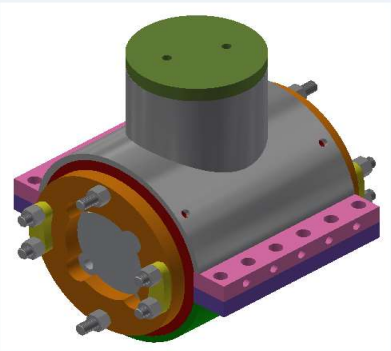
ANOMALY DESCRIPTION:
Steam leak from the glands and bonnet of a very old valve.

ROOT CAUSES
A worn out bonnet gasket caused steam to leak out of the valve. The valve was previously repaired by pinning a wire between the bonnets and injecting polymer compound through the bonnet. Due to old age of the valve, the steam leak was discovered despite the previous repair that was done on the valve.

INTEGRITY CONCERNS (INCLUDING PICTURES)
The valve bonnet forms part of the piping pressure system and failure of the bonnet would result in catastrophic explosion of the valve and uncontrolled excessive service leak.

THE BERUSEAL SOLUTION (WITH PICTURES)

Failure of the previous repair system resulted in the need for a new and improved repair method.
A 2" valve enclosure was designed according to ASME VIII Div 1 to cover the entire valve section.
The enclosure would contain the process service should the bonnet fail completely.
A strongback system was also designed to keep the clamp (and the piping system) in place should there be a complete failure of bonnet bolting.



INSTALLATION PICTURES

CONCLUSION

A successful seal was obtained by injecting a polymer compound into a sealing groove that runs throughout the valve flanges.
The polymer compound was also injected into the cavity space of the enclosure resulting in a tight seal of the leak.