

Case Study: Style 206 EZ-FLO® Nuclear Application



INDUSTRY

Nuclear

CUSTOMER

Large Mid-West Nuclear Power Company

BACKGROUND

Large nuclear power plants in the United States utilize emergency diesel generator sets (EDG's) that provide backup power as necessary. The EDG's supply power to critical systems during catastrophic events. The generators ensure power is supplied to the reactor cooling systems and allow for a safe shutdown of the reactor if necessary.

CHALLENGES FACE

The Emergency Diesel Generator 2 began to leak lubricating oil from the discharge pipe. Months later the Emergency Diesel Generator 1 began to leak oil in the same area. The cracks in both cases were attributed to high cycle fatigue on the piping causing lubricating oil to leak at a rate of 8 gallons per hour. Several attempts were made to resolve the vibration issue including increasing the size of the weld to reduce stress, installing support anchors to lower vibration frequency and installing a metal expansion joint to absorb vibration.

OPERATING CONDITIONS

Size - 6.000"ID x 6.000"FF

Temperature - Moderate

Media - Lubricating oil

Pressure - Moderate

SOLUTION AND BENEFITS

Garlock Style 206 EZ-FLO® was installed on EDG 1 in the vertical section between two 90° elbows. The metal expansion joint previously installed was removed and replaced with solid piping. Upon start up the customer recorded reduced vibration levels of nearly 50 percent. After a year of service the expansion joint was removed and showed no sign of degradation or reduce service life. Garlock Style 206 EZ-FLO® has been installed since 2011 and is in excellent condition.

For more information, please visit:
<http://www.garlock.com>

