



Radiation Shielding



Permanent Shielding

Surry Incore Room U1 & U2



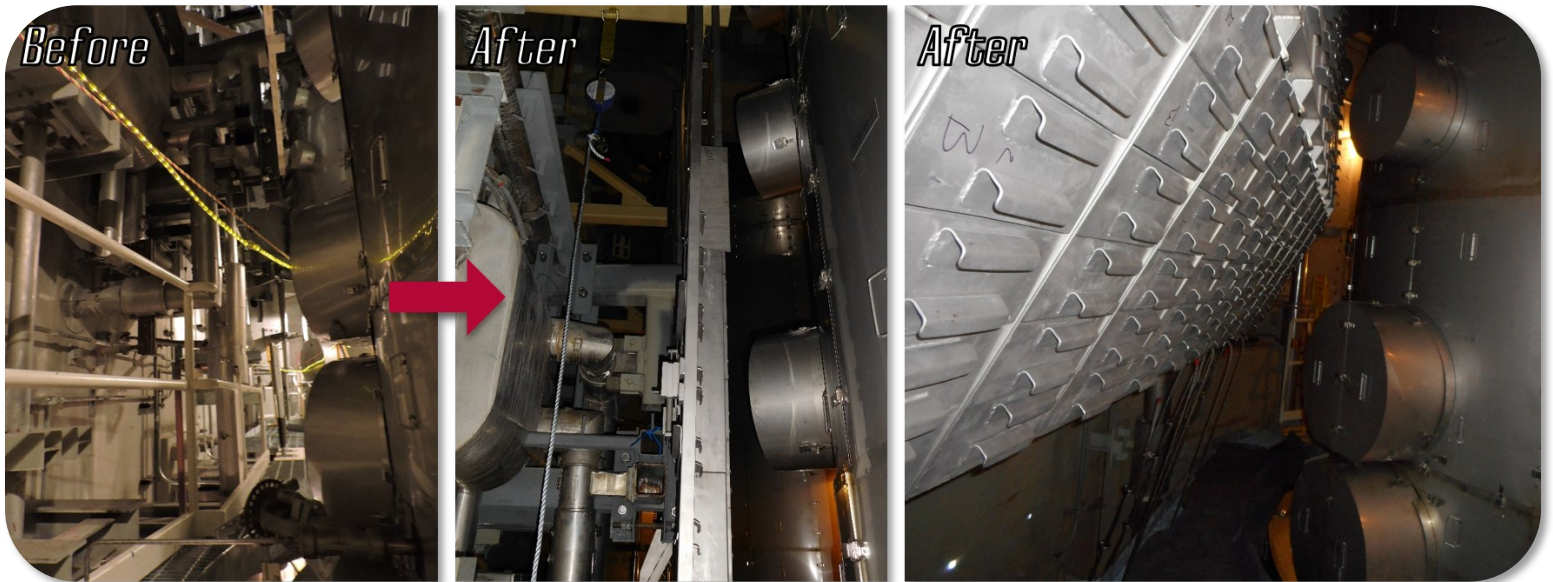
Significant amount of shielding required in incore rooms for Units 1 & 2. The shielding needed to effectively block entire room.

Sensitive area, all components hand loaded, only 72-hour installation window, seismic qualification required.

The package was installed under timeframe and surpassed the dose reduction goal—97% on average.



Callaway Heat Exchanger



Fully modular—all supports, frames, and lead panels loaded by hand.

18 frames and over 200 lead panels.

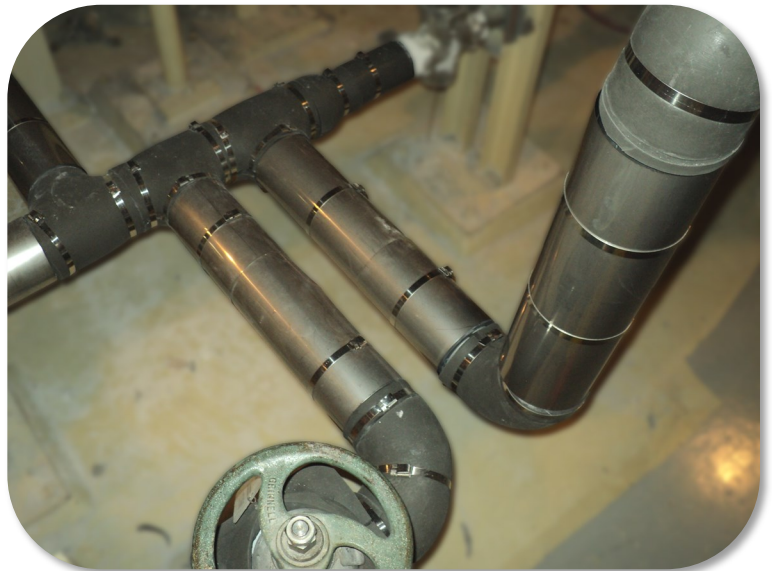
Extensive engineering—Seismic conditions analyzed for use on Callaway beam and MCNP analysis performed.

Quick, one-time installation, replacing the need for temporary lead blankets.

Over 90% dose reduction!



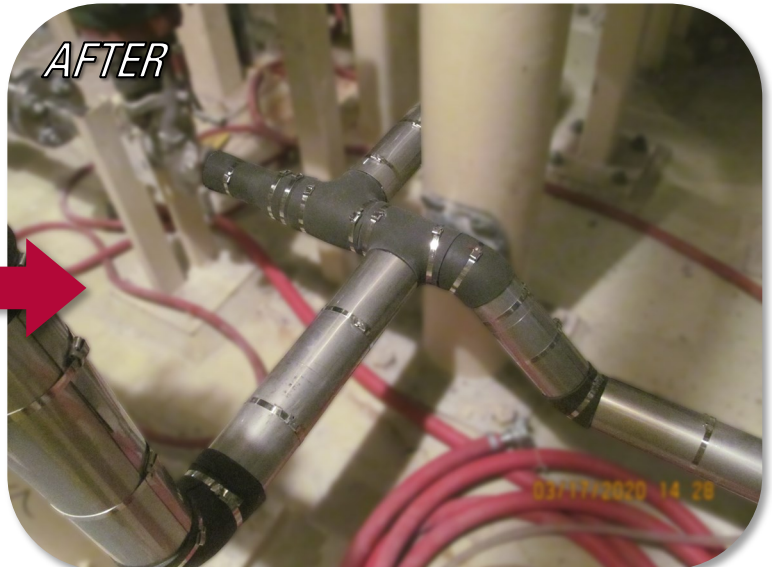
Davis-Besse MPR1 Pipe Shielding



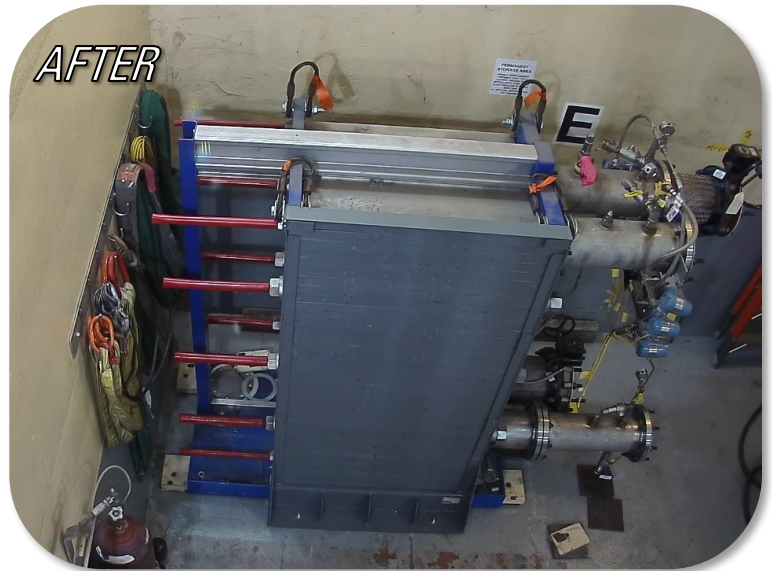
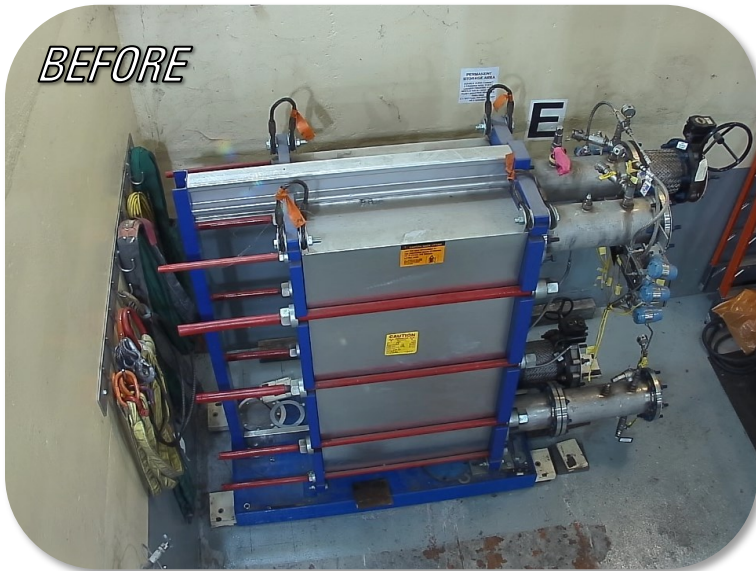
Solid Lead jacketed in stainless steel were used for the straight sections.

T-Flex Tungsten was used in areas of uncertainty, such as elbows and valves. The T-Flex was trimmed where necessary.

Davis-Besse saw an average dose reduction of 50% and as high as 86% in some areas.



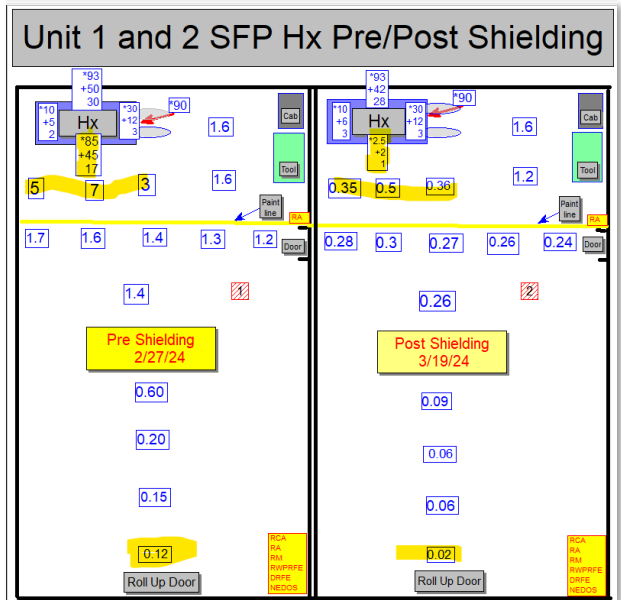
Ocone Heat Exchanger Skid



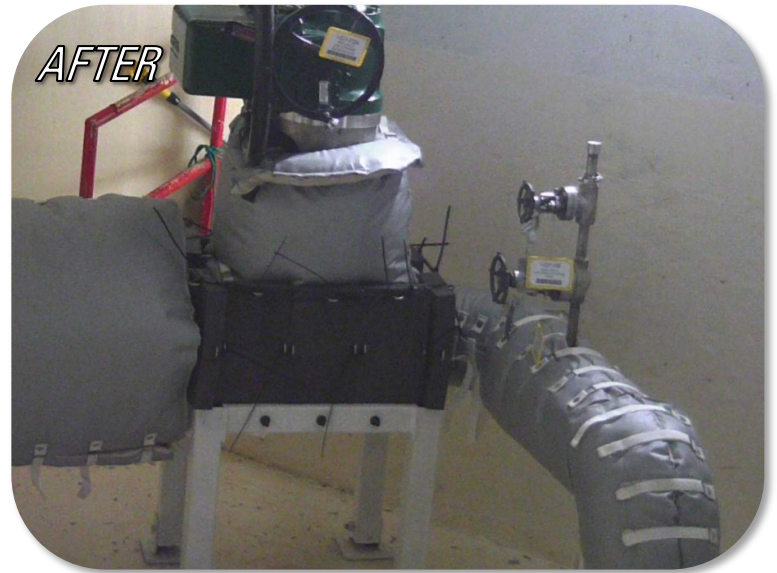
Carbon steel frame secured to heat exchanger skid plates. Overlapping lead panels installed to frame.

Reduced general area dose rates by 90%—exceeding expectations.

Incurred only 10 mRem (0.10 mSv) during installation and 0 injuries recorded.



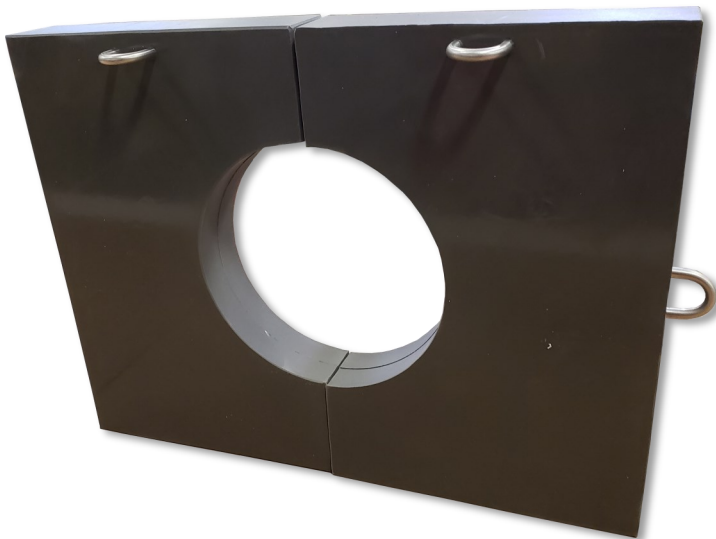
Brunswick Magnetic Valve Shield Box



2" (25 mm) thick magnetic shield tiles for valve. Integrated hardware allow tiles to be tied together.

640 lb (290 kg) total shielding package supported by steel frame and secured with cable ties.

80% dose reduction achieved, allowing area to be down posted from a Locked High Rad Area.



Palisades Pressurizer Surge Line



Pressurizer surge line located in a tight spot between the steam generator, the wall, and other interferences.

With aid from laser scans, the modular steel frame of the shield package mounts to existing supports.

Solid lead shielding lines the inside of the frame, minimizing the shielded space and maximizing the space for personnel.

