

Penanganan korosi di close cooling water di fasilitas produksiterapung menggunakan corrosion inhibitor jenis nitrit = Handling corrosion in close cooling water in floating production facilities using nitrite type corrosion inhibitors

Bony Budiman, author

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Abstrak

Close Cooling Water (CCW) digunakan di Fasilitas Produksi Terapung untuk keperluan pertukaran panas. Cairan yang digunakan adalah Fresh Water yang berasal dari kegiatan reverse osmosis air laut. Sebagian besar material yang digunakan untuk perpipaan adalah baja karbon. Tidak ada rancangan penanganan resiko korosi internal sejak CCW beroperasi pada bulan Mei 2017. Hasil pemantauan laju korosi menunjukkan terjadi kenaikan yang mendekati ambang batas maksimal 3.94 mils penetration per year (mpy) sehingga dilakukan penelitian untuk mengurangi laju korosi menggunakan bahan kimia. Pada bulan Agustus 2019, bahan kimia Corrosion Inhibitor (CI) jenis nitrit ditambahkan ke dalam system CCW dan pada pemantauan berikutnya terjadi penurunan laju korosi dibawah 1 mpy. Penggunaan CI jenis nitrit perlu memperhatikan beberapa hal agar hasilnya optimum seperti pemantauan komposisi kimia dalam air, kegiatan pengurasan dan penambahan Fresh Water.

..... Close Cooling Water (CCW) is used in Floating Production Facilities for heat exchange purposes. The liquid used is Fresh Water which comes from reverse osmosis seawater activities. Most of the materials used for piping are carbon steel. There has been no plan to address internal corrosion risks since CCW began operating in May 2017. The results of monitoring the corrosion rate showed an increase approaching the threshold maximum 3.94 mils penetration per year (mpy) so research was carried out to reduce the corrosion rate using chemicals. In August 2019, the nitrite type Corrosion Inhibitor (CI) chemical was injected to the CCW system and in subsequent monitoring the corrosion rate decreased below 1 mpy. The use of nitrite type CI requires paying attention to several things so that the results are optimal, such as monitoring the chemical composition of the water, draining activities and adding fresh water.