

Marathon Oil Corporation

Gaseous Chlorine Elimination at Petroleum Refinery

When Marathon's safety management team prioritized a gaseous chlorine elimination project at its refinery in Canton, Ohio, SSOE proved integral to improving safety efforts at the plant. Having successfully completed previous petroleum refinery work for Marathon, SSOE applied its expertise in chemical and process engineering to execute the project.

As part of the scope, SSOE oversaw design of the transition away from using liquid chlorine to chlorinate two cooling towers. The new design used sodium chlorite, bleach, and sulfuric acid to create chlorine dioxide needed to kill bacteria in the cooling towers. By conducting the transition, Marathon was able to eliminate gaseous chlorine storage, which had resulted in safety incidents. SSOE also incorporated the installation of a third party piece of equipment, as well as new tanks at the refinery.

SSOE integrated as much of the existing equipment as possible, including piping and tanks. The firm also designed tie-ins and strategized cutovers. By doing so, Marathon not only minimized its operational downtime, but also reduced its capital cost by at least \$200,000. Ultimately, SSOE's project execution assisted in expediting the transition plan between the existing and future facilities for the refinery.

value promise

Eliminated use of liquid chlorine by 100%, improving safety. Minimized capital cost by \$200,000 through the integration of existing equipment.

size Two installations, one at each of two cooling towers

location Canton, Ohio

highlights

Refinery safety improvements

Equipment installation