

hydrogen review

An overview of hydrogen generation technologies and the companies that provide them.

CB & I

Meeting the hydrogen needs of the refining industry in a timely, cost effective manner is a challenge that many refineries face today. Engineering contractors that can offer experience in different hydrogen technologies, flexibility in commercial options, and alternate execution strategies are capable of offering the best solutions to satisfy refiners' hydrogen demands.

From a refiner's perspective, hydrogen is a utility. As a utility, the hydrogen plant must maintain very high on stream reliability. Refiners must decide whether to purchase hydrogen from an industrial gas supplier as an over-the-fence (OTF) offering or build, own and operate (BOO) the hydrogen plant themselves. This decision should be based on the economics of operation and maintenance, as well as the level of in house operational expertise. If the refiner chooses a BOO plant, sufficient staff talent must be available to ensure the continued reliability of the hydrogen production. Engineering contractors familiar with these operations can help facilitate this decision for the end user.

CB&I Howe-Baker has built over 165 hydrogen generating plants worldwide. Today, CB&I Howe-Baker is the

world's foremost supplier of hydrogen plants, using the H2Drogen™ and HYFORMING™ technologies. The H2Drogen™ design is used for lower capacity plants and incorporates a rugged up fired, up flow cylindrical SMR furnace, providing an economical, reliable, and energy efficient hydrogen generating plant. The HYFORMING™ technology achieves unparalleled performance through the use of an expandable geometric design, superior heat transfer, and advanced metallurgy. CB&I Howe-Baker also offers proprietary SYNGAS™ simulation software, prefabrication and modular construction, and full turnkey capabilities.

Syngas plant, Longview, Texas:

- 48 MMSCFD POx unit.
- Over the fence (OTF).
- Stick-built/modular construction.

Hydrogen plant, Ardmore, Oklahoma:

- 25 MMSCFD SMR.
- Build, own and operate (BOO).
- Stick built construction.