

A new 120 kg/hr capacity Gas based chlorination was installed and commissioned at Cirus jetty due to degradation of old system. The erection, installation and commissioning of the new system was completed successfully. This job was carried out during lockdown period (Covid-19 pandemic situation) in order to ensure availability of operation of Dhruva reactor at rated power by providing fully functional sea water gas chlorination system.



The design features of new chlorination system has following benefits as compared to older system working on same principle.



- Unique V-notch type flow control valve providing 4% indicated flow accuracy in the system leading to higher accuracy even for low flow ranges as compared to earlier system having %FS accuracy.
 - Vaporizer with External heater, recirculation pump and auto make-up providing Uniform heat transfer in the vaporizer and ease in maintenance of the heater.
 - Higher design pressures for safety relief valves and rupture discs imparting adequate safety margins against undue chlorine gas hazards.
 - Electrically operated Vacuum regulator cum pressure reducing valve with necessary safety interlocks eliminating the need of dedicated compressed air for pneumatic control valve of earlier system. Also this design reduced number of components/joints in chlorine gas (pressurized) section leading to improved safety and reliability.
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- Improved and proven design which delivers rated flow with the existing line size of solution piping even with one size smaller injector as compared to earlier system which couldn't deliver rated flow.
 - Bottom to top flow design of injector ensuring complete filling of injector and thereby generating stable driving force i.e vacuum for chlorine gas flow.