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(54) **Title:** A METHOD AND SYSTEM FOR PRODUCTION OF LIQUID NATURAL GAS

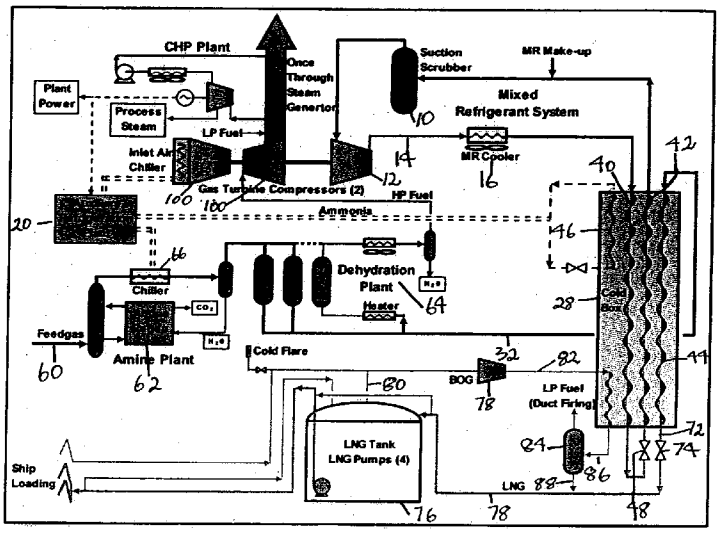


FIGURE 1

(57) **Abstract:** A process and system for liquefying a hydrocarbon gas is provided. The hydrocarbon feed gas is pre-treated to remove sour species and water therefrom. The pre-treated feed gas is then passed to a refrigeration zone where it is cooled and expanded to produce a hydrocarbon liquid. A closed loop single mixed refrigerant provides most of the refrigeration to the refrigeration zone together with an auxiliary refrigeration system. The auxiliary refrigeration system and closed loop single mixed refrigerant are coupled in such a manner that waste heat generated by a gas turbine drive of the compressor in the closed loop single mixed refrigerant drives the auxiliary refrigeration system and the auxiliary refrigeration system cools the inlet air of the gas turbine. In this way, substantial improvements are made in the production capacity of the system.

WO 2009/006693 A1