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The Darwin LNG Project

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Abstract

With the start of construction on the Darwin LNG Project in June 2003, ConocoPhillips will set a new benchmark for LNG projects by using aero-derivative gas turbines as drivers for the LNG refrigeration train.

Thirty-five years ago, in 1969, the ConocoPhillips-designed Kenai LNG Plant in Alaska delivered the first commercial LNG exported from the Western Hemisphere to Japan's Tokyo Electric Power Company, Inc. (Tokyo Electric) and Tokyo Gas Co., Ltd. (Tokyo Gas). This LNG operation pioneered the LNG trade to the Pacific Rim, which has grown from less than 1 MTPA in 1969 to more than 80 MTPA today. The Darwin LNG Project continues this long-term relationship between ConocoPhillips, Tokyo Electric, and Tokyo Gas with the development of a single train grassroots LNG Plant in Darwin, Australia. This will also be the first LNG project where Tokyo Electric and Tokyo Gas are not just the buyers for the LNG, but also equity owners in the related upstream gas condensate and LPG reserves, pipeline, and associated LNG plant, an indication of the commitment toward a continued long-term relationship amongst the three companies.

The Darwin LNG Project will also introduce several new firsts in the evolution of LNG liquefaction technology. Again, thirty-five years ago, the Kenai LNG Project set the future trend for the LNG industry by becoming the first to use gas versus steam turbines for refrigerant compressor drivers. The Darwin LNG Project will continue to build on this history of innovation and evolution of the LNG industry by being the first LNG plant to use high efficiency, low emissions aero-derivative designed gas turbines for refrigerant drivers. The LNG Plant will also incorporate several other design features to reduce greenhouse gas emissions.

This paper will discuss the history of the commercial development of the Darwin LNG Project that resulted in the execution of a binding HOA and gas field equity ownership with Tokyo Electric and Tokyo Gas. The various design innovations that will be incorporated into the LNG Plant to reduce greenhouse gas emissions will also be discussed. The paper will provide an overview of the project development activities, including initial contract development, current project schedule, workforce management issues, and the plant handover process.