

Background



Terra Nova FPSO - Photo Credit, Petro-Canada

Discovered in 1984, the Terra Nova oil field is located off the east coast of North America, in the Jeanne d'Arc basin, approximately 350 km east southeast of St. John's, Newfoundland and Labrador, Canada. The Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), the regulatory body that manages the offshore resources for both the Government of Canada and the Province of Newfoundland and Labrador, estimates the oil reserves in the Terra Nova field at 354 million barrels. The project is expected to have a field life between 14-17 years.

Terra Nova Ownership

Petro-Canada	29%
Exxon-Mobil	22%
Husky Oil	17.5%
Norsk Hydro	15%
Murphy Oil	12%
Mosbacher Operating	3.5%
Chevron Canada	1%

First oil production from Terra Nova occurred on January 20, 2002. After a mere nine days of production, Terra Nova reached its maximum allowable production rate of 125,000 barrels per day. Based on the productive capacity of the wells, the C-NLOPB has since allowed production rates to be increased to 180,000 barrels of oil per day (bopd). In 2007 the field averaged 116,268 bopd with cumulative production of 219.8 million barrels to December 31, 2007.

Production System

The Terra Nova Floating Production, Storage and Offloading (FPSO) vessel was the first of its kind to be used in North America. The FPSO has the largest disconnectable turret mooring system in the world. It is double hulled and built with 3000 tonnes of extra steel to protect it from icebergs. The vessel's oil cargo tanks are located within the inside hull and can hold up to 960,000 barrels of oil. It can stay anchored in a storm with up to 30 metre waves and 100 km/h winds. The underwater portions of the production system are also protected from the environment, as glory holes were excavated in the seabed to protect the subsea templates from iceberg scour.



Terra Nova Development Schematic
Photo Credit, Petro-Canada

Terra Nova Project



Development and Infrastructure

Terra Nova has played an important role in the development of the offshore oil industry in Newfoundland and Labrador. The FPSO hull was constructed in South Korea, while topsides modules were built in Scotland and at Bull Arm, Newfoundland and Labrador. The vessel arrived at Bull Arm in May 2000, where it underwent hook-up and commissioning in preparation for the sail to the Terra Nova field. During the construction phase of the project, Terra Nova had a peak employment of over 2,400 persons. Steady state employment is approximately 900.

Capital costs for the project totaled \$2.8 billion, while operating costs are expected to total \$1.9 billion over the life of the project. The lead operator in the project, Petro-Canada, estimates that they will invest nearly \$2 billion in the province over the life of the field.

Expertise with the Terra Nova project has enabled many local companies to expand and enhance their capability. At the NEWDOCK facility located in St. John's, they fabricated and assembled the Subsea HOST System for the Terra Nova project. The company now competes internationally for such work and has completed fabrication and assembly of Subsea Template and Manifold Systems for several other major offshore oil projects.

The Terra Nova project has continued to provide benefits to Newfoundland and Labrador during the operations phase. Major supply and service contracts have been awarded to provincial companies, including helicopter, marine, diving and catering



Subsea Equipment - Photo Credit, NEWDOCK



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