

GENERAL DESIGN ASPECTS

CONCEPTUAL, DESIGN & ENGINEERING SOLUTIONS FOR OIL PRODUCTION FACILITIES IN BARENTS AND CASPIAN SEAS

The Krylov Institute has performed studies to identify a set of technological means that would allow obtaining substantial increase of oil production with participation of Russian shipbuilding companies.

This mission required to:

- ▶ review and summarize results of preliminary studies started at the earlier stages;
- ▶ perform a design study of fixed oil production platform, floating storage unit and oil offloading berth for one of the North Caspian oil fields;
- ▶ elaborate recommendations for the most efficient characteristics and components of oil production platform for shallow part of Barents Sea;
- ▶ formulate a concept for development of technological facilities for oil production and transportation in Barents and Caspian Seas.



Fixed offshore platform

The performed work made it possible to:

- ✓ Formulate and justify the scope of re-equipment for semi-submerged drilling rig "Shelf-7" conversion into the ice-resistant fixed offshore platform;
- ✓ Make a design study for the floating non-propelled oil storage with an offloading berth for an open part of Caspian Sea with simplified streamlined form which allows to reduce labor intensity and cost of work;
- ✓ Make a design study for a concrete fixed ice-resistant platform for Barents sea which gives considerable reduction of costs as compared to the steel substructure.



Oil storage with a terminal

GENERAL DESIGN ASPECTS

CONCEPTUAL MODEL FOR DEVELOPMENT, EXPLOITATION AND COMMERCIAL PRODUCTION FOR MEDYNSKOY AND OTHER OFFSHORE FIELDS

The Krylov Institute has carried out work on the technical feasibility and economical efficiency of licensed oil- and gas fields development.

This task has involved:

- ▶ Identification of efficient scheme for field development;
- ▶ Determination of efficient type and basic characteristics for the platforms;
- ▶ Elaboration of proposals for structure and characteristics of the offshore transport and technological system;
- ▶ Assessment of needs in the onshore infrastructure;
- ▶ Evaluation of ecological aspects;
- ▶ Assessment of financial & economic key figures for development and exploitation of the fields.

The results of this work have been introduced into:

- ▶ Requirements for classification, construction and equipment of sea berths and storages of RMRS;
- ▶ Project specific technical specifications for single-point mooring;
- ▶ Special specifications for design and construction of "Varandey" oil export terminal.



Off-shore technological system platform

