

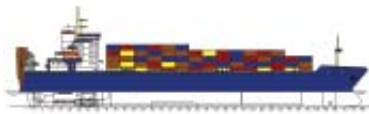
CONCEPTUAL & ENGINEERING DESIGN FOR NAVAL SHIPS, COMMERCIAL VESSELS & OCEAN ENGINEERING STRUCTURES

Assignment: Shipment of cargo in bulk, including grain without shifting boards and ballast, as well as coal, ore, fertilizers, general cargoes (except for containers), timber materials (including deck freight), rolled metal and metal sections, pipes, metal tape in rolls, 45 t in weight.



3460 project bunkering tanker

Pre-contract documentation for construction of multipurpose dry cargo vessel of RO-RO type



16079 project RO-RO type multipurpose dry cargo vessel, deadweight 8100 t

For further development of relations with foreign customers, CDB Baltudoproekt has developed presentation materials for multipurpose comprehensive supply vessel for the Navy. Proposals for construction of auxiliary and harbor icebreakers are being reviewed.

Assignment: Shipment of different wheeled and caterpillar machines with full fuel tanks, general cargoes, containers on the upper and lower decks (including 40 refrigerated containers on the lower deck) and in the hold, as well as dangerous cargoes in the forward hold.

Bid documents for construction of a series of similar standardized high-technological projects of bunkering tankers, ice class LU2 and LU3, area of navigation II and III deadweight about 2415 t and 3460 t.

Assignment: Intake, transportation and delivery of 3 fuel types with flash point over 60 C and 4 types of oil to vessels and on-shore bases.

COMPREHENSIVE SUPPORT IN COMPLEX PROJECTS

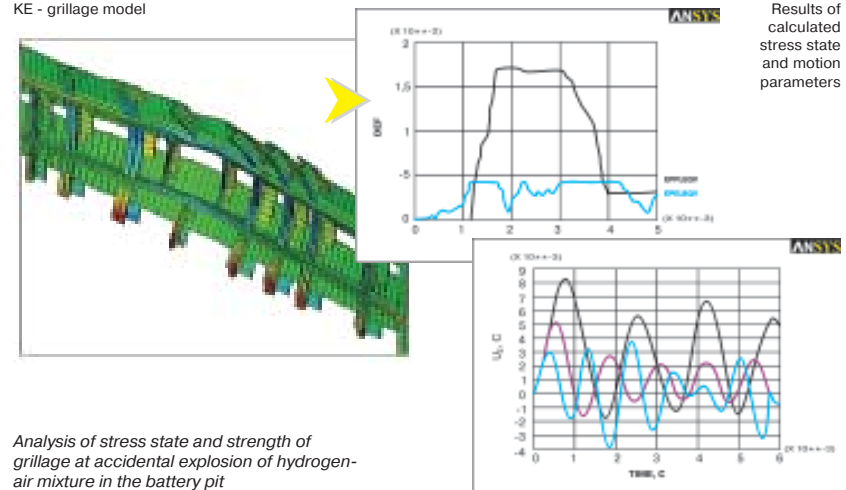
SCIENTIFIC & ENGINEERING SUPPORT TO STUDIES OF ADVANCED SUBMARINES

This challenge has involved the following work: On-line resolving of problems revealed at the stage of technical and operational documentation development including all involved disciplines of the Institute divisions. Outfitting a prototype for current control device in windings of degaussing system has been completed and studies performed to ensure manufacturing and delivery of metering system for control of magnetic field parameters including documentation for technological procedures of the ship degaussing. Model tests for refinement of mast fairwater outlines have been carried out with application of floating up rescue chamber of new design operating concurrently in the baromodule mode.

Investigations have been performed for advanced metallic sonar domes with elaboration of solutions for their implementation. Action plans have been developed aimed at localization of hydrogen-air mixture explosion in the battery pit, including:

- ✓ A series of numerical and theoretical studies aimed at mitigation and localization of hydrogen-air mixture explosions in the battery pit (BP);
- ✓ Review of loading parameters for structures and systems at different hydrogen concentration levels under conditions of explosion process initiation and development that can proceed as a simple explosion characterized by gradual and relatively slow pressure surge or in detonation mode associated with propagation and reflection of shock waves.

KE - grillage model



Results of calculated stress state and motion parameters

Analysis of stress state and strength of grillage at accidental explosion of hydrogen-air mixture in the battery pit