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/SHIPBUILDING/

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AT SHIPBUILDING YARDS

CIVIL SHIPBUILDING

Lyakhovitsky A. G., Chandayev A. N. Development of high-speed vessels: from single-hull to multi-hull.

This article reviews one of modern trends in development of high-speed vessels: shifting from single-hull vessels to twin-hull and triple-hull vessels. Some databases are given for vessels reviewed.

Keywords: high-speed vessels, twin-hull vessels, triple-hull vessels, Fr number.

Buyanova L. N., Kazmina O. A. Main trends of long-term development of Russian marine fleet.

The authors hereby present main methodological aspects of long-term prognostication regarding marine fleet development. Analysis and prognostication of development of sea transport and supporting fleet extends to 2030.

Keywords: marine fleet, long-term development, prognostication.

NAVAL SHIPBUILDING

Kaverinsky A. Yu. Sumbarine simulators.

The author narrates about prospects of underwater robots application for sea combat training. History of submarine simulators creation and application has been investigated both in Russia and abroad. Provided are specifications of concept design of robot-target named «Surrogat» developed by CDB «Rubin» for the Russian Navy.

Keywords: Navy, submarines, simulators.

Shaub P. A., Gusev V. I., Moskovkina S. V. Main principles for development of math model of the submarine as complex weight and buoyant system.

The authors hereby propose development principle for adjoint weight/volume equations describing the submarine as complex system.

Keywords: submarine, math model, weight, volume, buoyant force.

Grigin N. V. Basis of control system on full life cycle of military equipment adopted in USA.

This article reviews norms, regulations, financing and structure of control system on full life cycle of military equipment adopted in USA.

Keywords: ship's life cycle, weapons and military equipment, control system.

MARINE EQUIPMENT

Pshenitzyn A. A., Leasniak A. N., Spiridonov A. Yu., Samokhin V. S.
Features of noise forming in shipboard fans.

This article reviews results of experimental surveys aimed to define reasons and areas of aerodynamic noises generation in order to reduce the same vide designing.

Keywords: electric fan, noise generation, aerodynamic noise, localization zone.

STAFF TRAINING

Meeting on personnel training

ECONOMY AND FINANCE

Updating current regulatory-procedural base on price forming, labor content and labor rating in shipbuilding and shiprepair industry

Gritsan A. B. Current status of regulatory and procedural base on price formation for design, construction, repair and disposal of ships and vessels.

Price forming factors and regulatory-procedural documents on forming the price for domestic shipbuilding production are the basis to conclude, that one is required to establish price forming system aimed as saving resources, reduction of labor content, materials and power consumption, prevention of extra or non-justified expenses.

Keywords: price forming, regulatory-procedural base.

Polyakov Yu. I. Current status of labor rating and labor content in shipbuilding.

The author uses analysis of regulatory-procedural documents on labor content and labor rating in domestic shipbuilding for last 40 years to justify the necessity on establishing modern industrial regulatory-procedural system to control production labor content and labor rating at shipbuilding enterprises.

Keywords: labor rating, time rating.

Vauchsky A. N. Joint proposal of JSC SSTC and JSC USC on updating current regulatory-procedural base on price forming, labor content and labor rating in shipbuilding, shiprepair and disposal as well as in certain design works forwarded to Russian Ministry of Industry and Trade.

The authors use analysis of development of regulatory-procedural base for price forming in domestic shipbuilding and price making policy for last 20 years to propose procedural approach to form modern regulatory-procedural base to define costs of ships and vessels to be built as per government's defence order.

Keywords: regulatory-procedural documents, price forming, labor content, labor rating.

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SHIPBUILDING ORGANIZATION AND TECHNOLOGY

Drondel V. G., Suskina I. V., Toropilov N. B., Kuznetsov V. I., Veselkova O. G., Sidorov V. V. Manufacturing pipes as per analytical information using NC equipment «Protok».

IT development allowed implementation of integrated (walk-through) procedure: «design-production preparation-construction». JSC PA «Sevmash» made equipment with NC system («Protok») in order to manufacture shipboard pipelines on basis of analytical information.

Keywords: pipes, analytical information, NC equipment.

Dorofeyev V. I., Klyakhin V. N., Fomichev A.B. System approach to shipbuilding enterprise operation.

This article reviews principles of system approach required to conduct surveys related to operation of shipbuilding enterprises.

Keywords: system approach, production structure, integrity, hierarchy, math model.

Golnev V. A., Nikitin V. A. Current state and development prospects for STE systems in shipbuilding industry.

The author hereby analyzes main types of control systems used in STE for shipbuilding: relay-contactor, PLC and NC systems. Described are advantages and disadvantages of analog and digital motion control. Given are structural diagrams of control systems.

Keywords: control system, PLC, NC, industrial PC, algorithm, industrial network, drive, sensor.

LABOR SAFETY

Sorokin G. A., Suslov V. L. Estimating harmfulness of working conditions at shipyard as per health risk factors for the operating personnel.

The author hereby describes method on estimating harmfulness of working conditions at shipyard as per health risk factors for the operating personnel. Estimation criteria is sickness dynamics of the operating personnel due to annual increase of chronic illness related to professional occupation. Harmfulness rate has been given for three groups of operating personnel — direct workers, assistant workers, managers and specialists.

Keywords: personnel sickness rate, annual risk increase, professional risk, harmfulness rate, working conditions.

TECHNICAL RETOOLING OF SHIPYARDS

Gutkin Yu. M. Engineering method for static calculation of berth foundation plates.

The author hereby describes methods for approximate calculation of berth foundation plates which proved its reliability by long-term operation of berths calculated as per the same.

Keywords: foundation plates, transportation supports, calculation, load distribution.

INFORMATION SECTION

Alexander N. Aleshkin celebrates his 65 years anniversary!. Tsekhanovskaya O. K. I. K. Aivazovsky and his painting «Wreckage of «Lefort» ship». New Books. Foreign information (70). 100 years anniversary upon commissioning of «Krasin» ice-breaker. Blitz-news

HISTORY OF SHIPBUILDING AND FLEET

Kuznetsov L. A. Refit of gunboat «Khrabriy» in 1915—1916.

This article tells about refit of gunboat «Khrabriy» during First World War in 1914—1918. Drawings and refit diagrams have been provided.

Keywords: shipbuilding history, naval shipbuilding, gunboat, ship refit.

Afonin N.N. «Cyclons» for Far East.

The author narrates about the attempt to deliver «Cyclon» torpedo boats to Far East by railroad initialized by admiral S.O. Makarov in the early part of Russian-Japanese war 1904—1905.

Keywords: shipbuilding history, naval shipbuilding, torpedo boat.

Kolosov E. E. Fire «hidden» vessel of Efim Nikonov. Experience of historical reconstruction.

The article represents historical reconstruction of fire «lurking» vessel of E.Nikonov implemented by E. E. Kolosov, the shipbuilding engineer.

Keywords: shipbuilding history, naval shipbuilding, submarine, historical reconstruction.