

# SUDOSTROENIE 2 2015

## /SHIPBUILDING/

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#### AT THE SHIPBUILDING YARDS

##### CIVIL SHIPBUILDING

##### **Sagaidakov F. R., Chernetsova N. A., Gurianov S. K. Foreign Naval Forces in 2014 – current state and development prospects**

This article reviews results of activities of foreign Naval Forces and shipbuilding industry in 2014. Information on quantities, composition and appearances of surface ships and submarines of foreign Naval Forces is provided. It is shown, how the budget of USA as the leading country in naval shipbuilding is shaped. Also the article describes new technologies, utilized in shipbuilding and provides the forecast of naval shipbuilding and Naval Forces development in near-term prospects.

##### SHIP POWER PLANTS

##### **Tokarev L. N. Industry of Russia is capable to construct electric propulsion systems of any capacity with voltage up to 1000 V**

Existing designs of electric systems are based on combining energy flows in electrical point, which is designed as collecting buses of main distribution board (MDB) of ship's power plant. The article describes the structural design, based on combining of energy flows not on MDB buses, but on shaft of propulsion motor. Technology is realized by means of generators and propulsion motors with few three-phase stator's windings. Utilization of this technology will provide decrease of short-circuit currents and lowering of power sources voltage.

##### **Myasnikov Y. N., Nikitin A. M., Horoshev V. G. Alternative energy carriers: evaluation and perspectives**

New regulations of IMO have set more strict requirements to CO<sub>2</sub> emissions by coming into effect of EEDI index in 2013. Also requirements to content of sulfur oxide, nitrogen and solid particles in emissions of ships in becoming stricter on systematic basis. With regard to the same, energy-environment, energy-economical and energy-resources issues shall be considered as absolute call of XXI century in the area of development of power engineering in general and particularly – as absolute call in the area of development of shipboard power plants. Results of SWOT-analysis of known energy carriers allow to determine perspectives of development of the same, as well as to nominate ship power plant of future.

##### **Garshin O. N. Wind will help save fuel**

It is proposed to utilize wind power plant as auxiliary power plant of the ship.

#### TECHNOLOGY AND ORGANIZATION IN SHIPBUILDING

##### **Kirillov V. F., Nikitin V. A. Thermal cutting machines for panels labeling and marking**

This article considers development of thermal cutting machines, purposed for marking the lines for installation of framings, cleaning of framing installation areas before welding, marking and labeling of finished size on panels for further joining with neighboring structures. Different procedures and equipment, purposed for resolving the described issue are provided. This article also contains description of Russian

complex, purposed for plates marking, based on marking machine Ritm-M ППлКП-12 3D.

## **ECONOMY AND FINANCES**

### **Aksanova V. A., Vasilenko L. A. Consolidated labor content rates for construction of hulls**

It is proposed to utilize consolidated labor content rates for evaluation of main structural components; the same is based on group assembly, sectional assembly and block assembly on 1 linear meter of weld joint and is utilized in construction of hulls instead of outdated step-by-step standard times. Rates are calculated or adopted for each new project basing on design and technological specifications of the same. When utilized, it takes less time to calculate labor intensity in comparison with issuing technical-normative review. Application of consolidated rates for evaluation of some projects on Zelenodolsk shipyard named for A. M. Gorkiy confirmed satisfactory accuracy of labor intensity calculation, based on the same.

### **Rozinov A. Y., Vakulov P. S. Assessment of technical-and-economic efficiency of improvement of sliding and rotary expansion joints installation procedure**

The authors propose new design of sliding and rotary expansion joints; expansion joints design provides reduction of labour intensity when installing the same.

## **SHIPREPAIR AND UTILIZATION**

### **A.G. Smirnov. Evolution in design of floating drydocking facilities**

This article reviews various stages of advancement of floating salvage platforms and their design features. Diagrams and photos are provided as well.

### **Y.N. Myasnikov. Consideration of actual technical conditions of ships when operating the fleet is advanced approach for today.**

Advancement of ship maintenance and repair control system has been topical issue for a long time. At present, this issue is addressed by commanders of Russian Navy and related to structural modernization of fleet, including modernization of existing ship and construction of new ships. Modern ships are created on basis of new technologies, and this allows to use the abovementioned advanced approach. However, implementation of such approach requires creation of material and technical basis and development of relevant regulatory documentation.

### **Lelukhin V. E., Kolesnikova O. V. Integrated system of manufacturing facilities preparation for shipbuilding and shiprepair yards**

This article considers the system for integral synchronous planning and management of manufacturing facilities (SISPMMF), developed for shiprepair yards. System development was based on long-term experience in design, technological and manufacturing management of Russian mechanical engineering companies. System can be implemented in wide range of companies, involved in serial, small-batch and piece-production in the area of mechanical engineering, including shipbuilding and shiprepair; this system also provides replacement of foreign software with Russian software.

### **Alexandrov N. I., Liamin P. L., Petukhov V. V., Sveshnikova N. N. Development of procedure for transfer of converted atomic vessel's hull packings in the place of final disposal**

This article considers issues of normative support of atomic vessel disposal, including procedure of transfer and acceptance of packings for final disposal - breaking. It is shown, that guidance document «Atomic vessels. Regulations for transfer into disposal» ЛКИБ.3330-046-2012, developed by JSC SSTC eliminates the gap in effective normative documentation, which is related to procedure of hull packing transfer from customers to the companies, carrying out hull packings disposal.

## **INFORMATION SECTION**

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New books (66). Foreign information (67). Blitz-news (38, 43)

## **HISTORY OF SHIPBUILDING AND FLEET**

### **Mozgovoy V. P. Structural support of combat stability when constructing torpedo boats**

The author considers issues of structural support of combat stability of torpedo boats basing on experience of World War 2, 1941–1945.

### **Vasiliev D. M. On painting and recognition of Black sea fleet destroyers in the end XIX – beginning of XX centuries**

This article considers issues of dazzle painting of Black sea fleet destroyers in the end XIX – beginning of XX centuries and identification of the same, basing on color key of their exhaust pipes.