ANNOTATIONS
of science works published in professional magazine
«River transport (XXIst century)» 1(105)'2023

Substantiation necessity of updating regulatory legal acts in terms of inspection and monitoring technical condition of berthing hydraulic structures / S. Egorov, P. Garibin, A. Fedyashov // River transport (XXIst century). 2023. – № 1 (105). – p. 23-25.

Makes analysis of rules for inspection and monitoring berthing hydraulic structures' technical condition. Substantiates necessity of creating modern technology to define object's physical wear and its carrying capacity reserve while life cycle.

Key words: berthing hydraulic structure, technical condition, carrying capacity, regulatory legal act.

Contacts: egorovsv78@mail.ru, garibin@mail.ru, art@fedyashov.ru

Setting optimization task to choose enterprise for winter ship repair / E. Burmistrov, O. Zyablov, V. Kashina // River transport (XXIst century). 2023. – № 1 (105). – p. 26-29.

Describes the question of optimization process of choosing enterprises for ship repair as part of its regular surveys by Russian classification society.

Key words: ship, volume of repair, cost, enterprises.

Contacts: burmistrov_e_g@mail.ru, zyablov_ok@mail.ru, lrtof@mail.ru

Rapids section Porogi in lower course of river Yana: modern state, forward-looking estimates, methods of straightening / D. Shkol'niy, R. Chalov, V. Semakov, A. Sakharov // River transport (XXIst century). 2023. – № 1 (105). – p. 30-34.

Analyses natural riverbed deformations of river Yana on rapids section Porogi in lower course and their formation in bend top as main obstacle to navigation. Describes forward-looking estimates and justification of methods for creating sustainable waterway, including through modeling.

Key words: river Yana, rapids section Porogi, riverbed deformations, methods of straightening.

Contacts: thabigd@gmail.ru, rschalov@mail.ru, vsemakov@yandex.ru, sakharov06@mail.ru

The features of charging station for unmanned vessels with electric propulsion system / A. Khoroshenkii, V. Romanovskiy, V. Kurakin // River transport (XXIst century). 2023. – № 1 (105). – p. 36-38.

Describes main parameters of charging station for unmanned battery vessels (on the examples of projects «Ecovolt 2.0» and «BP-Morphometer»). Shows schematic description of combined charging system and structural electrical scheme of charging station.

Key words: charging station, unmanned battery vessels, combined charging system.

Contacts: Khoroshenkii@yandex.ru, vromanovsky@mail.ru, Viktor.nik.Kurakin@gmail.com

About using cryogenic facility for service life extension of machine parts and mechanisms on water transport /D. Konyaev // River transport (XXIst century). 2023. – № 1 (105). – p. 38-42.

Describes the technology of cryogenic processing of machine parts and mechanisms to extension their service life.

Key words: cryogenic facility, machine parts and mechanisms, water transport, service life extension.

Contacts: koniaev@gmail.com

The research of alluvial conditions of ground hydraulic structures / Y. Bik, V. Degtyareva // River transport (XXIst century). 2023. – № 1 (105). – p. 42-44.

Describes process of soil entrainment during alluvium of hydraulic structures for various sizes of sand. Researches influence of pulp discharge's depth on relative content of suspension along riverbed.

Key words: alluvium of structure, turbidity, suspension concentration, depth of pulp ejection.

Contacts: vvbik@mail.ru, yibik@mail.ru

The investigation of microstructure of cast-iron parts of ship machinery and mechanisms / D. Sibrikov, S. Ivanchik, E. Gubin, S. Andryuschenko, L. Makagon, A. Dmitriev, K. Mochalin, I. Ivanchik // River transport (XXIst century). 2023. – № 1 (105). – p. 44-45.

Describes results of studying microstructure of phosphide eutectic in low-phosphorous cast irons of large cylinder castings.

Key words: phosphide eutectic, cylindrical low-phosphorous cast iron, large castings.

Contacts: sibrikov@nsawt.ru, ivan_ilija@ngs.ru, e.v.gubin@nsawt.ru, andrusinko@rambler.ru, l.d.makagon@ nsawt.ru, omen669@mail.ru, mochalin@nsawt.ru, zap4astiba3@yandex.ru

The algorithm of obtaining spectrums of waves, pitching and its amplitude-frequency characteristic for ship in exploitation / V. Sichkarev, V. Umrikhin, A. Privalenko // River transport (XXIst century). 2023. – № 1 (105). – p. 46-50.

Describes the algorithm of obtaining spectrums of waves, pitching and its amplitude-frequency characteristic for loaded ship in transoceanic trip.

Key words: ship's pitching spectrum, frequency spectrum of waves, amplitude-frequency characteristic of onboard pitching.

Contacts: svny89@mail.ru, v.p.umrihin@nsawt.ru, a.a.privalenko@nsawt.ru

Calculation of resonant torsional vibrations of shaft line of river passenger vessel (on the example of ship «Rhapsody» pr. 82544) / V. Martyanov, V. Okunev// River transport (XXIst century). 2023. – № 1 (105). – p. 50-52.

Describes the methodology for calculating resonant torsional vibrations of vessel's shaft line on the example of river passenger ship «Rhapsody» pr. 82544.

Key words: engine, shaft line, torsional vibrations, resonance.

Contacts: martjanv-vladimir@rambler.ru, okunew@mail.ru

Materials science analysis of restorative surfacing of chain fingers of scoop dredger pr. R-36 / A. Kornev, K. Karazanov, E. Davydov, E. Berezin // River transport (XXIst century). 2023. – № 1 (105). – p. 52-56.

Describes technological process of restoring surface of chain fingers of scoop dredger pr. R-36 by welding ASM 4025 powder wire for the purpose of increasing wear resistance of original steel EI-256. Makes materials science analysis of restorative surfacing.

Key words: dredger, scoop chain fingers, Hadfield steel, repair.

Contacts: kornev.ab@vsuwt.ru, karazanov.kirill@mail.ru, davydov.ea@vsuwt.ru, berezinek@mail.ru