**S.N. Levachev, T.S. Fedorova**

## STRESS-STRAIN STATE OF CONCRETE IN THE WALLS OF LOCK CHAMBERS OF THE MOSCOW CHANNEL

Moscow Channel represents a most important hydraulic engineering structure in Russia. Since its locks have been in operation for over 75 years, there are numerous cases of concrete disintegration of various nature and extent in the walls of locks chambers. The situation is quite risky due to the growing threat of accidents.

The article deals with detection and analysis of destructive processes in the concrete walls of lock chambers, as well as evaluation of their stress-strain state. Gate no. 2 serves as an example, because several signs of its dangerous condition were first detected there (including cracks in the concrete and destruction of concrete). Various methods were employed to reinforce the structure, including consolidation of chamber walls using anchor rods, and reinforcement of camera walls by metal rods. Calculations were made to assess the stress-strain state of the concrete walls of Gate no. 2 of the Moscow Channel. The article includes an overview and analysis of earlier methods of repair and reinforcement of the chamber walls. The authors provide their recommendations on further safety of operation of the structures on the basis of the research findings and their analysis.

**Key words:** Moscow Channel, lock chamber, stress-strain state of concrete, maintenance.

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About the authors: **Levachev Stanislav Nikolaevich** — Candidate of Technical Sciences, Professor, Department of Hydraulic Engineering Construction, **Moscow State University of Civil Engineering (MGSU)**, 26 Yaroslavskoe shosse, Moscow, 129337, Russian Federation; levachev@inbox.ru; +7 (495) 287-49-14;

**Fedorova Tat'yana Sergeevna** — postgraduate Student, Department of Hydraulic Engineering Construction, **Moscow State University of Civil Engineering (MGSU)**, 26 Yaroslavskoe shosse, Moscow, 129337, Russian Federation; fedorova_tanya@rocketmail.com; +7 (495) 287-49-14.

For citation: Levachev S.N., Fedorova T.S. Napryazhenno-deformirovannoe sostoyanie betona sten kamer shlyuzov kanala imeni Moskvy [Stress-strain State of Concrete in the Walls of Lock Chambers of the Moscow Channel]. *Vestnik MGSU* [Proceedings of Moscow State University of Civil Engineering]. 2013, no. 8, pp. 137—149.