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Comparison of Requirements of National and International Standards for Stainless Steel Pipes of Nuclear Power Plants

The paper presents review of standards and specifications (GOST, TU, ASTM, EN) for stainless steel of X18H10T (TP321) series used in NPP structures. It gives a comparative analysis of steel chemical composition, structure, mechanical properties, non-destructive testing of pipes and others. Requirements for seamless pipes (hot- and cold-worked) and welding are considered. The paper is aimed at displaying mismatches between pipes under different standards. National standards should be put in compliance with European regulations. The activity should meet European standards. Therefore, requirements for national NPP pipes should be put in compliance with international standards, rules and regulations. Recommendations are given on the approach to emission class, namely a gradual transition to the modified type identical to the introduction of amended and adapted national technologies and methods of control.

Keywords: pipe; stainless steel; standard; technical requirements; nuclear energy.