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CASTOR – Advanced System for VVER Steam Generator Inspection

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From the safety point of view, steam generator is a very important component of a nuclear power plant. Only a thin tube wall prevents leakage of radioactive material from the primary side into the environment. Therefore, it is very important to perform inspections in order to detect pipe damage and apply appropriate corrective actions during outage. Application of the nondestructive examination (NDE) technique, that can locate degradation and measure its size and orientation, is an integral part of nuclear power plant maintenance.

The steam generator inspection system is consisted of remotely controlled manipulator, testing instrument and software for data acquisition and analysis. Recently, the inspection systems have evolved to a much higher level of automation, efficiency and reliability resulting in a lower cost and shorter outage time. Electronic components have become smaller and deal with more complex algorithms. These systems are very fast, precise, reliable and easy to handle. The whole inspection, from the planning, examination, data analysis and final report, is now a highly automated process, which makes inspection much easier and more reliable.

This paper presents the new generation of INETEC's VVER steam generator inspection system as ultimate solution for steam generator inspection and repair.

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