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Rooppur NPP's reference plant in Russia starts trial of Digital Operator Assistant

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An AI-based Operator Information Support System (OISS) has been brought into trial operation at Novovoronezh NPP Power Unit 6 in Russia, which serves as the reference plant for Rooppur NPP in Bangladesh.

OISS transmits information to operating personnel about parameter changes in the power unit control process, warning them of possible deviations and predicting the development of an event 30 minutes ahead. This helps make correct and timely decisions, significantly improving safety.

The Operator Information Support System covers 360 process systems of the modern power unit, approximately 200 interactive procedures, and 20 functions, ensuring a significant decrease in the information load on the operator.

The consequences of an error due to an incorrect operator's actions may be very large. Contingency shutdown of a power unit with a 1200 MW VVER reactor leads to multi-million-dollar losses. Daily, a power unit with VVER-1200 on average generates 24.3 million kW·h of energy. This energy is sufficient to supply power for one month to 100 thousand flats, each accommodating a family of four.

“OISS has an advantage - it is not an abstract model but an exact digital copy of a power unit operating with actual parameters in a real-time mode. Before, an operator had to analyze the data obtained from more than 12 thousand sensors himself/herself using long technical documents. Nowadays, OISS displays the information with clear instructions following the regulatory documentation,” said Maksim Tuchkov, Project Supervisor, Novovoronezh NPP.

Novovoronezh NPP has been a pilot site for the implementation of the Operator Information Support System since 2014. During this period of time, a large amount of data was collected.

In the future, the system will be implemented at all modern power units.

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