



Technical, Economic and Scientific Council
No. E-DT-AVIZ-CTES-05817-02-10-25

Approved
CEO
Cosmin Ghita

CTES Opinion No. 15/02.10.2025

Documentation analysed:	PJ-25-002 – “Purchase and installation of a simulator with virtual panels”
Prepared by:	CNE Cernavoda
Beneficiary:	CNE Cernavoda
Date of meeting:	02.10.2025

FINDINGS

The purpose of the work presented at the CTES meeting is to supplement the existing training facilities at Cernavoda NPP with a virtual panel simulator, which will ensure that control room operators are trained in accordance with the requirements of CNCAN NSN-14 and NSN-23 standards currently in force.

Revision of CNCAN standard NSN-14 "Standards for issuing operating licences for operating personnel, management personnel and specific training personnel in nuclear power plants, research reactors and other nuclear facilities", by Order No. 65/2024 of 24 April 2024, introduces several changes regarding the use of virtual simulators during the refurbishment of the reference unit.

In accordance with the aforementioned standard, the virtual panel simulator will be used to train both Unit 1 and Unit 2 control room operators. It will take over the official training and examination configuration from the existing Integral simulator, which refers to Unit 1. After completion of the Unit 2 Integral Simulator project, the Virtual Panel Simulator will also be able to take over its official training and examination configuration.

The simulator panels will use a set of touch-sensitive screens instead of the existing panel instrumentation. The entire assembly that will make the Virtual Panel Simulator functional will comply with the cyber security requirements described in the CNCAN standard, NSC-01.

The estimated operating life without major modifications is approximately 5 years. After this period, equipment such as servers, computers, monitors and touch screens will be upgraded in line with the latest technologies available at that time. Also, from a software point of view, it will be necessary to update the simulation platforms with the same frequency, in order to ensure

National Company NUCLEARELECTRICA S.A.

48 Iancu de Hunedoara Boulevard, Bucharest 011745, Romania; Tel +4021 203 82 00, Fax +4021 316 94 00;
Registered with the National Trade Register Office under no. J1998007403409, Unique European Identifier (EUID) ROONRC.
J1998007403409, Unique Trade Register Code (CUI) 10874881, Tax registration code (CIF) RO10874881, IBAN code RO94 RNCB
0072 0497 1852 0001 opened at BCR Branch Sector 1;
Subscribed and paid-up share capital: 3,016,438,940 lei.
office@nuclearelectrica.rowww.nuclearelectrica.ro



compatibility with the updated hardware components, as well as to respond to new training and cyber security requirements.

The virtual panel simulator will be located in Pavilion 2, in the space currently occupied by rooms P29A, P29B and P29C, which will undergo a series of refurbishment works. This will include the removal of some interior walls and new partitions to create a space large enough to allow the panels and furniture to be arranged in a manner similar to the main control room or as close as possible to its appearance.

The estimated cost of implementing project MPA#EC9129 for the purchase and installation of a simulator with virtual panels is 3,871.255 euros (19,658,231 lei at the exchange rate of 5.0780 lei on 27 June 2025) with funding from SNN's own sources, the investment budget of CNE Cernavoda, Section D-PR and D.

Based on the information presented in the documentation, the discussions held, the findings made, and the opinions expressed.

**THE TECHNICAL, ECONOMIC AND SCIENTIFIC COUNCIL
OF THE NATIONAL COMPANY "NUCLEARELECTRICA" S.A.
DECIDES TO APPROVE**

The documentation:	PJ-25-002 – "Purchase and installation of a simulator with virtual panels"
---------------------------	---

Chair of the meeting: Cosmin Ghita

Rapporteur: Cosmin Valentin Popescu

Secretary: Miruna Moroca