

## 1. Solutions for the unit part

### 1.1. UCIS (Unit Control and Information System)

The Unit Control and Information System is an extensive system for controlling and monitoring of nuclear power unit technological equipment from the unit or emergency control room.

The functions of the Unit Control and Information System include:

- Remote control of technological equipment
- Data collection, processing, analyzing and archiving
- Displaying data on screens, its reporting and printing
- Communication from the related plant control systems via both standard and proprietary protocols
- Secure data transmission to external users

The system includes a real time GPS data source that is used internally within the system and externally for other systems serving as data sources.

The system is based on the SandRA platform using the upper HMI level of DCS SandRA Synergy. It performs safety function of category C according to ČSN EN 61226. The system communicates with individual primary and secondary circuit control systems.

The Unit Control and Information System supplied by ZAT a.s. **provides reliable control of primary and secondary circuit technological equipment essential for nuclear power unit operation.**

## 2. Solutions for the non-unit part

### 2.1. NUCIS (Non-Unit Control and Information System)

The Non-Unit Control and Information system is an extensive system for controlling and monitoring from the central BoP control room.

The functions of the non-unit control and information system include:

- Remote control of technological equipment
- Data collection, processing, analyzing and archiving
- Displaying data on screens, its reporting and printing
- Communication from the related plant control systems via both standard and proprietary protocols
- Secure data transmission to external users

The system includes a real time GPS data source that is used internally within the system and externally for other systems serving as data sources.

The system is based on the SandRA platform using the upper HMI level of DCS SandRA Synergy. It performs safety functions of category C, N according to ČSN EN 61226. The system communicates with the balance-of-plant control system (BoPCS).

The Non-Unit Control and Information System supplied by ZAT a.s. **provides reliable control of the technological equipment that is essential for nuclear power plant operation.**



## 2.2. BoPCS (Balance of Plant Control System)

The system ensures essential needs of the nuclear power plant, even though it belongs neither to the primary nor the secondary part. It unifies and centralizes the control of the balance of plant (BoP) into a lesser amount of permanently staffed workplaces thanks to which necessary work at individual technological systems is better and more efficiently coordinated.

The balance of plant includes for example water management, wastewater pumping and treatment, technological and wastewater reservoir, wastewater damping and measuring facility, energy utilization at gravity wastewater arrangements, technical gas management, exchange station, cooling source station, chemical water treatment, etc. The system performs safety functions of category C, N according to ČSN EN 61226 and it is based on the SandRA platform using HMI and Z200 technical means. The system communicates with the Non-Unit Control and Information System (NUCIS).

The Balance of Plant Control System supplied by ZAT a.s. **provides reliable control of the balance-of-plant technological equipment that is essential for nuclear power plant operation.**

