

global leadership in nuclear safety

WANO

WORLD ASSOCIATION OF NUCLEAR OPERATORS

Московский центр Всемирная Ассоциация Организаций, эксплуатирующих Атомные Электростанции

**вао аэс** - **мц**

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INQUIRY

to receive technical and organizational information through WANO

1. NPP/Organization: Kalinin NPP, branch of Rosenergoatom Concern.
2. Subject of the information request: " VVER reactor primary coolant and spent nuclear fuel pool chloride ions level minimization".
3. Purpose of the information request: Gaining experience of NPPs with VVERs of WANO members on the statistics of changes in chloride ions in the primary coolant and the spent fuel pool during the periods of the fuel campaign and shutdown, expanding experience in finding the causes of the appearance of chloride ions in order to minimize them.
4. Description of the problem: Despite not exceeding the control and permissible limits, the concentration of chloride ions in the reactor coolant at the beginning of the campaign is higher than the background (fixed during the fuel campaign) and reaches the upper limit of the expected values set by the station (noted by IAEA experts during the OSART mission )
5. Specific questions:

1. Does your nuclear power plant, in addition to the allowable limits defined by the standard of the operating organization, have additional control and expected values ​​for the concentration of chloride ions in the reactor coolant and spent fuel pool, in order to respond early to deviations and improve chemistry management? On what basis were additional control and expected values ​​determined?

2.What is the dynamics of changes in the concentration of chloride ions in the primary coolant and the spent fuel pool during the fuel company and during the shutdown? Are there facts of a significant change in the concentration of chloride ions, achievement of the established allowable limits, control and expected values ​​(if any)?

3. What procedures are used to search for the identification of sources of chlorides during the periods of the fuel campaign and shutdown (in the presence of a negative dynamics of changes in concentration)? What are the results of these procedures?

4. Does your NPP have established requirements for monitoring chloride ions on the surfaces of equipment in contact with the primary coolant and the spent fuel pool water, and what are these requirements? What method determines the presence of chloride ions on the surfaces of equipment?

5. Do you have requirements for the input control of materials used in the repair of the unit for the presence of chemical impurities? What normalized values ​​are determined for the main impurities (chlorides, sulfates)? How is the fulfillment of the requirements for minimizing impurities in materials (chemical analysis, quality certificates) ensured and confirmed?

6. Do you have procedures in place to clean the safety system tanks of a strong boric acid solution (40 g/dm3) from chlorides? How are the parts performed?

 6. Proposals for organizations to which this request is addressed:

all WANO centers operating VVER units.

 Subdivision - initiator of the request: chemical shop.

1. Contact details of the initiator of the request:

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Дата запроса: 24.02.2022 Щелик Ю.В. Телефон +7(48255) 5-02-86