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Pre-NRTA systems : opportunities and challenges

The principle of verification of the accounting declarations of the ORANO SET GBII enrichment plant is based on a physical control of the uranium masses and isotopic contents, by sampling on the incoming and outgoing containers of the installation, stored on the park since the last routine inspection. An annual inventory of the installation completes this scheme.

A computer network collects physical tracking data from the operator. These data are then processed by a specific software developed by the European Commission Joint Research Center of Ispra. This software allows the monitoring of the operator's activities in connection with the collection of precise weighing data. Measurements of mass spectrometers allow determination of U235 concentration of UF6 from cascades

Thanks to this acquisition network, the verification of the monthly accounting declarations of the containers can be carried out on the basis of precise weighing data, on the monitoring of the weighings in station, on measurements from mass spectrometers, and on cross-checking between the isotopic contents and declared/calculated masses. The physical data are all available in the network database and, therefore, accessible for the audit of EURATOM Inspectorates and IAEA

The network therefore makes it possible to envisage changes in the practices of the current control approach, taking into account in particular the possibilities offered by computer analysis. To date, the EURATOM information system has been used successfully during the last 4 annual inventories. Its implementation during monthly inspections should allow greater reliability and greater flexibility for both inspectorates and the operator.

At the ORANO reprocessing plant in La Hague, a data transmission system to the Euratom review room in Luxembourg is being set up. The raw data, collected in real time, are then developed and sent through VPN with a slight delay.

The purpose of the presentation is to take stock of the opportunities that these pre-NRTA systems represent and the challenges that must be overcome, particularly in terms of data protection and cybersecurity

Which "Key Question" does your Abstract address?

SGI2.1

Topics

SGI2

Which alternative "Key Question" does your Abstract address? (if any)

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