

Impact of CRL shutdown on CTBTO North-American noble gas stations

The monitoring of atmospheric radioxenon is a key aspect of the unambiguous identification of an underground nuclear explosion by the CTBTO. However, the detection capability of the CTBTO's noble gas network is impacted by the presence of a radioxenon background produced by nuclear civil activities. Radiopharmaceuticals production facilities have been identified in the past as significant contributors to the radioxenon background. Despite their very limited number, their releases during normal routine operations can be up to several orders of magnitude above those attributed to other civil nuclear facilities. On 1st of November 2016, the NRU multipurpose reactor in Chalk River Nuclear Labs halted production of medical radioisotopes. The cessation of the production affords a special opportunity to assess the impact of the releases on the detection at some North-American noble gas stations of the CTBTO network. ATM is used as a supporting tool to identify the measurements associated with the emissions from NRU. Preliminary results showing this impact are discussed.

Primary author: BARÉ, Jonathan (CTBTO Preparatory Commission)

Presenter: BARÉ, Jonathan (CTBTO Preparatory Commission)

Track Classification: Theme 2. Events and Nuclear Test Sites