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The CTBTO Model E3 Liquid Nitrogen Generator

With a mandate to reduce downtime related to use of electric coolers, the Engineering and Development Section of CTBTO started in 2009 a pilot project to evaluate implementation of liquid nitrogen (LN2) generators at IMS Radionuclide stations. A commercially available unit, produced by MMR Technologies, has been tested at IMS stations NZP47 (Kaitaia) during the last 4 years and FJP26 (Fiji) for 2 years. Close collaboration between PTS and MMR Technologies allowed the finalization, in 2012, of a new "CTBTO model E3 Liquid Nitrogen Generator" fitting specific CTBTO needs for robustness, easy maintenance, long term reliability and full remote control. Features added to the E3 include full logging of key state of health information (which can be accessed on the station PC), the ability for automatic control based on the detector LN2 level, and a complete redesign of the internal layout to allow for easy maintenance. The newly developed CTBTO E3 prototype has passed several stress tests at the factory, and since September 2012 has been in testing and evaluation phase at the IMS test station in Vienna.

Primary author: NADALUT, Barbara (CTBTO)

Presenter: NADALUT, Barbara (CTBTO)

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