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## **and improvements of the Brazilian Gamma-ray Spectrometry Laboratory (BRL04) for compliance with CTBTO certification requirements**

The International Monitoring System (IMS) of CTBTO includes sixteen radionuclide laboratories, one of them is the Brazilian Laboratory (BRL04) at the Institute of Radiation Protection and Dosimetry in Rio de Janeiro, which is not certified to analyze IMS station filters but has consistently performed well in proficiency test exercises organized by the Provisional Technical Secretariat. Currently, it performs environmental samples analysis from nuclear installations, scientific research, and special samples when required. Furthermore, BRL04 provides analytical services for the export and import of commodities. This work highlights the key progress made towards certification. BRL04 has acquired two planar broad energy germanium detectors, a new filter press, and three digital signal analyzers. A skilled team, including two technical managers, a technician, and an expert in gamma-ray spectrometry, is overseeing this process. In 2024, BRL04 successfully hosted two pre-certification visits from PTS members, and final documentation is being prepared. The PTS has also provided training on CTBTO web-based systems, and two staff members attended a workshop at the Austrian Laboratory (ATL03) focusing on sample processing and quality management. BRL04 aims to submit for certification in the end of 2025 or early 2026, demonstrating its commitment to participate in the CTBTO radionuclide laboratory network.

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