

**STATUS OF THE RADIONUCLIDE COMPONENT
OF THE INTERNATIONAL MONITORING SYSTEM,
COMPREHENSIVE NUCLEAR-TEST-BAN TREATY**

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ABSTRACT

The radionuclide component of the International Monitoring System (IMS) for verification of the Comprehensive Nuclear-Test-Ban Treaty will consist of 80 stations to detect radioactive particulates transported from the source through the atmosphere to the station. Forty of these 80 stations will be equipped with the capability to detect radioactive Xenon isotopes, a nuclear explosion indicator difficult to contain. Sixteen radionuclide laboratories will support the stations with further analysis of samples on request.

The radionuclide network will be capable of detecting and locating atmospheric nuclear explosions with yields down to 1 kT or even lower. A strong point of the radionuclide system is its ability to differentiate between a nuclear explosion and other types of explosions.

To install a radionuclide station, a site survey is performed to ensure that the site is coupled to the upper airflow, that infrastructure is available, and that no radionuclide background lowers the sensitivity. About half of all the site surveys have been done or are underway. The equipment installation at 18 stations is underway or finished. It is expected that at least 10 radionuclide stations will be operating by the end of this year.

Procedures for certifying laboratories and operating/maintaining stations are under discussion. Recently developed Xenon detection systems are in the operational test phase.

Key Words: xenon, radionuclide stations, radionuclide laboratories