

of Environmental Radionuclide Measurements from Nuclear Accidents and Nuclear Explosions

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) has remote radionuclide monitoring followed by an On-Site Inspection (OSI) to clarify the nature of a suspect event as part of its verification regime. An important aspect of radionuclide measurements on site is the discrimination of other potential sources of similar radionuclides such as reactor accidents or medical isotope production. The Chernobyl and Fukushima nuclear reactor accidents offer two different reactor source term environmental inputs that can be compared against historical measurements of nuclear explosions. The comparison of whole-sample gamma spectrometry measurements from these events and the analysis of similarities and differences are presented. This analysis is a step toward confirming what is needed for measurements during an OSI under the auspices of the Comprehensive Nuclear-Test-Ban Treaty. DE Robertson, RW Perkins, EL Lepel, CW Thomas, J. Environ. Radioactivity, 17 (1992) 159-182, Radionuclide Concentrations in Environmental Samples Collected Around Chernobyl During the International Chernobyl Project

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