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Scenario design and analysis tasks of the National Data Centre Preparedness Exercise (NPE) 2019

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National Data Centre (NDC) Preparedness Exercises (NPE) base on partially simulated scenarios of CTBT relevant events distributed to all NDC. They provide an opportunity to practice the verification procedures for the detection of nuclear explosions in the framework of CTBT monitoring. The NPE 2019 scenario was developed in close cooperation between the Italian NDC-RN (ENEA) and the German NDC (BGR). The fictitious state RAETIA announced a reactor incident with release of unspecified radionuclides into the atmosphere. Simulated concentrations of particulate and noble gas isotopes at IMS stations were given to the participants. The task was to check the consistency with the announcement and to search for waveform events in the potential source region of the radioisotopes.

During NPE2019 an Exercise Expert Technical Analysis was requested from the IDC for the first time. A fictitious state party provided within the scenario (simulated) national measurements of radionuclides and asked for assistance in analysing the additional samples. Especially backward ATM and the search for seismic events in the possible source region was requested. In addition the overall consistency to potential emissions of the reactor incident declared by the fictitious state RAETIA was questioned. In the third and last stage of the exercise, national regional seismic data were distributed among the participants which contained an (synthetically manipulated) anomaly pointing on a explosive event.