

T2.2-P19. Seismological investigation of the National Data Centre Preparedness Exercise 2013

The NDC Preparedness Exercises (NPE) are regularly performed dealing with fictitious treaty violations to practice the combined analysis of CTBT verification technologies. These exercises should help to evaluate the effectiveness of analysis procedures applied at NDCs and the quality, completeness and usefulness of IDC products. The exercise trigger of NPE2013 is a combination of a tempo-spatial indication pointing to a certain waveform event and simulated radionuclide concentrations generated by forward ATM based on a fictitious release. The final question was whether the findings are CTBT relevant and justify a request for On-Site-Inspection. The available detections from the closest seismic IMS stations lead to a epicenter accuracy of about 24 km which is not sufficient to specify the 1000 km² inspection area in case of an OSI. With use of local stations and adjusted velocity models the epicenter accuracy could be improved to less than 2 km, which demonstrates the crucial role of national technical means for verification tasks. The seismic NPE2013 event could be identified as induced from natural gas production. Similar waveforms and comparable spectral characteristic as a set of events in the same region are clear indications. The scenario of a possible treaty violation could be disproved.

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Track Classification: 2. Events and their characterization