



## Participation of the NDC Austria at the NDC Preparedness Exercise 2013

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The NDC Preparedness Exercise 2013 (NPE 2013) was a fictitious radionuclide triggered test conducted by the National Data Centers (NDCs) of CTBT States Signatories. During the NDC Preparedness Exercise 2013, a fictitious radionuclide scenario was calculated and distributed by the German NDC. It was assumed that the detections were connected with a seismic event which occurred within the territory of the fictitious state of FRISIA. The scenario included detections of the Iodine isotope  $^{131}\text{I}$  and the Radioxenon Isotopes  $^{133}\text{Xe}$ ,  $^{133m}\text{Xe}$ ,  $^{131m}\text{Xe}$  and  $^{135}\text{Xe}$ . By means of forward atmospheric transport modelling (ATM), concentrations of Radioxenon isotopes which would result from this hypothetical event were calculated by the German NDC and interpolated to the IMS station locations. Participating NDCs received information about the concentration of the isotopes at the station locations knowing only the date of the seismic event without any further information. The aim of the exercise was to identify this event.

The Austrian NDC performed the following analyses:

- Atmospheric backtracking,
- Comparing different seismic bulletins,
- Examination of waveform detection lists of relevant stations,
- Identification of the underlying waveform event,
- Seismic analysis of the candidate event,
- Atmospheric transport modeling (forward mode) from identified candidate events, comparison of concentration of “measured” and simulated concentrations based on certain release assumptions.

The main goal of the analysis was to identify the event selected by NDC Germany to calculate the radionuclide scenario, and to exclude other events. In the presentation, the analysis methodology as well as the final results and conclusions will be shown and discussed in detail.