

Particulate and Noble gas data assessment tool for the Working Area (PaNG WA) during an On-Site Inspection

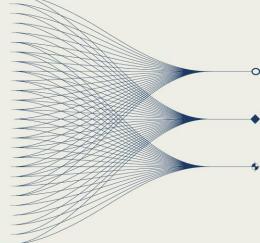
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•••••••• INTRODUCTION AND MAIN RESULTS

Here we present the newly developed Particulate and Noble gas data review tool (PaNG WA software) which has been developed in preparation for IFE. PaNG is designed for Radionuclide data review, assessment and integration with the other OSI techniques to create a comprehensive report. The tool will be used in the Working Area by the Inspection Team. While the spectra are analyzed jointly with ISP in the OSI Field laboratory on individual sample level, these results will be integrated over the entire Inspection Area and provide the basis for further refinement of the search logic, field mission planning and integration with data from other techniques. The tool allows the inspectors to visualize the results of the sample level analysis on the Inspected Area map, group the data by criteria such as search zone, field missions, isotopic results (including ratios and calculation of potential zero time), as well as integration with the auxiliary data – meteorological, state-of-health of processing and analysis equipment, physical parameters of the area where the sample has been collected. The tool also provides the opportunity to compare observations with known release scenarios to help rule out false positive results.





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Introduction

The CTBT On-site Inspection Division (OSI) Field Laboratory is supporting Radionuclide techniques, Particulate (RN, Protocol to the CTBT, Part II, Para. 69(c) and 69(d) and Noble Gas (NG, Protocol to the CTBT, Part II, Para. 69(d)); For Radionuclide data review, assessment and integration with the other OSI techniques we have created a tool that allows inspectors to visualize and interpret Particulate and Noble Gas data in the Working Area.

Default: Sample Overview page

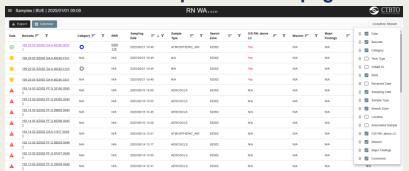


Figure 1: The default view when accessing the tool is the list of samples. PaNG shows all samples collected since the beginning of the inspection. The list can be filtered by any category shown on the right-hand. Each sample can be clicked on, and PaNG will then show details of information available.



Figure 2: All symbols can be hovered over, and detailed explanation will be provided.

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Sample Details page



Figure 3: PaNG shows details on sample type, collection start and stop, sampling location, and radioisotope measurement results for an atmospheric gas measurement. Isotopes and ratio plots are provided here for a xenon measurement from atmospheric air.

Metadata for Samples page



Figure 4: PaNG allows to access and display all meta data associated with a specific sample. Here an atmospheric noble gas sample is shown along with sampling coordinates, CO_2 , temperature (among others) during sampling.

Conclusions

PaNG has been developed for Radionuclide and Noble Gas data visualization and interpretation in the Working Area during an OSI. The tool works for all OSI relevant radionuclides and will also be further improved with the feedback from inspectors during future trainings.



