ID: Type: **Oral**

T4.3-O2. SYSTEM TOPOLOGY AND FAULT TREE ANALYSIS (FTA) FOR SEISMIC AND/OR INFRASOUND SENSOR SITES.

Maintenance of sensor systems can be codified to increase operational efficiency and decreased down time. We used successive refinements of failure definitions to define a fault tree analysis (FTA) structure. Benefits of FTA include: FTA provides a visual, logic model of the basic causes and intermediate events leading to the top event. FTA can help prioritize resources and costs. FTA can identify vulnerable areas in a system. Upgrades to the system can be objectively evaluated for their benefits in reducing the probability of the top event. Another benefit from FTA is the prioritization of the contributors to the top event. FTA can be used as a tool to assist in designing a new system thus incorporating all of the above benefits in any new design. The root cause can be assigned to the failure of a single component or the interdependencies between multiple components producing a unique system level failure. The aggregate processes defining what items are repaired, where they are repaired, and by whom they are repaired creates the system's maintenance concept. Our presentation will discuss the application of the FTA methodology to the maintenance concept for a generic infrasound station, similar to IS31 Aktyubinsk, Kazakhstan.

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