SnT 2025 8 SEPTEMBER ONLINE DAY 9 TO 12 SEPTEMBER AT HOFBURG PALACE, VIENNA & ONLINE
CTBT: SCIENCE AND TECHNOLOGY CONFERENCE

P4.2-730

Latest Major upgrades at the IMS seismic stations

Sergelen Bazarragchaa, Pavel Martysevich, Irene Bianchi

Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)

CTBTO PREPARATORY COMMISSION

INTRODUCTION AND MAIN RESULTS

Ensuring uninterrupted, high-level performance and adequate sustainment of the IMS network is of paramount importance for continuous and efficient operations.

This work presents three examples of major recapitalization activities performed both at primary and auxiliary seismic stations.

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PS40

View of one of the seismic elements

The primary seismic array PS40 is based on 20 elements and requires major actions on equipment, communication and power. The station is located in central Spain (Sonseca) and was originally operated under the United States Air Force nuclear test monitoring program, before becoming part of the IMS. The station has been operational for more than 40 years during which has experienced some configuration changes.

Power line upgrade is necessary for complying to newer regulations

An upgrade of the vaults and equipment at the elements is ongoing

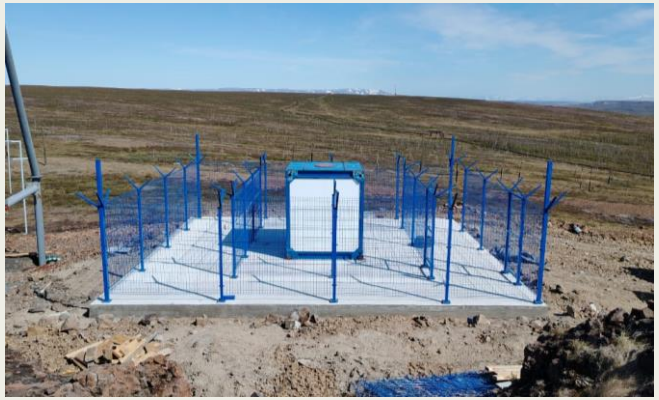
PS34

The 3-component seismic station PS34 is located in the proximity of Kayeran town, Norilsk, Russian Federation. The station is being relocated using the existing infrastructure of the station RN55 for the Central Recording Facility (CRF), in Kayeran, and with a new borehole site located 8 km away from the CRF.

Road construction

Power line construction

New borehole site



AS57

View of one of the new seismic vaults. The new configuration solves the flooding problems that the station experienced in the latest years.

AS57/BVAR is located in Kazakhstan, close to the town of Borovoye. The seismic array is composed of 10 sites. The major structural and instrumentation upgrade consists in the construction of seismic vaults for the station elements, and an electrical upgrade of the CRF. A digitizer upgrade is upcoming as well, thanks to a voluntary contribution from Germany.

Disposition of the equipment inside of the new seismic vaults: electrical cabinets, communications cabinets, battery and the borehole

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