Geophysical Research Abstracts,
Vol. 11, EGU2009-9784, 2009
EGU General Assembly 2009

Performance of digital seismic observation systems in Slovenia

P. Sincic (1), I. Tasic (2), and R. Vidrih (3)

(1) Environmental Agency of the Republic of Slovenia, Seismology Office, Ljubljana, Slovenia (peter.sincic@gov.si), (2) Environmental Agency of the Republic of Slovenia, Seismology Office, Ljubljana, Slovenia, (3) Environmental Agency of the Republic of Slovenia, Seismology Office, Ljubljana, Slovenia

The Seismology and Geology Office, which is part of the Environmental Agency of the Republic of Slovenia (ARSO), is responsible for the fast and reliable information about earthquakes, originating in Slovenia and its vicinity. Seismic events are monitored by three different digital seismic systems, where more than 42 seismic instruments are used. The most important is The Seismic Network of Slovenia (SNRS), which cover the entire Slovenian territory, involving an area of 20,256 km2. The network, finished in the year 2006, consist of 26 seismic stations equipped with broadband seismometers (CMG-40T, CMG 3ESPC, CMG 3T, STS2) and Quanterra Q730 data loggers transmitting data in real-time to the Data Processing Center (DPC) in Ljubljana and enables automatic information about earthquakes to the public in a few minutes after they occurred. The Seismology and Geology Office also operates a network of 12 digital strong motion instruments (ETNA, SSA and K2 instruments), which are installed in urban areas, 9 of them are connected to DPC via a dial-up line. Additional four locations have a status of long term temporary seismic station, and are equipped with CMG-40T seismometers and different types of data loggers (data loggers are: nanometrics RD3, HRD24, EarthData PR6). They are placed in areas of higher interest (e.g. Nuclear Power Plant) and are also connected to the DPC via dial-up or leased lines. A few portable stations are also prepared in DPC for short term temporary installations for the aftershock studies. The number of fixed length out-of-operation periods for particular seismic station and the sum of out-of-operation period in each month of operation for every seismic station are calculated. Furthermore, an analysis of causes for the longest out-of-operation periods for particular seismic station was made. The data loss was evaluated from tape drive backup log and was found to be less than 10 % for 200 sps datastreams (HH) yearly. The data loss is accounted due to equipment breakdowns, communication breakdowns and lightning. On behalf of the results several improvements are made every year, which contribute to better and more reliable operation of Slovenian Seismic network.