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## Statement of Operation: Virtual European Broadband Seismograph Network

ORFEUS Data Center

*- Preamble -*

This document is an expression of common understanding between the ORFEUS Data Center (ODC) and data contributors. This document is not legally binding unless accompanied by other appropriate documents clearly indicating a legal contract. The name Virtual European Broadband Seismograph Network (VEBSN) is subject to change without notice, but the statement of operation will remain the same unless a superseding statement is adopted.

*- Role of VEBSN in the ODC -*

The primary purpose of the ODC is to collect and archive very high quality broadband waveform data from European and Mediterranean organizations and, based upon specific agreements between the contributing network operators (CNOs) and the ODC, to offer open and rapid access to these data to the scientific community.

In order to ensure the best quality data, the ODC implements dedicated software to verify different data quality of attributes of the individual stations (e.g., data format integrity, background noise levels, time synchronization, metadata, data latency, etc). Notification to the CNOs of possible seismic station malfunctioning (including data communication problems as inferred from the acquired data) and the facilitation of real-time data exchange among the CNOs are within the main purposes of ODC.

Two modalities of data acquisition are employed by ODC – *on-* and *off-line*. On-line encompasses data provided by the CNOs as continuous, real- and quasi real-time streams. In this modality, ODC can redistribute the on-line data to requesting third parties (CNOs or the scientific community). The off-line modality includes all the other types of data acquisition (e.g., remote stations without real-time data access, data from temporary experiments, etc).

The VEBSN is made up of the public seismic stations in Europe contributing on-line data streams to the seismological community. The VEBSN is a primary instrument to fulfill the ODC activities described above. The VEBSN operation at ODC acts as a fully automatic seismic network (i.e., it performs automatic phase onset picks, earthquake locations, estimates of magnitudes, plus other standard network analysis), and it provides feedback (in e-mail or other forms of messaging) to the CNOs for data quality verification purposes. The processing results are not meant for rapid notification to non-CNOs (e.g., fast publication after an earthquake, e-mail alert, etc).

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**Statement of Operation:  
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(Continuation)**

*- Use of the VEBSN waveform data -*

Many of the CNOs are deputed to monitor earthquake activity at national or local level for the purpose of informing authorities of seismic alerts. Therefore a CNO can require "ad hoc" restrictions on the use of all or part of their waveform and/or derived parametric data for real- and quasi real-time analysis (and publication of the results) by other CNOs and/or others.

In addition, the following points are agreed between the CNOs and ODC.

- The ODC will endeavor to retain all marks of ownership and elucidate ownership to data users.
- The digital waveform data contributed to the ODC will be included in the ODC data archive and subsequently be subject to the ODC's open data policy.

No significant changes will be made to this policy of operation without first consulting the data contributors.

ORFEUS ExeCom  
Date 20 January 2009