



Program Summary

US Army Engineer
Research and Development Center
Waterways Experiment Station

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Corps of Engineers Strong-Motion Instrumentation Program (SMIP)

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Objective: The Strong-Motion Instrumentation Program (SMIP) is designed to provide insight into the safety of and to act as an inspection guide for existing and future Corps structures. Additionally, it provides a measure of project performance and acts as a database for earthquake research.

Background: The SMIP had its inception during FY 70. Arrangements were made with the U.S. Geological Survey (USGS) to install and maintain Corps of Engineers (CE) instruments. During FY 78, Waterways Experiment Station (WES) assumed responsibility for the installation and maintenance of approximately half of the CE instruments primarily located in the eastern United States. The USGS continued to maintain those instruments on the west coast. This arrangement is in effect today.

WES Role: By CE directive, WES is responsible for: maintaining records of instrument servicing and location; reviewing instrument locations and type to assure conformance with OCE policy; processing and analyzing records; furnishing copies of records to the Districts concerned; coordinating with USGS and the Districts to establish schedules for inspection visits; billing Districts for services; reimbursing USGS for their expenses; providing personnel for installation and maintenance of CE instruments not serviced by USGS.

Current Status: A total of 123 projects located in 32 states and the Commonwealth of Puerto Rico were instrumented as of November 2001. Instruments in operation as of that date were 1311 accelerograph channels (531 digital), 55 peak recording accelerographs (PRAs), and 38 seismic alarm devices (SADs).

Recent Significant Events: During a magnitude 5.1 earthquake in the Ausable, New York area on 20 April 2002, nine Corps accelerographs were triggered at Ball Mountain, North Hartland, North Springfield, Townsend, Union Village dams, VT; Franklin Falls dam, NH, and Knightsville dam, MA. Preliminary data and records collected from this earthquake are posted at <http://geoscience.wes.army.mil>. During the magnitude 6.8 earthquake of 28 February 2001 at Nisqually, WA, sixteen Corps accelerographs were triggered at Mud Mountain,

Wynoochee, Howard Hanson, Toutle River, and Chief Joseph dams and at Seattle Ship Canal Locks, WA. These earthquake data also are posted at the above website. All Corps earthquake data are included in the USGS strong motion catalog.

For additional information on the CE Strong-Motion Instrumentation Program, contact Donald E. Yule at 601.634.2964 (CEERD-GS-E) or email Donald.E.Yule@erdc.usace.army.mil.

URL: <http://geoscience.wes.army.mil/SMIP.html>