

# Earthquake Report

## THE BISHOP'S CASTLE (UK) EARTHQUAKE OF 2 APRIL 1990

Prepared by Roy Kunar and  
John Donald on behalf of  
SECED

At 14:46 local time on Monday 2nd April 1990, a strong earthquake was felt throughout Wales and in much of North-West England in Great Britain. The epicenter was determined to be near Bishop's Castle in Shropshire, close to the Welsh border. It was felt over an area of 250,000 square kilometers. Information provided by the British Geological Survey and by Aspinnall and Associates about the earthquake:

Origin time: 13.46:34.26 GMT  
Latitude/Longitude: 52.435°N  
3.031°W  
OS Grid: 329.9E 282.4N  
Depth: 14-15 Km  
Magnitude: 5.0-5.4 ML  
Maximum Intensity: VI (MSK)

The Bishop's Castle Earthquake was similar in magnitude to the 1984 Lleyn Peninsula Earthquake in Wales. Studies indicate that earthquakes of this size are expected to occur in Britain about 4 or 5 times a century.

Damage from the earthquake was limited to chimneys of residential properties, loosening of tiles on roofs and some minor damage to walls. The two towns nearest the epicenter where significant damage was reported are Shrewsbury and Wrexham. In Shrewsbury, there were approximately 50 instances of damage requiring emergency attention reported during the 24 hours following the event. The main damage was limited to the cracking of chimney masonry with some cases of falling

masonry units and chimney pots. There was also damage to architectural details like gargoyles and stone crosses in the towns' churches. The damage was over a widespread area irrespective of ground conditions. Several buildings and shops were evacuated and business was affected for at least 48 hours following the earthquake. In Wrexham damage was limited to masonry chimneys and roof tiles. In both towns the residential buildings damaged were very old (over 70 years).

There were some localised power disruptions caused by transformers tripping off-line at substations about 30 km from the epicenter. There was no damage to water and gas mains. There are few industrial facilities in the epicentral area. Production was lost in one facility due to loss of electrical power. Other facilities including a brewery and bottling plant continued operations without interruption. Slight structural damage occurred at one of the industrial facilities.

From limited records it appears that the ground motion was predominantly at a higher frequency than for a typical earthquake spectrum. This may explain the limited damage to structures in the epicentral area.

# CSMIP Data Release

PROCESSED STRONG-MOTION  
DATA FROM THE BASE-  
ISOLATED SAN BERNARDINO  
COUNTY LAW & JUSTICE  
CENTER FOR THE UPLAND  
EARTHQUAKE OF FEBRUARY  
28, 1990

California Strong Motion  
Instrumentation Program  
(CSMIP)

Strong shaking was recorded in the base-isolated San Bernardino County Law and Justice Center, located approximately 12 km from the epicenter of the 5.5 ML Upland earthquake. The overall peak accelerations recorded at the foundation level (below the isolators) and the basement (above the isolators) were 0.14 g and 0.08 g, respectively. The peak motion at the roof was 0.16 g. The acceleration records from the 16 sensors in the building and the 3 free-field sensors have been digitized and processed. The processed data are now available on a 9-track magnetic tape or IBM-PC compatible floppy disks. To place an order, please call or write to CDMG, OSMS, 630 Bercut Drive, Sacramento, CA 95814-0189. Ph. 916-322-3105.

## FEBRUARY BOARD MEETING SUMMARY

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with a list of candidates from which he appointed the following to serve on the 1991 Nominating Committee: Nick Forell, Chair; Thalia Anagnos, Bill Hall, Jane Preuss, and Tom O'Rourke.

### Meetings and Conferences:

McGuire was charged with developing an updated policy statement on how EERI should manage meetings and confer-

ences, including criteria for determining location, content, and scheduling, as well as guidelines to define the roles and responsibilities of the Conference Organizing Committee, the Board, the Executive Director and the Administrative staff.

The next meeting of the Board was scheduled for May 24, 1990, in Palm Springs, to begin at the conclusion of the 4NCEE. The meeting was adjourned at 5:00 p.m.