EERI RESPONSE TO EARTHQUAKE IN EL SALVADOR

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NEIS INFORMATION

NEIS reported the earthquake on October 10 with the following particulars:
Date:  October 10, 1986
Time:   11:49 a.m. MDT
Magnitude:  5.4
Location:  13.8°N, 89.3°W

More recent reports from Dave Harlow (USGS) and Roberto Linares in San Salvador indicate the focus to be 2.2 km south of downtown San Salvador at 13.67°N, 89.20°W.

INVESTIGATION TEAM

With the initial reporting of the earthquake as a magnitude 5.4, it did not appear that an investigation would be warranted. On Saturday morning Bob Olson reported severe damage in San Salvador and expressed interest in going down to investigate heavy rescue. He also described the situation to Frank McClure and the decision was made to send a team with Bob Olson as Team Leader.

By early afternoon on Saturday, October 11, 1986, a small team of 4 or 5 persons was formed in cooperation with Riley Chung of the National Research Council. In a discussion with Fred Cale of the Office of Foreign Disaster Assistance (OFDA) at AID/State Department, he reported that OFDA had sponsored the installation of a strong motion instrumentation network that included 10 stations in San Salvador.

(Editor's note: Jim Jordan and Chuck Knudson had helped set up this sponsorship. Besides OFDA, two groups, represented by the following people, deserve recognition for the existence of these records: 1, Roberto Linares, Chief, Seismology Department, Centro de Investigaciones Geotecnicas, Ministerio de Obras Publicas, and his predecessor Jose Gonzalez, for the administration, management and maintenance of the instruments; 2, David Harlow and Dick Maley (USGS) for encouraging the initial installation and for the supply of spares, film, accessories, technician training and advice. Roberto Linares supplied most of the information on the strong motion records. David Harlow also supervised the installation of the telemetered seismic net.)

Thereafter the team was expanded to include a more complete coverage of all the disciplines involved in the earthquake problem. By mid-Monday the complete team was formed except for geology. Later in the week, David Russ and Tom Hanks of the USGS strongly encouraged that a geologist be sent.

The total contingent of 12 persons who went to El Salvador and who have expressed a willingness to cooperate with EERI in preparing a report on the earthquake are listed.

The basic team departed from the U.S. at various times on Tuesday October 14, rendezvoused at the Mexico City airport on Wednesday, and flew to San Salvador together Wednesday afternoon.

EARLY OBSERVATIONS

The earthquake has provided significant potential for furthering our understanding of earthquakes and earthquake effects on man-made works. Following are some highlights:

- There are approximately 10 mid-rise (5-10 story) engineered buildings in San Salvador that are either severely damaged or collapsed.

- There are approximately 30 other mid-rise engineered buildings in San Salvador that are less severely damaged.

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A total of 9 3-channel strong motion records from the main shock were recorded. Mete Sozen was instrumental in having these records brought to the U.S. The records are currently being processed at CDMG in Sacramento.

Three of the nine stations are a time-correlated recording of the motion in the 10-story R/C Camino Real hotel which was only damaged lightly. PGA's at the basement, 2nd floor, and roof are 0.5 g, 0.65 g, and 0.92 g, respectively.

The PGA at the Urban Housing Institute was 0.78 g, and the PGA at the Geotechnical Institute was 0.71 g. The strong motion was about 3 to 4 seconds in duration, and a predominant period was apparent, of about 0.5 seconds.

The U.S. Embassy building sustained severe damage to exterior columns and the building has been evacuated.

It is estimated that the final death toll will be about 1400.

There are about 7000 injured.

Damaged housing left 200,000 homeless. This is in addition to the several hundred thousand homeless because of the war.

Team Leader Bob Olson reports that more detailed follow-up studies may be warranted in connection with: 1) A few selected structures, 2) Site response in filled areas of the city, and 3) Reconstruction, including the possible relocation of government offices. Government buildings were heavily damaged.

COOPERATING INVESTIGATORS

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NEWS OF THE PROFESSION

PUBLIC IMAGE OF ENGINEERS

You may have read recently newspaper reports of the esteem in which the engineering profession is held by the public. Here is a summary by writer S.W. in the NewsReport, of the National Research Council.

The American public holds engineers in high esteem, but has only a vague idea of what they do, a report commissioned by the National Academy of Engineering (NAE) has found.

Public attitudes toward engineers, engineering, and technology include the following:

- Engineers have an unusually high degree of integrity and are generally not to blame for technological accidents, mishaps, or disasters such as the explosion of the space shuttle.

- Policymakers and government officials should hear more directly from engineers about the development and use of new or risky technology, but the technical experts should not have the final say in whether to proceed with the technology.

- Engineers typically cannot communicate well with non-engineers, and many have "poor social skills."

- Engineering is a desirable and high-prestige career, and most people would not mind if their son or daughter married an engineer or became one themselves.

- American engineers, with the possible exception of auto engineers, are the best in the world, possibly exceeded only by the Japanese.

- Americans have great faith in technology and believe it has done more good than harm.

- Legislative leaders mistakenly believe that Americans define