

Learning from Earthquakes

The Sakhalin Earthquake of May 27, 1995

A devastating earthquake occurred at about 1:00 am local time on May 27, 1995, on the Russian island of Sakhalin. According to the US Geological Survey, the earthquake measured 7.6 on the Richter scale and was located at latitude 52.5°N and longitude 142.9°E (about 7,200 km east of Moscow). The earthquake occurred about 75 miles south of the town of Okha, which is located near the northern tip of the island. Local sources indicated the epicenter was near the coastline in the Sea of Okhotsk.

Details of the damage and injuries are sketchy, partly because the Russian government did not allow foreign rescue teams and investigators into the affected area after the earthquake.

Neftegorsk, a remote Russian mining town on Sakhalin, was heavily damaged by the earthquake. The town population was estimated at between 3,000 and 3,500. The most heavily damaged area was estimated to cover about 1 square kilometer. Nineteen apartment buildings collapsed during the earthquake, trapping many of the inhabitants as they slept. As of June 1, 960 people had been pulled from the rubble, of which 559 were dead and 401 were injured. Approximately 30 percent of those injured had crush-type injuries. Fifteen hundred people were still reported missing. Some damage to houses was reported in Okha.

The apartment buildings which collapsed were reportedly built in the 1960's, apparently with little or no seismic reinforcement. According to Russian television, the 5-story concrete structures col-

lapsed like a "house of cards". Other public buildings, such as schools and offices, did not collapse; however, serious damage was reported.

There was extensive damage to many of the critical lifeline systems. Telephone, water and power were immediately cut off in the affected area. Portable generators were brought in and temporary water supplies were set up within a short period of time. Railroads and roads were reportedly heavily damaged, and some bridges were destroyed. An oil pipeline between Okha and Neftegorsk was reported broken in 15 places. Russian officials said there

would be some environmental impact due to the pipeline damage.

Rescue operations were hampered by fog, cold temperatures and the lack of equipment and supplies. Nighttime temperatures dipped below freezing, with daytime temperatures only reaching the low teens (C, the mid 50's F). Efforts to bring in heavy equipment, supplies and food were hampered because of the damage to roads and railroads leading into Neftegorsk. Many of the supplies had to be airlifted in. Efforts were reportedly also slowed because heavy transport planes could not land at the closest airport, which is located at Okha.

Indonesia Still Shaking

Three moderate earthquakes occurred within two days in three different locations in eastern Indonesia. On May 20, 1995, a magnitude 5.7 earthquake struck in central Sulawesi. No deaths, but dozens of injuries, were reported. Hundreds of homes were damaged; a handful were completely destroyed. Slight damage occurred in about two dozen public buildings. On that same day, May 20, a magnitude 5.5 earthquake occurred in the Banda Sea of Maluku Province. No injuries or damage have been reported. On May 21, 1995, a magnitude 4.7 quake in the Flores area left two dead and over 100 homes damaged.

Northridge Report Erratum

A keen-eyed reader of the recently published EERI *Earthquake Spectra* Northridge Reconnaissance Report discovered an unfortunate error. Inexplicably, Table A-4 (LADWP strong-motion data: Northridge earthquake) in Chapter 2, *Recorded Ground and Structure Motions*, was inserted twice (pages 92-95), and Table A-3 (USC strong-motion data: Northridge earthquake) was omitted altogether.

Copies of Table A-3 will be inserted into all copies of the report that are sent out after the discovery was made. If you have already received the report without Table A-3 and would like a copy, please contact the EERI office.