

GENERAL INFORMATION

MANAGEMENT COMMITTEE

The following are the elected and co-opted members of the Management Committee for 1974/75 of the New Zealand National Society for Earthquake Engineering :-

Mr. D. S. MacKenzie, President
 Dr. R. D. Adams
 Mr. A. L. Andrews
 Mr. R. J. Burns
 Mr. J. L. Gill
 Mr. O. A. Glogau
 Mr. J. R. G. Hanlon
 Mr. J. P. Hollings
 Mr. G. H. F. McKenzie
 Mr. T. N. Mitchell
 Mr. L. E. Oborn
 Dr. R. Shepherd
 Mr. R. I. Skinner
 Mr. S. W. Toomath
 Dr. J. H. Wood

RECONNAISSANCE TEAMS

The following is the text of a final report to the Management Committee regarding the setting up and operation of reconnaissance teams in the event of an earthquake in New Zealand. Mr. J. P. Hollings has been selected to organise the standing sub-committee.

1. Standing Sub-Committee

The sub-committee shall make any detailed preparations required, to ensure that teams can operate whenever necessary. The preparations include:-

- (a) Liaison with Civil Defence Authorities and Municipal and Counties Associations.
- (b) Selection of personnel.

The Local Reconnaissance Group, consisting of, say, twelve engineers and six assistants who are willing and free to serve, should be selected and, if agreeable, advised of their appointment. A reasonable geographic spread of group members is desirable but having competent people is of greater importance. Group membership should be reviewed periodically.

2. Qualities Required of Group Members

Professional Engineers should ideally be trained observers, experienced designers and investigators of structural failures, with above average structural perception.

Engineering assistants should have had field experience on construction works and be competent observers and recorders.

Group members should be proficient in the use of a camera, and should be physically

fit. They need not be Society members.

3. Scale of Reconnaissance

Upon receiving news of an earthquake, the President, if convinced that reconnaissance is justified, shall select a team leader from the Reconnaissance Group, decide on the initial size of the team and inform the team leader of his decision. The team leader will then undertake detailed organization of the Local Reconnaissance team.

4. Objectives and Reporting of Results

The objective is to obtain as much information as possible regarding engineering aspects of earthquake damage, and particularly to record evidence which would otherwise be lost.

Within one day of arrival on the site the team leader should supply the President with a general assessment of the extent of the disaster. The size of the teams may be altered at this stage.

The team should write a combined report, addressed to the Society, on all aspects of the damage observed. To be of value, this should be completed promptly.

5. Equipment

Team members should provide their own equipment such as cameras, tapes, maps, etc.

6. Remuneration

Out of pocket expenses (including transport) are to be reimbursed by the Society.

Self-employed members are to be paid at one-half the per diem rate for consulting engineers, and assistants at normal charge-out rates.

LETTER TO THE EDITOR

Dear Sir,

In heavy rolled sections of steel (25mm and over) there is a marked difference between longitudinal and transverse ductilities. This is causing a problem in large welded steel structures as it may lead to a form of lamellar tearing due to differential thermal effects originating from the welding.

Instances of lamellar tearing have occurred in the steel frames of several New Zealand high rise buildings and in prominent engineering structures. If the

concentration, shape and type of inclusions in the rolled steel reduce the ductility across the section to less than 15% of the longitudinal ductility, thermal stresses may cause tearing. Tears may develop within the metal itself, and may only become apparent when they propagate.

Overseas field welded joints in heavy steel sections are now out of favour, and are being replaced by joints bolted in the field, or by the use of lighter weight members.

The British Welding Institute set up a special Sponsor Group C298 in 1969 to investigate lamellar tearing which had been extensively reported in Europe, USA and Japan. They issued a booklet (1) in 1972 containing important information for the designer and welding engineer. The instructions given should reduce the incidence of lamellar tearing in welded structures, and give remedial advice to overcome the problem.

The British Welding Institute have also published data (2) on small scale destructive tests to assess the susceptibility of rolled sections to lamellar tearing. Readers who intend to fabricate heavy steel sections by welding (25mm and over) should take note of these two documents, and refer to the current technical literature on this subject.

A useful mnemonic in larger welded structures is that one square millimeter of weld metal produces a force of one tonne in the metal after cooling.

- (1) J. C. M. Farrar and R. E. Dolby. (1972). "Lamellar tearing in welded steel fabrications." The Welding Institute, Abington Hall, Abington, Cambridge CB1 6AL, England.
- (2) J. C. M. Farrar et al. (1974) "The use of small-scale destructive tests to assess susceptibility to lamellar tearing." Ibid.

G. G. Page
Corrosion Technologist
DSIR, Chemistry Division, Petone.

U.S. NATIONAL CONFERENCE ON EARTHQUAKE ENGINEERING - 1975

To be held at The University of Michigan,
Ann Arbor, Michigan. 18-20 June, 1975.

The purposes of the conference are to stimulate national co-operation among engineers, scientists and other public servants in minimizing the disruptive effect of earthquakes on the citizens and to focus attention on the earthquake resistant design of utilities, transportation systems and building systems. The technical (research, design and construction), social and political aspects of the earthquake problems are all of interest here. The five general areas in which papers are requested are as follows:

1. Basic Background (Seismology, Seismic Risk, Soils and Structural Response, Tests, Standards)
2. Essential Services (Police, Hospitals, Fire Fighting, etc.)

3. Utilities (Electric, Water, Gas and Telephone)
4. Transportation Systems (Bridges, Tunnels, etc.)
5. Nuclear and Industrial Plants (including Mechanical Equipment and Processes).

Prospective authors of papers for this conference should submit four (4) copies of one or two page typewritten abstracts to the Program Committee Chairman on or before 1 October, 1974. The conference proceedings will be published prior to the conference, therefore all accepted papers must be received before 15 March, 1975. Detailed instructions for the format in which the final manuscript is to be prepared will be sent to the authors upon the acceptance of their paper in November 1974.

Sponsor: Earthquake Engineering Research Institute.

with the co-operation of:

American Society of Civil Engineers
American Society of Mechanical Engineers
International Association for Earthquake Engineering
Seismological Society of America
Structural Engineers Association of California
The University of Michigan.

Send abstracts to the Program Committee Chairman :

Prof. Richard A. Parmelle
Dept. of Civil Engineering
Northwestern University
Evanston, Illinois 60201,
U.S.A.

For additional information concerning the conference, write to the Steering Committee Chairman:

Prof. Robert D. Hanson
Dept. of Civil Engineering
The University of Michigan
Ann Arbor, Michigan 48104,
U.S.A.