



AEES Newsletter

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The AEES Annual General Meeting was held in Melbourne during the Pacific Conference on Earthquake Engineering. A report on the PCEE will be given in the next Newsletter, but the Proceedings are available from Barbara Butler, Melbourne Uni, phone 61 3 9344 6712, fax 61 3 9348 1524.

The AGM - November 1995

Outgoing President's report Charles Bubb
Welcome to our AGM. This is my final Report to you as President. Once more I am able to tell you that as a Society we are in good shape both financially and functionally. We have met the challenges of the past year and look forward to 1996. Since our formation we have held a successful National Seminar on Earthquake Engineering each year, 1992 in Sydney, 1993 in Melbourne, 1994 in Canberra and now in Melbourne again.

This year, this conference is an International one with at least three times the numbers of our National Seminars. We took the decision last year at the AGM to accept the invitation of our NZ colleagues to mount the Pacific Conference on Earthquake Engineering in Australia and in Melbourne.

There were some concerns, but in the event the Conference has been most successfully mounted by the joint efforts of the Australian and NZ Societies.

The Australian effort being most capably managed and organised by the Melbourne Group with John Wilson as the Project leader and Graham Hutchinson as the Project Director and with Barbara Butler being a tower of strength on the administration throughout and on the Registration Desk at the conference.

Later I will ask John Wilson to give a separate brief Report on PCEE95 so far and a brief outline of the likely outcome as far as our finances are concerned. However, it is clear by what we have seen and heard in the first two days that it is and will continue to be an outstanding technical success in every respect. The professional contributions of the keynote speakers in particular combined with all the papers ensure that it will produce a major advance in

the theory and practice of Earthquake Engineering in Australia.

Kobe Report A major milestone was established when we were able to field the first AEES representatives to the Kobe earthquake, namely Dr George Walker, Dr Mike Griffith and Dr Lam Pham. Thank you very much George, Mike and Lam and thanks also to your employers, Alexander Howden, Adelaide University and CSIRO.

Let me now speak a little of the past as I did briefly during the Opening Ceremony.

The professional awareness of Earthquake Engineering in Australia was barely kindled by the Adelaide earthquake of 1954. This event was of magnitude 5.6. There was little damage, mainly because of the lesser development then at the site. The actual loss was about \$100M in today's money but there would be much greater damage if the event were repeated today. Meckering 1968 M 6.8, again little damage because of the sparse population and the isolated area. Nevertheless the significant arcuate fault scarp 33km long and 2m high at the centre convinced most who saw it that Australia had at least some real earthquakes!

This event resulted in formal contact with IAEE for the first time and the late Prof Stan Shaw was our first National Delegate to the IAEE. (At this point the President expressed the regret of all that Prof Tom Paulay, the current President of IAEE could not be with us for our first International Conference).

As a result of Meckering and the work of Prof Shaw, and the late David Sutton and others, some 10 years later and after many meetings and discussions Standards Australia published our first Australian Earthquake Code ... AS2121-1979.

Still there was no general awareness of Earthquake Engineering in the community and not a broad concern in the building and engineering professions outside WA and SA either! Indeed one of our leading structural engineers on the East coast could say, in 1990, that in all his career he had never designed a building or structure in Australia for earthquake resistance.

Then in 1989 the Newcastle earthquake M 5.6 occurred, this time in a well populated and built-up area. Tragically, the Workers Club, an older building extended several times in its life, collapsed and took nine lives. This was the first loss of life

from a building collapse during an earthquake in Australia.

Now, awareness of the risk reached a new level in the community and the building professions. Briefly, the engineers were the heroes of Newcastle.

In that climate it was possible to form a National Earthquake Engineering Society, to modify the Australian Earthquake Code to apply everywhere and to have it incorporated in the Building Code of Australia, which made its application mandatory throughout Australia. In my view, that would not have been possible before the Newcastle earthquake.

The process of creating the Australian Earthquake Engineering Society with a significant number of members was greatly facilitated by forming the Society as a Technical Society of the Institution of Engineers Australia (IEAust). They gave us support, access to their membership lists, even money to get started. Without that start, I doubt that we would be meeting here in Melbourne, either as the National Society or as the Pacific Conference co-hosts.

As you know, I will be standing down tonight as your President and a new President and Executive will take over but, while I still hold the office, I would like to raise two matters for your consideration and for the new office bearers.

First, as I have just made clear, I believe this Society owes its initial formation and success to this point, in substantial measure, to its status as a Technical Society of IEAust. At the time of our formation there were very few requirements or restrictions laid down by IEAust. Also, we were among the first such Technical Societies to join but now there are many more.

This swift increase has led the IEAust to completely review the whole concept of the role of the Technical Societies and to propose significant changes. It is now in the process of substantially altering the requirements for all such Technical Societies, including the financial subventions, and is considering imposing new duties, responsibilities and obligations upon them.

We have been too small a group to play much part in these deliberations. It seemed simpler to await the outcome and see if it still offered a suitable berth for us in AEES. This is a matter for some study and consideration as to whether we can still retain our necessary independence as we have it at the moment. If not, then we must consider standing apart as we now could easily do if we had sufficient reason to do so.

There are other changes taking place in IEAust. For example, there is a new College of Structural Engineers to join the other Colleges of BioMedical, Electrical, Mechanical, Civil etc. Indeed Prof Rob Melchers, the new Chairman of the Structural College is here at this Conference - Congratulations Rob!

We will have to work out our relationship with the new College, but just to set the stage, let me again repeat the statement made at one of the

Newcastle Earthquake Conferences (are you here Col Gurley?)

" It is not that Earthquake Engineering is a subset of Structural Engineering, it is rather that Structural Engineering is a subset of Earthquake Engineering! "

That is our theme and our strength as an Earthquake Engineering Society. That is, our members are from ALL the Earthquake Engineering professions..... Seismology, Geology, Geotechnical, Geophysics, Disaster Mitigation and Relief, Risk Analysis and Risk Engineering and Insurance, yes and even Structural Engineering and Architecture. We must retain that strength and build upon it. We will need to do that with a re-doubled effort as the memories of Newcastle fade over the years.

Incidentally, we must remain aware also that we can only be a National Earthquake Engineering Society holding membership of IAEE and sending a National Delegate to IAEE if membership of our society is open to all who are interested in Earthquake Engineering. So, in short, to stay true to our aims to foster and further Earthquake Engineering in this country and this region we must stay multi-disciplinary and open to all and not just to engineers in any narrow sense.

The second matter I want to raise is the question of communication amongst ourselves as the Australian Earthquake Engineering community and of course, communicating with all our international colleagues especially those who have joined with us at this Conference. Remembering again what I said at the opening ceremony about making, renewing and maintaining contacts

In the previous Newsletter I have raised the opportunity offered to those of us who are also IEAust members. We have access, for a fee, to the IEAust bulletin board called Engineering Online (EOL) and through it limited access to the Internet. Probably, all of us have some means of access to the Internet. Also, EOL may itself eventually become a site on the Internet or the World Wide Web. In any event, I think it is most important to seize this opportunity now and get as much contact going as possible.

The advantage of EOL is that it is much more private than the 'Net which is totally public. So EOL has much less "trash" it might also have less "treasure" as well! However, whether we stay IEAust or not we can use EOL and the Internet to get started and to evolve according to our own needs

As I said in the (previous) newsletter, if it is your wish tonight that I continue on as the Immediate Past President I will help AEES in this area of OnLine Services and the Newsletter both in the paper and the electronic format. (For example look on EOL under Societies, Earthquake to find the two previous Newsletters and now this one, albeit in text format only, no graphics).

Thank you all for your support and special thanks to the Committee and the Hon. Secretary, Kevin McCue and the Hon. Treasurer David Rossiter.

Secretary's Report

The previous Annual General Meeting of the Society was held in Canberra during the 1994 Symposium and was attended by twenty six members.

- The Executive of Bubb, McCue and Rossiter was returned and a new Committee was elected: Hutchinson, Wilson, Griffiths, Gibson and Cuthbertson.

In 1995 the Executive

- met on average about monthly
- produced and distributed three AEES Newsletters
- published the AEES 1995 Seminar Proceedings
- kept the accounts (made a small profit) and arranged an external audit
- increased the membership to about 400 and kept an up-to-date membership database
- maintained links with the IAEE and
- provided support (moral if not financial) for AEES members George Walker and Mike Griffith to visit Kobe, Japan after the January 1995 earthquake, George as part of the NZNSEE team.

The main task of AEES in 1995 was the PCEE and we heartily congratulate the Melbourne (Graham Hutchinson and John Wilson in particular) and NZ Committee members for doing such a great job.

It is handover time and we look forward to a period of consolidation for AEES and perhaps redirection with a new team. We agreed during the 1993 AGM to solicit professional secretarial support and with nearly 400 members this will be a necessity. We are bequeathing the new executive with a healthy Society but not leaving them a clean slate:

- One of the challenges of 1996 will be whether to remain a Technical Society of IEAust or go it alone, given the onerous demands that IEAust are threatening to place on Societies and the requirements for our members.
- The Executive agreed to publish an AEES report on the Kobe Earthquake combining the reports by Drs Mike Griffith, Lam Pham and George Walker. Alexander Howden and AEES have published reports by George, the combined draft had not been sighted as of this meeting, but we hope it will be soon.

Kevin McCue
Outgoing Hon Secretary
September 1995

Minutes of the AGM (unchecked) Thirty one members and three non-members attended the AEES AGM held in the Copland Theatre, Melbourne University on 21 November 1995. Apologies were received from David Rossiter and David Denham.

The minutes of the previous AGM in Canberra were distributed and summarised, and accepted as a true record of the meeting.

Business arising from the minutes.
President's report (above)
Secretary's report (above)

The Treasurer's report was read by Kevin McCue. Trevor Jones queried the lack of up-to-the-minute accounts caused by the as-yet unreconciled PCEE budget and outstanding accounts for newsletter and seminar proceedings received this week for which no bill has yet been received. The protracted discussion was finally terminated by a motion to that effect moved by Professor Hutchinson and seconded by Dr Wilson.

[The disparity could be removed by having the election at the seminar but delaying the handover until the end of the financial year].

PCEE'95 John Wilson reported briefly on the meeting - Costs for keynote speakers was met in most part by sponsorship. He also said that ~220 people had registered which was slightly in excess of the break-even figure. The PCEE committee expect to finalise the accounts in the next few weeks.

Election

Executive: Charles Bubb remained in the chair to manage the election. There being only one written nomination and none from the floor, the nominated Executive were elected by acclamation.

The new executive is

President: Prof Graham Hutchinson

Secretary: Mr Gary Gibson

Treasurer: Mr John Wilson

A new committee position was also created:

Immediate Past President: Mr Charles Bubb

The following members were proposed from the floor and those who accepted the nomination were: Russell Cuthbertson (Qld), Peter Gow (WA), Vagn Jensen (Tas), Bill Buckland (NSW), Mike Griffith (SA) and Kevin McCue (ACT). Kevin McCue accepted the position of Newsletter Editor.

IAEE: It was proposed by Prof Hutchinson, and accepted, that discussion on the next IAEE delegate be deferred to the next AGM.

Next AGM: A South Australian venue was offered for the next AGM, by the organising committee comprising Mike Griffith, John Woodside and David Love. The proposed dates are Thursday and Friday, 3 & 4 October 1996. More information next Newsletter but it is rumoured that there is a wine festival about then.

The Society

The AEES subscription year is from 1 Dec to 30 November. It is difficult and expensive to send each of ~ 400 members an individual reminder that fees are due so please help us by sending your subscription for 1996/97 to AEES now (address above) or renew through IEAust's annual subscription system by marking AEES your preferred Society. If you change address or if you know a member who is not receiving the newsletter please advise the Secretary, many newsletters are returned.

Australian Earthquakes 1995

The following table lists the earthquakes of Richter magnitude 3 or more in the Australian region during

1995. AGSO and State seismological agencies supplied the data. It was an average year with one earthquake larger than 5.0 and 11 of magnitude 4.0 or more. None of the earthquakes caused structural damage but several resulted in insurance claims for minor damage and many were felt. A plot of the epicentres is on P6. The largest earthquake was well offshore in the Southern Ocean, south of Esperance.

Date	Time	Lat °S	Long °E	ML
1- 1	1227 54.2	-28.510	136.170	3.2
1- 2	2308 22.5	-19.960	133.810	4.2
1- 3	0633 16.6	-13.868	131.268	4.1
1- 9	0533 56.6	-20.936	120.526	3.5
1-11	0711 37.8	-38.178	145.999	3.1
1-20	0804 49.4	-20.890	120.780	3.2
1-23	1744 53.1	-30.409	138.005	3.2
1-24	0826 0.4	-19.865	134.160	3.2
1-27	1914 34.3	-18.860	123.230	3.4
1-28	0536 16.2	-19.863	134.128	3.3
1-31	0845 10.8	-28.860	136.446	3.0
1-20	0804 49.4	-20.891	120.780	3.2
1-27	1914 34.3	-18.859	123.229	3.4
2- 1	1021 20.2	-38.531	146.238	3.0
2- 9	0410 59.4	-34.527	139.467	3.2
2-21	0126 13.9	-18.886	122.512	3.1
2-23	0403 48.9	-21.905	126.226	3.3
3- 6	1056 22.3	-22.129	129.814	3.3
3- 6	1242 44.4	-33.933	135.543	3.2
3-12	1136 55.0	-32.626	138.343	3.0
3-16	1231 54.9	-36.293	148.232	3.2
3-16	2301 5.1	-23.347	130.406	3.0
3-17	1741 14.4	-18.250	146.000	3.2
3-26	0653 30.0	-35.947	147.229	3.0
3-27	0444 12.2	-30.383	138.125	3.3
4- 5	2338 49.5	-32.670	126.950	4.0
4- 6	1807 9.0	-32.692	127.100	3.0
4- 6	1932 9.6	-19.809	133.949	3.0
4- 6	2324 50.8	-33.300	118.190	3.0
4-11	1549 5.0	-31.095	138.981	3.5
4-17	0533 7.0	-33.290	118.170	3.0
4-18	1431 59.3	-40.328	155.324	4.1
4-20	1204 20.7	-33.290	118.200	3.0
4-20	1311 30.1	-33.280	118.180	3.3
4-20	1316 53.8	-33.310	118.190	3.1
4-29	0712 3.0	-36.380	125.360	4.0
5- 3	0424 23.0	-33.170	150.240	3.2
5- 3	1748 23.5	-38.610	146.210	3.0
5-11	0006 0.5	-19.220	140.960	3.0
5-14	0206 32.8	-19.770	134.020	3.4
5-15	2229 31.4	-42.570	120.350	5.6
5-19	1942 50.2	-16.160	121.140	3.3
5-20	1129 11.8	-33.860	150.070	3.6
5-25	1351 36.5	-33.650	136.250	3.1
5-28	2312 58.4	-32.518	151.408	3.5
5-29	2033 53.8	-24.800	136.600	3.2
6- 3	1820 31.0	-36.073	143.392	3.1
6- 4	2036 9.0	-24.119	125.796	3.7
6-14	1641 54.3	-19.782	133.718	4.9
6-25	2023 41.5	-15.635	121.046	3.3
7- 1	1843 31.7	-17.483	122.416	3.2
7- 7	0653 24.5	-32.928	151.318	3.2
7-10	1225 27.0	-22.313	132.129	3.2
7-14	1928 14.6	-42.473	123.256	3.8
7-21	1426 3.7	-35.988	148.878	3.4
7-29	0424 14.8	-19.851	134.011	3.1

7-30	0441 3.3	-36.766	147.639	3.7
7-31	1548 56.0	-30.786	117.103	3.5
8- 5	0734 52.0	-19.317	113.495	3.2
8- 7	0030 18.0	-21.362	120.146	3.1
8-15	0157 11.2	-18.414	120.813	3.1
8-17	1336 17.0	-25.618	113.199	3.1
8-25	1150 11.6	-23.313	111.860	4.6
8-29	0049 31.4	-41.210	123.347	3.3
9-12	1023 55.6	-34.333	148.750	3.1
9-15	0440 18.3	-19.350	118.050	3.0
10-14	0411 1.5	-34.336	148.756	3.1
10-19	0355 47.6	-18.550	122.830	3.3
10-19	1944 3.0	-23.420	120.730	3.5
10-27	0420 41.2	-34.713	129.276	3.7
10-27	1028 57.7	-35.239	137.017	4.2
10-29	0655 39.7	-24.060	113.530	3.4
11- 1	0601 7.9	-32.552	138.543	3.0
11-11	2026 59.7	-20.939	127.447	3.0
11-13	0400 17.8	-32.573	138.498	4.0
11-16	1623 32.4	-32.583	138.367	3.2
11-17	1243 25.9	-36.031	144.570	3.0
11-17	1301 19.5	-33.010	145.131	3.5
11-18	0932 16.9	-36.999	144.741	3.4
11-18	1325 22.4	-31.014	138.875	3.1
11-20	0101 34.3	-19.912	134.074	3.7
11-20	1116 28.6	-25.829	131.706	3.5
11-21	1702 14.1	-32.884	151.269	3.1
12-10	1252 2.6	-14.560	123.240	3.2
12-12	2211 17.4	-18.530	124.280	3.3
12-16	0156 32.6	-21.080	127.450	3.4
12-18	1644 51.0	-37.600	139.590	3.5
12-27	0505 52.2	-16.490	120.440	4.3

Conference Proceedings AEES

The main function of our Society is the Annual Seminar. You can keep informed about the latest developments in Earthquake Engineering and Engineering Seismology in Australia by purchasing the Proceedings. 1994 Proceedings \$30.00, 1992 and 1993 Proceedings \$25 and \$35, or \$45 for both. Postage within Australia is an additional \$5.

Conference Proceedings PCEE

1995 Melbourne Proceedings \$150 plus P&P from Mrs Barbara Butler phone 03 9344 6712.
1987 & 1991 Proceedings NZ\$50 plus P&P from Admin Sec NZNSEE, PO Box 312 Waikanae New Zealand

Structural Hazard Mitigation in Australia (from the Newcastle City Council)

The existing building stock in Newcastle NSW is required to be upgraded where considered necessary in order to minimise the risk to building occupants and the adjacent public. Building Materials and Practices Structural Quality Policy is also considered to be an integral part of the Hazard Mitigation Program in that it identifies to the building owner the need to consider the performance of building elements in order to provide a satisfactory level of performance with a minimum level of maintenance for the expected life of the building.

Council is actively inspecting buildings and requiring upgrading works. Similarly in any application for a certificate from the Council, the applicant is notified of any inspection and Council's requirements as a result of the inspection, and applications for Section 167 Building Certificates are deferred until the upgrading works are completed. The contact for assistance or advice regarding Council's Structural Hazard Mitigation Program is Mr R Boyce of Council's Environmental Management Division (phone 049 299167).

PRECIS

This report contains a review of post earthquake building regulation and the process of repair and upgrading of existing buildings in Newcastle. It suggests the continuation of Council's innovative Structural Hazard Mitigation Program and adoption of revised earthquake design standards.

Significant deficiencies in traditional building methods employed in Newcastle were exposed in devastating fashion during the earthquake of 28 December, 1989.

On 19 March 1990 Council adopted a policy requiring the consideration of earthquake loading in all new building design and repair of existing buildings. In the interest of public safety a program of upgrading of existing hazardous structures was instituted.

This report outlines the progress and effectiveness of the policy and the upgrading program.

Due to the Newcastle experience a greater awareness of earthquake risk and effects has been realised throughout Australia and Newcastle City Council has become a focal point for earthquake mitigation work.

A revised Australian standard for earthquake loading has been published and a new standard for strengthening of existing buildings is currently being produced. The effects of these new standards on Council's building control activities are important.

RECOMMENDATIONS

1. All new building construction in the City of Newcastle be designed in accordance with the requirements of Australian Standard AS1170.4-1993, Minimum design loads on structures, Part 4: Earthquake Loads.
2. Where considered necessary for public safety existing buildings (other than single dwellings) be upgraded to comply with Zone A requirements of Australian Standard AS2121-1979, SAA Earthquake Code and the principles of Draft Australian Standard BD/76, Strengthening of Existing Buildings for Earthquakes. Upgrading of buildings which may be required for post disaster purposes will be required to meet the higher zone 1 requirements of AS2121. Such post disaster buildings would include hospitals, fire stations, ambulance stations, service buildings, schools, public halls and other buildings used for public assembly.
3. Building Certificates under Section 169 of the Local Government Act, 1993 not be issued until existing buildings are adequately strengthened (where required under the standards of this policy).
4. Applicants for Section 149 Certificates under the E.P.A. Act, 1979 and Strata Sub-division Approval

under the Strata Titles Act, 1973 be notified when a building has been assessed as requiring structural strengthening.

5. Continuation of the Structural Hazard Mitigation Program.
6. A further report be submitted to Council in regard to the Australian Standard for Strengthening of Existing Structures, when this standard is published.
7. Representations be made to the State Government in regard to strengthening of public life line buildings, and to the Insurance Council of Australia seeking insurance premium benefits for owners who strengthen buildings.
8. Building Materials and Practices-Structural Quality Policy be adopted.
9. Public exhibition of the measures outlined in this report.



From - STOP DISASTERS Newsletter Nov/Dec 1993

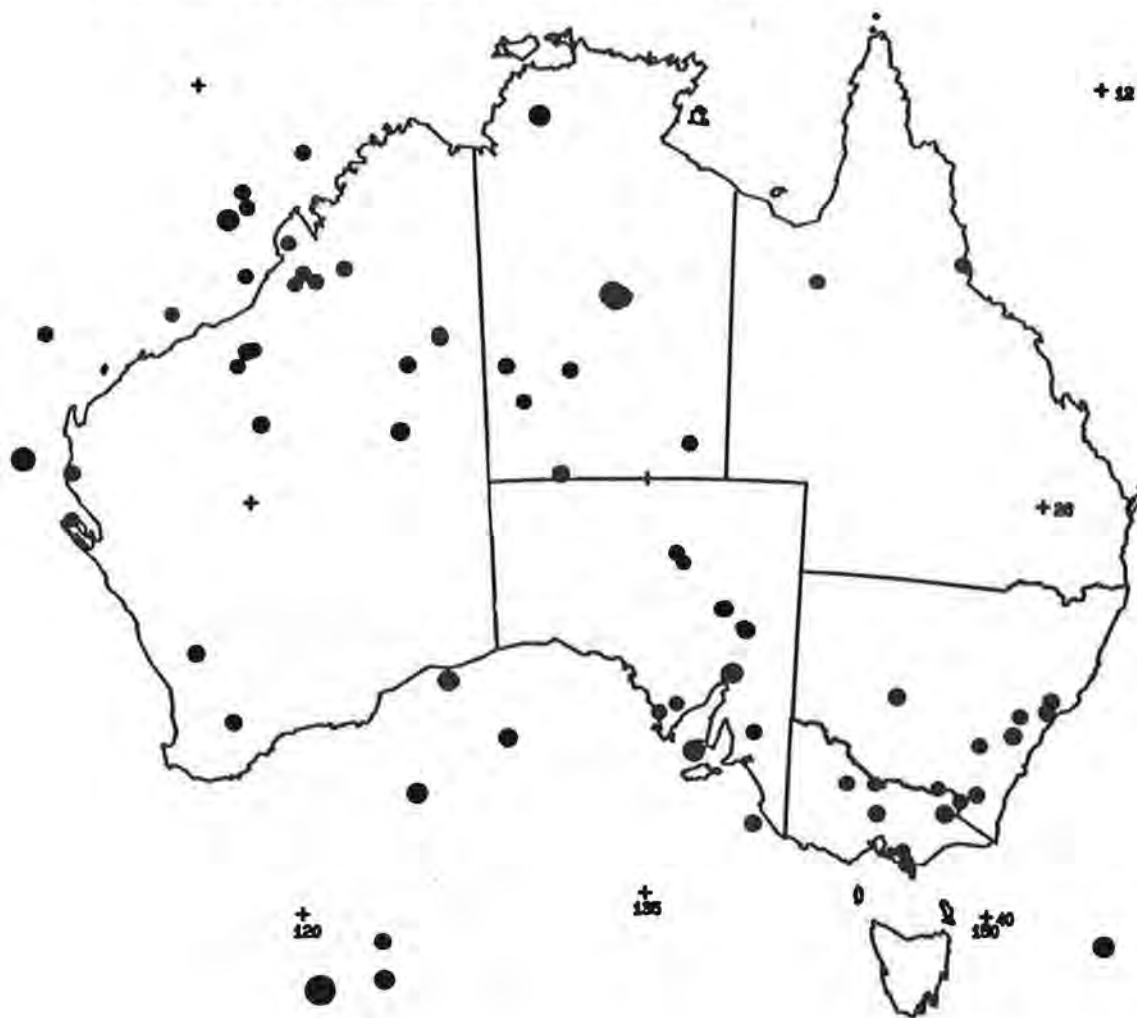
Forthcoming Conferences

(Flyers for some conferences are available from Ed)

- 15 - 19 April 1996 Wisconsin USA
International Emergency Settlement Conference
e-mail: dmc@engr.wisc.edu
- 23 - 28 June 1996 Acapulco Mexico
11th World Conference on Earthquake Engineering.
Contact: 11WCEE Fax: 52 5 616 1514
- 23 - 27 July 1996 Brisbane Australia
Western Pacific Geophysics Meeting
AGU/SEDI Contact: Fax: 61 7 374 2059
- 6 - 8 November 1996 Manila Philippines
4th International Conference on Civil Engineering
Fax: 63 2 522 3524

New Books

- Earthquake Engineering Proceeding of the 10th European Conference, Vienna Austria 28 Aug-2 Sept 1994, Balkema, Ed G Duma, price \$593.00*
- Tsunami - Progress in Prediction, Disaster Prevention and Warning in Advances in Natural and Technological Hazards Eds Yoshito Tsuchiya & Nobuo Shuto. Kluwer Academic price \$240*



EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS
(Earthquake eng. struct. dyn.)

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