



EUROPEAN ASSOCIATION FOR EARTHQUAKE ENGINEERING

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EAAE Earthquake Protection Policy Statement September 2004

The European Association for Earthquake Engineering joins individual members and national earthquake engineering societies in more than 30 countries in the European area, and exists to promote cooperation and interaction between researchers and practitioners, to support research and education, and to play an active part in earthquake risk mitigation in Europe.

This policy statement was approved by the EAAE Executive Committee at its Fourth Meeting on 15th September, 2004, based on comments on the draft presented to the Third Meeting. The statement will be sent to the Committees of all national societies for comment and/or approval.

The EAAE Executive invites all EAAE Member Associations and individual members to use this statement as a basis for efforts to promote earthquake risk mitigation in Europe at a national and international level.

Preamble

1. Earthquakes occur regularly in the European-Mediterranean area, and are frequently destructive. During the 20th century they claimed over 130,000 lives in the countries of today's EU alone (and over 400,000 in the wider European-Mediterranean area), as well as vast but uncalculated damage to property and economic activity. Over the last 40 years improved understanding and the experience of earthquake loss has driven the progressive development of new and better codes and regulations for building in earthquake areas; and buildings and facilities constructed to today's codes are unlikely to be heavily damaged or destroyed by expected earthquakes.

2. But throughout the European area, most of the built environment was created before these codes were formulated and enforced, and without the benefit of today's understanding of the effects of earthquakes. Many of these buildings and facilities (which include schools, hospitals, and highway structures used continuously by the public) are unsafe by today's standards and are liable to be seriously damaged or collapse in foreseeable earthquakes. Even where buildings are built to the codes, some damage will occur, since codes are designed for life-safety, rather than for damage-prevention; and strong earthquakes are liable to be disruptive to the urban infrastructure virtually everywhere. Many historic centres of huge cultural importance are at risk.

3. However, the technical means to substantially reduce this risk are now available. Relatively straightforward modifications to existing structures will in most cases be sufficient to reduce risks to more acceptable levels, and a number of guidance documents to support such modification are now available, including a European Standard.

4. *The EAAE considers it unacceptable in today's world that European citizens are daily exposed to major risks to their life which are well-understood and avoidable.* This policy document sets out a programme of action which needs to be undertaken in order to bring earthquake risks under control. It is addressed to national governments and municipal authorities and to the parliamentarians and councillors who shape their policies; to business corporations and other owners of large estates; and to ordinary citizens concerned with their own and their fellow-citizens' safety.

Statement

5. The EAEE calls on all national governments of earthquake-prone countries in the European and Mediterranean area to:

- bring regulations for newly constructed facilities into line with best European practice (as set out in the current European Standard, EC8)
- ensure that inspection systems are in place everywhere to ensure that new facilities are built as designed
- urgently carry out assessments of all public buildings and other structures for which they have responsibility against established safety criteria, starting with schools and hospitals, and put in place programmes of strengthening or replacement of those found to be unsafe
- establish national professional and technical education and training programmes to ensure that those who design and build new facilities understand earthquake hazards and the means to counter them
- promote, by support for research, a better understanding of the risks faced in their territory, and the means to build and modify the country's specific buildings
- ensure that emergency services are well-trained, well-equipped and sufficient in number to deal with the likely consequences of foreseeable future earthquakes
- promote the awareness, by the public and their elected political representatives, of the earthquake risks faced by society and the means available to them to reduce these risks and enhance personal safety.
- provide financial and technical support to earthquake risk mitigation activities in poorer countries

6. The EAEE calls on all municipal authorities in moderate and high-risk zones to:

- review the specific earthquake hazards faced within their jurisdiction
- ensure that inspection systems for new buildings are adequate
- urgently examine the safety of all public buildings and set in place programmes to strengthen or replace those found to be unsafe
- examine the entire urban system to form an assessment of the safety of its components (residential building stock, buildings and streets used by the public, lifelines, emergency services) and the system as a whole,
- consider means to reduce this risk through legislation, tax incentives, planning and other instruments
- ensure that earthquake risk mitigation is a key element of their urban sustainability planning
- promote awareness of earthquake risk amongst all members of the community and community organisations

7. The EAEE calls on private companies and other owners of large building estates in zones of moderate and high earthquake risk to:

- carry out safety assessments of their buildings, and strengthen or replace those found to be unsafe
- ensure that all new buildings are built to the latest available earthquake codes
- promote awareness of earthquake risk and personal safety among all staff and employees

8. The EAEE further calls on the EU to:

- consider issuing a directive requiring all member states to review existing buildings used by the public for earthquake safety and to bring them to acceptable life-safety standards
- promote earthquake safety (along with other disaster mitigation activities) as key elements of the planned urban sustainability goals for all EU cities
- enhance its research support for earthquake mitigation in the wider European area.

The EAEE Executive Committee, Sept 14th, 2004