THIS IS THE ENGLISH VERSION OF AN OFFICIAL DOCUMENT PREPARED BY THE SCIENTIFIC COUNCIL ON SEISMOLOGY – RUSSIAN ACADEMY OF SCIENCES CONTAINING RECOMMENDATIONS ABOUT THE USE OF THE ESI 2007 INTENSITY SCALE

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Protocol n. 1/2008 of Scientific Council on Seismology conference

Attendants:

Council members:

1. RAS correspondent-member G.A. Sobolev – president of the Council, IPE RAS;
2. Doctor of sciences, A.D. Zavyalov – secretary of the Council, IPE RAS;
3. Doctor of sciences, S.S. Arefiev – IPE RAS
4. Doctor of sciences, A.V. Ponomarev – IPE RAS:
5. Doctor of sciences, I.A. Sanina – IGD RAS;
6. Ph.D, V.B. Smirnov – Moscow University;
7. RAS correspondent-member, A.A. Soloviev – IITP RAS.

Invited:

1. Yu.V. Nechaev – IPE RAS;
2. A. Ya. Sidorin – IPE RAS;
3. A.S. Aleshin – IPE RAS;
4. F.F. Aptikaev – IPE RAS;
5. R.E. Tatevossian – IPE RAS;
6. Zh.Ya. Aptekman – IPE RAS;
7. E.B. Chirkov – IPE RAS;

Conference topic:

Presentation of R.E. Tatevossian and E.A. Rogozhin "Earthquake intensity scale based on the co-seismic environmental effects (presented by R.E. Tatevossian).

Resume:

History and current status of the scale

At the XV INQUA congress in Durban (1999) a Working Group was established. It includes specialists in geology, seismology and engineers. The goal was to build up a new earthquake intensity scale based on environmental effects (INQUA scale). First version of the scale was presented at the XVI INQUA Congress in Reno (2003). After certain modifications it was distributed one year later at XXXII International Geological Congress in Florence (2004). Since that time started trial application of the scale. The goal was to understand the practical value of the scale. As a result of trial application comments and suggestions were sent to the project leaders, which have been finalized in the next edition in 2007. Scale title also was revised and the new name is ESI2007 (Environmental Seismic Intensity 2007).

The INQUA Executive Committee ratified the scale in Cairn (Australia). Publication Michetti A.M., Esposito E., Guerrieri L., Porfido S., Serva L., Tatevossian R., Vittori E., Audermard F., Azuma T., Clague J., Commerci V., Gurpinar A., McCalpin J., Mohammadioun B., Morner N.A., Ota Y., Rogozhin E. (2007). Intensity scale ESI 2007. // Memorie descriptive della carta geologica d'Italia, v. LXXIV, 50p. was assumed as its official publication.

Now INQUA supports a new project (2008-2011) on global collection of Earthquake Environmental Effects (EEE) and further dissemination of the scale among scientific and engineering societies.

Structure of the scale and attached documents:

Inherent parts of the scale are forms for standard description of the EEE. In [Michetti et al., 2007] there is an example of how to use them on practice. To this protocol we attach 3 documents: Text of the scale in the table form (Annex 1), forms (Annex 2), and recommendations on their filling (Annex 3). A list of publications in frames of the project is in the Annex 4.

Discussion

In discussion participated G.A. Sobolev, S.S. Arefiev, V.B. Smirnov, A.Ya. Sidorin, A.A. Soloviev, F.F. Aptikaev, S.S. Aleshin, I.A. Sanina, E.B. Chirkov, Yu.V. Nichaev.

Council Decision

After the presentation and discussions the Council marks:

Quality of intensity scales cannot be evaluated based on theoretical considerations only. The advantages and drawbacks can be found out after long-term worldwide application. The analysis of drawbacks leads to further refinement of the scale. Besides, accumulation of data on EEE collected and described on standard way is a value itself. Even if the scale will be modified in future the data collection will survive and will help to get more accurate seismic hazard and risk assessments.

The Council marks that at this stage the ESI2007 scale is not intended to replace the officially approved seismic scale, which is a part of Russian building code.

Council recommends:

1. Using corresponding forms for data collection while earthquake field surveys and the scale text for intensity assessment. For methodological aspects it is recommended to rely upon publication (Annex 5).
2. Taking into account the importance of data collecting Council recommend to publish results obtained in the Journal Problems of engineering Seismology (publisher is the Institute of Physics of the Earth) and address to the Journal editorial board to support publications on the cases studies with ESI2007 scale application.

List of annexes to this Protocol:

Text of the scale in table form (Annex 1, 3 pages)
Form for EEE collection (Annex 2, 2 pages)
Recommendations on filling the form (Annex 3), 3 pages)
List of publications related to the topic (Annex 4, 1 page)
Paper Tatevossian et al. [2006], which discuss some methodological problems and case studies (annex 5, 20 pages). *This is our Russian version of the paper published in the Boll. Soc. Geol. Ital.*

President of the council
Corresponding-member of RAS G.A. Sobolev

Council secretary
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