



## French Association for Earthquake Engineering

Darius AMIR-MAZAHERI Paris, 16-08- 2016

### **Special Session on Experience Sharing around the French Practical Approach of Seismic Security Engineering and Risk Management**

The Special Session is focused on the Earthquake as a particular dramatic natural disaster example.

Final scope of an overall Seismic Security Policy is the protection of the citizen's life, and in a lower level, goods, a very large Responsibility for the Political Authorities & Deciders.

A convenient policy needs first a full understanding of the natural phenomenon and the related risks. Such a mastering is not easy to reach for Earthquakes: the random phenomenon is quite rare; a powerful reaction to seismic risk requires a full sophisticated process based on complex knowledge, factual prevision, know-how, political preventive decision, emergency intervention in case of crisis, insurance politic, etc., with economic consequences.

Each step of the process is a complete independent technical field of study. One can easily imagine the impossible job of the politic authorities to go ahead in the good way in such a cloudy atmosphere.

Politic authorities need factual information and decision making tools. Such information and tools can only be provided by the specialists such as scientists, engineers, site-intervention agents, etc.

Some steps of the process are quite classical and conveniently performed: dynamic linear or un-linear analysis of structures and soil, seismic codes and rules, etc. Such classical steps are not considered in the conference.

The Special Session focuses on the main unclassical steps of the process for which French Deciders needed more information from the professional world to improve decision making. Each step is a technical field, but only the Main Assumptions, Methodology, Main Conclusions and Influence on the Political Decision will be presented.

This coherent French approach must be considered as an example (case study). The hope is to compare its conclusions and efficiency with the Iranian general approach and know-how.

What is attended from the Presentation is a working Iranian-French Team, around a subject discussed during the Round Table, such as a Scenario Study for a big Iranian City, or crossed participation to joint-guidelines committees, either existing or new ones.



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- 1) Opening Technical Introduction:  
**Overall Seismic Security Engineering: State of the Art & Feedback on Current Practical Knowledge & Needs** *(Darius AMIR-MAZAHERI, Honour & Former President, AFPS) 40'*
- 2) **Seismic Hazard Prevision:** *(François DUNAND, Geoter-Fugro) 30'*  
Instrumental Seismicity and Implementation; Tectonic Motion by GPS; Synthesis in Useful Data with the use of Historical Seismology & Source Effect Analysis  
Final Presentation: **Seismic Prevision in France, State of the Art** *(Darius AMIR-MAZAHERI)*  
**Think hazard** *(Nicolas Taillefer)*
- 3) **Two Examples of Overall Seismic Security Engineering**
  - High Risk Industries in France: Joint Action by Public Authorities, Owners/Operators & the French Association for Earthquake Engineering (AFPS) for a safe design and operation taking into account the seismic hazard *(Jean-Philippe GIRARD, AFPS) 20'*
  - Strategic Elements for Crisis Management in Seismic Situation: Choice of the Needed Public Buildings & Connections in-between (Emergency Itineraries) ; Seismic Base Isolated Buildings & Bridges as an example of Seismic Designed Structure & Equipments for Strategic Buildings & Infrastructure of Transport *(Darius AMIR-MAZAHERI, DAM Design) 20'*
- 4) **Vulnerability Assessment: Key Role in Disaster Risk Management – Case Studies**
  - Vulnerability assessment at city level: describing existing situation to enhance DRM action plans. Examples of four Iranian cities and Nice (France) *(Nicolas TAILLEFER - BRGM) 20'*
  - Preliminary Diagnostic for Public Buildings: Providing Decision Makers with quantitative information. Case Study at provincial level, South West of France (Hautes-Pyrénées) *(Nicolas TAILLEFER ex-CSTB, BRGM) 20'*
- 5) **Emergency and Crisis Management** *( Ghislaine VERRHIEST, AFPS Working Group) 20'*  
Final Presentation: *(Jean-Philippe GIRARD)*
- 6) **Insurance & Seismic Risk Financing**
  - Seismic Risk Financing and transfer in France: the practical experience of a public-private insurance scheme *(Pierre TINARD – CCR) 20'*
  - Contribution to the insurance sector to an integrated approach of seismic risk management, involving risk transfer, risk prevention policy financing and data sharing for decision making and participative governance *(Pierre TINARD – CCR) 20'*
- 7) **Conclusion: Round table discussion on practical lessons learned from national integrated seismic risk management policies and further co-operations to implement** *60'*