

# **JSCE Task Committee 329 on “Seismic Design of Concrete Structures”**

## **SCOPE**

After a half year since 1995 Hyogoken Nanbu Earthquake, the JSCE task committee 303 on seismic behavior of concrete structures (Chair: Prof. K. Maruyama, Nakagaoka University of Technology) was established and the fruitful discussions on the seismic behavior and performance verification of RC structures were made. Following to the conclusions by the committee 303, the task committee 329 on seismic design of concrete structures (Chair: Prof. H. Shima, Kochi University of Technology) was established in 2003. The objectives of the activities of the committee are, to investigate the current technical situation of seismic design, to investigate the techniques for the “good” structural design using JSCE Standard Specifications for Concrete Structures (Seismic Performance Verification) published in 2002 and, to discuss about the essential numerical techniques and the required performance of RC structures.

The results of the discussions during the first two years of the committee had already been published in 2005. Concerning the seismic design of concrete structures, three levels of design frameworks named “Civil Design”, “Structural Design” and “Detail Design”, were proposed. Furthermore, the techniques to fully utilize the performance-based design specifications for ideal structural design were discussed. Concerning the seismic performance verification techniques, the appropriate index and its limit values used for performance verification and the application of soil-structure coupled analysis as a calculation method of structural response were discussed, basing on the coupling of “response” and “limit value” in the performance verification method. Additionally, the integrated technique for long-term performance verification in time domain, considering the possible earthquakes during the life time of structure, and other possible external actions, was investigated. Keeping the maintenance of structures in mind, the influence of deterioration due to environmental actions on the structural performance, the effectiveness of strengthening and repairing, the requirement of seismic motions for performance verification and the loss evaluation due to the earthquakes were discussed. The activity of the second two years has already started since January 2006 and its ultimate objective, namely, “How to realize a ‘Good’ design”, have not been changed.

## **WORKING GROUPS**

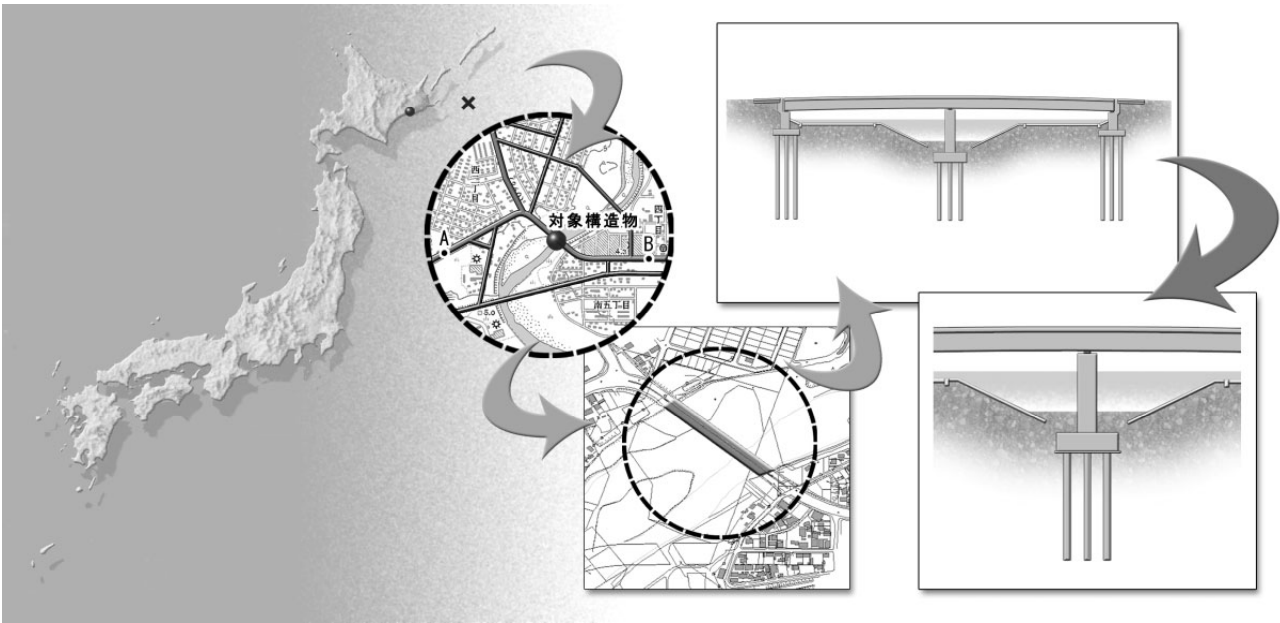
**WG1:** Seismic design of concrete structures

**WG2:** Seismic performance verification techniques

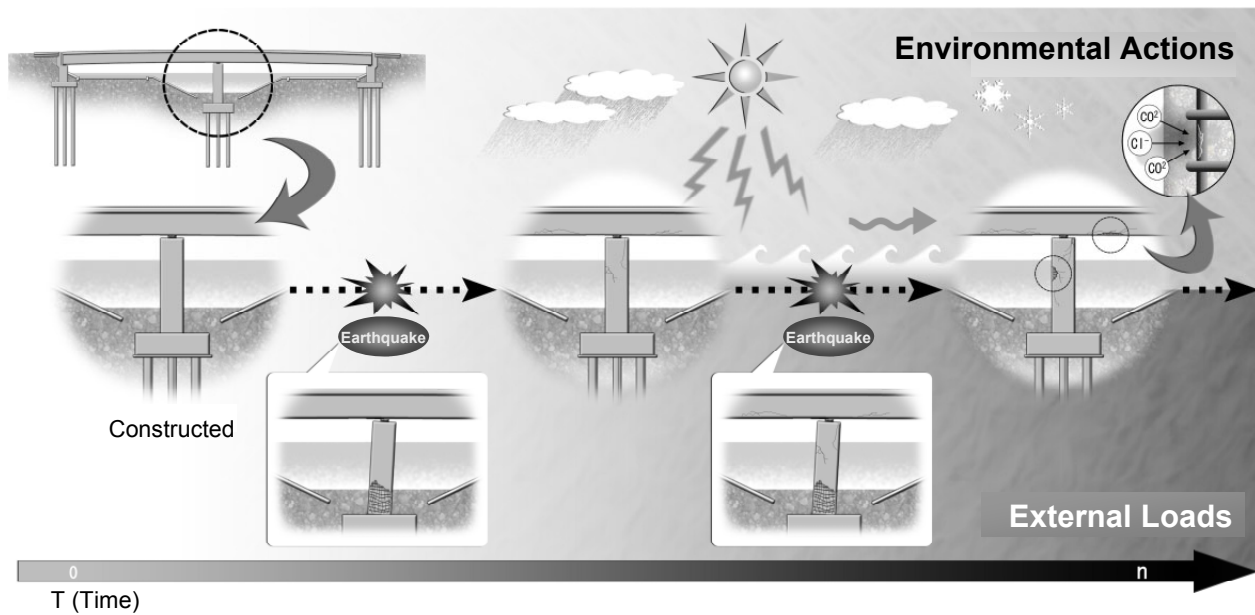
**WG3:** Overall performance verification techniques considering time axis

## **ACTIVITIES**

The JSCE Task Committee 329 started its work in July 2003 with 28 members and a report of its activities of the first two years was published in September 2005 in Japanese. The work continues for more two years since January 2006 and will finish in the end of this year.



**Proposed Three Design Levels of Infrastructure**



**Integrated Technique for Long-term Performance Verification in Time Domain**