



INTRODUCTORY REMARKS FOR SPECIAL THEME SESSION REHABILITATION OF BUILDINGS

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It is quite fitting that a Special Theme Session on Rehabilitation of Buildings should be presented at the 11WCEE in Mexico. In 1985, Mexico City was hit with one of the worst earthquakes in modern history. A substantial number of structures collapsed or suffered severe damage. The local authorities were faced with the task of monitoring the rebuilding process and developing guidelines for design and construction. The disaster required earthquake engineering professionals in Mexico City to face issues that were unique to the city and were unprecedented in previous earthquakes. In providing guidelines for repair and rehabilitation and in carrying out the largest rebuilding program to that time, their experience offers much that will benefit structural engineers and policy makers all over the world. There was close cooperation regarding rehabilitation research between Mexican and US structural engineers for a number of years following the 1985 earthquake. A number of cooperative research efforts were organized and led to visits by US engineers to Mexico City and to graduate studies for Mexican engineers at US universities. Both sides benefited from these contacts and interchanges. One project merits special mention. The National Science Foundation supported a team of engineers for a visit to Mexico City to view rehabilitation work in progress and to engage in a round table discussion with their counterparts in Mexico. The discussion was far-ranging and dealt with the experiences of the Mexican engineers, the approaches considered, problems encountered, and lessons learned. It was a rewarding trip for the US team because of the open, frank conversations with the Mexican colleagues. That meeting led to a decision to develop a report outlining a number of specific projects and providing the information for the benefit of those who were not so directly involved. The report has taken much longer to complete than anticipated but it is finally available. Even though the report does not contain details of all the projects, it has sufficient information to permit the reader to understand the original design of the each structure, the condition after the 1985 earthquake, and the techniques used in repair or rehabilitation. It is intended that when some future event strikes Mexico City, the report may serve as a background document for assessing the response of at least a few typical rehabilitated buildings. In the Special Theme Session, rehabilitation activities in Mexico will be discussed by several authors. Other earthquakes have resulted in similar difficulties being faced by engineers in the US after Northridge and Loma Prieta and by Japanese engineers after Kobe and will be the focus of other papers. The events in the US, Japan, Turkey and other countries remind us that we still do not understand the behavior of existing structures which were designed before recent code changes were enacted (probably since the early 1970's). Although our new structures seem to be performing relatively well, the inventory of old buildings represents a hazard that we have not faced realistically in our developed and developing nations. The consequences of damage to these structures may well determine the survival of national economies and governments. Several presentations will address the development of national codes and guidelines for repair and rehabilitation. Perhaps no other technical issue so clearly demonstrates our common vulnerabilities as does the mitigation of natural disasters. And no issue may be more critical than mitigating the effects of damage to our built environment. We must work together if we are to succeed in this effort. We have much to learn from one another and no nation can afford to face these problems alone. The organizers of the Special Technical Session on Building Rehabilitation sincerely hope that it will lead to fruitful exchanges of ideas not only during the 11WCEE, but will lead to cooperation for years to come.