TASK 05

Description

Identify extent of building codes in other countries whose seismic provisions are modeled after the Uniform Building Code (UBC)

Reference

Input from committee member from the International Conference of Building Officials (ICBO).

Regulations For Seismic Design, A World List – 1996, compiled by the International Association for Earthquake Engineering, Tokyo, 1996.

Discussion

It is difficult to document all the countries using the UBC. ICBO has concluded that when people in other countries say that they "are using the UBC", it generally means that they are using it as a reference or guideline in establishing their own code or building laws with respect to design earthquake forces.

It is doubtful that any country is using the UBC quality assurance requirements.

Many countries utilize their academia as a technical resource for the development of code regulations in their country and, this being the case, many professors specializing in structural engineering, study the UBC through their undergraduate or post-graduate work, particularly when a country contains seismic zones 3 or 4. Other countries utilizing the UBC include those areas that are exposed to hurricanes.

These countries also use the UBC as a reference or guideline because of the concrete or masonry provisions since those materials are the most commonly used in these disaster prone areas. The UBC's concrete provisions are based on the American Concrete Institute's ACI 318 design standard and has gained recognition internationally. When combined with seismic or hurricane design code provisions, it provides a complete package of code regulations for their typical building construction materials and methods.

The steel provisions of the UBC are used to a lesser degree due to the availability of in-country raw materials but the American Institute of Steel Construction (AISC) and the American Iron and Steel Institute (AISI) are also considered as recognized leaders in their own right. Steel construction is used primarily in high rise buildings when shown to be more economically feasible than concrete, however light gage steel is starting to gain momentum.

Wood materials are not commonly used in construction in other countries except for what is considered as a substandard construction. Unfortunately, the technology of structural wood materials available to each country has not been thoroughly commercialized due to the cultural attitude toward wood construction and the long history of the use of concrete. For instance, allowable stresses for common wood species in many of these countries have not been established and therefore, the proper engineering design and construction methodology for wood cannot progress much further without this information. Many countries think of wood as materials only acceptable for the manufacturing of furniture and not as a building material as in the U.S.

Another way the UBC is utilized in other countries is if a design architectural and/or engineering firm from the United States has designed a building to the UBC and is submitting the project to be built overseas. These designs are more than likely to be accepted provided it is considered to be equivalent or more restrictive than their current regulations. In many cases, the acceptance of this design begins the process of using the UBC as a guideline or reference.

Following is a brief and incomplete listing of countries and their involvement with ICBO and/or the UBC:

Country	Remarks
American Samoa	Adopted UBC
Argentina	Volumes 1 and 2 of the 1997 UBC have been translated into Spanish. The Province of Mendoza is in a high seismic area and is considering adopting the UBC.
Australia	Appears to be based on the UBC.
Chile	ICBO has established contact. There is an interest in the Spanish translation of the 1997 UBC.
China	ICBO has met with delegation of Chinese building officials
Columbia	Appears to be based on the UBC.
Ecuador	ICBO has established contact. There is an interest in the Spanish translation of the 1997 UBC.
Egypt	UBC used as a reference. Not adopted. ICBO has been contacted regarding the creation of an Arabic translation of the 1997 UBC.
Guam	Adopted UBC
India	UBC used as a reference. Not adopted.
Iran	UBC used as a reference. Not adopted.

Country	Remarks
Iraq	UBC used as a reference. Not adopted.
Japan	ICBO works closely with Japan Conference of Building Officials (JCBO).
Mexico	ICBO has established contact. There is an interest in the Spanish translation of the 1997 UBC.
Nicaragua	U.S. Department of Agriculture has discussed the possibility of ICBO creating a "picture book" code containing drawings and photographs to illustrate how to build a small two-room dwelling using concrete and/or concrete block with a wood roof. This code would be targeted to the homebuilder or contractor.
Northern Mariana Islands	Adopted UBC
Peru	ICBO has established contact. There is an interest in the Spanish translation of the 1997 UBC.
Philippines	Appears to be based on the UBC.
Puerto Rico	Adopted UBC
Saudi Arabia	ICBO is working with the Saudi Arabian Standards Organization in the creation of the First Edition of the Saudi Building Code (SBC) which is approximately 90-95% of the 1997 UBC.
Taiwan	Structural chapters of 1994 UBC translated into Chinese for the Taiwan Ministry of Construction to use as a reference. Taiwan professors were highly critical of this effort since they had sole power in writing the Taiwan building code.
Turkey	UBC used as a reference. Not adopted.
Venezuela	ICBO has established contact. There is an interest in the Spanish translation of the 1997 UBC.
Virgin Islands	Adopted UBC