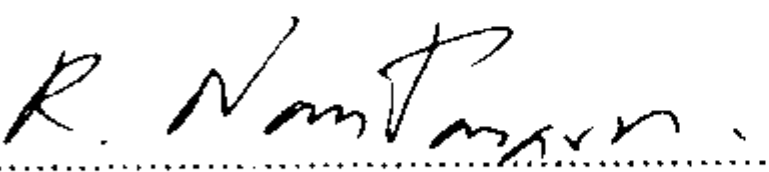
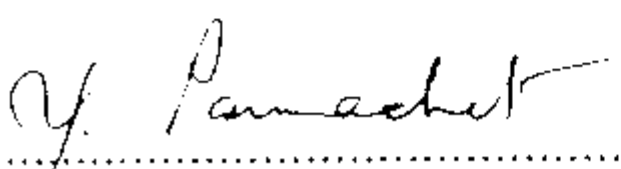


THESIS TITLE : COMPARISON OF ALLOWABLE STRESS DESIGN AND LOAD-AND-  
RESISTANCE FACTOR DESIGN OF STEEL STRUCTURES UNDER  
SEISMIC LOADING

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### ABSTRACT

The aim of this research is to compare a number of component in steel structure by Allowable Stress Design (ASD) method and the Load and Resistance Factor Design (LRFD) method, according to the American Institute of Steel Construction (AISC) standard. This research covered the specified system of steel structures under seismic loading, as known Ductile Moment-Resisting Space Frame, and the influence of lateral load designed according to the Equivalent Static Force Method in a moderate risk area (Area 2), as specified in the Ministerial Statute No.49 (B.E.2540), Ministry of Interior. The buildings studied were built on the solid soil layer and were classified following this Ministerial Statute. The structure was formed by H shape structural steel in accordance with the TIS 1227-2539 and the ASTM 1234-1995.

This research revealed that a number of components in steel structures designed by the LRFD method were less than that designed by ASD method approximately 24% to 27%. It was also show that the design by LRFD method was more economical than that by ASD Method. In addition, a number of structural steel were relatively the same as in both the TIS and ASTM standards.