COMPARATIVE STUDY DESIGN EARTHQUAKE-RESISTANT BUILDING STRUCTURE WITH FLAT PLATE SYSTEM BASED ON EARTHQUAKE LOADING PROCEDURES OF SNI 03-1726-2002 AND ASCE 7-05

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Abstract
Frequent damage to buildings caused by the earthquake that hit Indonesia in recent years, shows that the standards procedures in Indonesia is not safe enough and sufficient in designing earthquake-resistant buildings in Indonesia. Therefore, according to practitioners of the earthquake in Indonesia, SNI 03-1726-2002 as a guide in designing earthquake-resistant building still has many flaws and should be immediately revised. Already since the year 2000, fundamental changes regarding the rules in designing structures for earthquake loads in America, where direction the country is used as a reference for making SNI 03-1726-2002. These changes will certainly affect the regulation SNI 03-1726-2002 which still applies today. America itself has been using the ASCE 7-05 as the latest procedures in designing earthquake-resistant buildings and by practitioners of the earthquake in Indonesia, ASCE 7-05 will be used as a reference in revising SNI 03-1726-2002. ASCE 7-05 basic election rules as a reference in revising procedures of SNI 03-1726-2002, in addition because the earthquake technology is far more, ASCE 7-05 also specifies not only about the earthquake loading for the building but also consider other structures for earthquake loading in addition to the building. Therefore, this Final Project describes efforts on the determination and calculation of seismic
forces in accordance plan the development of regulations up to date ASCE7-05.

In this Final Project discuss one type of building 10-storey structure has a symmetrical configuration and lies in the middle of earthquake zone. The building structures will be designed using two Loading Earthquake Procedures, SNI 03-1726-2002 and ASCE 7-05 which reinforcement detailing will used SNI 03-2847-2002. From the results of calculations have been performed on this Final Project, it is concluded, the structure with a flat plate floor system designed using ASCE 7-05 has a base shear force and lateral displacement larger and needs more reinforcement on the lateral load resisting components compared with SNI 03-1726-2002.

**Keywords:** SNI 03-1726-2002, ASCE 7-05, flat plate, base shear force