THE NATIONAL COUNCIL OF EXAMINERS FOR ENGINEERING AND SURVEYING

PRINCIPLES AND PRACTICE OF ENGINEERING EXAMINATION

STRUCTURAL II

EFFECTIVE APRIL 2004

All problems are essay type. Four problems will be presented in each of the sessions (morning and afternoon): two problems in buildings and two problems in bridges. Examinees are to work both problems presented in either buildings or bridges in each session, in accordance with local instructions. Therefore if building problems are worked in the morning session, then building problems must also be worked in the afternoon session; if bridge problems are worked in the morning session, then bridge problems must also be worked in the afternoon session.

Buildings

The exam will test the following skills: defining the scope of work, reading and interpreting drawings, determining the method of analysis and applicable code requirements, using professional judgment in making design assumptions, integrating design requirements and organizing calculations, integrating analysis and design, following through from design into drawings and details, sketching details, applying quality control procedures to calculations and construction documents, and modifying structural elements as a result of coordinating with other design disciplines.

The exam content will include loads, forces, vertical support systems, lateral resisting systems, connections, and foundations.

Each examination will emphasize one of each of the following problem types:

1. Steel structure
2. Concrete structure
3. Wood and/or masonry structure
4. General analysis (e.g., existing structure, secondary structures, nonbuilding structures, and/or computer verification)

Two of the four problems in buildings will have seismic content.

Bridges

The exam will test the following skills: defining the scope of work, reading and interpreting drawings, determining the method of analysis and applicable code requirements, using professional judgment in making design assumptions, integrating design requirements and organizing calculations, integrating analysis and design, following through from design into drawings and details, sketching details, applying quality control procedures to calculations and construction documents, and modifying structural

elements as a result of coordinating with other design disciplines.

The exam content will include loads, superstructure, and substructure.

Each examination will emphasize one of each of the following problem types:
1. Steel bridge
2. Concrete bridge
3. Pier
4. General analysis (e.g., existing structure, culverts, retaining walls and abutments, and/or computer verification)

Each examination may test pedestrian bridge and/or vehicular bridge knowledge.

Two of the four problems in bridges will have seismic content.