C-503-2.7
Appendix A

Professional Engineers
Ontario

Terms of Reference

Design Evaluation of Demountable Event Structures Subcommittee

(July 30, 2015)

OBJECTIVES

The Design Evaluation of Demountable Event Structures Subcommittee is directed by the Professional Standards Committee to investigate the professional aspects in this area of engineering practice. The subcommittee shall recommend best practices for engineers involved in this line of work, and prepare a guideline describing these best practices. Furthermore, the guideline may be referred to by other regulators and members of the public, who seek to understand the role and responsibilities of engineers undertaking this type of work.

BACKGROUND

In October 2013 the Ministry of Municipal Affairs and Housing (MMAH) established the *"Expert Advisory Panel on Outdoor Temporary Stages"*. This panel was tasked with providing "recommendations to government on the regulation of the design and construction of temporary stages". The Chair of this panel contacted PEO to indicate that their members identified a need for best practices in this area ofengineering. Furthermore, municipalities require that these structures undergo an engineering design evaluation. This engineering design evaluation could be separated into two functions:

- Design Verification, and
- Design Validation

Design Verification

Demountable Event Structures are often designed and manufactured outside of Ontario. Consequently, practitioners in Ontario are retained to ensure that the design of these structures complies with applicable statutes, regulations, standards, codes, by-laws, rules, and industry best practices. Design verification by a professional engineer refers to a review of the engineering design documents, including installation, dismantling, maintenance, and operation plans for these structures, to ensure correctness against local or National design requirements. The subcommittee will recommend best practices when these documents are not available.

Design Validation

Demountable Event Structures are portable and are often used in several different locations. Consequently, practitioners are retained to evaluate the design of the structure as erected at a specific site to ensure it can withstand the loading conditions of the new location. Design validation by a professional engineer means the engineering design documents, including site specific installation drawings and operation plans for these structures, have been examined for correctness against the local requirements in the new location. The subcommittee will recommend best practices when components are substituted, different systems are assembled together, older components are used, and other design modifications are made that need to be validated by an engineer.

Demountable Event Structure

A temporary structure dedicated to house the technical production of entertainment events, including custom temporary structures, for either indoor or outdoor use.

The subcommittee will review and if needed revise these definitions.

PEO already has guidelines which apply to Demountable Event Stuctures, including: Structural Design Services, General Review of Construction, and a bulletin on Structural Condition Assessments. However, it has no specific guidelines for these type of Design Evaluations.

MANDATE (Specific Tasks)

This subcommittee is expected to obtain and provide information that will aid engineers to perform their engineering role when conducting a design evalution of these structures in accordance with the *Professional Engineers Act* and *Regulation 941*. Tasks that the subcommittee should consider as useful to this process are:

a) prepare a practice guideline for *Design Evaluation of Demountable Event Structures*,

b) recommend to the Professional Standards Committee a performance standard for *Design Evaluation of Demountable Event Structures* if there is evidence for mandatory requirements,

c) review and consider the final recommendations of the "*Expert Advisory Panel on Outdoor Temporary Stages"* when developing the above practice guideline, and

d) review recommendations, such as inquiry or coroner's reports, arising of failures of Demountable Event Structures, such as those in Downsview, Calgary, and Ottawa.

Furthermore the subcommittee shall provide the Professional Standards Committee with interim progress reports to ensure the tasks are on schedule.

MEMBERSHIP

The subcommittee should be comprised of 7-10 members including 2 representatives of government regulatory bodies that regulate and inspect Demountable Event Structures. The majority of members should be engineers working in different engineering services firms that conduct design evaluations of Demountable Event Structures.

DELIVERABLES

The Subcommittee will present the completed practice guideline to the Professional Standards Committee no later than September 2017.

Meeting Schedule: At discretion of the Chair
Completion Date: September 2017