

Designing Nonbuilding Structures Using ASCE/SEI 7-22

Purpose and Background

This seminar will provide tools for a practicing engineer to design efficient non-building structures, using the requirements of ASCE/SEI 7-22 as a base document for determining wind and seismic forces. Some of this efficiency comes with an ability to recognize the limitations of prescriptive code requirements and to produce a defensible design using time-tested principles of engineering mechanics. Sometimes alternate designs that may not specifically comply with the letter of the code need to be investigated in such a way that the understood intent of the code will be met. Practical design examples will be used throughout the seminar to illustrate discussed principles.

Seminar Instructor

DAVE K. ADAMS, P.E., S.E., M.ASCE has been practicing structural engineering since graduation from the University of California, San Diego in 1990. He is currently a Principal Associate with BWE in San Diego, CA, and continues to serve as a subject matter expert for the California engineer's licensing board (BPELSG). He regularly designs and details structures of all materials and collaborates with other engineers and draftspersons. Dave also investigates structural failures or damage for a variety of building types and has written comprehensive reports to summarize findings and retrofit recommendation. Mr. Adams is actively involved in the engineering community through committee membership, paper publication, and student mentoring.

- For group training, contact John Wyrick (JWyrick@asce.org) or Stephanie Tomlinson (STomlinson@asce.org)

Summary Outline

DAY 1

- General requirements and coordination of relevant codes
- Wind loading and design considerations
- Seismic loading and design considerations
- Other load considerations and combinations
- Non-building structures similar to buildings
- Design examples

DAY 2

- Non-building structures not similar to buildings
- Understanding permanently-supported components (Chapter 13)
- Industrial facilities and crane systems
- Anchorage to masonry, concrete, steel, and wood
- Existing structures - Determining load ratings

Who Should Attend?

- Structural engineers,
- Industrial engineers
- Civil engineers
- Equipment manufacturers
- Facility managers
- Building officials

CEUs/PDHs: ASCE has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102. In addition, ASCE follows NCEES guidelines on continuing professional competency. Since continuing education requirements for P.E. license renewal vary from state to state, ASCE strongly recommends that individuals regularly check with their state registration board(s) on their specific continuing education requirements that affect P.E. licensure and the ability to renew licensure. For details on your state's requirements, please go to: http://www.ncees.org/licensure/licensing_boards/.

Learning Outcomes

- Become familiar with ASCE 7-22 for non-building structures subjected to pertinent load cases
- Coordinate requirements of ASCE 7-22 with those of the 2015 International Building Code and material standards, such as ACI 318-14 (concrete), AISC 360-10 (steel), and others
- Recognize non-building structures not addressed in ASCE 7-22
- Understand the importance of simplifying design procedures
- Assess the need to justify alternative design solutions for non-building structural systems

Assessment of Learning Outcomes

Achievement of the learning outcomes by attendees will be assessed through seminar evaluations, multiple question and answer sessions, personal contact with instructor during breaks, periodic material summaries, and end of the seminar review questionnaire.

ASCE seminars are available for On-Site Training. For details regarding On-Site Training and/or needs-based training opportunities, please contact:

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