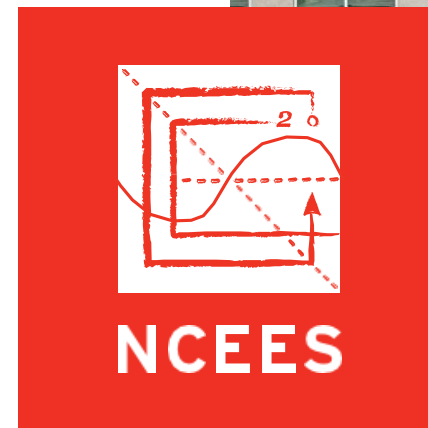




ENGINEERING FORUM

2025 Annual Meeting

Rosey Nogle, P.E.
NY board, EPE chair



AGENDA

- Exam update
- PE Nuclear exam update
- Structures working group
- Committee on licensure
 - Motion 9 (International Registry)
 - Motion 1 (Experience Reporting)
- Open discussion

$$\frac{K}{m_b} \frac{H^2}{I^2} \left(\frac{I^2}{H} \right) \left(\frac{d\bar{z}}{dt} \right)^2 - g \left(\frac{T^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$
$$\underbrace{\frac{K H}{m_b}} \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g \left(\frac{T^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

EXAM UPDATE

NCEES Chief Officer of Examinations Lehmon Dekle, P.E.

NCEES EXAMS

- Fundamental exams
 - **Fundamentals of Engineering (FE) exam**
 - Fundamentals of Surveying (FS) exam
- Principles and Practice exams
 - **Principles and Practice of Engineering (PE) exam**
 - Principles and Practice of Surveying exam (PS)
 - Public Land Survey System exam (PLSS)

CURRENT EXAMS

- 7 FE exams
- 30 PE exams*
 - 16 Disciplines
- 1 FS exam
- 1 PS exam
- 1 PLSS exam*

* PE Mechanical/Plumbing and PLSS under development

MASTER CBT TRANSITION SCHEDULE



Year	Larger / LOFT Exams	Smaller / LFF Exams	Exams (Publications)
2014	FE (7), FS ✓	n/a	2 (8)
2016	PS ✓	n/a	1 (1)
2018	CHE ✓	NUC ✓	2 (2)
2019	ENV ✓	PET ✓	2 (2)
2020	MEC (3) ✓	FPE, IND ✓	3 (5)
2021	ELEC (3) ✓	AGR, MIN ✓	3 (5)
2022	CIV (5) ✓	ARC, NAME, MET, CSE ✓	5 (9)
2024	STR (Breadth-2) ✓	STR (Depth-4) ✓	1 (6)
Totals	9 (24)	10 (14)	19 (38)

EXAM FORMATS

- Different formats used for NCEES exams based on examinee volumes
 - LOFT: Linear-on-the-fly test
 - LFF: Linear fixed form

LOFT EXAMS

- LOFT: Linear-on-the-fly-test
 - These exams have large examinee volumes.
 - Every examinee receives a different, but statistically equivalent, exam form.
 - Each form is the same length and covers the same topics.
- LOFT benefits
 - Year-round testing
 - Results released to NCEES daily; results released to examinees weekly (7–10 days)

LFF EXAMS

- LFF: Linear fixed form
 - LFF is used when the exam population is not large enough for LOFT.
 - Every examinee receives the same form (exact same items).
 - LFF exams are administered on single-day testing events.
- LFF benefits
 - LFF results are available the week after administration.

ALTERNATIVE ITEM TYPES (AITs)

- AIT formats NCEES uses:
 - Multiple select: Select all that apply.
 - Point and click: Identify a spot/area on a drawing/figure.
 - Drag and drop: Move tokens onto targets.
 - Fill in the blank: No distractors
- AITs are currently in use for all exams.

EXAM FORMATS—SUMMARY

- **LOFT FE/FS** exams—100 OP items, 10 PT items, 6-hour seat time (5-hour, 20-minute exam time), year-round
- **LOFT PS** exam—85 OP items, 15 PT items, 7-hour seat time (6-hour exam time), year-round
- **LOFT PE** exams—70 OP items, 10 PT items, 9-hour seat time (8-hour exam time), year-round
- **LFF PE** exams—70 OP items, 15 PT items, 9.5-hour seat time (8.5-hour exam time), event testing in October

EXAM FORMATS—SUMMARY

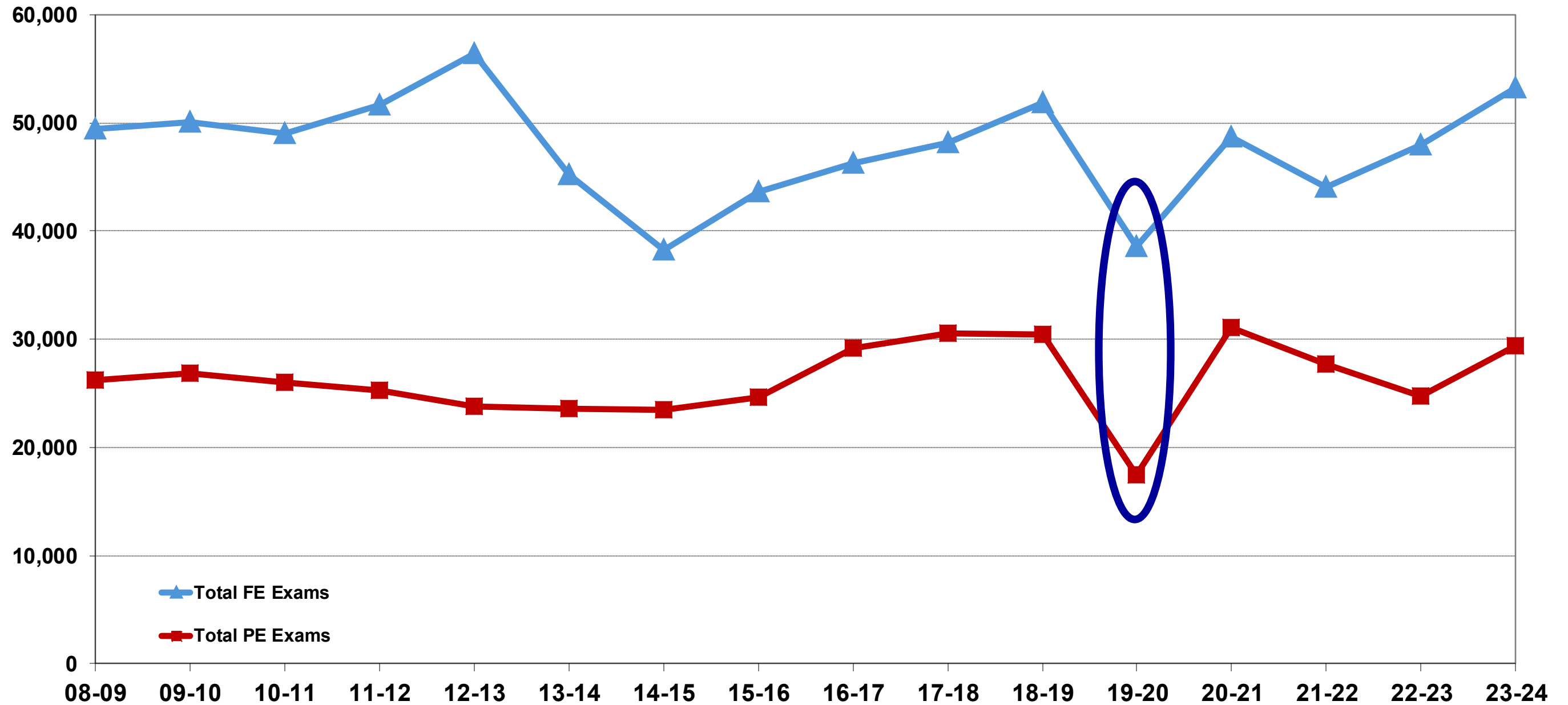
- **PE Structural exams:**

- LOFT Breadth exams (Vertical and Lateral): 45 OP items, 10 PT items, 6.0-hour seat time (5.5-hour exam time), year-round
- LFF Depth exams (Vertical and Lateral; Building and Bridge): 40 OP items, 20 PT items, 5.5-hour seat time (5.0-hour exam time), event testing in April and October

- **PLSS exam**

- LFF exams: 60 OP items, 15 PT items, 5-hour seat time (4.5-hour exam time), event testing in April and October

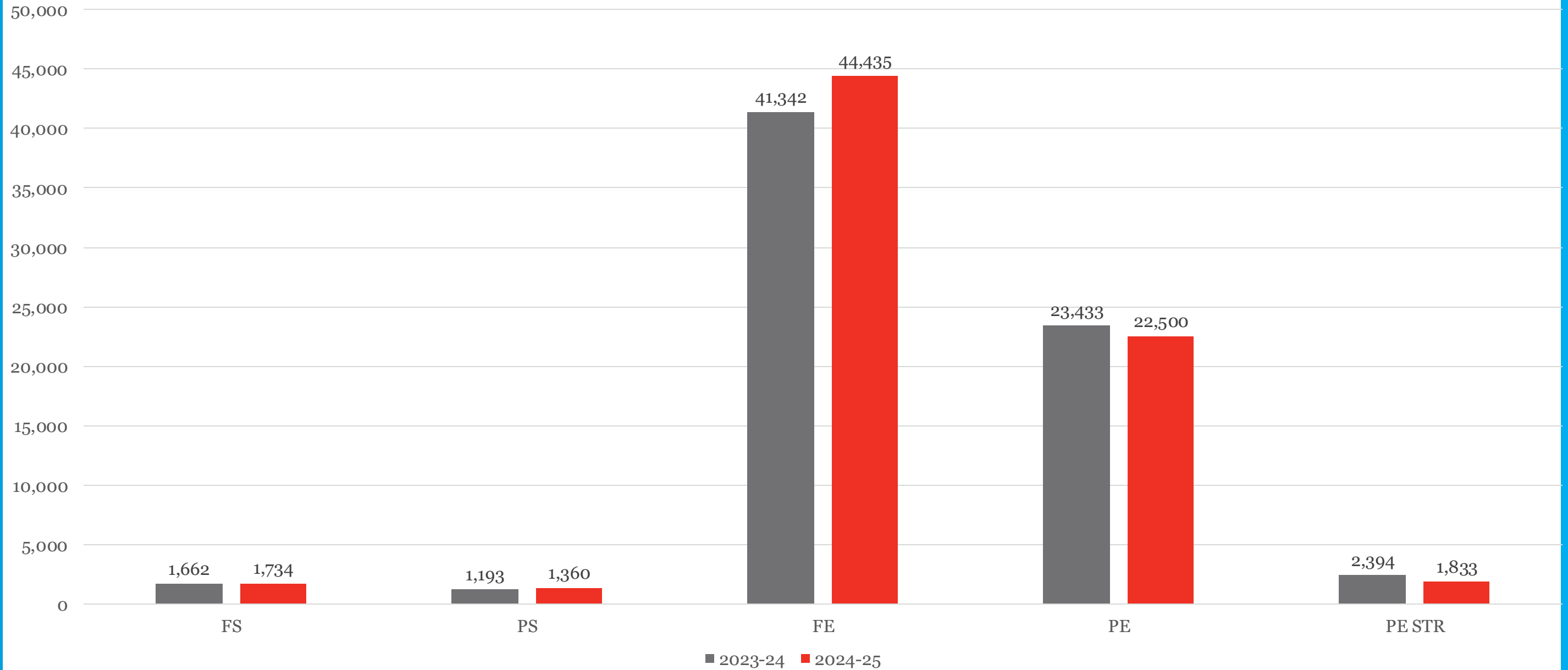
FE AND PE EXAM VOLUME TRENDS



EXAM VOLUMES



Exam Volumes Through FY Q3



FE EXAM VOLUMES AND PASS RATES—2024



	First Time Takers	Repeat Takers
FE Chemical	72% (1334/1857)	36% (107/295)
FE Civil	60% (9367/15586)	32% (2969/9260)
FE Electrical and Computer	62% (3323/5323)	32% (600/1882)
FE Environmental	68% (1604/2375)	38% (344/910)
FE Industrial and Systems	65% (337/521)	24% (21/89)
FE Mechanical	68% (7227/10584)	36% (684/1906)
FE Other Disciplines	60% (1422/2387)	27% (254/931)

PE CIVIL EXAM VOLUMES AND PASS RATES—2024



	First Time Takers	Repeat Takers
Construction	57% (996/1748)	40% (330/826)
Geotechnical	60% (529/882)	39% (150/380)
Structural	57% (1809/3150)	42% (552/1306)
Transportation	61% (2336/3828)	41% (617/1488)
Water Resources and Environmental	70% (2951/4242)	53% (683/1300)

PE EXAM VOLUMES AND PASS RATES—2024



	First Time Takers	Repeat Takers
PE Electrical and Computer: Computer Engineering	67% (14/21)	0% (0/5)
PE Electrical and Computer: Electronics, Controls, and Communications	75% (59/79)	52% (13/25)
PE Electrical and Computer: Power	59% (1353/2311)	42% (461/1104)
PE Mechanical: HVAC and Refrigeration	74% (935/1266)	55% (207/378)
PE Mechanical: Machine Design and Materials	66% (485/737)	47% (86/182)
PE Mechanical: Thermal and Fluid Systems	75% (689/921)	54% (93/172)

PE EXAM VOLUMES AND PASS RATES—2024



	First Time Takers	Repeat Takers
PE Agricultural and Biological	81% (25/31)	N/A
PE Architectural	59% (64/109)	20% (4/20)
PE Chemical	59% (255/429)	29% (35/121)
PE Control Systems	58% (72/124)	39% (20/51)
PE Environmental	71% (498/701)	50% (93/187)
PE Fire Protection	78% (142/181)	29% (10/35)

PE EXAM VOLUMES AND PASS RATES—2024



	First Time Takers	Repeat Takers
PE Industrial and Systems	60% (58/96)	39% (7/18)
PE Metallurgical and Materials	68% (30/44)	29% (2/7)
PE Mining and Mineral Processing	80% (36/45)	45% (5/11)
PE Naval Architecture/Marine	54% (20/37)	71% (5/7)
PE Nuclear	54% (7/13)	0% (0/2)
PE Petroleum	42% (22/52)	33% (7/21)

PE STR VOLUMES AND PASS RATES *



	First Time Takers	Repeat Takers
PE Structural Lateral Breadth	45% (227/510)	42% (44/105)
PE Structural Vertical Breadth	46% (341/742)	33% (31/94)
PE Structural Lateral Depth Buildings	18% (79/447)	21% (33/155)
PE Structural Lateral Depth Bridges	48% (57/119)	38% (11/29)
PE Structural Vertical Depth Buildings	13% (85/634)	16% (26/160)
PE Structural Vertical Depth Bridges	32% (30/93)	60% (9/15)

* Includes April 2024 – June 2025 member board examinees
(April 2024, October 2024, and April 2025 Depth administrations)

divide by m_b :

$$\frac{k}{m_b} \frac{H^2}{T^2} \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g + \frac{H}{T^2} \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

QUESTIONS

coefficients

divide by coefficient

$$\frac{H}{T^2}$$



PE STRUCTURAL EXAM UPDATE

NCEES Chief Officer of Examinations Lehmon Dekle, P.E.



PE STR Exam

Lateral Component

Vertical Component

Breadth Section MCQ

Depth Section Scenarios with AITs

Breadth Section MCQ

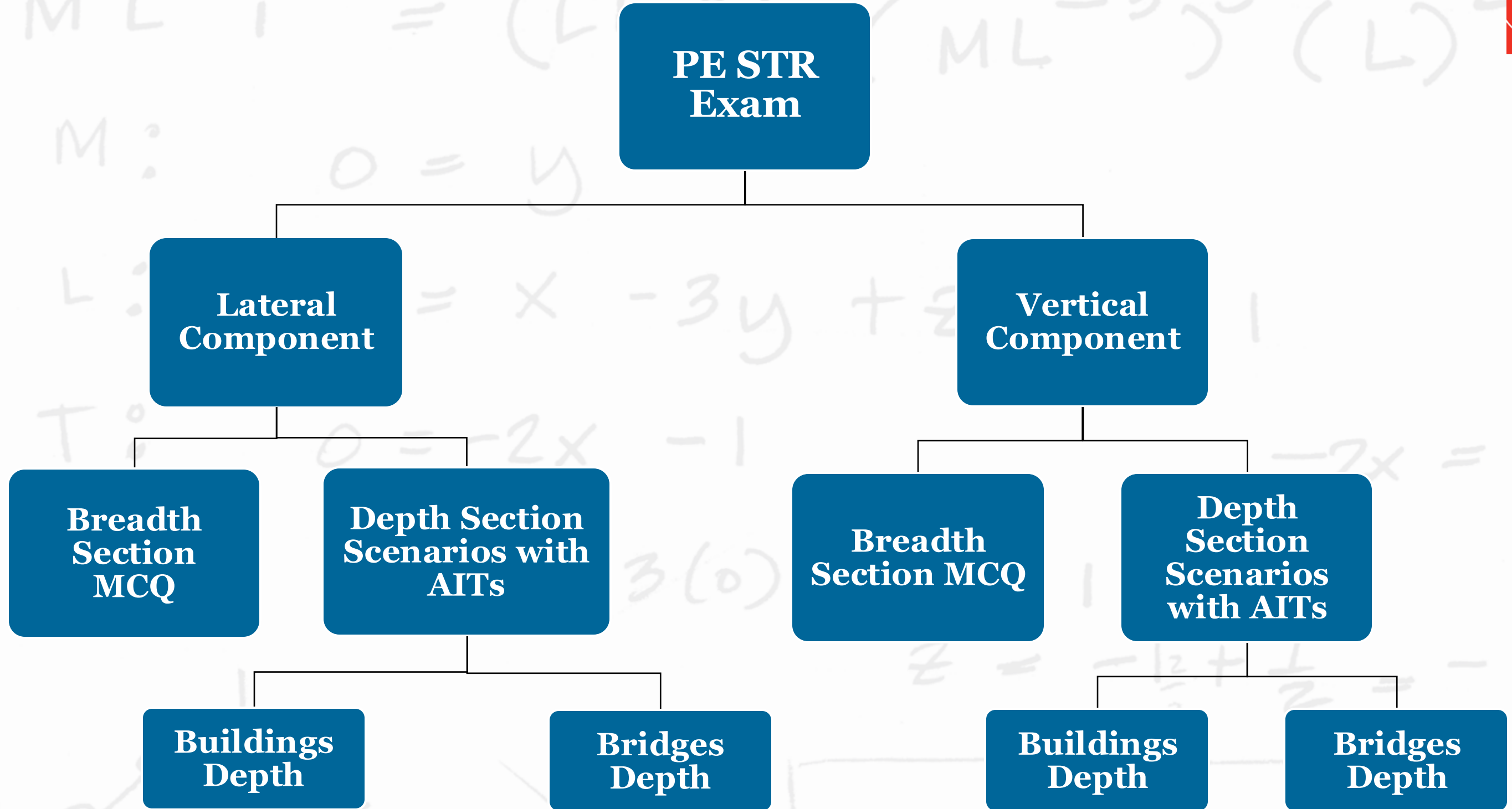
Depth Section Scenarios with AITs

Buildings Depth

Bridges Depth

Buildings Depth

Bridges Depth



PE STRUCTURAL EXAM

- Each exam is comprised of a Vertical and Lateral component.
- Each component is comprised of a Breadth section and Depth section, and these may be taken, and passed separately at different times.
- A candidate must pass all four sections in order to “pass” the PE Structural exam.
- Breadth sections are 5.5 hours (exam time) with 45 scored questions and 10 pretest (non-scored) questions.
- All Breadth section questions are multiple choice and test building and bridge knowledge.

PE STRUCTURAL EXAM

- The Depth sections (both Buildings and Bridges) are **currently** 5.0 hours (exam time) with 5 scenarios, each scenario having a set of 12 questions.
 - For four of the scenarios, 10 of the 12 questions are scored questions, which contribute to the examinees' result, and two are pretest questions.
 - A fifth scenario is a pretest scenario with 12 pretest questions. This is necessary to ensure new scenarios and questions are added to the item bank.
- The questions associated with the scenarios are alternative item types, such as multiple correct, drag and drop, point and click, and fill in the blank.

PE STRUCTURAL EXAM

- Breadth (LOFT) exams began administration April 1, 2024.
- Depth (LFF) exams have been administered three times: April 2024, October 2024, and April 2025.
- Depth exams results are post-equated (released several weeks after administration).

PE STRUCTURAL EXAM FEEDBACK

- Only one screen is available for testing.
 - PVUE test center equipment is the same for all clients.
- Only one reference can be opened at a time.
 - This is a system limitation to mitigate lag due to rendering large PDFs during delivery.
- Examinee time (speededness).
 - 60 additional minutes of exam time are being added in April 2026.
- Exam pass rates.
 - The passing standard of competence is established at a standard setting meeting. Equating maintains the same standard, so pass rates are expected to be stable until a new standard of competence is set.

PE STRUCTURAL EXAM

- A PAKS has recently been completed.
 - EPE formally approved test specifications on August 7, 2025.
- New test specifications effective April 2027:
 - Reduces the number of Pretest items from 20 to 8.
 - Eliminates the 12-item Pretest scenario entirely.
 - Increases the per-item exam time from 5.0 minutes/item today (6.0 minutes/item beginning April 2026) to 7.5 minutes/item.
 - A standard setting will be conducted (new standard of competence).

PE MECHANICAL PLUMBING EXAM UPDATE

NCEES Chief Officer of Examinations Lehmon Dekle, P.E.

PE MECHANICAL PLUMBING EXAM

- Exam specification approved December 2023.
- Exam development began June 2024.
 - Establish item bank.
 - Identify bad pairs.
 - Develop supplied reference handbook.
 - Develop practice exam.
 - Establish standard of competence.
- Exam development is currently on schedule.
- Notify member boards of new exam.
 - One year prior to anchor exam administration
- Administer new exam.
 - No sooner than 2028

PE MECHANICAL PLUMBING EXAM

- Exam will be administered in LFF format.
- Administered once per year.
- Exam will be comprised of 85 items.
 - 70 operational items
 - 15 pretest items
- Appointment time will be 9.5 hours.
- Seat time will be 8.5 hours.
- Exam fee will be \$400.

divide by m_b :

$$\frac{k}{m_b} \frac{H^2}{T^2} \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g + \frac{H}{T^2} \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

FINAL QUESTIONS

coefficients

divide by coefficient

$$\frac{H}{T^2}$$



of coefficient

$$\frac{K}{m_b} \frac{H^2}{I^2} \left(\frac{I^2}{H} \right) \left(\frac{d\bar{z}}{dt} \right)^2 - g \left(\frac{I^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$
$$\underbrace{\frac{K H}{m_b}} \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g \underbrace{\left(\frac{I^2}{H} \right)} + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

PE NUCLEAR EXAM UPDATE

Samuel G. Wilson, DBA, P.E.

NUCLEAR PE EXAM

- The Nuclear Professional Engineering Examination
 - Recommended for suspension or elimination
- The exam has experienced a low number of examinees.
 - Below what is adequate for accurate psychometric analysis per EDP 6
 - Psychometricians need a minimum of **25 *first-time*** member board examinees per administration.
- Exam bank will not remain viable in this situation.
 - Existing bank item statistics cannot be updated.
 - Performance statistics cannot be calibrated for new items.

PSYCHOMETRIC ISSUES

- Low Volume Exam Statistics
 - Classical Test Theory
 - Can create tests that are reliable and valid
 - Analyzing the performance of individual items and the overall test structure
 - Explains how observed scores relate to true scores and measurement error
 - Effective with 50 examinees and useful with as few as 20 examinees
 - Helps quantify and reduce measurement error
 - Can be used across disciplines

References:

DeVellis, R. F. (2006). Classical test theory. *Medical care*, 44(11), S50-S59.

Hambleton, R. K., & Jones, R. W. (1993). Comparison of classical test theory and item response theory and their applications to test development. *Educational measurement: issues and practice*, 12(3), 38-47.

Traub, R. E. (1997). Classical test theory in historical perspective. *Educational Measurement*, 16, 8-13.

NUCLEAR PE EXAM ACTIONS

- 2024–25 Examination Policy and Procedures (EPP) and Examinations for Professional Engineers (EPE) committees sent recommendations to the board of directors.
 - EPP: Recommended elimination per EDP 6.A (Discontinuation of an Examination)
 - EPE: Recommended suspension per EDP 6.G (Temporary Suspension of an Examination)
- Board of directors received these recommendations in May 2025.
- After deliberation, the board directed staff to undertake specific activities in an effort to retain the PE Nuclear examination.

NUCLEAR PE EXAM NEXT STEPS

- Initiate a new PAKS

- The goal: develop a test specification applicable to a broad spectrum of practicing nuclear engineers wishing to become licensed PEs.
- Survey broadly to identify potential content applicable to engineers practicing in the nuclear field.
- Involve non-licensed nuclear engineers in the survey development and survey response stages of the PAKS (industry, government, military, consulting, etc.).
- Utilize only licensed PEs during test specification development and standard setting.
- At request of a supporting technical society, move the exam administration to April (currently administered in October).

- Remedial action plan

- Directed staff to develop a plan applicable to all low volume exams outlining NCEES responsibilities to support and revitalize those exams.

LOW VOLUME EXAMS

Five Year Average

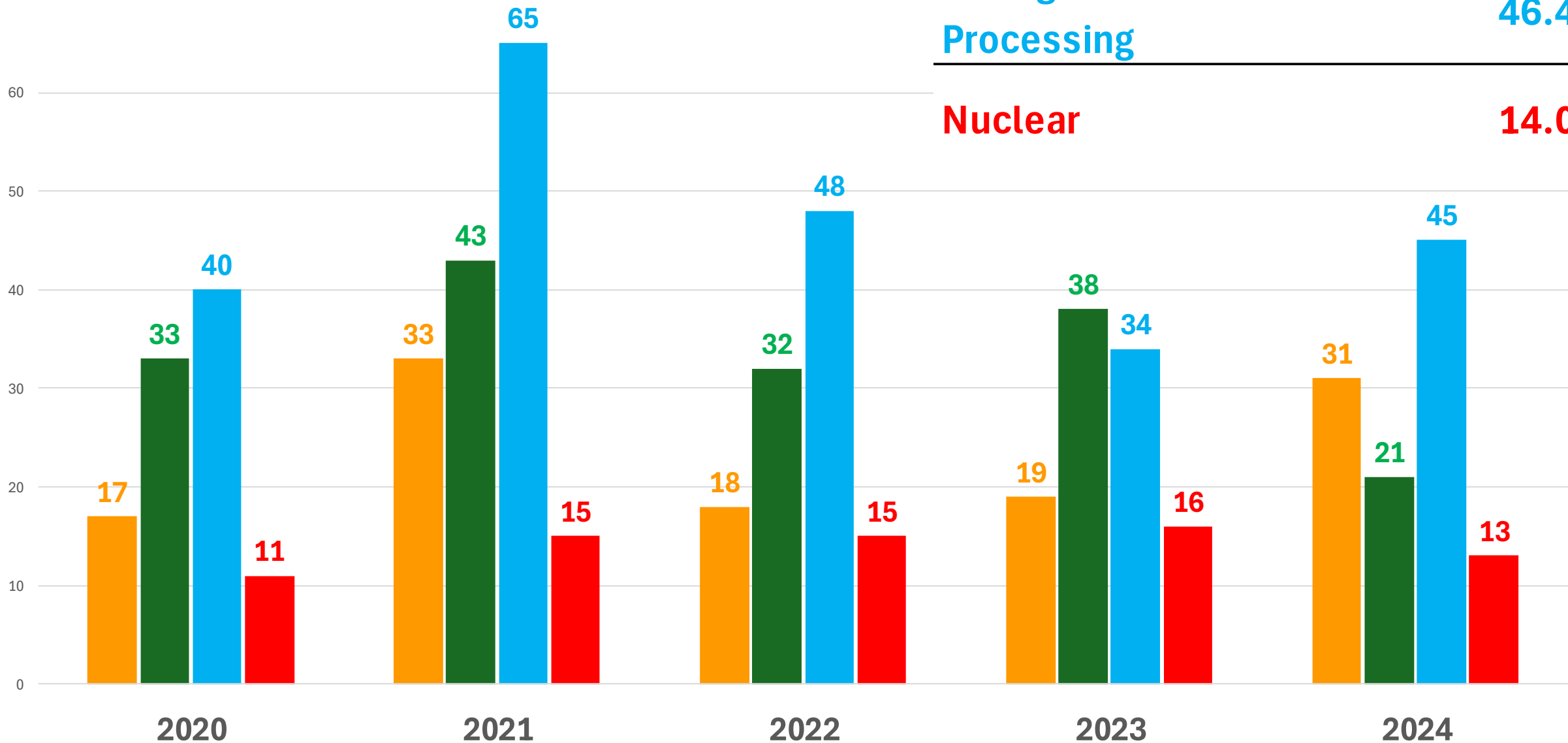
Agricultural and Biological 23.6

**Electrical and Computer:
Computer Engineering** 33.4

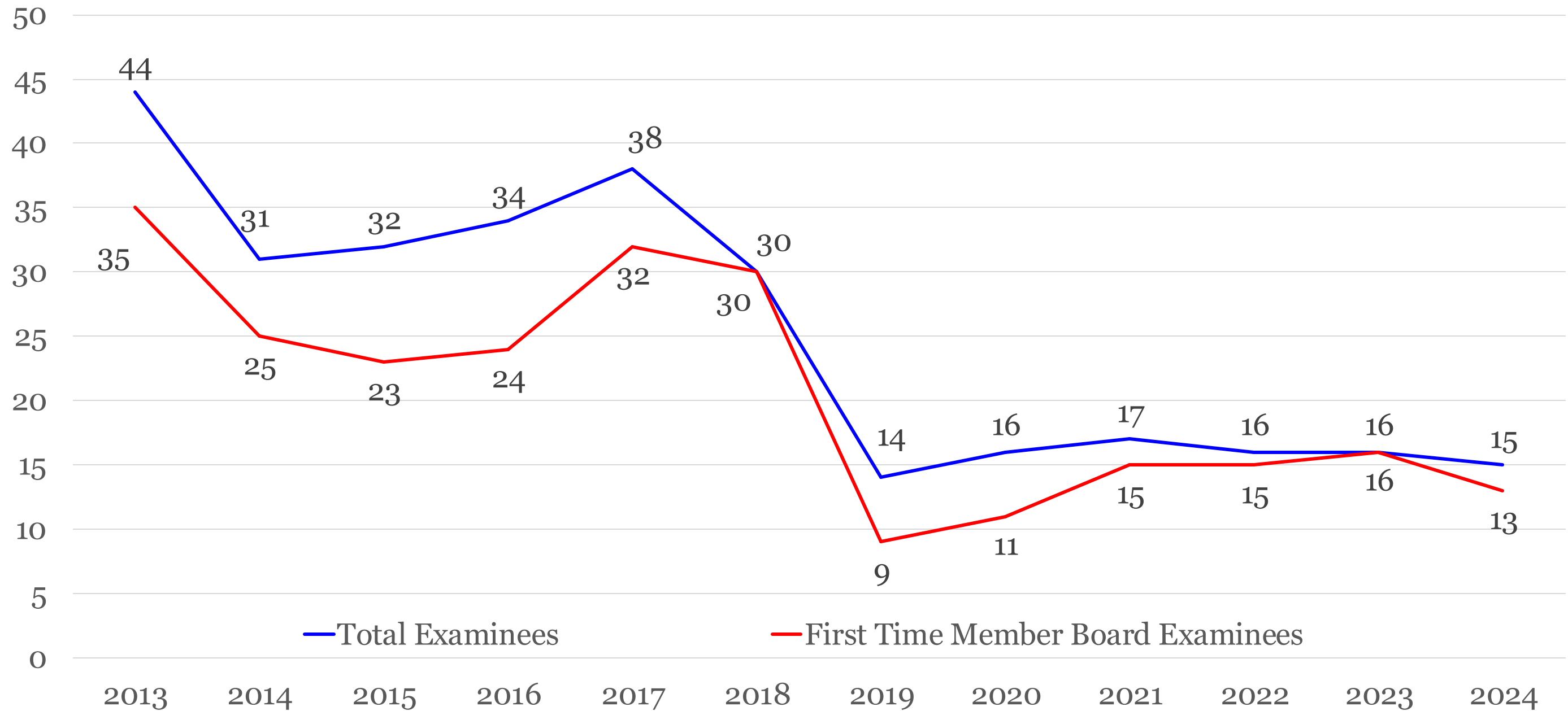
**Mining and Mineral
Processing** 46.4

Nuclear 14.0

First Time Examinees 2020-2024



PE NUCLEAR EXAM VOLUMES



NUCLEAR PE EXAM

- Initial PAKS timing
 - Fall 2025: initiate PAKS
 - Fall 2026: conclude PAKS; EPE committee approve updated exam specification
 - 2026–27: exam development, update handbook, practice exam, etc.
 - Fall 2027: suspend the October 2027 examination
 - No sooner than April 2028: administer updated PE Nuclear exam
- This is a very aggressive schedule
 - If it takes longer, one additional form would be administered in the existing test specification.
 - First administration of new examination would become April 2029.

of coefficient

$$\frac{K}{m_b} \frac{H^2}{I^2} \left(\frac{I^2}{H} \right) \left(\frac{d\bar{z}}{dt} \right)^2 - g \left(\frac{I^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$
$$\underbrace{\frac{K H}{m_b}} \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - \underbrace{g \left(\frac{I^2}{H} \right)} + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

2024–25 STRUCTURES WORKING GROUP UPDATE

Carl Josephson, P.E., S.E.



The Structures Working Group was established to examine three issues:

1. Whether “Significant Structures” should be defined within NCEES *Model Law* and/or *Model Rules* or their respective appendices.
2. Whether construction oversight, commissioning, critical analysis, and inspections should be included within the definition of the “Practice of Engineering” as outlined in NCEES *Model Law*.
3. Recommend next steps to be reported to the NCEES board of directors.

STRUCTURES WORKING GROUP MEMBERS

Andrew Zoutewelle, P.L.S., NCEES President; Emeritus Member, North Carolina Board of Examiners for Engineers and Surveyors

Jason Gamble, P.E., NCEES Chief Operating Officer; Coordinator of the Structures Working Group

Jason Suelter, P.E., S.E., Central Zone Vice President and NCEES Board Liaison; Chair, Nebraska Board of Engineers and Architects; President, Vector Structural Design, Lincoln, NE

Sreenivas Alampalli, Ph.D., P.E., Member, New York Board for Engineering, Land Surveying and Geology; NYSDOT (Retired); Sr. Principal in Stantec Transportation Practice, Bridge Sector, Albany, NY

Cedric Fairbanks, Ph.D., P.E., Engineering Committee Chair, North Carolina Board of Examiners for Engineers and Surveyors; Lead Engineer, Duke Energy, Durham, NC

Carl Josephson, P.E., S.E., Emeritus Member, California Board for Professional Engineers, Land Surveyors, and Geologists; Sr. Principal Structural Engineer, Josephson-Werdowatz & Assoc., San Diego, CA

Chun Lau, P.E., S.E., Emeritus Member, Washington State Board of Registration for Professional Engineers and Land Surveyors; Managing Principal (retired), Brown and Caldwell, Seattle, WA

Eric Wheeler, S.E., Member, Structural Engineering Board, Illinois Department of Financial and Professional Regulation; Vice President, Thornton Tomasetti, Chicago, IL



BACKGROUND TO DISCUSSIONS





■ Fifteen jurisdictions license Structural Engineers.

Full practice

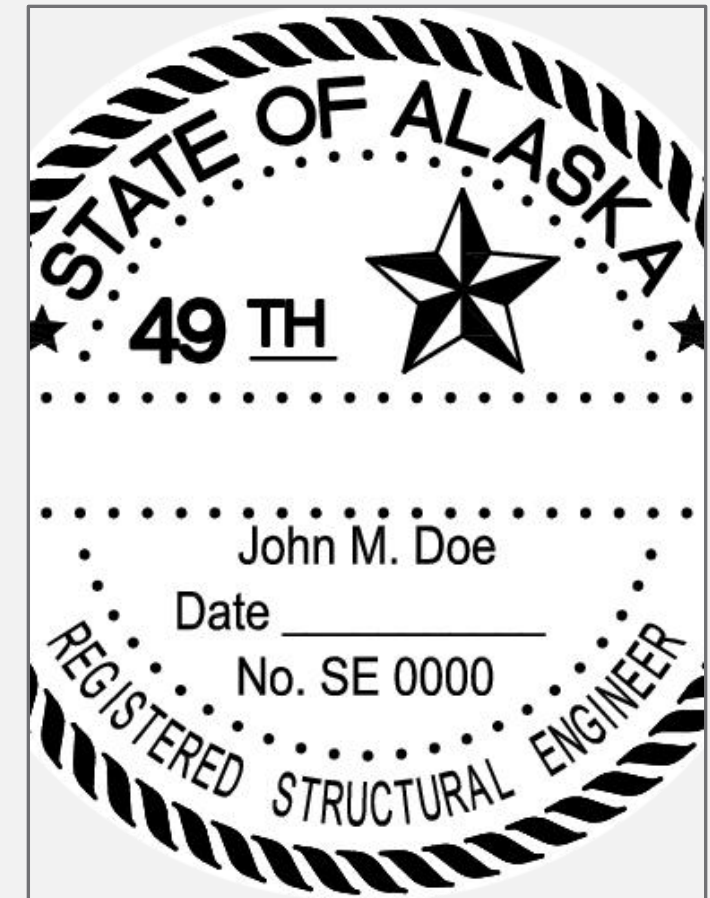
Hawaii
Illinois

Partial practice

Alaska
California
Georgia
Guam
Nevada
Northern Mariana Islands
Oklahoma
Oregon
Utah
Washington

Title only

Arizona
Louisiana
Nebraska





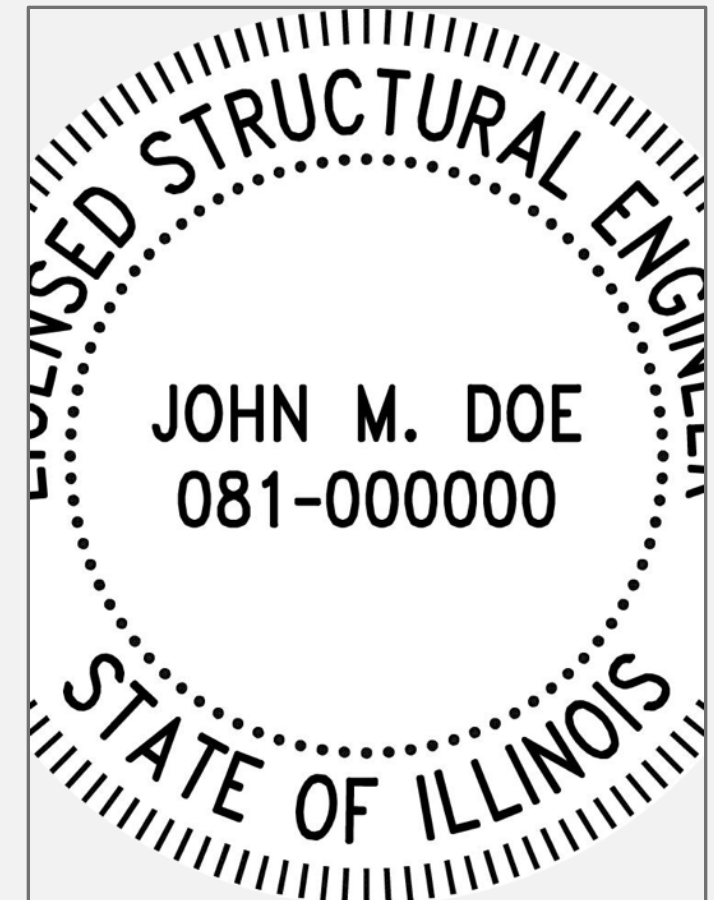
- Twelve of those jurisdictions restrict the design of all or certain structures to licensed Structural engineers.

Full practice

Hawaii
Illinois

Partial practice

Alaska
California
Georgia
Guam
Nevada
Northern Mariana Islands
Oklahoma
Oregon
Utah
Washington



The structures that are required to be designed by a licensed Structural Engineer are most commonly called “Significant Structures.”

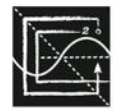


ISSUE 1

- Should “Significant Structures” be defined within NCEES *Model Law* and/or *Model Rules* or their respective appendices as a guide for jurisdictions that choose to adopt that specific model?

MODEL LAW

September 2021



NCEES

RESEARCH AND DISCUSSIONS

- The Working Group examined the following:
 - Specific language in law or board rules that defined the types of structures that the various jurisdictions required be designed by licensed Structural Engineers.
 - A matrix was created to compare the definitions of significant or designated structures by jurisdiction.
 - The group also looked at the *Significant Structure Model Recommendations and Commentary* that had been previously created by the Structural Engineering Licensure Coalition. (Originally created 2017, revised 2023)

Definition Matrix of Significant Structures

Definition Matrix of Significant or Designated Structures
March 10, 2025

Risk Category III: Essential Facilities	Alaska	California	Georgia	Guam	Nevada	N. Mariana Islands	Oklahoma	Oregon	Utah	Washington
Buildings and other structures designated as essential facilities, including but not limited to:										
Group 1-2, Condition 2 occupancies having emergency surgery or emergency treatment facilities.										
Ambulatory care facilities having emergency surgery or emergency treatment facilities.										
Fire, rescue, ambulance and police stations and emergency vehicle garages.										
Designated earthquake, hurricane or other emergency shelters.										
Designated emergency preparedness, communications and operations centers and other facilities required for emergency response.										
Power generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures.										
Buildings and other structures containing quantities of highly toxic materials that:										
Exceed maximum allowable quantities per control area as given in Table 102.223 or 102.224 of the public code laws in accordance with the International Fire Code and are sufficient to pose a threat to the public if released.										
Any building structure which has a covered gross area of 100,000 square feet or greater.										
Any building structure with height to least with upper part of the structure above the finished floor greater than 24 feet.										
Any building structure with a design or construction time history analysis or with design wind speed greater than 100 mph.										
Buildings and other structures with structural loadings including:										
1) Those subjected to ultimate design wind velocity of 100 mph or greater or design wind speed corresponding to appropriate ASCE wind exposure category in 10 years.										
2) Those that are located in Risk Category II or above.										
3) Hospital structures (as defined).										

Definition Matrix of Significant or Designated Structures
March 10, 2025

	Alaska	California	Georgia	Guam	Nevada	N. Mariana Islands	Oklahoma	Oregon	Utah	Washington
Risk Category IV: [Essential Facilities]			✓ All of Risk Category IV		✓ All of Risk Category IV			✓ If >4,000 sq.ft or >20' in height		✓ If >5,000 sq.ft or >20' in height
Buildings and other structures designated as essential facilities, including but not limited to:										
Group 1-2, Condition 2 occupancies having emergency surgery or emergency treatment facilities.	✓	Hospitals, and other medical facilities having surgery and emergency treatment areas, and skilled nursing and intermediate care facilities	✓		✓		✓ with occupant load >50	✓	✓ > 3,000 sq.ft.	✓
Ambulatory care facilities having emergency surgery or emergency treatment facilities.	✓		✓		✓		✓ with occupant load >50	✓		✓
Fire, rescue, ambulance and police stations and emergency vehicle garages.	✓		✓		✓		✓	✓	✓ If >5,000 sq.ft or >24' in height	✓
Designated earthquake, hurricane or other emergency shelters.			✓		✓		✓	✓	✓ > 3,000 sq.ft.	
Designated emergency preparedness, communications and operations centers and other facilities required for emergency response.	✓		✓		✓		✓	✓	✓ If >5,000 sq.ft or >24' in height	✓
Power generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures.	✓		✓		✓		✓ Power >50kw	✓		✓
Buildings and other structures containing quantities of highly toxic materials that:			✓		✓			✓		
Exceed maximum allowable quantities per control area as given in Table									✓	



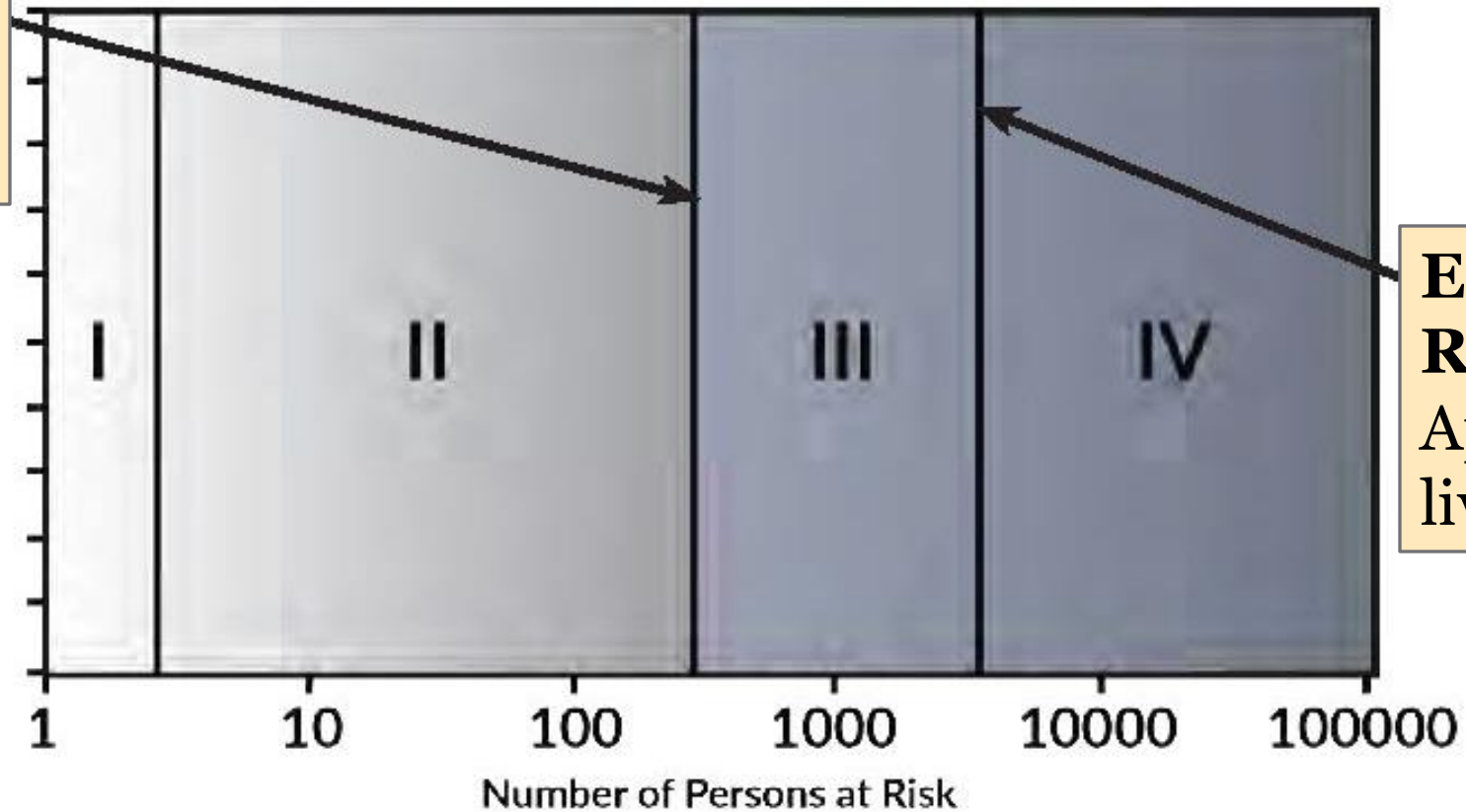


- Significant structures typically fall into one or more of the following categories:
 - Essential Facilities—Risk Category IV
 - Special Occupancy Structures—Risk Category III
 - Buildings above a certain height
 - Some bridges
 - Structures requiring detailed or sophisticated analysis



Risk Categories—From SEI/ASCE 7

**Special Occupancy
Risk Category III**
Approx. 500 or more
lives at risk



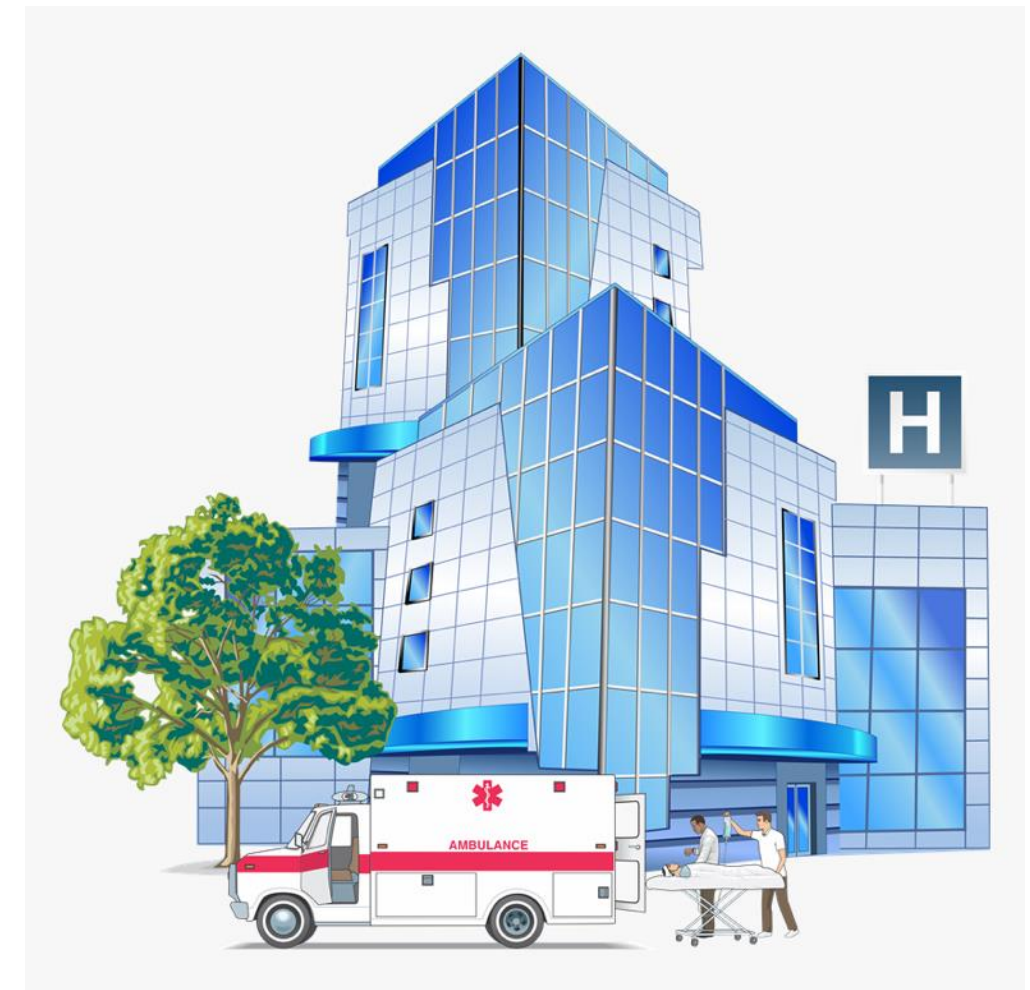
**Essential Facilities
Risk Category IV**
Approx. 5,000 or more
lives at risk

FIGURE C1.5-1 Approximate Relationship between Number of Lives Placed at Risk by a Failure and Occupancy Category



■ Essential Facilities— Risk Category IV:

- Hospitals that include emergency surgery or emergency treatment facilities
- Fire, rescue, ambulance, and police stations and emergency vehicle garages
- Designated earthquake, hurricane, or other emergency shelters
- Facilities required for emergency response
- Structures containing certain quantities of highly toxic or explosive materials





■ Essential Facilities— Risk Category IV:

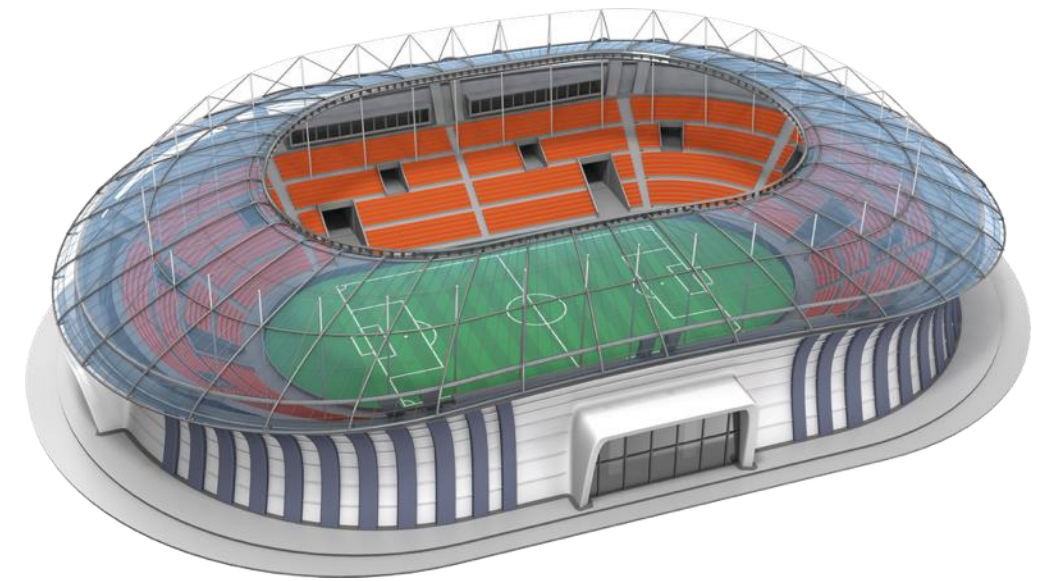
- Aviation control towers, air traffic control centers, and emergency aircraft hangar
- Structures having critical national defense functions
- Water storage facilities and pump structures required to maintain water pressure for fire suppression





■ **Special Occupancy Structures— Risk Category III:**

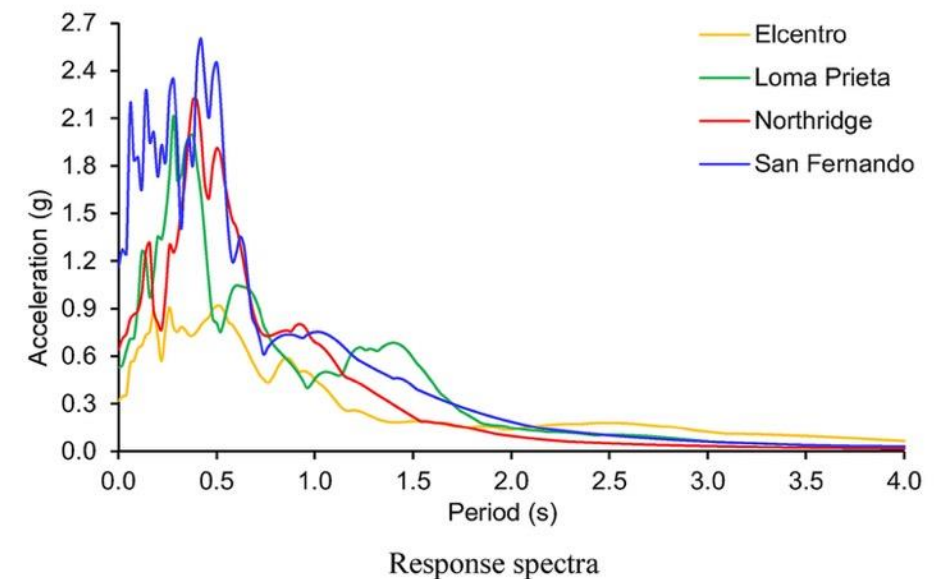
- Structures whose primary occupancy is public assembly
- Structures with one or more public assembly areas with occupant load greater than 2,500
- Schools with occupant load over 500
- Structures where the occupants' ability to respond in an emergency is restricted, such as jails or nursing homes above a certain occupancy



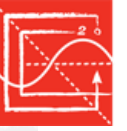


■ Other Structures:

- Buildings above a certain height
 - Typically, 45' or 4 stories or more
- Some bridges
 - Varies between jurisdictions in size, span, or type
- Structures requiring detailed or sophisticated analysis
 - Some jurisdictions require SEs for high wind and high seismic design
 - Some require SEs for nonlinear time-history analyses or with seismic dissipation systems



ISSUE 1



Definition of Significant Structures



DISCUSSION

After reviewing the documents described above and comparing what is being done in various jurisdictions, the Working Group came to a unanimous consensus as follows:



RECOMMENDATION

NCEES **should** develop a model definition of significant structures for jurisdictions that choose to use it.

The definition of significant structures **should** be placed in *Model Law*, most likely through an appendix.

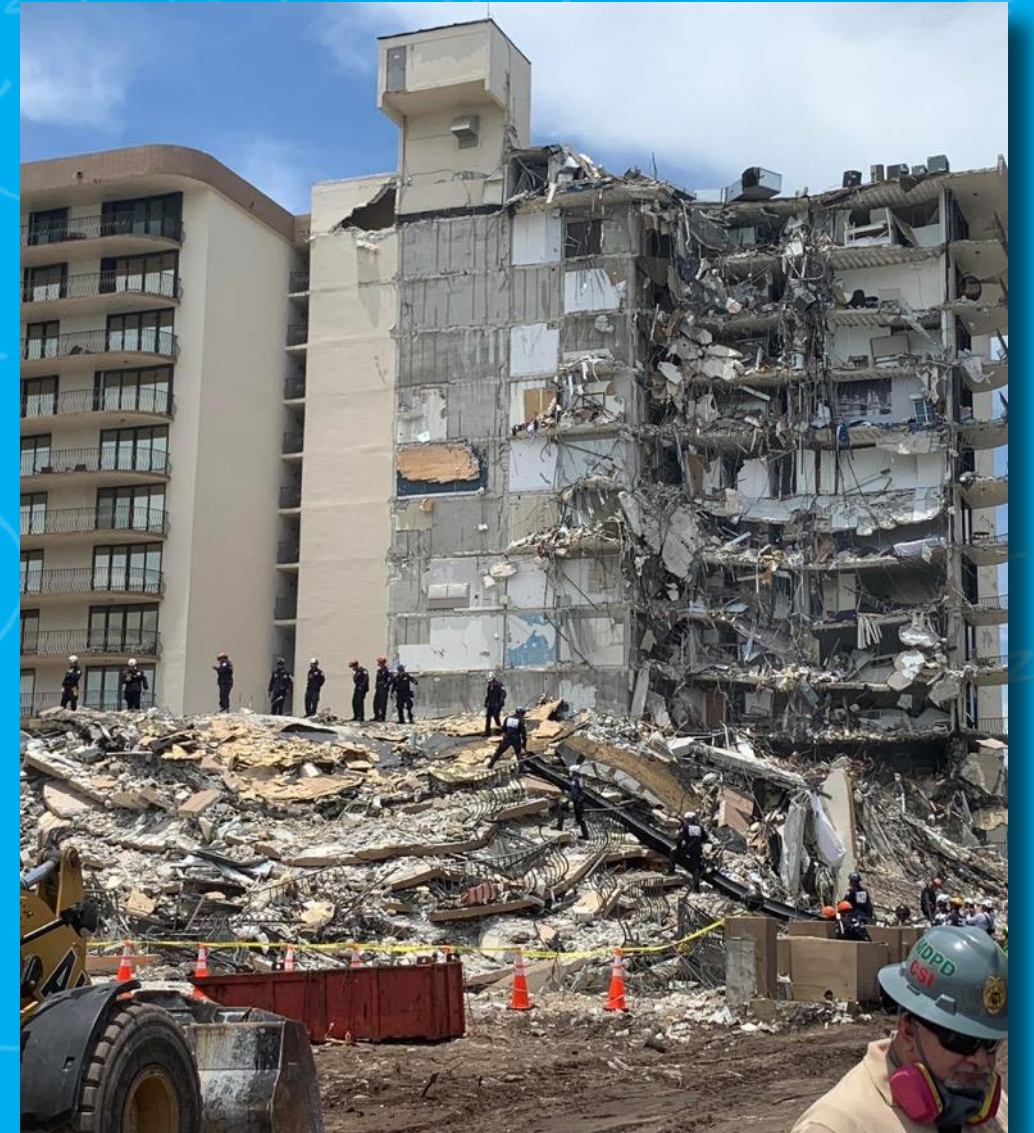
The Working Group developed a “Suggested Definition for Significant Structures.”




- The appendices to the Working Group memo included the following:
 - **Appendix A:** List of all jurisdictions licensing structural engineers
 - **Appendix B:** A matrix comparing the definitions of significant or designated structures between jurisdictions
 - **Appendix C:** Copies of the laws or regulations defining those structures for each jurisdiction
 - **Appendix D:** The *Significant Structure Model Recommendations and Commentary* from the Structural Engineering Licensure Coalition
 - **Appendix E:** Suggested Model Definition of Significant Structures

ISSUE 2


- Should construction oversight, commissioning, critical analysis, and inspections of significant structures be included within the definition of the “Practice of Engineering” as outlined in NCEES *Model Law*?




DISCUSSIONS

- **Construction oversight:** Typically refers to the process of supervising and monitoring a construction project to ensure that it is completed safely, on time, within budget, and in compliance with all applicable plans, specifications, codes, and regulations. It is a critical part of project management, quality control/assurance, and risk mitigation.
-  **Who performs construction oversight?**
 - Construction Manager
 - Resident Engineer or Field Engineer
 - Quality Control Manager
 - Safety Officer
 - Inspector(s)
 - Structural Engineer—Conduct regular site observations to ensure the building's structural elements adhere to the design documents.

DISCUSSIONS

- **Commissioning:** The process of verifying and documenting that all building systems and components are designed, installed, tested, and capable of being operated and maintained according to the owner's requirements. It ensures that the facility functions as intended before it is handed over.
-  **Who performs commissioning?**
 - Commissioning Authority (CxA)—often a third-party engineer or specialist
 - May be required by:
 - LEED
 - ASHRAE 202
 - Building codes (e.g., IECC or CALGreen)

DISCUSSIONS

- **Inspections:** There are several types of inspections, depending on the age of the structure, its condition, and the purpose of the inspection.
 - Construction inspection
 - Special inspection
 - Local or state building inspections
 - Condition or damage inspection
 - Forensic inspection
-  **Who performs inspections?**
 - Special inspectors with certification for the inspection to be performed
 - Local or state inspectors
 - Engineers

ISSUE 2

Regarding definition of the practice of engineering



DISCUSSION

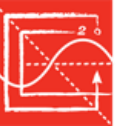
The Working Group, after discussing the definitions and the implications of the wording in question, came to the following conclusions and recommendations:



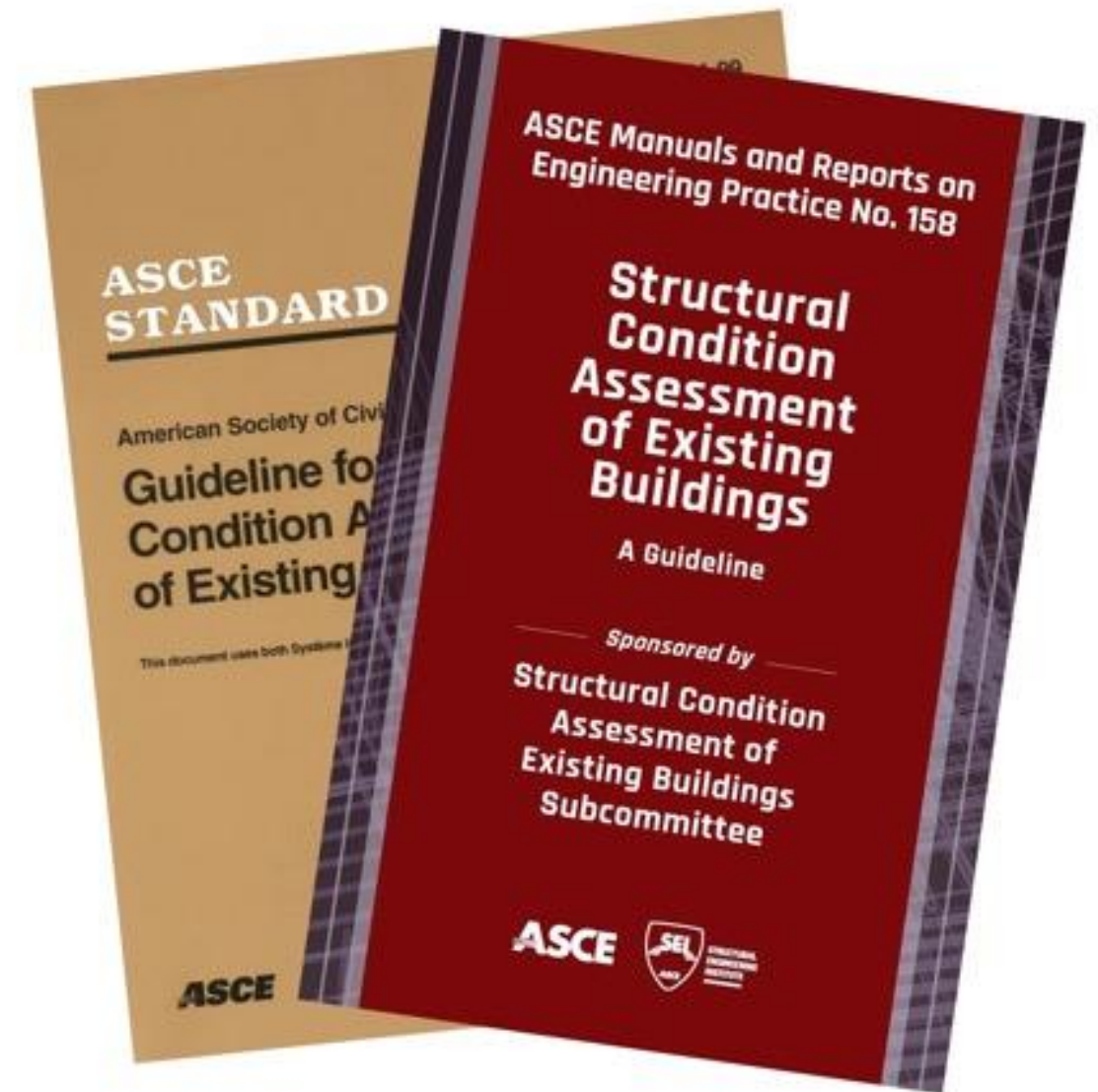
RECOMMENDATION

Construction oversight, commissioning, critical analysis, and inspections of significant structures **should not** be included within the definition of the practice of engineering.

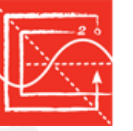
Condition assessment and evaluation of structures **should** be added to the practice of engineering definition.



- The discussion concluded that although construction oversight, commissioning, and inspections of structures may be undertaken by a licensed engineer, they do not necessarily *need* to be done by a P.E. or S.E.
- The condition assessment and evaluation of structures does, however, need to be conducted by a licensed engineer and should be listed in the definition of engineering in *Model Law*.



ISSUE 3



Regarding next steps to be reported to the board of directors



DISCUSSION

The working group created a memo that went to the NCEES board of directors that incorporated the discussions as described above.

It was recommended that a Structural Task Force be formed for 2025–2026.



RECOMMENDATION

The President-Elect is forming a Structural Task Force based on that recommendation.



Questions?



**COMMITTEE ON LICENSURE MOTION 9
(INTERNATIONAL REGISTRY)**

NCEES International Engagement Strategist

Marie Nebesky

Licensure Motion 9

Move that the Committee on Uniform Procedures and Legislative Guidelines be charged with incorporating the following amendments into *Model Law 130.10 B.2.b*:

130.10 General Requirements for Licensure

B. Engineering

2. Licensure as a Professional Engineer

b. Licensure by Comity for a Professional Engineer^{3,4}

The following shall be considered as minimum evidence satisfactory to the board that the applicant is qualified for licensure by comity as a professional engineer:

- (1) An individual holding a license to engage in the practice of engineering issued by a proper authority of any jurisdiction or any foreign country, based on requirements that do not conflict with the provisions of this Act and possessing credentials that are, in the judgment of the board, of a standard that provides proof of minimal competency and is comparable to the applicable licensure act in effect in this jurisdiction at the time such license was issued may, upon application, be licensed without further examination except as required to examine the applicant's knowledge of statutes, rules, and other requirements unique to this jurisdiction; or
- (2) An individual holding an active Council Record with NCEES, whose qualifications as evidenced by the Council Record meet the requirements of this Act, may, upon application, be licensed without further examination except as required to examine the applicant's knowledge of statutes, rules, and other requirements unique to this jurisdiction; or
- (3) An individual listed on the International Registry of an authorized member of the International Professional Engineer Agreement or the APEC Engineer Agreement may, upon application, be licensed without further examination except as required to examine the applicant's knowledge of statutes, rules, and other requirements unique to this jurisdiction.

of coefficient

$$\frac{K}{m_b} \frac{H^2}{I^2} \left(\frac{I^2}{H} \right) \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g \left(\frac{T^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$
$$\frac{K H}{m_b} \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g \left(\frac{T^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

COMMITTEE ON LICENSURE MOTION 1 (EXPERIENCE REPORTING)

David Beasley, P.E.

Licensure Motion 1

Move that a position statement on experience reporting guidelines and definitions for professional engineering licensure be adopted as follows:

PS 4.2 NCEES-Recommended Experience Reporting Guidelines and Definitions for P.E. Licensing

NCEES supports focused and guided experience prior to licensure with a clear and common method for reporting and evaluation. The guidelines and associated definitions in the NCEES publication *Experience Record for Initial Licensure as a Professional Engineer* provide a common format for reporting that allows an applicant to demonstrate progressive engineering experience and a depth of knowledge across multiple categories. The format supports various educational and experiential backgrounds as well as areas of engineering practice. The rubric format provides applicants, reviewers, and employers with a better understanding of the requirements for licensure and standards to determine competency.

of coefficient $\frac{H}{T^2}$

$$\frac{K}{m_b} \frac{H^2}{I^2} \left(\frac{I^2}{H} \right) \left(\frac{d\bar{z}}{dt} \right)^2 - g \left(\frac{T^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$
$$\underbrace{\frac{K H}{m_b}} \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - \underbrace{g \left(\frac{T^2}{H} \right)} + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

OPEN DISCUSSION

OPEN DISCUSSION

- How do boards handle applicants who have accepted work in a state in which they are not licensed?
- Mentoring prior to licensure (Committee on Licensure Motion 2)
- Do any jurisdictions consider non-destructive testing of pavements under the definition of engineering? Data analysis? Recommendations based on analysis?

OPEN DISCUSSION

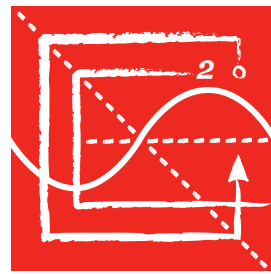
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NCEES

*advancing licensure for
engineers and surveyors*