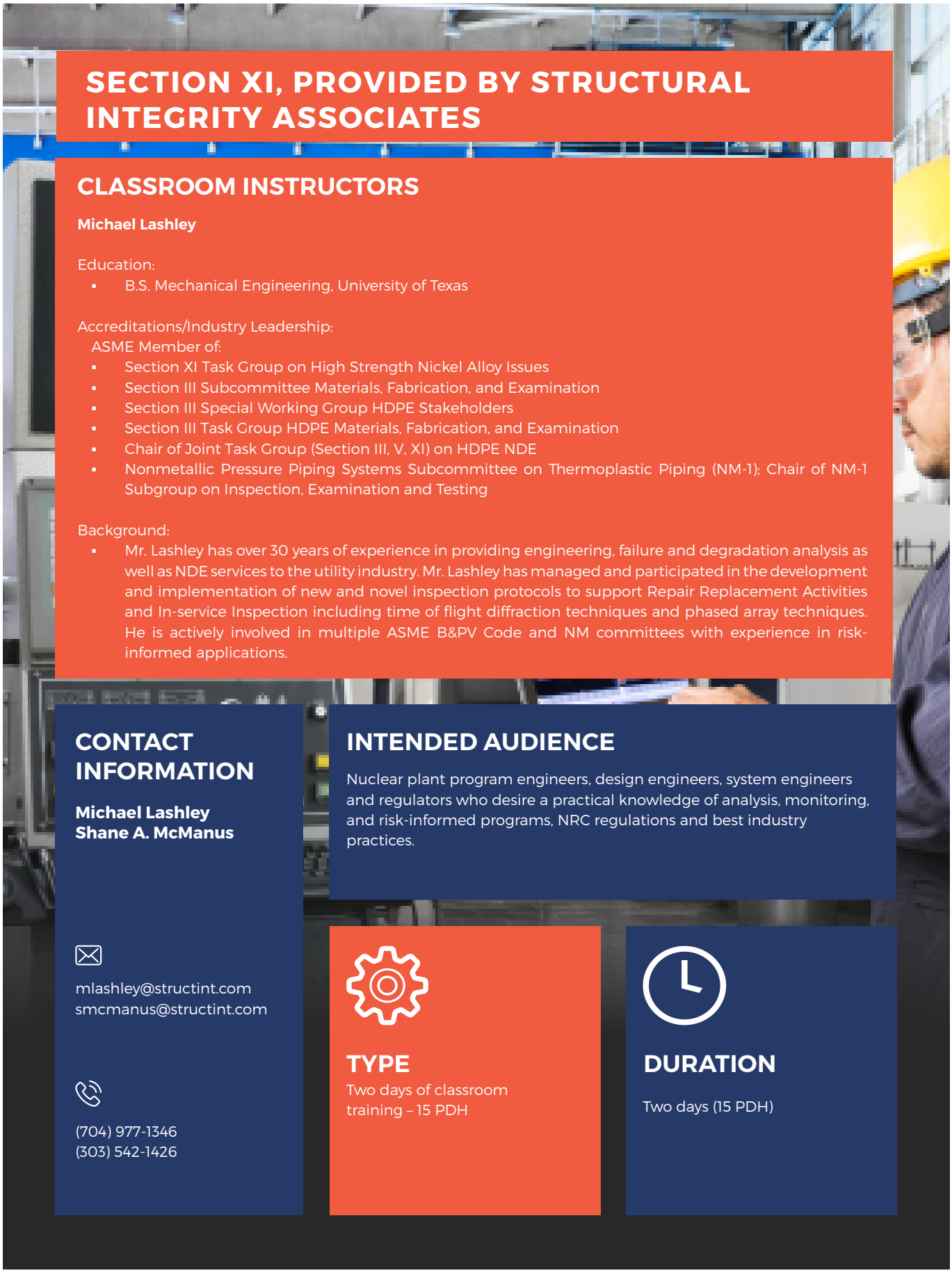

SECTION XI, PROVIDED BY STRUCTURAL INTEGRITY ASSOCIATES

CLASSROOM INSTRUCTORS

Michael Lashley

Education:

- B.S. Mechanical Engineering, University of Texas

Accreditations/Industry Leadership:

ASME Member of:

- Section XI Task Group on High Strength Nickel Alloy Issues
- Section III Subcommittee Materials, Fabrication, and Examination
- Section III Special Working Group HDPE Stakeholders
- Section III Task Group HDPE Materials, Fabrication, and Examination
- Chair of Joint Task Group (Section III, V, XI) on HDPE NDE
- Nonmetallic Pressure Piping Systems Subcommittee on Thermoplastic Piping (NM-1); Chair of NM-1 Subgroup on Inspection, Examination and Testing

Background:

- Mr. Lashley has over 30 years of experience in providing engineering, failure and degradation analysis as well as NDE services to the utility industry. Mr. Lashley has managed and participated in the development and implementation of new and novel inspection protocols to support Repair Replacement Activities and In-service Inspection including time of flight diffraction techniques and phased array techniques. He is actively involved in multiple ASME B&PV Code and NM committees with experience in risk-informed applications.

CONTACT INFORMATION

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INTENDED AUDIENCE

Nuclear plant program engineers, design engineers, system engineers and regulators who desire a practical knowledge of analysis, monitoring, and risk-informed programs, NRC regulations and best industry practices.

TYPE

Two days of classroom training – 15 PDH

DURATION

Two days (15 PDH)

TERMINAL LEARNING OBJECTIVES

This course provides an overview of the design by analysis methodology and philosophy of ASME Section VIII which incorporates an overview of the analysis methods used, including the application of finite element analysis, to meet the requirements of the Code and how it can be applied to practical equipment design. The focus of this course will be to emphasize the more modern and advanced analytical techniques found in ASME Section VIII Division 3 while contrasting the differences within Section VIII Division 2. An overview of philosophical differences in the high-pressure piping code, ASME B31.3 Chapter IX will also be discussed.

Examples of practical applications for many of the techniques are discussed to demonstrate the philosophy of the Code criteria. This includes an overview of the problems presented in ASME example problem manuals for ASME Section VIII. Detailed scenarios are examined to illustrate how the analytical techniques are applied, and their respective limitations. An overview of key elements of the materials, fabrication sections, a review of special construction techniques, and an overview of fatigue calculations and life assessment are also included in the discussion.

Topics Covered:

- ASME Code overview
- Inspection requirements
- Flaw evaluation
- Flaw characterization
- Repair and Replacement
- Optional - Risk Based Programs
    - Risk-informed In-service Inspection (RI-ISI) is a cost-effective alternative to ASME Code, Section XI inspection requirements. Structural Integrity played a key role in the development of EPRI's NRC-approved RI-ISI and RIS_B (Risk-Informed Safety-Based) methodologies. To date, we have supported ASME Code Case N-560, N-578 and N-716 evaluations using the EPRI RI-ISI methodology at 61 nuclear units. Students will gain insights into real-world applications of Section XI code requirements, inspections and risk-informed alternatives, including the use of 10 CFR 50.69 (Risk-informed Safety Classification) for alternate treatment of low risk components.

KEY INDUSTRY DOCUMENTS

1. Section XI
2. Section III
3. Section II, V, & IX in support of III and XI
4. Code Cases (various)
5. 10CFR50.55a
6. NRC Reg Guide 1.147, 1.84, 1.192, 1.193