

The Partnerships Between PVMA, ASME, & The National Board



Detroit Industry Mural – Diego Rivera

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Consultant, Representing Quality Steel Corporation

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Why We're Here

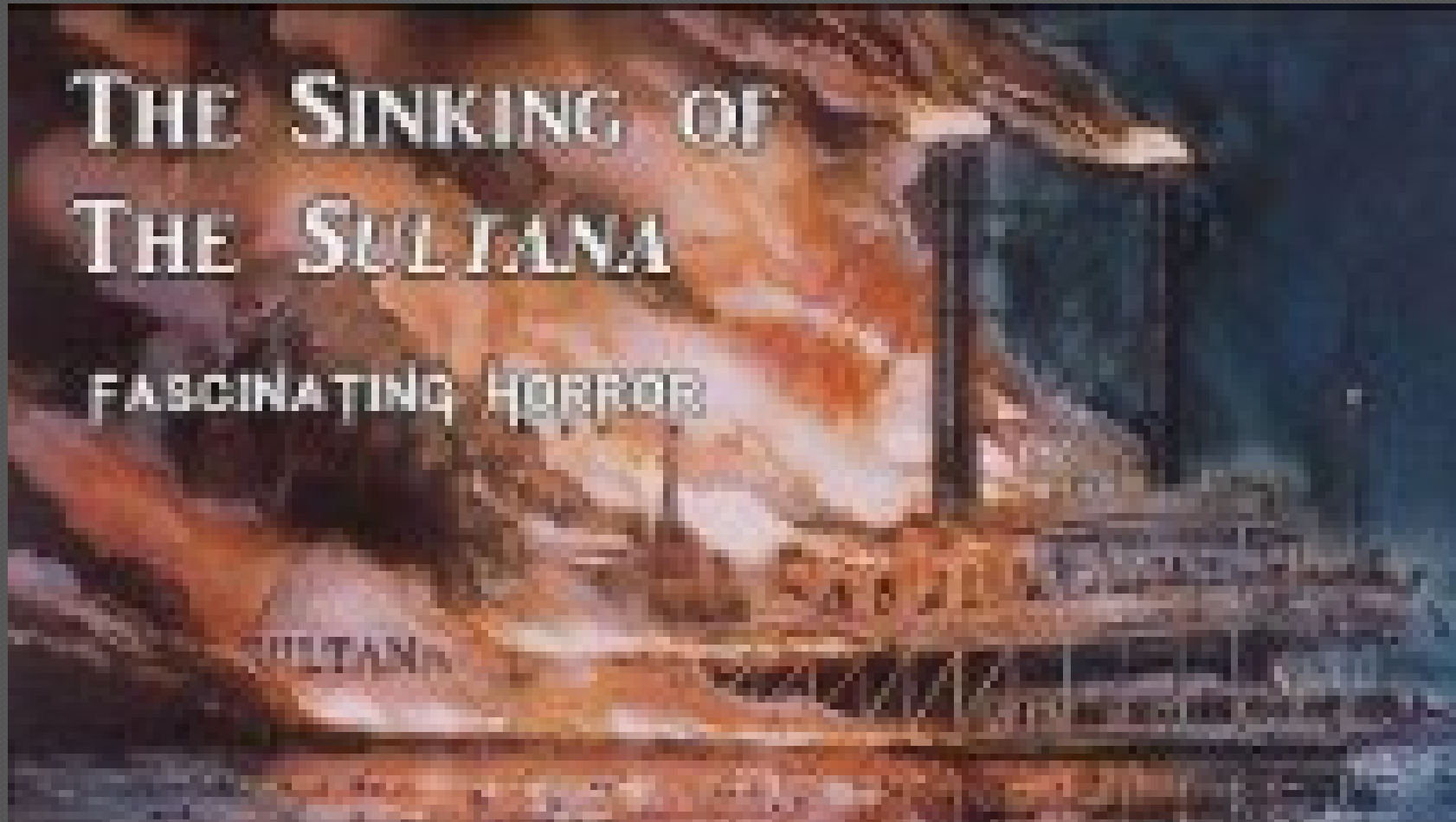
- ◉ We're passionate about boilers and pressure vessels
- ◉ We're even more passionate about safety



A Very Brief History of Boilers And Pressure Vessels

- ◉ Commercial steam engines were invented and employed for a variety of uses in the early 18th century
- ◉ First high-pressure steam engine invented in 1800
- ◉ Around 1860, convection boilers introduced
- ◉ Advancements in boiler and pressure vessel design and construction takes place during the second half of the 19th century
- ◉ By 1890, 100,000 boilers are in service in the United States

A Missed Opportunity to Promote Safety



Growth of the Pressure Vessel Industry

- ASME– First meeting in 1880

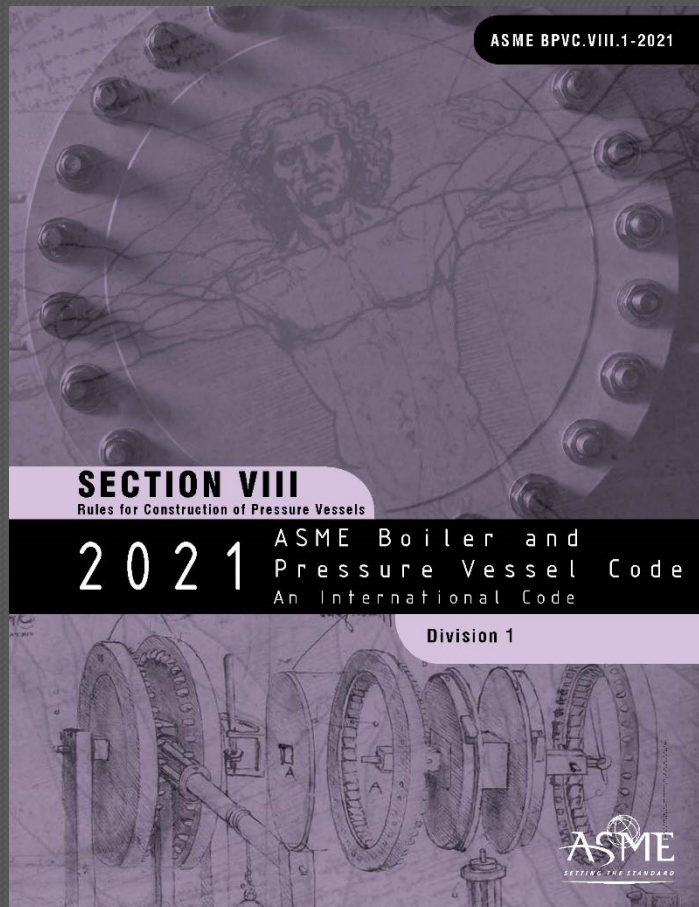
Engineering standards, the founders of ASME agreed, *“would ensure **safety, reliability and operational efficiency** in machine design and mechanical production. The manufacture of gun parts, sewing machines, locks, typewriters, bicycles and the like, leading up to the manufacture of steam engines, machine tools and locomotives, had made it clear that **commercial success lay in sale of large numbers of duplicate units - uniform, safe, and standardized.**”*

-History of ASME Standards

A Call for Safety

- 1865, Sultana explodes
- 1880, first meeting of ASME - 159 boiler explosions
- ASME's first decade - more than 2,000 boilers exploded
- Catalyst for safety - fire-tube boiler at Grover shoe factory in Brockton, Mass. explodes in 1905, killing 58 people
- 1906, ASME assembled Board of Boiler Rules - drafted brief document endorsed by Mass. Legislature in 1907

The Role of ASME



- The first **Boiler and Pressure Vessel Code** (1914 Edition) was published in 1915
- Rules for the **Construction of Unfired Pressure Vessels** published in 1925
- ASME added Rules for **Multiple-Duplicate Manufacturing** in 1962
 - Originally Located in Section VIII-1 UG-90(c)(2)
- Rules moved to Appendix 35 in the 2008 Section VIII-1 Addenda
- Name changed to **Mass-Produced**

Growth of the Pressure Vessel Industry

- ◉ During the Industrial Age of the late 1800s, as the North American economy expanded, the Pressure Vessel Industry also grew
- ◉ Development of compressed air systems for commercial use in the late 1880s
- ◉ Marketing of LP gas as a fuel source begins in 1912



Increased demand for Air Receivers, LPG Tanks and Other Pressure Vessels

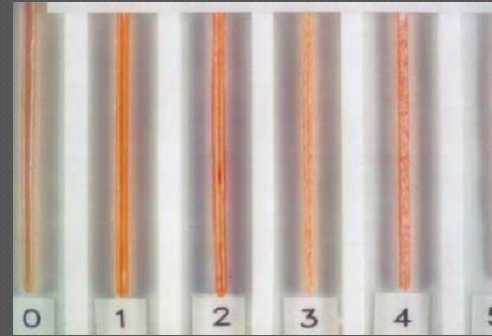
The Role of National Board

- The National Board began performing Joint Reviews specific to pressure vessel mass-production in the 1980's
- The National Board provides specific Team Leaders for reviews of manufacturers of mass-produced pressure vessels



The Role of National Board

- National Board works with ASME to develop Certified Individual (CI) rules in ASME QAI-1
- Coursework and testing provided by National Board to fulfill CI Training Requirements



PVMA – The Voice of The Industry

Pressure Vessel Manufacturers Association (est. 1975)

Purpose:

- Represent fabricator needs and viewpoints
- Exchange information on technical and manufacturing issues
- Discuss impact of regulations and standards on operations

PVMA – The Voice of The Industry

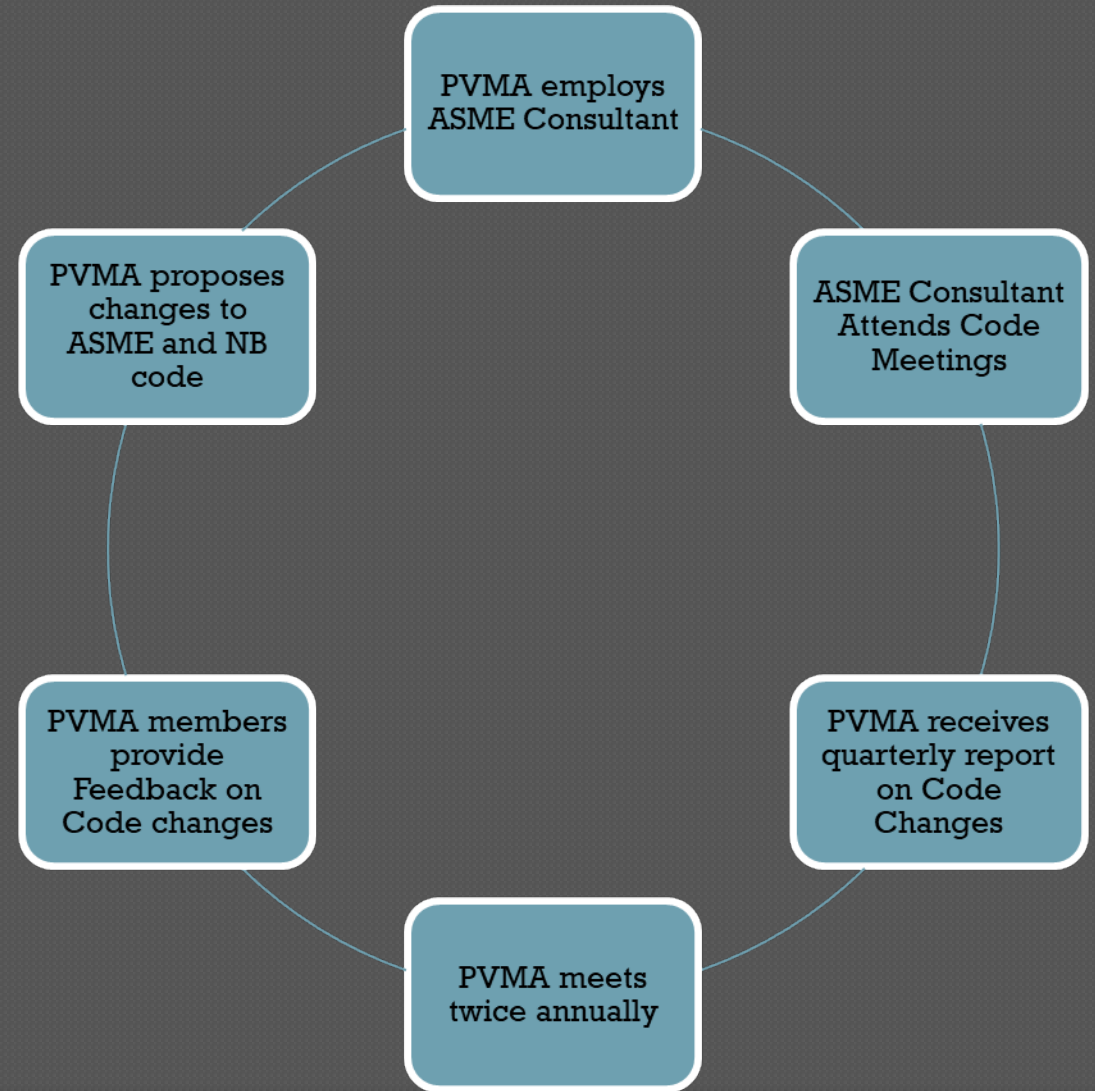
◉ Represented by:

- Pressure Vessel Manufacturers (16)
- Material Suppliers (6)
- Authorized Inspection Agencies (2)
- Engineering Firms (1)



◉ Liaison to both ASME Code Committees and the NBIC Code Committees

PVMA – The Voice of The Industry



Another Important PVMA Contribution

- Largest, single source of funding for the National Board comes from data report registrations
- PVMA member companies produce the major share of ASME Code, Section VIII (Div. 1 & 2) pressure vessels manufactured in the North America
- In 2022, PVMA manufacturing members produced and shipped over 623 thousand ASME Code Pressure Vessels - a large majority of these had data reports registered with the National Board

Mutually Beneficial Partnership

A close relationship between PVMA, ASME and the National Board ensures a continuation of the industrialists' vision from the 1880's:

“to ensure safety, reliability and operational efficiency ...” and that *“commercial success lay in sale of large numbers of duplicate units - uniform, safe, and standardized.”*

Interested in learning more about PVMA or becoming a PVMA member?

- PVMA represents:
 - Pressure Vessel Manufacturers
 - Material Suppliers
 - Authorized Inspection Agencies
 - Engineering Firms
- Interested companies can attend a PVMA meeting as a guest. Upcoming meetings:
 - 2023 PVMA Fall Meeting - September 11 - 12, 2023: National Board Training & Conference Center, Columbus, OH
 - 2024 PVMA Annual Meeting - April 15 - 16, 2024: JW Marriott Las Vegas Resort & Spa, Las Vegas, NV
- <https://www.pvma.org> or contact: Jeff Church– Executive Director
Email: info@pvma.org, Phone: 630-942-6590 or contact a member company representative (listed on PVMA website)
- Business View Magazine Article about PVMA:
<https://businessviewmagazine.com/brochures/may-2019/pvma/>

Thank you!

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