

BOILER DIVISION HISTORY

In the Mid-Nineteenth Century, during the industrial revolution, steam was in great demand to provide the power necessary to operate manufacturing equipment.

During this period, there was no one standard in existence to guide individuals in the construction of boilers. Consequently, boilers of all types and sizes were being constructed. Many designs resulted in catastrophic explosions.

To name just a few:

April 27, 1865 - Steamboat Sultana, Memphis TN, 1,500 of the 2,200 passengers dead

March 10, 1905 - A shoe factory in Brockton, MA, 58 dead, 117 injured

March 2, 1954 - Fales and Gray Car Works, Hartford, CT, 21 dead, 50 seriously injured

During the late 1800's, accidents were occurring at the rate of one every four days, resulting in 50,000 deaths annually.

Only the most spectacular explosions received front-page status in newspapers. In fact, boiler explosions occurred so often and were so misunderstood that they were considered an act of God.

Boiler explosions peaked around 1905 with approximately 400 reported in that year. You can easily understand why there was a public outcry demanding that something be done to stop these explosions.

By 1915, the American Society of Mechanical Engineers (ASME) had developed a standard for the construction of boilers which would provide a safe and reliable product. However, there remained the task of requiring people to use this standard.

In 1916, the Uniform Boiler Laws Society prepared and sponsored a Uniform Boiler Law which would adopt the ASME Boiler Code and Uniform Inspection Procedures.

In December of that year, a Uniform Boiler Congress was held in Washington D.C. to which representatives from all cities having boiler laws and from all states and provinces of Canada were invited to consider the problems being encountered.

This was an attempt at the national level to convince jurisdictions of the need to adopt the standard and enforce the requirements of the ASME code.

Delegates attending the Uniform Boiler Congress included representatives from 22 states, the District of Columbia, four cities and one Canadian province.

[Michigan was on the leading edge of this wave by enacting 1917 PA 174, which created a Board of Boiler Rules.](#) Governor Albert E. Sleeper appointed four citizens of recognized knowledge in the use and construction of steam boilers, who along with the professor of mechanical

engineering from the Michigan College of Mines, the Michigan Agricultural College, or the University of Michigan made up the members of the Board. The Board's charge was to gather statistics of causes of steam boiler explosions and formulate rules and regulations for their safe and proper use and construction.

The development of a standard for construction of boilers and the adoption of these requirements into law was quite an accomplishment. However, the task to assure compliance with these requirements was left to each jurisdiction adopting the standard.

Boiler Division records indicate that in 1919, the Board began issuing Certificates of Competency to inspectors who met the Board's qualification criteria.

These inspectors worked for insurance companies and the cities of Detroit and Dearborn. The law stated that a boiler inspector desiring to inspect or report on the construction of a steam boiler for use in the state of Michigan shall apply to the Chief Inspector for a Certificate of Competency and a Commission.

Most inspections were reported by insurance company inspectors for boilers they insured. This necessitated the employment of inspectors to inspect and report on boilers which were not insured or inspected. The Department of Labor and Industry was created by 1921 PA 43 and absorbed the Board of Boiler Rules and all powers and duties vested in the Board. According to Boiler Division records, the Department employed from one to three inspectors from 1921 until 1965.

The 1923 revision to 1917 PA 174 established the Chief Inspector as an officer of the Board charged with the responsibilities to: issue and revoke inspector commissions; exercise general supervision over all inspectors; issue, receive, check and file all manufacturer data reports; issue certificates of inspection; and authorize manufacturers to construct boilers.

Other additions included in this revision were: the adoption of the ASME code for construction of boilers; and establishment of rules for the examination of inspectors to determine their competency prior to issuance of a Certificate of Competency. You will note that although the ASME code for construction of boilers was available in 1917, it was not until 1923 that Michigan adopted it into law.

Also note worthy is the [formulation of the National Board of Boiler and Pressure Vessel Inspectors in 1919](#). This organization was formally ratified in 1921 at a meeting held in the city of Detroit. Currently, the National Board is comprised of chief inspectors of states and cities of the United States and provinces of Canada and is organized for the purpose of promoting greater safety to life and property by securing concerted action and maintaining uniformity in the construction, installation, inspection and repair of boilers and pressure vessels among the member jurisdictions. It is with great pride that the current chairman of the National Board is Michigan's very own Chief Boiler Inspector, Robert J. Aben, Jr.

[On March 26, 1928 the Michigan Board of Boiler Rules issued an order stating that all boilers complying with the ASME Boiler Code shall be accepted for use in this state when properly](#)

certified by a qualified inspector of the National Board of Boiler and Pressure Vessel Inspectors. The Michigan Board of Boiler Rules issued another order on this date that no person, firm or corporation shall repair steam boilers unless registered with the Michigan Board of Boiler Rules and duly authorized to do such work.

Rules promulgated under the 1933 revision to 1917 PA 174, required hot water heating and hot water supply boilers to be constructed in accordance with the ASME code. Rules were also established to provide guidance for certain repairs to steam boilers.

The 1953 revision to 1917 PA 174, appears to have been a major revision to the act and rules. All references to the Chief Inspector were replaced with the Commissioner of Labor. The rules for repair to boilers by fusion welding were also extensively expanded.

In 1966, with the establishment of 1965 PA 290, the Department employed 13 inspectors, a Chief Inspector and an office staff of approximately eight people. It also: created a 10-member Board of Boiler Rules; adopted the ASME code for the installation of boilers; required licensing for inspectors, installers and repairers; included rules for inspection of boilers; and provided more stringent penalties for noncompliance of the rules.

Today, the Boiler Division employs a Chief Inspector, an Assistant Chief Inspector, a Senior Inspector, 15 Deputy Inspectors and three office staff.

There are approximately 71,000 boilers registered throughout the state, half of which are inspected by state inspectors. Annually, the Division issues approximately 2500 installation and repair permits; 4000 violations (usually for CSD-1 testing not completed), and inspectors conduct approximately 15,000 re-inspections. The Division licenses over 1,900 installers, 120 repairers, 140 inspectors, registers 1,150 boiler operators and stationary engineers, and administers over 85 examinations annually for new applicants, conducts training seminars for inspectors and other organizations associated with the boiler industry; and conducts surveys for utilities and industrial facilities who are authorized to conduct they own boiler repairs.

The Boiler Division endeavors to provide the best service possible to the citizens and boiler industry of Michigan to assure a safe and productive environment in which to live and work.