Wisconsin Boiler Inspectors Assoc.

The Inspector

Volume 12, Issue 1

Spring 2005 Issue

Editor: Matt Keenan
715-648-5000

A WORD FROM OUR PRESIDENT

By: Don Mathes:

Waited Pressure Relief Devices

I am sure you caught it already. Don meant to say a weighted pressure relief device. These devices are now illegal to use. I just want to get your attention and mention that if you want to get some pressure relief from the daily inspection and work grind, what better way than to attend the upcoming joint WBIA and NAPE seminar.

Our meeting will give you the opportunity to gain some knowledge, and better yet, talk to inspectors, owner/ operators and repair personnel. This is where the pressure relief comes in. You can express your ideas and opinions and get into great conversations with some of the guys and gals who are involved in the same business as you, and understand what you go through in your day to day work activities.

On April 21st the wait will be over and we hope the pressure can be relieved or alleviated a bit when you attend our Seminar. If you don't know what a weighted relief valve is, I know you can see one and discuss how it works at our Spring Seminar. Hope to see you all there.

SPRING SEMINAR

WBIA & NAPE

2005 Spring Seminar is being brought to you by the Wisconsin Boiler Inspector's Association and the National Association of Power Engineers

DATE: April 21, 22 2005

TIME: 0730 (each day)

LOCATION: Holiday Inn, Madison East, 3841 E Washington Ave. Madison, WI

(608) 244-2481

SUBJECTS:

Thursday = Boiler Plant Layout & Maintenance

Friday = Water Cooling Tower Seminar

COST: Members $75.00 one day or $100.00 both days

Non-Members $90.00 day or $140.00 both days

For more information and directions check out our insert in this newsletter.

Inside this issue:

IMPORTANT

Continuing Education Requirements for All National Board Commissioned Inspectors Starts in 2005!

Attending WBIA Seminars helps you meet these requirements.

The Chief's Words:

By: Mike Verhagen, Chief Boiler Inspector

Happy New Year and wishing all good health and safe travels throughout 2005.

Boiler code changes are planned this winter. Comm 41, Boiler and Pressure Vessel code revisions will begin February 2005 with possible adoption of the 2004 Editions of ASME and the NBIC. The Department moved Comm Chapter 41 revisions from 2004 to early 2005 due to the delay in publishing of the NBIC. Although new copies of the NBIC have not yet arrived, I expect our department's order in the next few days. Obtain revision meeting dates or locations and all code updates via our Commerce website.

Comm Chapter 40, Gas Systems code was changed and became effective 12-1-04. It adopts the following referenced standards: American Petroleum Institute API 2510, 8th Edition 2001; Compressed Natural Gas/CNG: NFPA 52 –2002; Fuel Gas Code: NFPA 54- 2002; Liquefied Petroleum Gas/LPG: NFPA 58-2004; Liquefied Natural Gas / LNG NFPA 59A- 2001; Gaseous and Liquid Hydrogen: NFPA 50A and 50B –1999 respectively.

Electronic Data Interface "EDI" appears to be expanding and saving time on both data entry and inspection reporting. *Take the time to assure accuracy of information.* Although a few errors occasionally surface from downloads and uploads, everyone benefits if all take the responsibility to provide accurate data and assure correction of record errors. For details or questions on EDI, contact Section Supervisor, Rick Merkle at 608-266-3037.

Most inspector certifications have been renewed by now. Is your card current? The Wisconsin Boiler inspector credential is now effective for a term of four (4) years per Comm Chapter 5.60 and of course the $120.00 renewal fee does reflect that change. Please inform home office including the fast, easy and immediate access to find specific "credential status" from our website. http://apps.commerce.state.wi.us/SB_Credential/SB_CredentialApp

Congratulations may be order. Rick Merkle has recently been assigned the responsibility of the Elevator Section in additional to his present duties. Although he is normally quick to reply to issues, calls and emails, please be patient as he navigates through the upcoming year coordinating EDI, boilers, elevators, inspection staff and other duties as assigned.

As always, I can be reached Monday –Friday, 7:45 to 4:30 PM and also available via telephone, email or regular mail. While out of the office, you may contact the district inspector in your area, Section Supervisor, Rick Merkle @ 608-266-3037 / umerkle@commerce.state.wi.us or Program Manager, Joe Hertel @ 608-266-5649 / jhertel@commerce.state.wi.us in Madison.

In closing, I recommend attendees bring plenty of business cards for distribution ……. our joint " Inspector and Plant Engineer " spring seminar looks to be a great gathering for learning, sharing ideas and trading contacts with one another. See everyone there !

The Word From Milwaukee:

By: Randy Pucek, Chief Boiler Inspector

The City of Milwaukee has hired a new boiler inspector, James W. Smith. Jim filled Jeff Bukowiecki old position and can be reached at 414-286-2589, email is **JWSMITH@milwaukee.gov**.

The Word From Madison:

By: Rick Merkle, Section Chief, Integrated Services

The Boiler/Pressure Counsel Comm 41 will be meeting next month, letters will be going out to the appointees soon on the exact day. The proposed items will be the adoption of the 2004 ASME Codes and 2004 NBIC as referenced in Comm. 41.10 and a new sub-section on Historical Boilers, Continued education - 24 hour credit requirements for the 4-yr. cycle per Comm 5 are items that will be discussed, and some modifications to the wording in Comm 41 of various sections and the Comm 2 fee Schedules.

The State Inspector EDI (Electronic Data Interchange) will be moving into phase-II approx. this March or April, allowing them to submit electronic Inspection reports using a hand held unit device. Thus making the inspection process a more efficient means of submitting reports in a electronic format like our Service agents.

We have updated our Ability Search Records on the Web to include customer contact and phone numbers, if this information was provided to us by the inspectors.

DID YOU KNOW!!!

Did you know?...Coca-Cola was originally green.

Did you know?...Hydrogen is an explosive gas. Oxygen supports combustion. Yet when these are combined it is water which is used to put out fires

Did you know?...Peanuts are one of the ingredients of dynamite.

Did you know?...The geographical center of North America is near Rugby, North Dakota.

Did you know?...The cruise liner, Queen Elizabeth II, moves only six inches for each gallon of diesel that it burns.

Did you know?...The southern most city in the United States is Na'alehu, Hawaii.

Did you know?...QANTAS, the name of the Australian national airline, is a acronym, for Queensland And Northern Territories Air Service.

Did you know?...world's largest four-faced clock sits atop the Allen-Bradley plant in Milwaukee, Wisconsin.

Did you know?...If you add up the numbers 1-100 consecutively (1+2+3+4+5 etc) the total is 5050

Did you know?...The symbol on the "pound" key (#) is called an octothorpe.

Did you know?...A 12 gauge "rifled slug" does not spin, even though there are grooves on it's bearing surface. A slug actually travels like a dart.

Did you know?...The highest point in Pennsylvania is lower than the lowest point in Colorado.

Did you know?...It is a misdemeanor to kill or threaten a butterfly -- so says City Ordinance No. 352 in Pacific Grove, California.

Did you know?...The Saturn V moon rocket consumed 15 tons of fuel per second.

Did you know?...The state with the longest coastline in the US is Michigan.

Did you know?...Hydrogen gas is the least dense substance in the world, at 0.08988 g/cc

Did you know?...Hydrogen solid is the most dense substance in the world, at 70.6 g/cc

Retirees

Anyone knowing of inspectors retiring please inform us so we can get their names in this Newsletter.

Advertising in the Inspector

To defray the cost of publishing “The Inspector” we will be accepting your advertisements. “The Inspector” is published twice a year and reaches boiler operators, Commissioned Inspectors, manufacturers, and many more. “The Inspector” is read by people in a 4 State area. These include Wisconsin, Minnesota, Iowa and Illinois.

Please help us reach more people, Advertise in “The Inspector”.

Please contact a board member today to get registered or you can reach the WBIA Secretary at keenan@lakeland.ws.

WBIA Helps You Meet Your Training Needs

The Wisconsin Boiler Inspector’s Association is offering training classes/seminars.

If you are interested in setting up boiler & pressure vessel training during the year let the WBIA know and we will tailor training to meet your needs. Certificates issued for all training hours. Contact Matt Keenan, Secretary @ 715-648-5506.

Laundry Boiler Blast Sends two to Hospital

Shanghai Daily News

A boiler explosion in a small laundry on June 26, 2004 sent the owner and one employee to hospital.

The female owner received serious injuries from the blast, but she and the employee are both in stable condition, according to doctors.

Police believe the explosion was caused by improper water filling operation.

The two Zhejiang Province natives, both in their forties, were the only people working in the shop when the boiler exploded at about 2pm yesterday at the laundry in Yutian residential complex in Hongkou District.

The owner of the business received serious injuries to her face and chest, witnesses said.

"Her face was burned almost beyond recognition," said an ambulance rescue worker, Zhang Huiguang, yesterday. He added the male employee received wounds to his arms.

An emergency department doctor from Navy No. 411 Hospital in Shanghai, where they were rushed after the blast, said the woman sustained multiple bone fractures.

The pair were later transferred to Shanghai No. 9 People's Hospital to receive emergency surgery, but doctors said they were in stable condition. Police also arrived at the site after the blast for the investigation.

Witnesses on the scene said the mishap resulted from the woman improperly filling an empty boiler.

"She used cold water to refill the empty hot boiler. The employee was helping by her side when it exploded," said Ruan Guoliang, a witness who lives in the complex. "I heard a huge blast at home."

The woman had just taken over the business from the former owner, a relative of hers, and was not very familiar with the boiler operations.

Continuing Education Requirements for All National Board Commissioned Inspectors

Continuing Education has been added as a requirement for maintaining an inspector's National Board Commission. It will be mandatory that each commissioned inspector attend a National Board seminar or receive other instruction related to inspections at least once every three years. The topic may include any subject which is relevant to the inspection process, such as methods, products, materials, technology, or changes to construction or repair codes.

Starting in October 2005 with the distribution of the National Board Commission renewals, the National Board will ask each employer to provide a list of such continuing education for each inspector applicable to the current year. Training records will be maintained for each inspector. Authorized Inspection Agencies will be notified beginning mid-2006 of any inspectors in their employ who have not met the continuing education requirement. Beginning with October 2006 commission renewals for the year 2007, inspectors who have not reported (via their employer) having completed such continuing education will not have their commissions renewed.

Rules for Commissioned Inspectors, NB-263, Rev. 12, has been restructured to Continuing Education Requirements in paragraph 2.4.3 *Continuing Education.*

Test Your Knowledge

Question:

Where would you find out what standards have been adopted by the State of Wisconsin?

Answers on page 7:

Date for ASME Code Changes

The mandatory date for the 2004 Edition of the *ASME Boiler and Pressure Vessel Code* Sections is March 31, 2005.

This date supersedes any other published dates, including those specified in the ASME Code section.

Originating in 1914, the *ASME Boiler and Pressure Vessel Code* establishes rules of safety governing the design, fabrication, and inspection of boilers and pressure vessels, and nuclear power plant components during construction.

Why Treat Boiler Water

Prevent internal deposits and scale formations which interfere with heat transfer.

Protect boiler internals from corrosion

Protect steam and return lines from corrosion

Safety of plant operators and personnel

Future Seminars

The Officers and Board of Directors are looking for ideas for seminars. Please contact an officer or board member and voice your suggestions on future training seminars.

The WBIA wants to ensure that good quality educational seminars are presented.

BOILERS AND PRESSURE VESSELS

Index to Wisconsin Administrative Code

Accidents, reporting,	Comm 41.38
Inspections,	Comm 41.15 to 41.24
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Before March 1988,	Comm 41.27 to 41.39
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Secondhand vessels,	Comm 41.70 to 41.76
Standards, incorporated , by reference	Comm 41.10

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Thought of the Day

The real art of conversation is not only to say the right thing in the right place, but to leave unsaid the wrong thing at the tempting moment. **Dorothy Nevill**

Algerian LNG Plant Explosion

On January 19, 2004, in Skikda, Algeria, a steam boiler that was part of an LNG production plant exploded, triggering a second, more massive vapor-cloud explosion and fire that took eight hours to extinguish.

The powerful explosion at Algeria's largest refinery and key exporter of gas and oil in the Mediterranean port city of Skikda killed 13 workers and caused extensive damage on Monday.

At least 74 people were injured in the blast at the petrochemical complex in the industrial zone of Skikda some 500 km east of the capital Algiers, the state radio said, citing the latest official toll.

Ambulances and rescue services rushed to the scene of the blast, which destroyed all three of the refinery's liquefier natural gas (LNG) units. Late on Monday night rescue workers were still evacuating some of the injured, most of whom suffered head injuries.

Trains on fire.
Photo credit: Sonatrach

ASME Eliminates Code Case Expiration Dates

The ASME Boiler and Pressure Vessel Standards Committee took action to eliminate code case expiration dates, effective September 1.

This means that all code cases currently published in Supplement XX and beyond will remain available for use until annulled by the ASME Boiler and Pressure Vessel Standards Committee.

The most common types of pressure relief devices

Safety Valve -- This device is typically used for steam or vapor service. It operates automatically with a full-opening pop action and recloses when the pressure drops to a value consistent with the blowdown requirements prescribed by the applicable governing code or standard.

Relief Valve -- This device is typically used for liquid service. It operates automatically by opening farther as the pressure increases beyond the initial opening pressure and recloses when the pressure drops below the opening pressure.

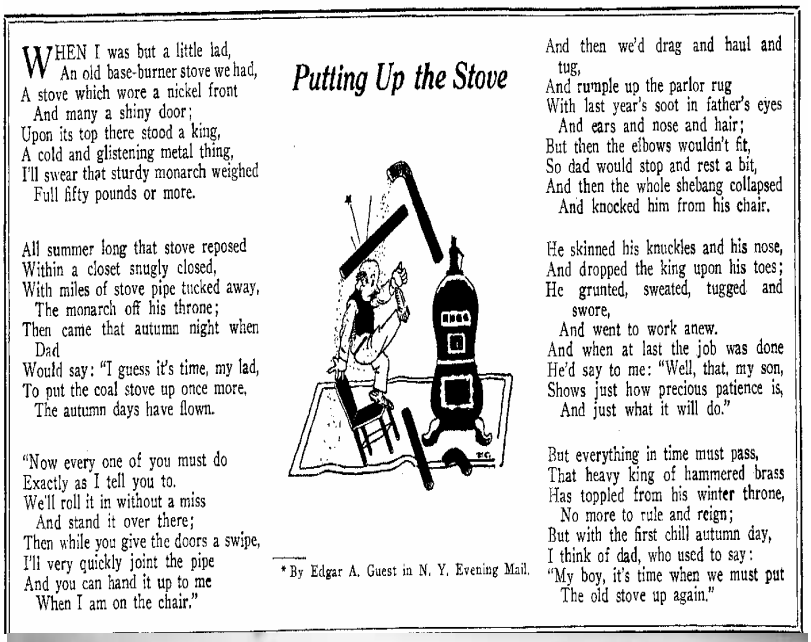
Safety Relief Valve -- This device includes the operating characteristics of both a safety valve and a relief valve and may be used in either application.

Temperature and Pressure Safety Relief Valve -- This device is typically used on potable water heaters. In addition to its pressure-relief function, it also includes a temperature-sensing element which causes the device to open at a predetermined temperature regardless of pressure. The set temperature on these devices is usually 210¾°F.

Rupture Disk -- This device is classified as non-reclosing since the disk is destroyed upon actuation. This type of device may be found in use with a pressure vessel where a spring-loaded pressure relief device is inappropriate due to the operating conditions or environment.

Answer to Question on Page 4:

Comm. 41.10



Putting Up the Stove

WHEN I was but a little lad,
An old base-burner stove we had,
A stove which wore a nickel front
And many a shiny door;
Upon its top there stood a king,
A cold and glistening metal thing,
I'll swear that sturdy monarch weighed
Full fifty pounds or more.

All summer long that stove reposed
Within a closet snugly closed,
With miles of stove pipe tucked away,
The monarch off his throne;
Then came that autumn night when
Dad
Would say: "I guess it's time, my lad,
To put the coal stove up once more,
The autumn days have flown.

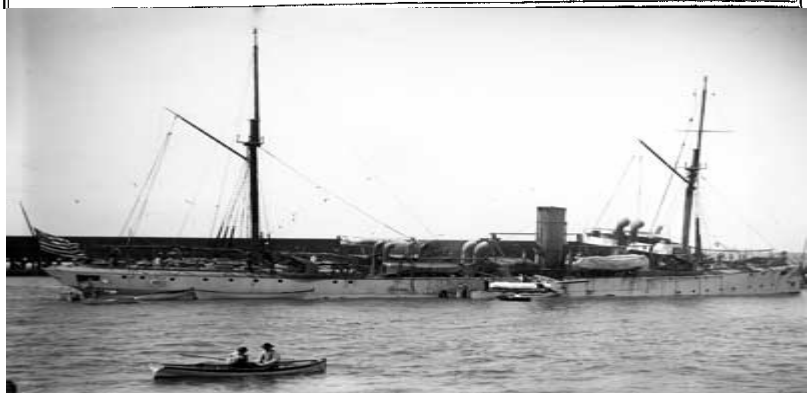
"Now every one of you must do
Exactly as I tell you to.
We'll roll it in without a miss
And stand it over there;
Then while you give the doors a swipe,
I'll very quickly joint the pipe
And you can hand it up to me
When I am on the chair."

And then we'd drag and haul and tug,
And rumple up the parlor rug
With last year's soot in father's eyes
And ears and nose and hair;
But then the elbows wouldn't fit,
So dad would stop and rest a bit,
And then the whole shebang collapsed
And knocked him from his chair.

He skinned his knuckles and his nose,
And dropped the king upon his toes;
He grunted, sweated, tugged and swore,
And went to work anew.
And when at last the job was done
He'd say to me: "Well, that, my son,
Shows just how precious patience is,
And just what it will do."

But everything in time must pass,
That heavy king of hammered brass
Has toppled from his winter throne,
No more to rule and reign;
But with the first chill autumn day,
I think of dad, who used to say:
"My boy, it's time when we must put
The old stove up again."

* By Edgar A. Guest in N. Y. Evening Mail.



USS *Bennington*: Anniversary of a Disaster

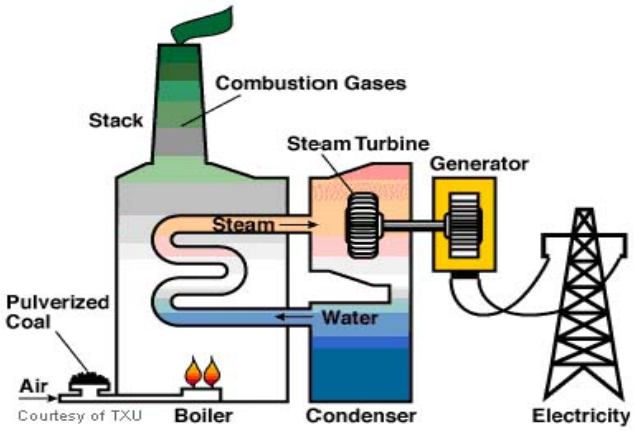
Built as a gunboat of the *Yorktown* class, the USS *Bennington* was first commissioned in 1891. She was constructed of steel, with a main battery consisting of six 6-inch breech-loading rifles and a secondary battery containing 10 rapid-firing guns and two 30-caliber Colt guns. Her maximum-indicated horsepower was 3,392 with speed of 17.5 knots per hour.

In the San Diego Bay at 10:38 a.m. July 21, 1905, the *Bennington* was struck by two devastating boiler explosions. A boiler had exploded, sending it into another boiler which in turn also exploded. In the same moment, steam released from the boilers instantly killed dozens of men.

All told, 65 sailors were killed and another 40 were injured.

Steam Turbine Power Plants

Steam turbine power plants operate on a Rankine cycle. The steam is created by a boiler, where pure water passes through a series of tubes to capture heat from the firebox and then boils under high pressure to become superheated steam. The heat in the firebox is normally provided by burning fossil fuel (e.g. coal, fuel oil or natural gas). However, the heat can also be provided by biomass, solar energy or nuclear fuel. The superheated steam leaving the boiler then enters the steam turbine throttle, where it powers the turbine and connected



generator to make electricity. After the steam expands through the turbine, it exits the back end of the turbine, where it is cooled and condensed back to water in the surface condenser. This condensate is then returned to the boiler through high-pressure feed pumps for reuse. Heat from the condensing steam is normally rejected from the condenser to a body of water, such as a river or cooling tower.

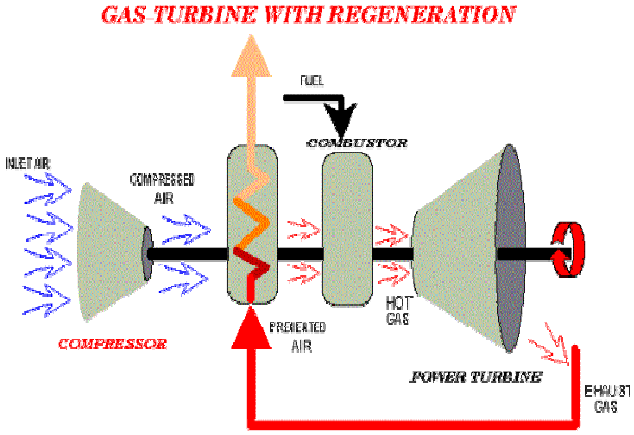
Steam turbine plants generally have a history of achieving up to 95% availability and can operate for more than a year between shutdowns for maintenance and inspections. Their unplanned or forced outage rates are typically less than 2% or less than one week per year.

Modern large steam turbine plants (over 500 MW) have efficiencies approaching 40-45%. These plants have installed costs between $800 and $2000/kW, depending on environmental permitting requirements.

Combustion (Gas) Turbines

Combustion turbine plants operate on the Brayton cycle. They use a compressor to compress the inlet air upstream of a combustion chamber. Then the fuel is introduced and ignited to produce a high temperature, high-pressure gas that enters and expands through the turbine section. The turbine section powers both the generator and compressor. Combustion turbines are also able to burn a wide range of liquid and gaseous fuels from crude oil to natural gas.

The combustion turbine's energy conversion typically ranges between 25% to



35% efficiency as a simple cycle. The simple cycle efficiency can be increased by installing a recuperator or waste heat boiler onto the turbine's exhaust. A recuperator captures waste heat in the turbine exhaust stream to preheat the compressor discharge air before it enters the combustion chamber. A waste heat boiler generates steam by capturing heat form the turbine exhaust. These boilers are known as heat recovery steam generators (HRSG). They can provide steam for heating or industrial processes, which is called cogeneration. High-pressure steam from these boilers can also generate power with steam turbines, which is called a combined cycle (steam and combustion turbine operation). Recuperators and HRSGs can increase the combustion turbine's overall energy cycle efficiency up to 80%.

A Concise History of the Traction Engine

The Traction Engine is a mobile steam engine that evolved from the crude stationary steam engines, once used during the late 18th century.

Early developments of the technology can be traced back to Denis Papin's pressure cooker invention of 1679, which was later the inspiration for Thomas Savery's who patented 1698 a crude form of steam engine. Thomas Savery, a military engineer, had for some time been working on the problem of pumping water out of coal mines. The invention he came up with consisted of a closed vessel filled with water into which pressurised steam was introduced. The steam forced water in the mine upwards and out of the shaft. A cold water sprinkler was used to condense the steam, which created a vacuum that sucked more water out of the mine through a bottom valve. Thomas Savery later worked with Thomas Newcomen on the atmospheric steam engine.

Though no one person can be credited with inventing the steam powered road vehicle, possibly the most advanced ideas came from a French military engineer called Nicolas Cugnot (1725–1804) His self propelled three-wheeled vehicle, was developed primarily for towing artillery and was capable of carrying four people. On 23rd October 1769, in the Paris arsenal, Cugnot demonstrated his first steam engine before distinguished government officials. The machine attained an impressive speed of 2mph and ran for 15 minutes. His second engine had its demonstration in the Paris streets before the French public. But there was a ‘minor’ incident involving the engine and an argument with a brick wall, which resulted in an upside down lump of quality scrap iron. Cugnot was discredited and lack of support prevented his further engine developments. A replica engine is now preserved in the Paris Museum of Technology.

Mining engineer Richard Trevithick (1771-1833) of Cornwall built the first self-moving engine in this country. He devoted his life to the improvement of the steam engine from its simple beginning as a beam engine pumping water from mines. Unlike James Watt, Trevithick favoured higher steam pressures that gave greater power from smaller cylinders. From 1800 to 1815 he built several steam road carriages, the first steam railway locomotives and a large number of stationary steam engines. Nothing he did however was commercially successful and he died in debt. Ransomes of Ipswich introduced the traction engine, as we begin to know it in 1840, who were established agricultural implement makers of the time.

Other engine builders were not far behind, some of the early ones being Aveling, Burrell, Clayton, Fowler and Garrett.

To begin with, engines were adapted portable engines, with the cylinders over the firebox and chain drive, the steering was at first by horses, later by a steersman on the front of the engine and then to the system we know today. Different makers had different ideas as to which side the steering should be situated, right or left.

The Traction Engine can be divided into six main groups.

THE PORTABLE. This was the first type of engine to be used on and around farms in Britain. They were not self propelled and needed to be pulled by horses. These were used to drive threshing equipment and to operate sawmills. They were still in use well into the 20th century.

THE AGRICULTURAL GENERAL PURPOSE ENGINE. These engines were the most common types to be seen around the countryside. They were basically used as a mobile power plant for threshing, tree pulling and general farm duties. Though not generally owned by the farmers themselves, contractors operated them, touring from farm to farm. Production ceased in the late 1930’s with continued preference of the petrol-paraffin tractor, which was less costly to operate, but they were still in use into the 1950’s.

ROAD LOCOMOTIVES. These were designed for heavy haulage on the public highways. They were usually larger than the normal traction engine and were fitted with three-speed gearing. They were also sprung on both front and rear axles. An extra water tank was fitted under the boiler so that greater distances could be travelled between water stops. These were very powerful traction engines capable of pulling loads of up to 120 tons. Showmen’s engines, though highly decorated and adorned with brass, fall into the category of road locomotive. Apart from hauling fair rides etc. from one venue to another, they were also used for generating the power for the rides and for lighting.

STEAM TRACTORS. These engines were built as small road locomotives and were operated by one man, provided the engine was less than 5 tons in weight. They were used for general road haulage and in particular by the timber trade. The most popular steam tractor was the Garrett 4CD.

ROAD ROLLERS. Perhaps the best known of all steam traction engines. They were working into the 1960’s and part of the M1 motorway was made with the use of steamrollers. They early rollers tended to be very heavy; one even weighing 30 tons was built. But it was soon discovered that weight alone did not make the best roller. 12 or 15 tons was the most favoured. With the introduction of Tarmac, rollers became even lighter and some of the smaller ones weighed as little as 3 tons.

A Concise History of the Traction Engine (con't)

PLOUGHING ENGINES. The largest of all and were used, as the name suggests, for ploughing. They were worked as a pair or set. Though the engines themselves didn't run along the field ploughing, a cable spanning the field would be attached to each engine on a winding drum with a plough joined in the middle which would be pulled up and down the field. One engine was built to pull on its right hand side the other on its left, so they were referred to as right hand or left hand engines, though the positions were the reverse when working. These engines weighed around 22 tons each and could plough up to 30 acres a day.

In addition to the six main groups developed from the beginning of the 20th century, was the steam wagon or lorry. The first of these were 'overtypes', having their engine mounted on top of the boiler in the same way as traction engines. These engines were chain driven. They were capable of speeds of up to 30mph. The designs included 4 and 6 wheelers, artics and tippers. By far the most popular builder of 'overtypes', were Foden of Cheshire. The 'undertype' wagon that followed was made with a vertical boiler with the engine mounted under the chassis, not unlike a modern lorry. Later models were fitted with pneumatic tyre and could reach speeds

Subject: Hobby/Traction Engine and Locomotive Boiler Safety

In accordance with section Comm 41.37 (2), Wisconsin Administrative Code, the department is hereby announcing changes in inspection procedures for the purpose of promoting safe working conditions for hobby boilers and traction engines.

Effective immediately, existing internal and hydrostatic inspection procedures and requirements for hobby boilers and traction engines will be modified to include ultrasonic thickness readings and pressure calculations on all such boilers to verify a safe maximum allowable working pressure.

It will be the responsibility of the organization conducting the ultrasonic test (UT) to perform the examination and provide pressure calculations using the minimum UT thickness readings. The UT results and pressure calculations must be submitted and accepted by a certified inspector prior to issuance of the Permit to Operate by the department. Ultrasonic testing, examination and calculations must be performed by an organization capable of performing tests with meaningful results, preferably by a valid ASME/National Board Repair-Alteration stamp holder or a firm that is properly qualified for materials Non-Destructive Examination. The ultrasonic testing and calculation process must be completed at least once every five years after initial submittal. In addition, please remember that fusible plugs must be installed in accordance with section Comm 41.30(1) (c) and must be ASME stamped in accordance with the National Board Inspection Code, Appendix C, Section C-6400. Please refer to ANSI/NB-23 NBIC, Appendix C, Historical Boiler requirements.

In the past, the Department allowed owners to alternate between an internal inspection and hydrostatic test for the required annual periodic inspection in accordance with section Comm 41.17(1). All boilers due for the "internal inspection" in 2003 must provide UT results and pressure calculations as noted in the preceding paragraph. Boilers due for the "hydrostatic test" in 2003 must complete the UT and calculations at the internal inspection in 2004. This method of ultrasonic testing at the internal inspection cycle will maintain present procedure and also coincide with the every 5th year ultrasonic testing specified in accordance with the National Board Inspection Code, Appendix C,