



Wisconsin Power Piping

April 13-14, 2016

12th Annual

DSPS \ WBIA 2016 Industry Days

Country Springs Hotel & Conference Center

2810 Golf Road

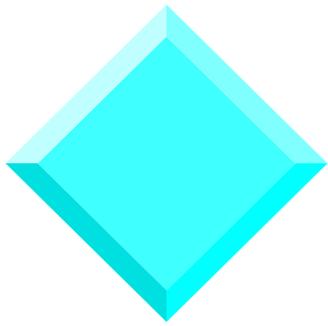
Waukesha WI 53187

Mike Verhagen

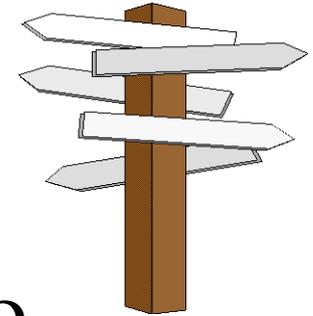
Chief Boiler Inspector

262-548-8617

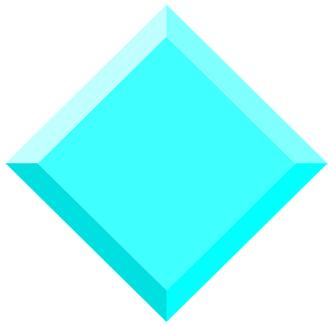




Agenda for the Day



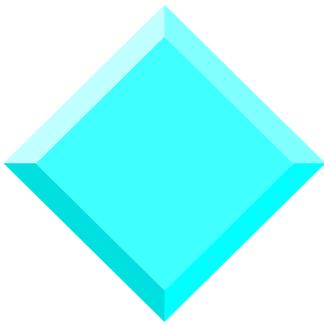
- ❖ Department of SPS
- ❖ Website Contacts, Codes & Info
- ❖ Safety Program Responsibilities
- ❖ Piping and Code Standards
- ❖ Contactor/Welder Responsibilities
- ❖ Question & Answer



Department Staff



- ❖ Section Chief, Kim Schmitt 608-266-3037
- ❖ Chief Boiler Inspector, Mike Verhagen
- ❖ District Boiler Inspectors: See *Inspector Map*
- ❖ Duane Leetch 715-559-8817
- ❖ Mike Schmidt 920-360-2193
- ❖ Terry Waldbillig 414-303-8575



District Inspector Map





STATE OF WISCONSIN
 Department of Safety and Professional Services
 1400 E Washington Ave. Madison WI 53703
 Web: dps.wi.gov

**Refrigeration Systems,
 Gas and Anhydrous
 Ammonia Programs**

Web: [Refrigeration Systems
 Gas Systems](http://Refrigeration Systems Gas Systems)

Governor Scott Walker Secretary Dave Ross

	Phone	Fax
1 - Duane Leetch Lead Worker	Duane.Leetch@Wisconsin.gov	715-559-8817 608-283-7431
2 - Temporary Assignment		
3 - Michael J. Schmidt	MichaelJ2.Schmidt@Wisconsin.gov	920-360-2193 608-283-7433
4 - Terence Waldbillig	Terence.Waldbillig@Wisconsin.gov	414-303-8575 608-283-7429
Supervisor Kim Schmitt	Kim.Schmitt@Wisconsin.gov	262-524-3950
Submit general questions to;	DpsSbBoilertech@wisconsin.gov	

Contact Damarc Quality Inspection Services LLC (866-361-4321) for inspections outside of districts.

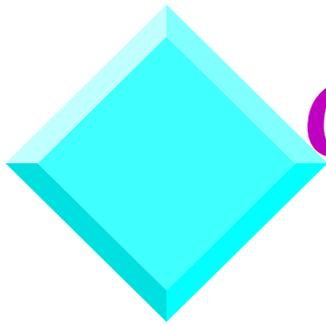
Temporary assignment: Buffalo/Trempealeau/Jackson
 Adams/Juneau/Sauk
 La Crosse/Vernon/Monroe/Richland/Crawford

Duane Leetch
 Michael Schmidt

District 1
 District 3
 Damarc Quality Insp

Get map from
DPS
Website





Contacts & Website Info

Dept of Safety & Professional Services

<http://www.dsps.wi.gov>

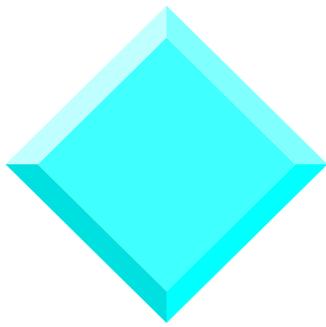
National Board

<http://www.nationalboard.org>

ASME

<http://www.asme.org>

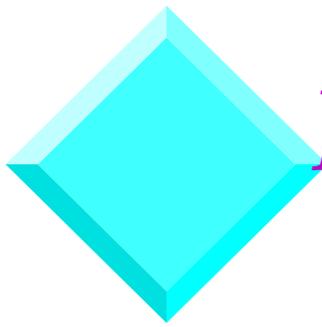




DSPS Chapters Involved

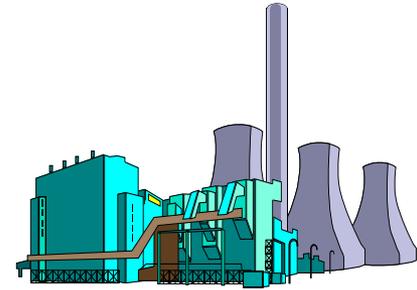
- ❖ **SPS 305, Credentials**
- ❖ **SPS 340, Gas Systems,**
 - LPG (Ref NFPA 58 + B31.3), H₂ (Ref NFPA 52)
 - LNG (Ref NFPA 59A), CNG (Ref NFPA 52)
- ❖ **SPS 341, Boilers (ASME + NBIC + B31.1)**
- ❖ **SPS 343, NH₃ (Ref ANSI K61.1 + B31.3)**
- ❖ **SPS 345, Refrigeration (ASHRAE 15 + B31.5)**
- ❖ **SPS 362.2204, Structural Welds (AWS D1.1)**

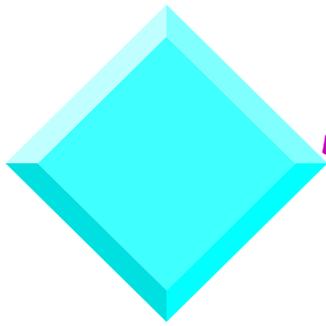




Boiler and Pressure Vessels

- ❖ SPS Chapter 341, B & PV Code
- ❖ ASME
 - Section I, Power Boilers
 - Section IV, Heating Boilers
 - Section VIII, Pressure Vessels
- ❖ Piping - ASME/ANSI B-31.1 Piping



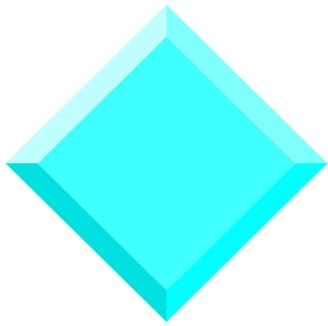


SPS 341, Boiler Code



POWER PIPING / NON EXTERNAL PIPING

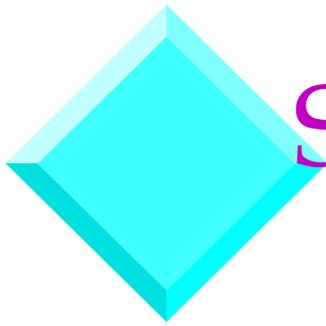
341.04(28) “Power piping” means any steam piping system beyond the scope of section I of the ASME code and having a maximum allowable working pressure in excess of 15 psig, any hot water piping system beyond the scope of section I of the ASME code and subject to temperatures in excess of 250°F, or any piping system using an organic or synthetic fluid as a heat-transfer media and subject to temperatures in excess of 250°F.



SPS 341, Boiler Code

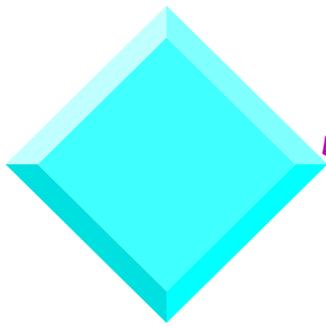
“Boiler proper” EXTERNAL PIPING

Definition “Boiler external piping” means piping within the scope of ASME code section I and which requires ASME code stamping as specified in Section I.

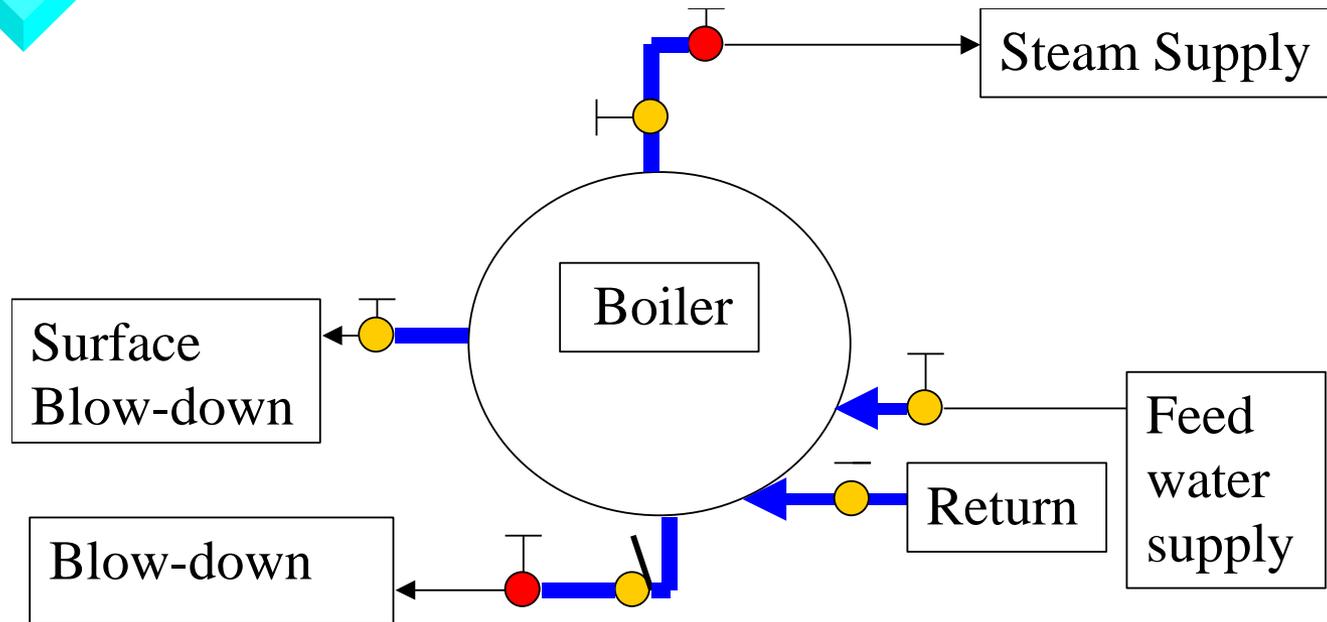


SPS 341, Boiler Code

- ❖ SPS 341.10 (2) (b) Adoption of standards by reference. American Society of Mechanical Engineers (ASME), Power Piping, B31.1-2010.



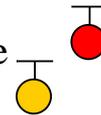
SPS 341, Boiler Code



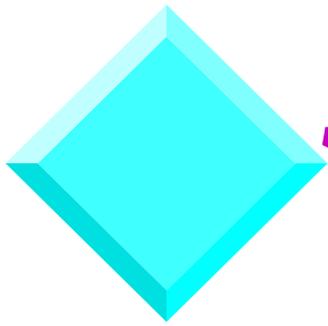
NOTE: Boilers

With manhole - up to and including 2nd stop valve

Without manhole - up to including 1st stop valve



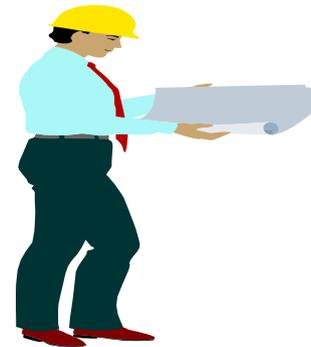
“External” boiler piping requires ASME “S-PP” Stamp.

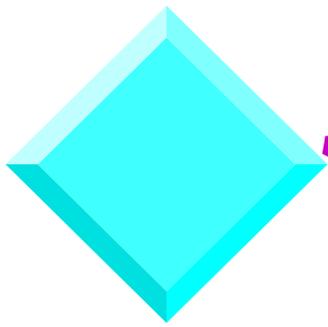


SPS 341, Boiler Code

SPS 341.16 SPS 341.16 Installation

inspections. (1) Boiler and Pressure vessel Inspections. (a) 1. Except as provided in par. (b), boilers and pressure vessels shall be inspected by a certified inspector before they are placed in operation.



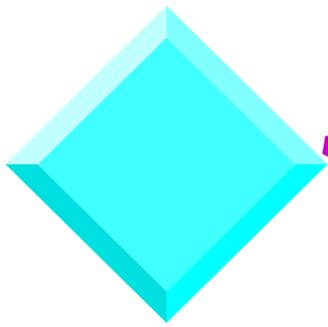


SPS 341, Boiler Code

SPS 341.16 (2) Power Piping Inspections.

(a) Except as provided in par. (b), all power piping systems not covered by ASME code section I and required to be constructed in accordance with ASME B31.1, shall receive an installation inspection by the department, authorized agent or a certified inspector.





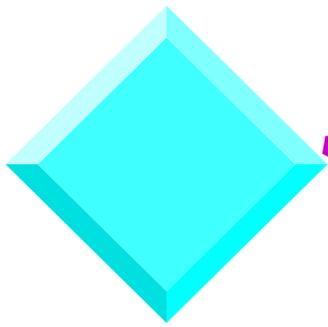
SPS 341, Boiler Code

SPS 341.16 (2) Installation inspections.

(b) The inspections specified in par.

(a) **are not required** for:

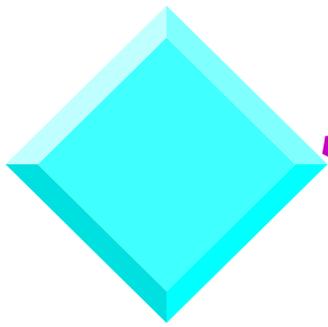
1. Power piping of 2 inches nominal pipe size and smaller;
2. Power piping replacements, modifications and alterations to existing systems and for new installations, any of which do not exceed 50 feet in length; and
3. Underground power piping systems which are not located in a walk-in tunnel.



SPS 341, Boiler Code

SPS 341.16 (2) Installation inspections.

(c) The installer shall notify the department or authorized agent or a certified inspector prior to the start of construction of the power piping system so that inspections may be arranged. The department or authorized agent or certified inspector shall be given a minimum of 5 business days notice to arrange for inspection.



SPS 341, Boiler Code

SPS 341.16 (2) Installation inspections.

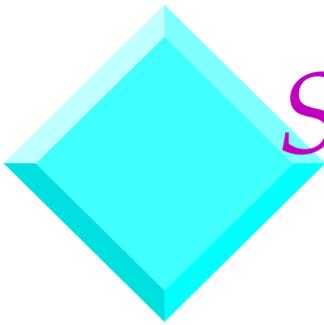
(d) A power piping inspection shall be made after the piping material is delivered to the job site and prior to the start of construction of the power piping system. The installer or an in-state shop fabricator shall complete department form SBD-5204-E prior to the inspection, and the form shall be retained at the job site for reference during the inspection. The department or authorized agent or certified inspector shall indicate acceptance of the power piping system design and installation by signing form SBD-5204-E. Power piping systems may not be insulated or placed in service without receiving that acceptance.



SPS 341, Boiler Code

SPS 341.16 (2) Installation inspections.

(e) Pre - fabricated piping that is part of a power piping system shall be inspected at the fabrication shop by the department or authorized agent or a certified inspector or an active National Board commissioned inspector for out-of-state manufacturers. The shop fabricator shall provide a copy of the certified inspector's report or a copy of the completed department form SBD-5204-E to the installer at the job site verifying that the pre-fabricated piping complies with ASME B31.1. The owner or installer shall provide design calculations for the prefabricated piping if requested by an inspector.



SPS 341, Boiler Code

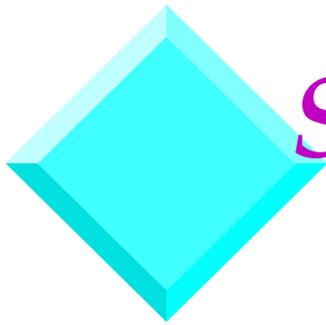
Power Piping Registration Form SBD-5204

POWER PIPING / WELDED REFRIGERATION		Division of Industry Services P O Box 7302 Madison, WI 53707-7302
PIPING INSTALLATION REGISTRATION		
Personal information you provide may be used for secondary purposes [Privacy Law s. 15.04 (1) (m)]		
Check type of system being installed: <input type="checkbox"/> Power Piping <input type="checkbox"/> Welded Refrigeration Piping		
System Description: Include pipe sizes, total length of pipe welded and purpose of system (example: main steam, refrigerant etc.)		
<input type="checkbox"/> New <input type="checkbox"/> Replacement <input type="checkbox"/> Modification (Refrigeration system designed to: <input type="checkbox"/> ASHRAE-15 2007 <input type="checkbox"/> ANSI/IAA-2 2008		

JOB# _____		
User or Owner's Name _____		Contractor's Name (Shop fabricator or installing contractor) _____
Street Address _____		Street Address _____
City, State, Zip Code _____		City, State, Zip Code _____
Telephone # _____ e-mail _____		Telephone # _____ e-mail _____
Installation Designed By _____		Certified Inspector Signature _____
In Accordance with Test, Div. # _____		Employed By _____
<input type="checkbox"/> ANSI / ASME B31.1 <input type="checkbox"/> ANSI / ASME B 31.5		Date Inspected _____ State N.B.-Cert. ID. # _____
Maximum Design Pressure and Temperature of Piping System _____		
Minimum Design Metal Temperature of Piping System _____		
Test Pressure Applied _____ Refrigeration: High Side _____ Low Side _____ Steam Piping _____		
Test Type: <input type="checkbox"/> Hydrostatic <input type="checkbox"/> Pneumatic <input type="checkbox"/> Other _____ Date Tested: _____		
I certify this system was fabricated/installed and tested in accordance with Wisconsin Administrative Codes Chapter SPS 341/345 as applicable		
Date piping completed _____	Fabricator/ installing contractor Signature and Title _____	For SPS USE ONLY Date Installation Registered _____
Shop fabricator and/or installing contractor must prepare this document and maintain at the shop and at field site until completion of fabrication. This form shall accompany shop fabricated piping to the field site.		
Upon completion distribute as follows: "Form can be downloaded from the Web Site" Boiler and Pressure Vessel forms		
Send original copy to Division of Industry Services (address above) - Send one to Owner - Retain one for your File		
Derived from SBD-5204-E (R. 12-14)		



Will Divide form into (3) Sections Top - Middle - Bottom



SPS 341, Boiler Code



POWER PIPING / WELDED REFRIGERATION

PIPING INSTALLATION REGISTRATION

Division of Industry Services
P O Box 7302
Madison, WI 53707-7302

Personal information you provide may be used for secondary purposes [Privacy Law s. 15.04 (1) (m)].

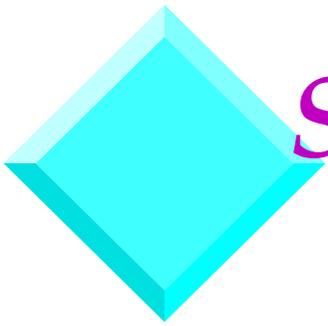
Check type of system being installed: Power Piping Welded Refrigeration Piping

System Description: Include pipe sizes, total length of pipe welded and purpose of system (example: main steam, refrigerant etc.)

New Replacement Modification (Refrigeration system designed to - ASHRAE-15 2007 ANSI/IIAR-2 2008

Inspector may indicate details and dates of his inspection: Checked mtrls, weld docs, welder fit-up, hangers, design calcs, witness satisf. hydro

JOB# _____

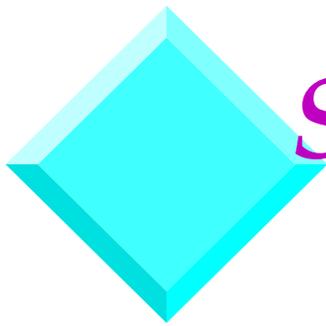


SPS 341, Boiler Code

User or Owner's Name	Contractor's Name (Shop fabricator or installing contractor)	
Street Address	Street Address	
City, State, Zip Code	City, State, Zip Code	
Telephone #	e-mail	Telephone # e-mail
Installation Designed By	Certified Inspector Signature M.J. Verhagen	
	Employed By Employer- WI DSPS	
In Accordance With Natl. Std. # <input type="checkbox"/> ANSI / ASME B31.1 <input type="checkbox"/> ANSI / ASME B 31.5	Date Inspected 4-13-16	State/N.B.-Cert. ID. # WI Cert #

Boiler Registration Form **SBD-5204**

Form Middle



SPS 341, Boiler Code

Maximum Design Pressure and Temperature of Piping System.....		
Minimum Design Metal Temperature of Piping System.....		
Test Pressure Applied.....	Refrigeration: High Side _____ Low Side _____	Steam Piping: _____
Test Type: <input type="checkbox"/> Hydrostatic <input type="checkbox"/> Pneumatic <input type="checkbox"/> Other _____	Date Tested _____	
I certify this system was fabricated/installed and tested in accordance with Wisconsin Administrative Codes Chapter SPS 341/345 as applicable		
Date piping completed	Fabricator/ installing contractor Signature and Title	<small>For DSPS USE ONLY Date Installation Registered</small>
Shop fabricator and/or installing contractor must prepare this document and maintain at the shop and at field site until completion of fabrication. This form shall accompany shop fabricated piping to the field site.		
Upon completion distribute as follows: "Form can be downloaded from the Web Site" Boiler and Pressure Vessel forms		
Send original copy to Division of Industry Services (address above) - Send one to Owner - Retain one for your File		

Boiler Registration Form **SBD-5204**

Form Bottom



SPS 341, Boiler Code



SPS 341.41 Installation registration. (1) Boiler or Pressure Vessel Installation Registration.
(a) Except as provided in par. (b), the installation of any boiler or pressure vessel shall be registered with the Department by the installer before the operation of the boiler or pressure vessel. Registration shall be on form SBD-6314-E.

Note: Get copies of form SBD-6314 from our website

www.dsps.wi.gov

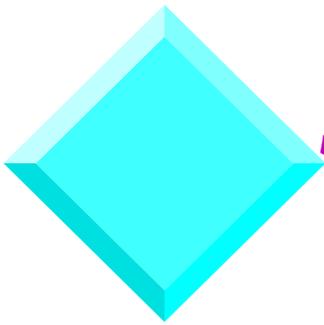


SPS 341, Boiler Code

❖ **SPS 341.41 Installation registration. (1)**

(b) Registration with the department is not required for any of the following:

- 1. Boilers and pressure vessels exempted from periodic inspections in s. SPS 341.18.
- 2. Installations in cities of the first class “**MILWAUKEE**” if an installation registration form has been filed with the appropriate city official.



SPS 341, Boiler Code

Boiler Pressure Vessel Registration Form

SBD-6314

 <p>Department of Safety and Professional Services Industry Services Division</p>		<p>Boiler and Unfired Pressure Vessel (UPV) Installation Registration</p> <p>Personal information you provide may be used for secondary purposes [Privacy Laws 15.04(1) (m)].</p>	
<p>Installer shall prepare form in triplicate (or make copies) for each boiler or pressure vessel installed and submit as follows:</p> <p>1. Original to: Industry Services Division PO Box 7302 Madison, WI 53707-7302</p> <p>2. Copy to Owner</p> <p>3. Copy to Installer</p>		<p>Installation is: (Check applicable boxes) <input type="checkbox"/> NEW <input type="checkbox"/> USED</p> <p>BOILER or FIRED PRESSURE VESSEL TYPE :</p> <p><input type="checkbox"/> POWER BOILER <input type="checkbox"/> HEATING BOILER <input type="checkbox"/> MINIATURE / ELEC. BOILER</p> <p><input type="checkbox"/> UNFIRED PRESSURE VESSEL</p> <p><input type="checkbox"/> Replace boiler / unfired pressure vessel. Provide "OLD" tag: _____</p> <p><input type="checkbox"/> Replace / modify an existing burner assembly or install a new burner assembly with : _____ BTU / hr output capacity</p> <p><input type="checkbox"/> Convert fuel or increase heat input per SPS 341.38. Describe type of fuel conversion: _____</p>	
Site or Equipment Owner Information			
Owner / Contact Name:		Owner / Contact Telephone:	
Owner / Contact Address:		Owner / Contact Email:	
Owner / Contact Town, Village, City:	State:	Zip:	<p>*** Detail Information of Boiler or UPV ***</p> <p>Manufacturer's Name :</p> <p>Design Pressure or MAWP: (lbs / sq in)</p> <p>WI Registration Tag #: (Inspector entry after inspection)</p> <p>National Board #: Serial #:</p> <p>Building Location of Installation: (NE Bldg, 2nd floor, Penthouse etc.)</p>
INSTALLATION SITE INFORMATION			
Installation Site Name:	Site County:		
Installation Site Address:	Bidg ID #:		
Installation Site Town, Village, City:	State:	Zip:	
INSTALLER / CONTRACTOR INFORMATION			
Installer / Contractor Name:		Installer / Contractor Telephone:	
Installer / Contractor Address			
Installer Town, Village, City:	State:	Zip:	Installer / Contractor Email:
HVAC Contractor Registration # :	Expire Date: (mm-dd-yr)	Installer / Contractor Signature:	Date: (mm-dd-yr)

SBD-6314-E (R03/13)

- SPS 341.38(3) FUEL CONVERSIONS. The owner or user shall report to the department conversions of the boiler's primary fuels to other fuels and shall use department form SBD-6314 for this notification. (Fuel conversion example: wood-oil, oil-gas, gas-coal etc.)
- SPS 341.3 (4) HEAT INPUT. The owner or user shall report to the department any modification that increases the heat input capacity of the boiler and shall use department form SBD-6314 for this notification.
- SPS 341.41(1) Boiler or pressure vessel INSTALLATION REGISTRATION. (a) Except as provided in par. (b), the installation of any boiler or pressure vessel shall be registered with the department by the installer before the operation of the boiler or pressure vessel. Registration shall be in writing on form SBD-6314.





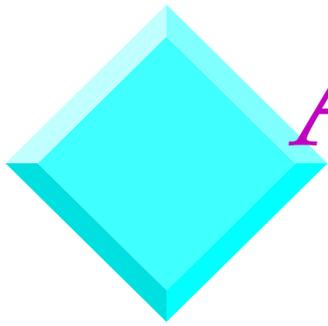
SPS 341, Boiler Code

SPS 341.41 Installation registration.

(2) POWER PIPING INSTALLATION REGISTRATION.

(a) Except as provided in par. (b), the installation of any power piping system shall be registered with the department by the installer before the operation of the piping system. Registration shall be in writing on form SB-5204.

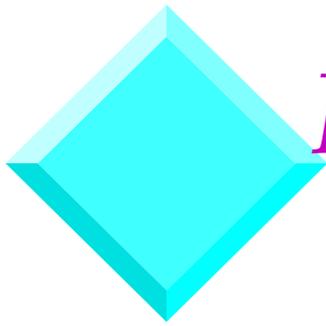
Note: Get copies of form SB-5204 from website



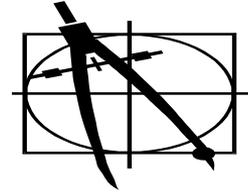
Adopted Piping Standards

- ❖ Chapter SPS 341, Steam piping, **ANSI B31.1**
- ❖ Chapter SPS 340, Gas piping, **ANSI B31.3**
- ❖ Chapter SPS 345, Refrigeration piping, **ANSI B31.5**



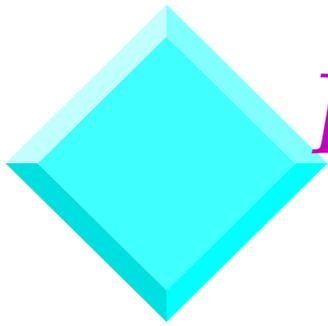


B-31.1 Piping Code



❖ Design criteria

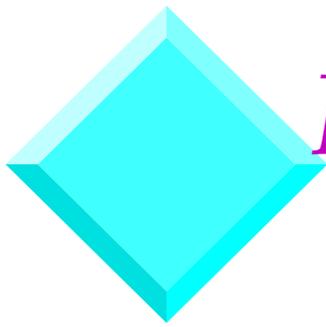
- Material specifications listed Table 126.1
- Pressure & temperature ratings
- Pressure design calculations
- Joints welded, threaded, brazed
- Piping supports, hangers
- Specific piping valves/fittings-Section 122 ~ Boiler external Piping



B-31.1 Piping Code

- ❖ Fabricaton, assembly and erection
 - Materials, base and filler metal, backing
 - Weld design, process, fillet, butt
 - Branch connections, seal, attachment welds
 - Heat treatment, preheat & PWHT
 - Pipe hangers ... “**Structural welding**”



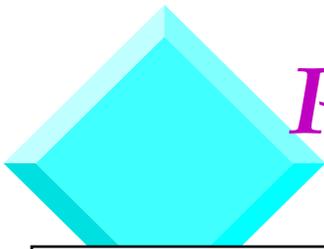


B-31.1 Piping Code



- ❖ Weld qualification (ASME, Section IX)
 - Responsibility = contractor/employer
 - Welding Procedure Specification “WPS”
 - Procedure Qualification Record “PQR”
 - Welder Performance Qualification “WPQ”
 - Welder continuity
 - Welder symbols, marking





Procedure Qualification Record

QW-483 SUGGESTED FORMAT FOR PROCEDURE QUALIFICATION RECORD (PQR)
 (See QW-200.2, Section IX, ASME Boiler and Pressure Vessel Code)
 Record Actual Conditions Used to Weld Test Coupon.

Company Name _____
 Procedure Qualification Record No. _____ Date _____
 WPS No. _____
 Welding Process(es) _____
 Types (Manual, Automatic, Semi-Auto.) _____

JOINTS (QW-402)

Groove Design of Test Coupon
 (For combination qualifications, the deposited weld metal thickness shall be recorded for each filler metal or process used.)

<p>BASE METALS (QW-403)</p> Material Spec. _____ Type or Grade _____ P No. _____ to P-No. _____ Thickness of Test Coupon _____ Diameter of Test Coupon _____ Other _____ <hr/> <p>FILLER METALS (QW-404)</p> SFA Specification _____ AWS Classification _____ Filler Metal F-No. _____ Weld Metal Analysis A-No. _____ Size of Filler Metal _____ Other _____ Weld Metal Thickness _____	<p>POSTWELD HEAT TREATMENT (QW-407)</p> Temperature _____ Time _____ Other _____ <hr/> <p>GAS (QW-408)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Percent Composition</th> </tr> <tr> <th style="width: 33%;">Gases</th> <th style="width: 33%;">(Mixture)</th> <th style="width: 33%;">Flow Rate</th> <th style="width: 33%;"></th> </tr> <tr> <td>Shielding _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Trailing _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Backing _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </table> <hr/> <p>ELECTRICAL CHARACTERISTICS (QW-409)</p> Current _____ Polarity _____ Volts _____ Tungsten Electrode Size _____ Other _____	Percent Composition				Gases	(Mixture)	Flow Rate		Shielding _____	_____	_____	_____	Trailing _____	_____	_____	_____	Backing _____	_____	_____	_____
Percent Composition																					
Gases	(Mixture)	Flow Rate																			
Shielding _____	_____	_____	_____																		
Trailing _____	_____	_____	_____																		
Backing _____	_____	_____	_____																		

<p>POSITION (QW-405)</p> Position of Groove _____ Weld Progression (Uphill, Downhill) _____ Other _____ <hr/> <p>PREHEAT (QW-406)</p> Preheat Temp. _____ Interpass Temp. _____ Other _____	<p>TECHNIQUE (QW-410)</p> Travel Speed _____ String or Weave Bead _____ Oscillation _____ Multipass or Single Pass (per side) _____ Single or Multiple Electrodes _____ Other _____
--	---

(12/01) This form (E00007) may be obtained from the Order Dept., ASME, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300. REPRINT 8/93

QW-483 (Back)

PQR No. _____

Tensile Test (QW-150)

Specimen No.	Width	Thickness	Area	Ultimate Total Load lb	Ultimate Unit Stress psi	Type of Failure & Location

Guided-Bend Tests (QW-160)

Type and Figure No.	Result

Toughness Tests (QW-170)

Specimen No.	Notch Location	Notch Type	Test Temp.	Impact Values	Lateral Exp.		Drop Weight	
					% Shear	Mils	Break	No Break

Fillet-Weld Test (QW-180)

Result — Satisfactory: Yes _____ No _____ Penetration into Parent Metal: Yes _____ No _____
 Macro—Results _____

Other Tests

Type of Test _____
 Deposit Analysis _____
 Other _____

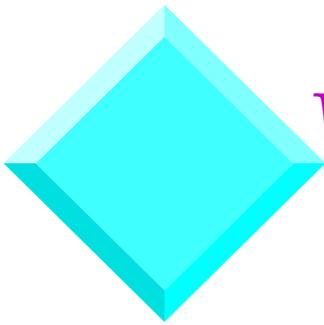
Welder's Name _____ Clock No. _____ Stamp No. _____
 Tests conducted by: _____ Laboratory Test No. _____

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Code.

Manufacturer _____

Date _____ By _____
 (Detail of record of tests are illustrative only and may be modified to conform to the type and number of tests required by the Code.)

“PQR” ASME QW-483 Form



Welder Performance Qualification

“WPQ”
ASME
QW-484
Form

QW-484 SUGGESTED FORMAT FOR MANUFACTURER'S RECORD OF WELDER OR WELDING OPERATOR QUALIFICATION TESTS (WPQ)
(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

Welder's name _____ Clock number _____ Stamp no. _____
 Welding process(es) used _____ Type _____
 Identification of WPS followed by welder during welding of test coupon _____
 Base material(s) welded _____ Thickness _____

Manual or Semiautomatic Variables for Each Process (QW-350)	Actual Values	Range Qualified
Backing (metal, weld metal, welded from both sides, flux, etc.) (QW-402)	_____	_____
ASME P-No. _____ to ASME P-No. (QW-403)	_____	_____
() Plate () Pipe (enter diameter, if pipe)	_____	_____
Filler metal specification (SFA): _____ Classification (QW-404)	_____	_____
Filler metal F-No. _____	_____	_____
Consumable insert for GTAW or PAW _____	_____	_____
Weld deposit thickness for each welding process _____	_____	_____
Welding position (1G, 5G, etc.) (QW-405)	_____	_____
Progression (uphill/downhill) _____	_____	_____
Backing gas for GTAW, PAW, or GMAW; fuel gas for OFW (QW-408)	_____	_____
GMAW transfer mode (QW-409) _____	_____	_____
GTAW welding current type/polarity _____	_____	_____
Machine Welding Variables for the Process Used (QW-360)		
Direct/remote visual control _____	_____	_____
Automatic voltage control (GTAW) _____	_____	_____
Automatic joint tracking _____	_____	_____
Welding position (1G, 5G, etc.) _____	_____	_____
Consumable insert _____	_____	_____
Backing (metal, weld metal, welded from both sides, flux, etc.) _____	_____	_____

Guided Bend Test Results

Guided Bend Tests Type () QW-462.2 (Side) Results () QW-462.3(a) (Trans. R & F) Type () QW-462.3(b) (Long. R & F) Results

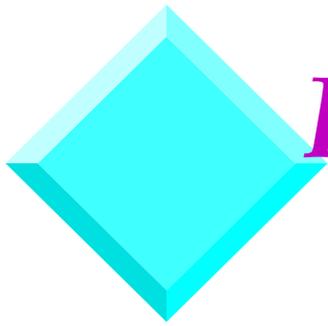
Visual examination results (QW-302.4) _____
 Radiographic test results (QW-304 and QW-305) _____
 (For alternative qualification of groove welds by radiography)
 Fillet Weld — Fracture test _____ Length and percent of defects _____ in.
 Macro test fusion _____ Fillet leg size _____ in. x _____ in. Concavity/convexity _____ in.
 Welding test conducted by _____ Laboratory test no. _____
 Mechanical tests conducted by _____

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Code.

Organization _____

Date _____ By _____

(12/92) This form (E00008) may be obtained from the Order Dept., ASME, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300. REPRINT 6/93



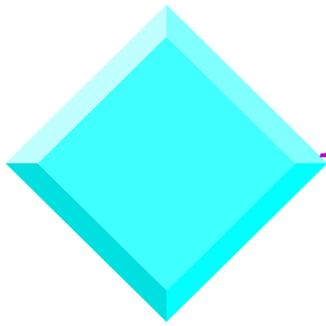
B31.1, Piping Standard

Chapter V, Fabrication Assembly & Erection

127.5 Qualification

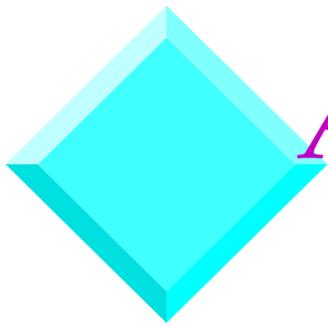
127.5.1 General. Qualification of the WPS to be used, and of the performance of welders and welding operators, is required and shall comply with the requirements of the ASME Boiler and Pressure Vessel Code (Section IX)





B31.1, Piping Standard

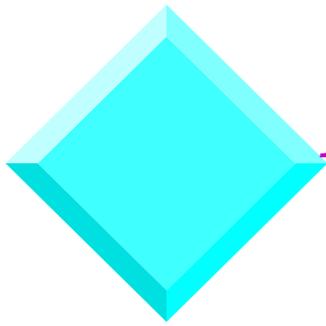
127.5.2 Welding Responsibility. Each employer (see para. 100.2) shall be responsible for the welding performed by his organization and the performance of welders or welding operators employed by that organization.



ASME, Section IX, Welding

QW-322 Expiration and Renewal of Qualification. The performance qualification of a welder or welding operator shall be affected when one of the following conditions occurs:

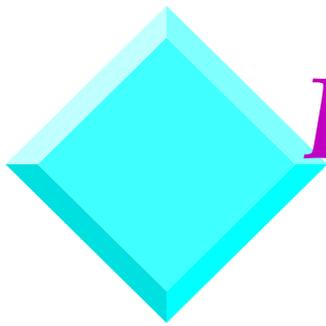
- a. When he has not welded with a process during a period of 6 months or more, his qualification for that process shall expire; unless... 2 paragraphs explain / allow an extension.
- b. When there is specific reason to question his ability to make welds that meet the specification, the qualifications which support the welding he is doing shall be revoked. All other qualifications not questioned remain in effect.



B31.1, Piping Standard

127.6 Welding Records. The employer shall maintain a record, signed by him / her and available to the purchaser or his agent and the inspector, of the WPSs used and the welders or welding operators employed by him, showing the date and results of procedure and performance qualifications, and the identification symbol assigned to each performance qualification.
(cont.)



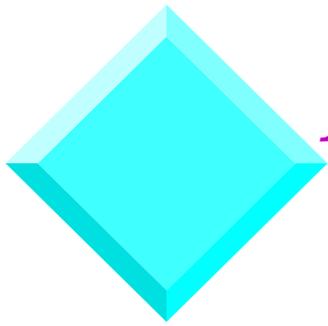


B31.1, Piping Standard



127.6 Welding Records. (cont.) The employer shall use this identification symbol to identify the welds performed by a welder or welding operator. This may be accomplished by the application of the welder's or welding operator's symbol on the joint in a manner specified by his employer.

Alternatively, the employer shall maintain records which identify the joint with the welder or welding operator.



B31.1, Piping Code

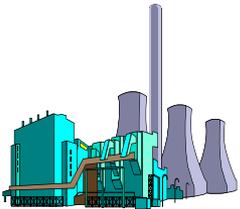
MISC

122.1.4 (B.3) **Blow-off piping.** All pipe shall be steel. Galvanized steel pipe and fitting shall not be used for blowdown piping. When the value of P does not exceed 100 psig, the fittings shall be bronze, cast iron, malleable iron, ductile iron, or steel. When the value of P exceeds 100 psig, the fittings shall be steel and the thickness of pipe and fittings shall not be less than that of Schedule 80 pipe.



Other Welding Code Items

- ❖ **Structural Steel Welding... SPS 362.2204**
 - AWS D1.1, D1.2, D1.3 & D1.6
- ❖ **Pipe Welding..... SPS 340, 341, 343 & 345**
 - All Reference ASME, Section IX
 - ◆ SPS 340, ASME/ANSI B31.3
 - ◆ **SPS 341, ASME/ANSI B31.1**
 - External Piping...requires “S-PP” Stamp
 - Non external Piping...requires welding docs
 - ◆ SPS 343, ASME/ANSI B31.3
 - ◆ SPS 345, ASME/ANSI B31.5

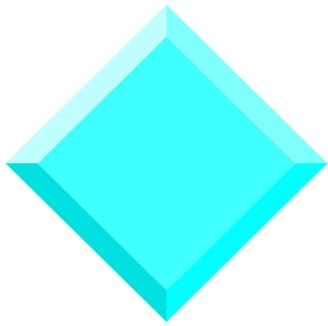




Contractor Responsibility

- ❖ Forms, (SBD-5204 also SBD-34 & SBD-6314)
- ❖ Material Specifications
(Materials, Invoice, pipe & fittings marked)
- ❖ Welder Documentation
(WPS,PQR,WPQ, Continuity) 
- ❖ Inspection (Five days advance notice, prior mtrl delivery)
- ❖ Fabrication Approval (from Certified Inspector)
- ❖ Pressure Test (may be witnessed by Inspector)

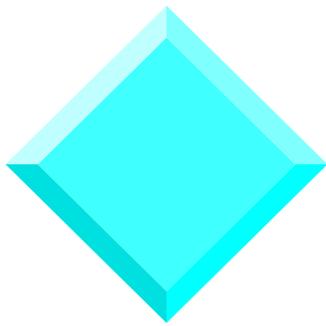
NOTE: Design Calc's available, pipe drawings referenced at the job site.



*Guide
to
Power
Piping
in
Wisconsin*

Guide to Power Piping
State of Wisconsin
SPS 341





*Gas Systems
&
Anhydrous
Ammonia
Brochure*

SBD-10790



**GAS SYSTEMS
AND
Anhydrous Ammonia
(CNG - H₂ - LNG - LPG - NH₃)**

Division of Industry Services
1400 E. Washington Avenue
Madison WI 53703



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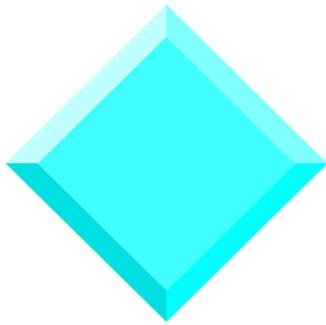
BROCHURES

available from our

**WEBSITE @
dsps.wi.gov**

PROGRAMS

- **Gas Systems**
- **Boiler & PV**
- **Solid fuel**
- **Refrigeration**
- **Structural Welding**



Boiler & Pressure Vessel

Brochure

SBD-7833



BOILER PRESSURE VESSEL PROGRAM

Division of Industry Services
1400 E Washington Ave
Madison WI 53703



Inspection Districts

- | | | |
|----|---------------------|--------------|
| 1. | Duane Leetch | 715-559-8817 |
| 2. | Dean Yourchuck, Jr. | 608-235-0607 |
| 3. | Michael J Schmidt | 920-360-2193 |
| 4. | Terence Waldbillig | 414-303-8575 |



Damarc Quality
Inspection, LLC

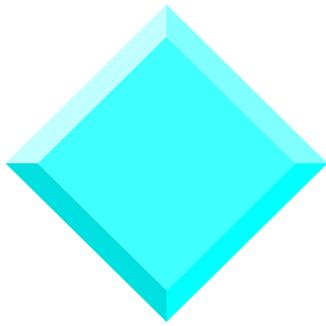
866-361-4321

BROCHURES
available from our

WEBSITE @
dsps.wi.gov

PROGRAMS

- Gas Systems
- **Boiler & PV**
- Solid fuel
- Refrigeration
- Structural Welding



*Mechanical
Refrigeration*

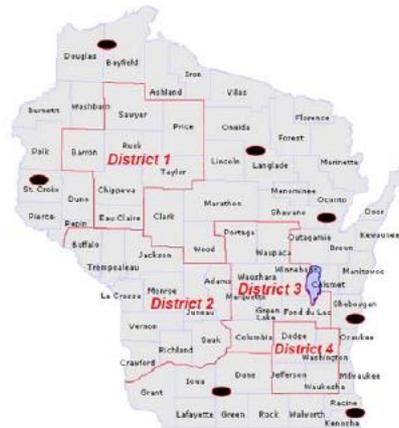
Brochure

SBD-10811



MECHANICAL REFRIGERATION

Division of Industry Services
1400 E Washington Ave
Madison WI 53703



Inspection Districts

1.	Duane Leetch	715-559-8817
2.	Dean Yourchuck, Jr.	608-235-0607
3.	Michael J Schmidt	920-360-2193
4.	Terence Waldbillig	414-303-8575

 Damarc Quality
Inspection, LLC 866-361-4321

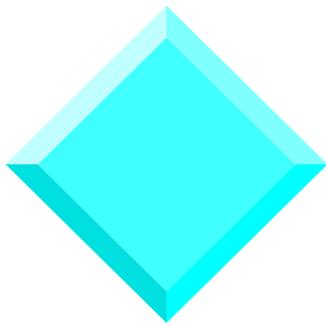
BROCHURES

available from our

WEBSITE @
dsps.wi.gov

PROGRAMS

- Gas Systems
- Boiler & PV
- Solid fuel
- **Refrigeration**
- Structural Welding



Structural

Welding

Brochure

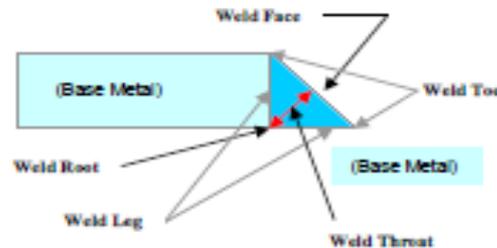
SBD-10823



STRUCTURAL WELDING

Department of Safety and
Professional Services

Division of Industry Services
1400 E Washington Ave
Madison WI 53703



Details of a Fillet Weld

BROCHURES

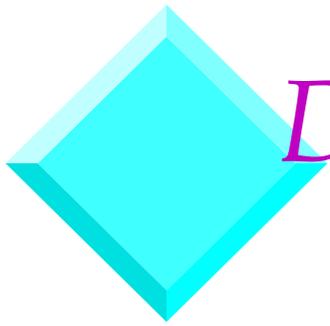
available from our

WEBSITE @

dsps.wi.gov

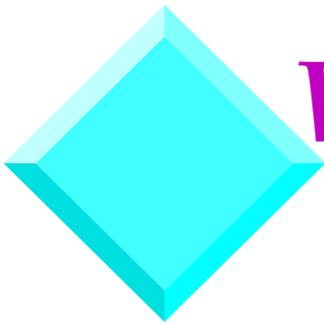
PROGRAMS

- Gas Systems
- Boiler & PV
- Solid fuel
- Refrigeration
- **Structural Welding**



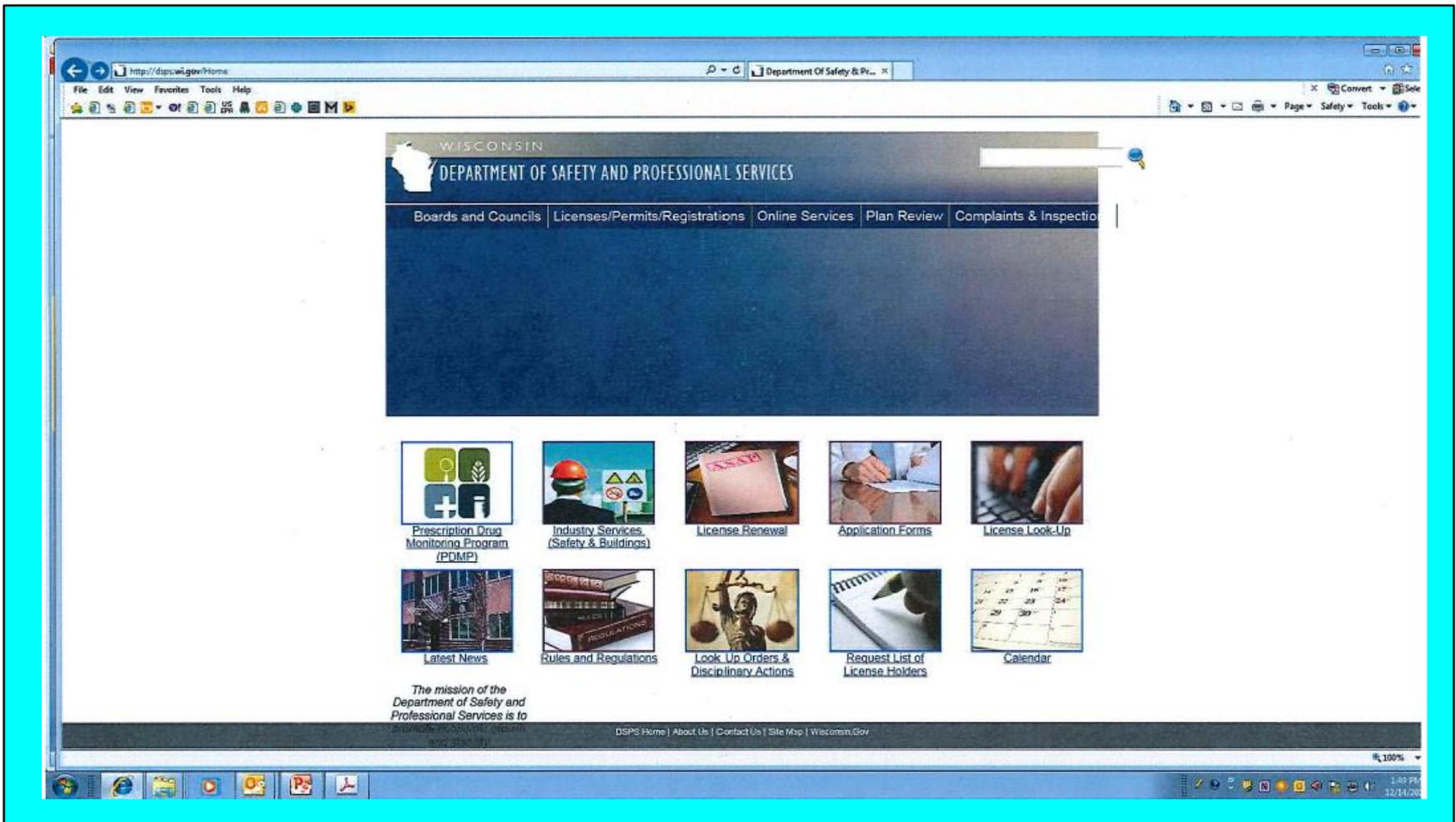
DSPS Website - Quick Tour

- ❖ Department Safety & Professional Services
- ❖ Division Industry Services, & Online Services
- ❖ Search of Boiler-PV Records (WI Tags B, U, R#)
- ❖ Division's List of Programs
- ❖ Boiler Program Details
- ❖ "Contacts" List of various Inspector Maps



Website Tour

❖ Department Web-page





Website Tour

Industry Services Division Web Page with Online Services

WISCONSIN
DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES

[Boards and Councils](#) | [Licenses/Permits/Registrations](#) | [Online Services](#) | [Plan Review](#) | [Complaints & Inspection](#)

DIVISION OF INDUSTRY SERVICES PROGRAMS

The Division of Industry Services is divided into two bureaus, an Administrative Services Section and the Fire Prevention program.

The Bureau of Field Services performs inspections of commercial buildings, amusement rides, boilers, elevators, pressurized gas systems and electrical systems. The bureau also performs plan reviews of elevators, boilers and private onsite wastewater treatment systems. The bureau is also responsible for auditing third party and municipal inspection agencies.

The Bureau of Technical Services performs commercial building, plumbing and fire suppression plan review. The bureau is also responsible for administering the Uniform Dwelling Code program, the federal HUD Manufactured Housing program and provides consultations and training to local building officials and commercial and residential contractors.

The Administrative Services Section provides administrative support to internal and external stakeholders. It also administers the Rental Weatherization program for rental properties.

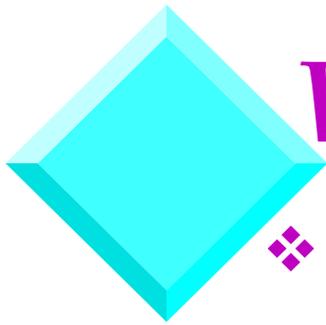
The Fire Prevention Program administers the 2% Fire Dues program and provides consultation, support and training to over 800 fire departments throughout the state.

[Technical Services
Plan Review](#) | [Online Services
\(Reports, Database
Searches\)](#) | [Electronic Payment Services](#) | [Delegated Agent Information](#) | [Complaints
\(Trades Credentials\)](#)

ALL DIVISION PROGRAMS

DBPS Home | About Us | Contact Us | Site Map | Wisconsin.Gov

11:13 AM
12/14/2015



Website Tour

❖ Regulated Object Record Search

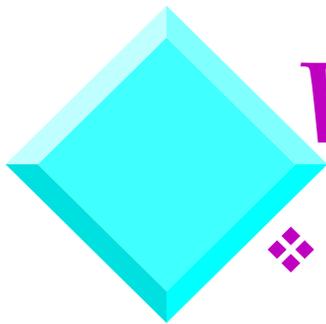
The screenshot shows a web browser window displaying the website for the Wisconsin Department of Safety and Professional Services. The browser's address bar shows the URL <http://dps.wis.gov/Online-Services/Industry-Services/>. The website header includes the text "WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES" and a search bar. Below the header, there are navigation tabs for "Boards and Councils", "Licenses/Permits/Registrations", "Online Services", "Plan Review", and "Complaints & Inspection". The main content area is titled "TECHNICAL AND FIELD SERVICES ONLINE RESOURCES" and is organized into three columns: "Plan Review Related", "Product Related", and "Other Services".

Plan Review Related	Product Related	Other Services
Commercial Buildings Plan Review Scheduler	Cross Connection Control Assembly	Email List Sign Up
Plumbing Plan Review Scheduler	Plumbing Products Search	Open Records & Information Access
Fire Protection Systems Plan Review Scheduler	Manufactured Homes Search	Industry Services Electronic Payment Services
Plan Review Availability	Regulated Object Search	
Plan Review Status		
Plan Review Address Change		

At the bottom of the content area, there are links for "Division Home" and "Contact". A red arrow points from the text "Click Regulated Object Search" to the "Regulated Object Search" link in the "Product Related" column.

Click Regulated Object Search

At the bottom of the browser window, the taskbar shows the system tray with the date and time: 12:30 PM 12/14/2015.



Website Tour

❖ Regulated Object Record Search

DISCLAIMER FOR REGULATED OBJECT DATABASE INFORMATION

This web site contains information from the plan review and inspection database of some object types regulated by the Wisconsin Department of Safety and Professional Services, Industry Services Division. This information is provided as a convenience to assist the public in knowing what information is in the division's computer files. The information on this web site is from the active files, except for some standardized data lists which are refreshed on a weekly schedule.

The Department does not and cannot guarantee nor certify the accuracy of this information. The information at this web site is provided "as is" without representations or warranties of any kind, either express or implied. Each person obtaining information from this resource assumes full responsibility and all risks arising from the use of and reliance on the information contained on this web site.

Download Data Files by Object Type

Available here are lists of information in active records, sorted by object type. The lists are updated daily. The list files are in a tab-delimited column format usable with many database and spreadsheet applications. The lists are compressed, zip-format files, reduced in size from the standard format, resulting in significantly faster downloads. You will need a program to unzip the downloaded data files. Links to sites to obtain "unzip" software are provided at the bottom of this page for your convenience.

In addition to these prepared data list files, specific lists can be prepared for service agents related to the object types available. Please [contact us](#) if your firm/agency wishes to consider having custom files.

Object Type

Database Search for Specific Records

First, you must choose an object type for each search. Once you have chosen the object here, another window will open to provide you for a detailed search. Then, following retrieval from that more detailed search, you will have the opportunity to view and download information about individual objects or groups of objects.

Choose Object Type

Zip/Unzip Utility Programs

Shareware from a Wisconsin based company
Freeware

For More Information:

Click detail search

Enter "Boiler" from menu



Website Tour

Search Regulated Object "Boilers & PV"

Boiler and Pressure Vessel Detail Search

Specific Object Search
Enter an ID for one of the options below and then submit. If you enter multiple IDs, the top most ID will be selected.

Tag No.
Regulated Object ID
National Board Number

General Search
Enter any number of the options below and then submit. At least one of the starred (*) options must be selected. All Counties is used only with Owner name, Owner Customer ID and/or City searches. For a full list of objects see Download Data Files by Object Type from the previous page.

Object Type

Owner Customer ID*

Owner name*
last name, first name or business name

Building Name
Partial (starts with name is only required)

County*

City*

Street Name

Zip Code

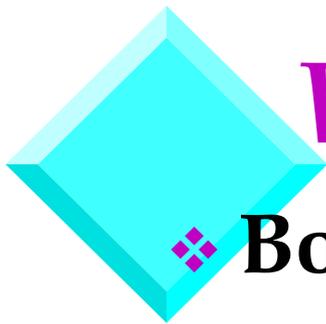
Manufacturer
Partial (starts with name is only required)

Status

Service Agent

Permit to Operate Expiration Date*
MM/DD/YYYY (Equal To Date Entered)

Locked and Vacant*
When Yes is selected, Status must be Inactive



Website Tour

Boiler & PV Record Detail

Detail

Boiler and Pressure Vessel Systems Detail

Scroll Down To See Inspection History Below

Site and Owner		
Site Information	County & Municipality	Owner
COLUMBIA FOREST PRODUCTS 606 WILDERNESS DR MELLEN WI 54546	ASHLAND CITY OF MELLEN	ID:822698 COLUMBIA FOREST PRODUCTS PO BOX 107, 606 WILDERNESS DR MELLEN WI 54546

Boilers, 1 Year PTO Cycle (Power)	Regulated Object ID: 612500	Last Investigation Date: 07/14/2015
Status: ACTIVE	Tag Number: B0028947	Permit Expires Date: 07/30/2016
Location on Property: Blrm	Contact: REBELLA, BRIAN	Contact Phone: 715-274-4810

Boiler Type: Water Type	Use: Process	Manufacturer: KEELER
National Board Number: 5524	Year Built: 1984	Capacity: 30000
Capacity Type: LBS/HR	Firing Method:	Fuel Source: Wood
Max Working Pressure Allowed: 165	Safety Valve Set: 165	Valve Capacity: 50675
Internal Inspection Done: 07/14/2015	Hydro Test Done:	Hydro PSI:
Inspection Agency: ZURICH AMERICAN INS CO		

Inspection History (To See Order Information - Click on Underlined Link Below of Transaction Id Column - if applicable)							
Investigation Action	Reg Obj Status	Date Created	Actual Invs Date	Investigation Type	Investigation Source	Inspector	Transaction ID
Investigate	Complete	05/15/2015	07/14/2015	Requested	Permit to Operate	LARRY S SORENSEN	2547228
Investigate	Complete	03/17/2014	07/16/2014	Requested	Permit to Operate	LARRY S SORENSEN	2378398
Investigate	Complete	04/17/2013	07/08/2013	Requested	Permit to Operate	LARRY S SORENSEN	2232009
Investigate	Complete	05/17/2012	07/10/2012	Requested	Permit to Operate	LARRY S SORENSEN	2087280
Investigate	Complete	05/17/2011	08/16/2011	Requested	Permit to Operate	LARRY S SORENSEN	1941261
Investigate	Complete	05/07/2010	07/07/2010	Requested	Permit to Operate	MICHAEL JOHN WELLS	1794409
Investigate	Complete	04/15/2009	06/30/2009	Requested	Permit to Operate	LARRY S SORENSEN	1656396
Investigate	Complete	04/16/2008	07/08/2008	Requested	Permit to Operate	LARRY S SORENSEN	1526984



Website Tour

❖ Division's Program Page

The screenshot displays a web browser window with the URL <http://dps.wis.gov/Programs/Industry-Services/Industry-Services-Programs/>. The page title is "ALL DIVISION PROGRAMS". The content is organized into a grid of 24 program categories, each with a representative image and a text label below it:

- Amusement Rides
- Boilers - Pressure Vessels
- Commercial Buildings
- Electrical & Lighting
- Elevators and Conveyances
- Energy
- Explosives Safety
- Fire Department Safety and Health
- Fire Prevention (2% Dues) (NFIRS)
- Fire Protection Systems
- Fire Safe Cigarettes
- Gas Systems
- Heating, Ventilation & Air Conditioning
- Manufactured/Mobile Homes
- Mine Safety
- One- and Two-Family (Uniform Dwelling Code)
- Plumbing
- Private Onsite Wastewater Treatment Systems (POWTS)
- Public Sector Employee Safety
- Public Swimming Pools
- Refrigeration Systems (Mechanical)
- Rental Weatherization
- S&L Lifts
- Soil Erosion

Annotations with red arrows point to specific programs:

- "Click Boilers -PV" points to the "Boilers - Pressure Vessels" category.
- "Gas Systems" points to the "Gas Systems" category.
- "Refrigeration" points to the "Refrigeration Systems (Mechanical)" category.

The browser's taskbar at the bottom shows the system time as 11:49 AM on 12/14/2015.



Website Tour

Boilers and Pressure Vessel Program

The screenshot shows a web browser window displaying the website for the Wisconsin Department of Safety and Professional Services (DPS). The browser's address bar shows the URL: <http://dps.wi.gov/Programs/Industry-Services/Industry-Services-Programs/Boilers-and-Pressure-Vessels/Programs/Industry-Services/Industry-Servi>. The website header features the Wisconsin state logo and the text "WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES". Below the header is a navigation menu with links for "Boards and Councils", "Licenses/Permits/Registrations", "Online Services", "Plan Review", and "Complaints & Inspection". The main content area is titled "BOILERS AND PRESSURE VESSEL PROGRAM" and includes a small image of a boiler. The text below the image states: "Safety requirements are enforced by Industry Services Division staff for power boilers, heating boilers, pressure vessels, and nuclear power plant components. Shop and field consultation and inspections are provided. Boiler repairers are registered and boiler inspectors are certified." A list of links is provided on the left side of the page: [Administrative Code and Statutes](#), [Forms](#), [Publications](#), [FAQs](#), [Training](#), [Contacts](#), and [Links](#). At the bottom of the page, there is a link for [IS Programs Home](#). The browser's status bar at the bottom shows the system tray with the date and time: 11:46 AM 12/14/2013.

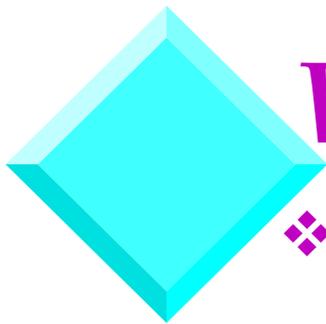
See Next slide



Website Tour

- ❖ **Boilers and Pressure Vessel Program**
- ❖ Administrative Codes & Statutes
- ❖ Forms
- ❖ Publications
- ❖ FAQ
- ❖ Training - CEUs
- ❖ Contacts - Inspector maps
- ❖ Links = NB- Milwaukee- WBIA websites





Website Tour

❖ Boilers and Pressure Vessel Contacts

The screenshot shows a web browser window displaying the website for the Wisconsin Department of Safety and Professional Services. The page title is "Industry Services Contact". The navigation menu includes "Boards and Councils", "Licenses/Permits/Registrations", "Online Services", "Plan Review", and "Complaints & Inspection". The main content area is titled "DIVISION OF INDUSTRY SERVICES" and "BUREAU OF FIELD SERVICES AND BUREAU OF TECHNICAL SERVICES".

General Contact Information:

Phone:
(608) 266-2112
(877) 617-1565

Post Office Mailing Address:
State of Wisconsin
Department of Safety and Professional Services
PO Box 7302
Madison, WI 53707-7302

Street Address:
Department of Safety and Professional Services
1400 East Washington Avenue, Room 112
Madison, WI 53703

Inspectors Maps (by County)

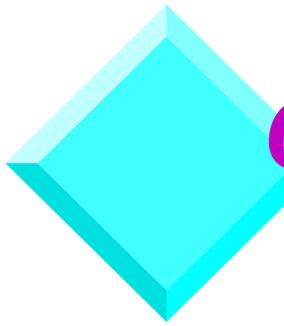
- [Amusement Rides and Ski Lifts](#)
- [Boilers and Pressure Vessels](#)
- [Commercial Buildings](#)
- [Electrical](#)
- [Elevators and Other Conveyances](#)
- [Fire Department Safety and Health](#)
- [Fire Prevention Coordinators](#)
- [Gas Systems, and Anhydrous Ammonia Facilities](#)
- [Mechanical Refrigeration](#)
- [Mines and Explosives](#)
- [Plumbing and Swimming Pools](#)
- [Public Sector Safety](#)
- [Private Onsite Wastewater](#)
- [UDC Consultants](#)

Tech E-Mail Boxes

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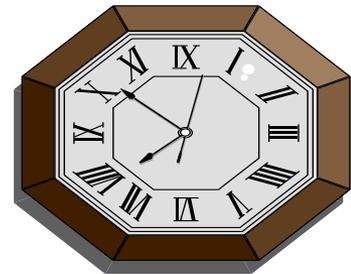
The technical e-mail services is intended to provide a technical contact point for users of our online services who require technical assistance.

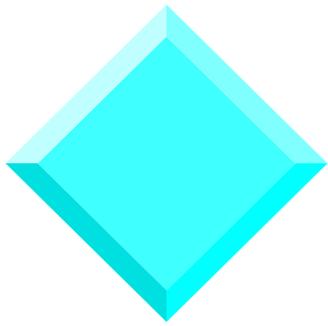
Inspector Map for
Boiler & Pressure Vessels
Map per slide #4



Other Dept. Info & Contacts

- ❖ Please visit the DSPS Website
<http://dsps.wi.gov>
- ❖ Other Program websites are very similar to Boiler and Pressures.
- ❖ Questions ?





THANK YOU
For the Opportunity

State of Wisconsin
Department of Safety and Professional Services
Division of Industry Services

Gas Systems-Boiler-NH₃-Refrigeration-Welding



GO NAVY

Mike Verhagen

262-548-8617

mike.verhagen@wi.gov

