



**THE
NATIONAL
BOARD**
OF BOILER AND
PRESSURE VESSEL
INSPECTORS

NATIONAL BOARD SUBGROUP INSPECTION

MINUTES

Meeting of July 16th, 2019
Kansas City, MO

*These minutes are subject to approval and are for the committee use only.
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The National Board of Boiler & Pressure Vessel Inspectors
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Phone: (614)888-8320
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1. Call to Order

The meeting was called to order at 8:13 a.m. on July 16, 2019 by Vice Chairman, Mr. Jim Getter.

2. Introduction of Members and Visitors

Mr. Ray Ceccarelli sat in as an alternate for Mr. Tim Barker and Mr. Vincent Scarcella sat in as an alternate for Mr. Tom Shernisky. The attendees are identified on the attendance sign in sheet (**Attachment pages 1-2**). With the attached attendance listing, a quorum was established.

3. Announcements

Announcements were made to the subgroup by Secretary, Ms. Jodi Metzmaier.

A 5 year service award pin was presented to Tom Vandini. Darrell Graf was also supposed to receive a 5 year service award pin; however, he was not present at this meeting. He will be presented with the pin at the next meeting he attends.

Ms. Metzmaier presented a power point presentation on the new letter balloting system on the National Board Business Center.

4. Adoption of the Agenda

-Add David Rose as a nominee to Subgroup Inspection.

The above item was added to the agenda and a motion was made to adopt the agenda as revised. The motion was seconded and **unanimously approved**.

5. Approval of the Minutes of the January 15th, 2019 Meeting

A motion was made to approve the minutes from the January 2019 SG Inspection meeting. The motion was seconded and **unanimously approved**.

6. Review of Rosters

a. Membership Nominations

Mr. James Clark has attended at least 2 previous SG Inspection meetings and is now interested in becoming a member of Subgroup Inspection with an interest category of Manufacturer (Resume – **Attachment page 3**).

Mr. David Rose has attended at least 2 previous SG Inspection meetings and is now interested in becoming a member of Subgroup Inspection with an interest category of User (Resume – **Attachment pages 4-6**)

The two nominees spoke on their behalf, explaining why they would like to become a member and how their experience and knowledge would benefit the group. The Group had many questions for both nominees. A motion was then made to accept both nominees as members of Subgroup Inspection. The motion was seconded and **unanimously approved**.

b. Membership Reappointments

Mr. David Buechel and Mr. Ernest Brantley are up for reappointment to the Subgroup.

Mr. Buechel and Mr. Brantley are both interested in remaining a member of Subgroup Inspection. A motion was made to reappoint both members. The motion was seconded and **unanimously approved**.

c. Officer Appointments

There were no Officer nominations.

7. Open PRD Items Related to Inspection

- NB14-0602B – Improve index in Part 2 relating to pressure relief devices – D. Marek (PM)
 - Update: A proposal will be made following the publication of the 2019 NBIC.
- NB15-0321 – Review testing requirements for inservice testing of pressure relief devices in Part 2, 2.5.7 a) – A. Renaldo (PM)
 - Update: A new proposal is being developed to address negative comments from a previous letter ballot.
- NB15-0324 – guidelines for storage/shelf life in regard to inspection and testing frequencies – A. Renaldo (PM)
 - Update: Item has been approved by SG PRD and is awaiting approval from SC PRD
- 17-132 – Paragraph 3.2.6 in Part 4 can be put into tabular format (Part 2, 2.5.8) – B. Nutter (PM), M. Brodeur, D. Marek, D. DeMichael, A. Cox, P. Dhobi, R. McCaffrey, T. Beirne

8. Interpretations

There were no Interpretations for Subgroup Inspection.

9. Action Items

Item Number: 18-43	NBIC Location: Part 2, S12.5	No Attachment
General Description: Permanent nameplate removal from pressure vessel being removed from service		
Subgroup: Inspection		
Task Group: J. Roberts (PM), J. Burgess, J. Calvert, T. Shernisky, J. Clark, M. Sansone		
July 2019 Meeting Action:		
Mr. Roberts addressed the Subgroup stating Mr. Shernisky had the information for this item, and he was not present at the meeting. Mr. Roberts had nothing further to report.		

Item Number: 18-62	NBIC Location: Part 2, S12.5	No Attachment
General Description: Remote Visual Inspection Requirements		
Subgroup: Inspection		
Task Group: V. Newton (PM), M. Horbaczewski, B. Wilson, J. Calvert, J. Castle, D. Graf, T. Shernisky		
July 2019 Meeting Action:		
Mr. Newton gave a progress report. He is working with ASME Section V to create a proposal. ASME Section V is also putting together Remote Visual Inspection requirements. They want to make sure they are both going down the same path with their requirements.		

Item Number: 18-63	NBIC Location: Part 2	No Attachment
General Description: Review inspection requirements for pressure vessels designed for high pressures		
Subgroup: Inspection		
Task Group: T. Shernisky (PM), J. Mangas, J. Peterson, and J. Castle		
July 2019 Meeting Action:		
Mr. Peterson reported that there is no progress on this item.		

New Items:

Item Number: 19-6	NBIC Location: Part 2, 2.3.6.8	No Attachment
General Description: PVHO 2.3.6.8 Add other types of PVHO's		
Subgroup: Inspection		
Task Group: J. Byrum (PM), R. Smith, S. Reimers, J. Burgess, M. Mooney & D. Buechel		
Explanation of Need: Currently part 2 only covers medical PVHO's.		
July 2019 Meeting Action: Mr. Welch reported that there is no progress on this item.		

Item Number: 19-7	NBIC Location: Part 2	No Attachment
General Description: Pressure Gage Graduation		
Subgroup: Inspection		
Task Group: V. Newton (PM), D. Buechel, D. Rose, D. Graff, & J. Clark		
Explanation of Need: This item was opened after discussion of the pressure gage for PVHO's. The SG Inspection decided they needed to look into the pressure gage graduation for other pressure retaining items beyond PVHO's.		
July 2019 Meeting Action: Mr. Newton and Mr. Buechel gave a progress report and hope to have a proposal in January 2020.		

Item Number: 19-8	NBIC Location: Part 2, 2.3.6.8	No Attachment
General Description: Clarification of gage requirements for PVHO		
Subgroup: Inspection		
Task Group: J. Byrum (PM) & R. Smith		
Explanation of Need: Existing PVHO gages do not conform to current NBIC and ASME Standards as written.		
July 2019 Meeting Action: No report. There was no one present to report on this item.		

Item Number: 19-9	NBIC Location: Part 2	No Attachment
General Description: Inspect shipping plug removal for PRDs		
Subgroup: Inspection		
Task Group: None assigned		
Explanation of Need: Ensuring that shipping plugs have been removed because shipping plugs have been found that are still in place on PRD's.		
July 2019 Meeting Action: The group discussed the reasoning for this item and created a task group. Mr. Scarcella spoke to the group recommending this information also be noted in NBIC Part 1, Part 2 and Part 4.		
Task Group Assigned: V. Scarcella (PM), J. Peterson, T. Bolden, E. Brantley		

Item Number: 19-29	NBIC Location: Part 2, 5.2.4	Attachment page 7
<p>General Description: Remove NB-136 reference in Replacement of Duplicate Nameplates</p> <p>Subgroup: Inspection Task Group: None assigned</p> <p>Explanation of Need: This paragraph needs to be updated to provide clarity on the use of the NB-136, as it currently contradicts itself.</p> <p>July 2019 Meeting Action: A proposal was presented to the Group. The group made a few changes and a motion was made to approve the revised proposal. The motion was seconded and unanimously approved.</p>		

Item Number: 19-30	NBIC Location: Part 2, S7.9	Attachment pages 8-9
<p>General Description: Temporary ASME Nameplate removal for external inspection refurbishing.</p> <p>Subgroup: Inspection Task Group: None assigned</p> <p>Explanation of Need: No reference to the necessity of removing ASME nameplates for this external inspection is currently in the code. An exemption is needed for refurbishers as a safety measure to ensure the total integrity of the tank is examined.</p> <p>July 2019 Meeting Action: The document explaining this item was reviewed by the group. Mr. Luis Ponce and Mr. Vandini spoke on this item. The group decided to create a Task Group to create a proposal.</p> <p>Task Group Assigned: T. Vandini (PM), J. Roberts, P. Welch, J. Castle, J. Clark</p> <p>After the morning break, Mr. Vandini re-addressed this item and recommended a change be made in S7.9 to address the concerns, and he recommended an email be sent to the submitter letting him know the proposed change. A motion was made to approve the proposed wording and to email the submitter. The motion was seconded and unanimously approved.</p>		

Item Number: 19-33	NBIC Location: Part 2, 1.1	Attachment page 10
<p>General Description: Scope of 1.1 has Redundant Statements</p> <p>Subgroup: Inspection Task Group: None assigned</p> <p>Explanation of Need: Wording needs to be revised so the first two sentences are not saying the same thing.</p> <p>July 2019 Meeting Action: The group reviewed the proposed change. A motion was made to approve the proposal as presented. The motion was seconded and unanimously approved.</p>		

Item Number: 19-46	NBIC Location: Part 2, S5	No Attachment
<p>General Description: Revisions to Yankee dryer supplement in Part 2</p> <p>Subgroup: Inspection Task Group: None assigned</p> <p>Explanation of Need: Various parts of supplement 5 do not match their counterparts in NBIC Part 1, Supplement 1.</p> <p>July 2019 Meeting Action: After review of this item, the group decided to split this item into 4 parts. Revised item 19-46 will have the general description of “Changes to Yankee Dryer Supplement (SCOPE)”, new item 19-63 will have a general description of “Changes to the Yankee Dryer Supplement (ASSESSMENT OF INSTALLATION)”, new item 19-64 will have a general description of “Changes to the Yankee Dryer Supplement (DETERMINATION OF ALLOWABLE OPERATING PARAMETERS)”, and new item 19-65 will have the general description of “Changes to the Yankee Dryer Supplement (S5.2.3)”. A motion was made to revise item 19-46 and add 3 new items to address all of the changes originally incorporated in 19-46. The motion was seconded and unanimously approved.</p> <p>Revised Item Number 19-46 NBIC Location: Part 2, S5.1</p> <p>Explanation of Need (Revised): Ensure that wording in Part 2, S5.1, is identical to that found in Part 1, S1.1.</p> <p>July 2019 Meeting Action: A task group was assigned to the revised 19-46. This group will work with Part 1 to make sure the “SCOPE” paragraph in the supplements on Yankee Dryers in Part 1 and Part 2 both read the same.</p> <p>Task Group Assigned: V. Newton (PM), T. Barker, D. Lesage, J. Jessick</p>		

Item Number: 19-63	NBIC Location: Part 2, S5.2	No Attachment
<p>General Description: Changes to the Yankee Dryer Supplement (ASSESSMENT OF INSTALLATION)</p> <p>Subgroup: Inspection Task Group: None assigned</p> <p>Explanation of Need: Ensure that wording in Part 2, S5.2, is identical to that found in Part 1, S1.2. Note that wording will be the same, but paragraph numberings will be different.</p> <p>July 2019 Meeting Action: A task group was assigned. This group will work with Part 1 to make sure the paragraph “ASSESSMENT OF INSTALLATION”, in the supplements on Yankee Dryers in Part 1 and Part 2 both read the same.</p> <p>Task Group Assigned: V. Newton (PM), T. Barker, D. Lesage, J. Jessick</p>		

Item Number: 19-64	NBIC Location: Part 2, S5.2.1	No Attachment
General Description: Changes to the Yankee Dryer Supplement (DETERMINATION OF ALLOWABLE OPERATING PARAMETERS)		
Subgroup: Inspection		
Task Group: None assigned		
Explanation of Need: Ensure that wording in Part 2, S5.2.1, is identical to that found in Part 1, S1.3. Note that wording will be the same, but paragraph numberings will be different.		
July 2019 Meeting Action: A task group was assigned. This group will work with Part 1 to make sure the paragraph “DETERMINATION OF ALLOWABLE OPERATING PARAMETERS”, in the supplements on Yankee Dryers in Part 1 and Part 2 both read the same.		
Task Group Assigned: V. Newton (PM), T. Barker, D. Lesage, J. Jessick		

**** A motion was made to add Item 19-65 to the agenda. The motion was seconded and unanimously approved. ****

Item Number: 19-65	NBIC Location: Part 2, S5.2.3	Attachment page 11
General Description: Changes to the Yankee Dryer Supplement (S5.2.3)”.		
Subgroup: Inspection		
Task Group: None assigned		
Explanation of Need: the recommendation is to strike this paragraph because it is nearly identical to S5.2.1, paragraph a), which appears a few paragraphs earlier, within the Code.		
July 2019 Meeting Action: The proposed document showing the recommended changes was presented and discussed. A motion was made to approve the document as presented. The motion was seconded and unanimously approved.		

10. Future Meetings

- January 13th -16th, 2020 – San Diego, CA
- July 13th-16th, 2020 – Louisville, KY

11. Adjournment

A motion was made to adjourn the meeting at 11:23 a.m. The motion was seconded and unanimously approved.

Respectfully submitted,



Jodi Metzmaier
SG Inspection Secretary

NBIC Subgroup Inspection Attendance - 7/16/2019					
First Last	Email	Company	Phone #	Signature	Attending Reception?
Paul Welch	paul.welch@tuvsud.com	ARISE	470 606-4707	<i>Paul Welch</i>	✓
Ernest Brantley	ernest.brantley@bpcllca.com	XL Insurance America	337 842-7044	<i>Ernest Brantley</i>	✓
Jim Getter	jim.getter@worthingtonindustries.com	Worthington Industries	614 840-3087	<i>Jim Getter</i>	✓
Mark Mooney	mark.judy@verizon.net	Liberty Mutual	774 644-8597		
Venus Newton	venus_newton@yahoo.com	XL Insurance America	404 710-8626	<i>Venus Newton</i>	
Jason Safarz	jsafarz@selas.com	Selas	330 653-4076		
Darrell Graf	grafdr@airproducts.com	Air Products & Chemicals	601 799-2889		
Timothy Barker	Timothy.Barker@fmglobal.com	FM Global	360 801-3790		
Jodi Metzmaier	jmetzmaier@nationalboard.org	The National Board	614 888-8320	<i>Jodi Metzmaier</i>	
Thomas Vandini	tvandini@propanetank.com	Quality Steel Corporation	419 333-5205	<i>Thomas Vandini</i>	✓
Donnie LeSage	Donnie.LeSage@LA.gov	State of Louisiana	225 925-4572	<i>Donnie LeSage</i>	✓
James Roberts	james.roberts@arcosa.com	ARCOSA Trinity Containers TANK, LLC	467 818 214 589-8344 6101	<i>James Roberts</i>	
David Buechel	david_buechel@hsb.com	Hartford Steam Boiler	412 310 7740	<i>David Buechel</i>	✓
Matthew Sansone	matthew.sansone@labor.ny.gov	NYS Department of Labor	518 457-2722		
James Calvert	jcalvert@lilly.com	Eli Lilly and Company	317 679-4900	<i>James Calvert</i>	
Thomas Shernisky	thomas.shernisky@tuvsud.com	ARISE	304 559-5358		
John Mangas	mangasjc@airproducts.com	Air Products & Chemicals	925 997-5633	<i>John Mangas</i>	✓
Mark Horbaczewski	MHorbaczewski@diamondtechnicalservices.com	Diamond Technical Services	815 634-2727		
Vincent Scarcella	Vincent.Scarcella@cna.com	CNA	845-820-7248	<i>Vincent Scarcella</i>	✓
RAY CECCARELLI	RAYMOND.CECCARELLI@FMGLOBAL.COM	FM GLOBAL	732-865-1976	<i>Ray Ceccarelli</i>	✓
TIM BOLDEN	TIMOTHY.BOLDEN@CNA.COM	CNA	407-636-1060	<i>Tim Bolden</i>	✓
Jeff Petersen	IDAHO NATIONAL LAB	LAB	208 526-1568	<i>Jeff Petersen</i>	✓

James J. Clark

Experience:

Design Engineer, Worthington Industries, December 2014 – Present

- Researched applicable regulatory information (e.g. ASME, CSA, DOT, NFPA) for new product applications and ensured that our designs met or exceeded those requirements
- Performed ASME Section VIII and DOT design calculations as needed
- Used various design analysis programs to validate the design of new products
- Created and maintained product drawings for LPG tanks, specialty chemical tanks, fire extinguishers, LPG alternative fuel tanks, and cryogenic trailers
- Worked closely with customers, plant personnel, suppliers, and purchasing to ensure that all design requirements were being met and that all designs were optimized for manufacturing
- Served as a primary point of contact for product and regulatory related questions from sales, customers, and manufacturing
- Attended regulatory board meetings (B149.5, PVMA, NBIC)

Design Engineer, Bosch Rexroth Corporation, September 2011 – November 2014

- Designed and implemented new mobile hydraulic control valve products
- Used various design analysis programs to design flow control spools and in/outlets to meet customer specifications
- Developed test orders, machined and assembled prototype valves, and performed tests in the laboratory as needed in order to verify the performance of design concepts
- Implemented design and specification changes to improve production fallout and reduce production bottlenecks
- Created and maintained product drawings and test specifications for production brake and loader valve assemblies

Education:

The Ohio State University, Mechanical Engineering, 2011

W David Rose

170-50448
Range Road 221
Leduc County, AB
780-217-8175
dr3747@telus.net

Certifications

- CWB 2 (B31.3, W47/59)
- CGSB UT2, MT2, PT2, XRF1
- API 653
- ABSA Steam Traction Boiler Operator
- Manitoba OFC Steam Traction Boiler Operator
- OSSA Confined Space
- OSSA Fall Arrest
- CSTS
- AWP

Employment History

NDE Manager

May 2016 – Present T&T Inspections & Engineering, Leduc, AB

- Manage NDE inspectors and oversee reporting
- Perform advanced inspections (UT, OES)
- Create digital report system compliant with ASME
- Grow T&T's business into non-traditional markets
- Create new and update existing fuel tank inspection procedures for Transport Canada related work
- In conjunction with our Engineering staff, update and manage our ISO 9001 program from 2008 to 2015
- Participate in the certification

Technician

Feb 2016 – May 2016 T&T Inspections & Engineering, Nisku, AB

- Perform NDE inspections as directed
- Perform Crane inspections and create written reports based on observations
- Help grow T&T's business with training and contacts

Lead Quality Specialist

Feb 2014 – Sep 2015 KBR Mod Yard 2, Edmonton, AB

- Oversee preparation and review of module documents including AB83, P4 and P4A
- Welding inspection of piping / structural welds
- Insulation and fireproofing acceptance
- Witnessing / Building hydro and pneumatic test packs
- Coordinate NDE, Review and acceptance of NDE reports and RT film
- Monthly preservation inspections, receiving inspections
- Procedure review
- Train and supervise inspectors
- Meet with the client regularly and address concerns
- Final walk downs before delivery

Senior Tech

Aug 2007 – Feb 2014 Metalogic, Edmonton, AB

- Perform inspections (PAUT, UT, MT, PT, XRF, HT, FT) on piping, vessels and boilers and structure
- Reporting and address client concerns
- Train new technicians
- Supervise other techs as required

Technician

Sep 2006 – August 2007 IRIS, Edmonton, AB

- Perform NDE inspections as directed
- Perform visual vessel inspections and create written reports based on observations
- Supervise other techs as required

Technician

May 2004 – August 2006 Vi-Scan, Calgary, AB

- Perform NDE inspections as directed on aircraft structure and components to various manufacturer specifications
- Assist clients with alternative inspection methods in unexpected circumstances
- Prepare reports based on observations and in accordance with manufacturer specifications and Transport Canada regulations

Technician

April 2000 – May 2004 ATS, Calgary, AB

- Perform mechanical inspections and maintenance on aircraft ground support equipment
- Travel to other bases to assist with troubleshooting equipment
- Perform aircraft deicing operations
- Quality testing of glycol used in deicing operations (PH, Concentration)

Regulatory and Committee Work History

- January 2016 to Present - Member of NBIC Historic Sub Group
- January 2018 to Present –NBIC Inspection Sub Group
- January 2019 to Present –NBIC Inspection Sub Committee
- Participated in the creation of the AB-534 document to provide interprovincial reciprocity for inspection and certification of historic boilers

Item number 19-29

Background Information: *This paragraph needs to be updated to provide clarity on the use of the NB-136, as it currently contradicts itself. NB-136 is not typically used for replacement of duplicate nameplates.*

5.2.4 REPLACEMENT OF DUPLICATE NAMEPLATES

Replacement or re-attachment of duplicate nameplates is exempt from meeting the requirements ~~above in Part 2, 5.2.1,~~ provided the information on the nameplate is identical to the original data existing on the pressure-retaining item. The duplicate nameplate shall be marked duplicate. The jurisdiction where the pressure-retaining item is located and the original manufacturer of the item shall be contacted for additional guidance and direction. ~~When the Code symbol stamp cannot be applied, Form NB-136 shall be completed, signed by a National Board Commissioned Inspector, retained and a copy submitted to the National Board by the owner or user as described in 5.2.1 a).~~

Item 19-30: Part 2, S7.9
Temporary ASME Nameplate removal for external inspection refurbishing.
Submitted by: Doug Biggar <doug@ditechtesting.com>

Explanation of Need: No reference to the necessity of removing ASME nameplates for this external inspection is currently in the code. An exemption is needed for refurbishers as a safety measure to ensure the total integrity of the tank is examined. NBIC Section 2, S7.9 bullets 1-3 does not make an exception/exemption for refurbishers to be able to temporarily remove the nameplate for inspection of tank integrity under this one area. The code refers only to removal of the nameplate for replacement and/or stamping which is something we don't do. We refurbish thousands of 125g to 2000g horizontal bulk LPG pressure vessels each year and the current code of having an inspector present for each tank that the raised plate is temporarily removed is not a feasible solution.

Background Information: According to our internal studies and accumulated data, 25-30% of all pitting/corrosion that fails an ASME pressure vessel (LPG) occurs in this one area of tanks that are fitted with a raised nameplate. NOTE: We will submit examples to the secretary to substantiate our request (see below).



Proposed text addition: Refurbishers may need to temporarily physically remove the nameplate of ASME pressure vessels (LPG) that are mounted on a bracket and raised from the vessels surface to remove all coatings and to inspect and measure for corrosion under them.

NBIC Section for Reference:

S7.9 ASME LPG PRESSURE VESSELS LESS THAN 2000 GALLONS BEING REFURBISHED BY A COMMERCIAL SOURCE.

Commercially refurbished pressure vessels are used pressure vessels that are temporarily taken out of service for repair and or renewal and sent to a company which specializes in this type of work. Because the history of some of these pressure vessels is unknown, special attention shall be given to inspection and repair before returning any of these pressure vessels back to service. ASME LPG pressure vessels less than 2,000 gal. (7,570 l) may be refurbished subject to the following conditions:

- a) A complete external inspection shall be completed under the guidelines of this supplement. If any defects are found, as defined in S7.8.1 through S7.8.5, the defect shall be repaired under NBIC Part 3, Repairs and Alterations, by qualified personnel or permanently removed from service;
- b) Pressure vessels of this size that have been previously used in anhydrous ammonia service shall not be converted to LPG service. See NBIC Part 2, S7.8.6;
- c) The coating on the outside of the pressure vessel shall be removed down to bare metal so that an inspection can be performed under the guidelines of this supplement; and
- d) Verify that there is no internal corrosion if the pressure vessel has had its valves removed or is known to have been out of service for an extended period.
- e) Removal and re-attachment of the original manufacturers nameplate shall only be done in accordance with NBIC Part 3, 5.11.

Item number 19-33

CURRENT WORDING:

1.1 SCOPE

This part provides requirements and guidelines for conducting inservice inspection of pressure-retaining items.

This section provides general requirements and guidelines for inservice inspection. This section includes precautions for the safety of inspection personnel. The safety of the public and the Inspector is the most important aspect of any inspection activity.

Proposed CHANGES:

1.1 SCOPE

This ~~part section~~ provides general requirements and guidelines for conducting inservice inspection of pressure-retaining items.

~~This section provides general requirements and guidelines for inservice inspection. This section, and~~ includes precautions for the safety of inspection personnel. The safety of the public and the Inspector is the most important aspect of any inspection activity.

PROPOSED TEXT:

1.1 SCOPE

This section provides general requirements and guidelines for conducting inservice inspection of pressure-retaining items and includes precautions for the safety of inspection personnel. The safety of the public and the Inspector is the most important aspect of any inspection activity.

Item number 19-65

PURPOSE: Revision of present (2017) NB-23 Code

BACKGROUND INFORMATION: Suggested revisions are supported by the contributor's 30yr industry experience within large corporate owner/user environments including purchase and design, manufacturing, installation, inspection and repair.

Contributor's Note: the recommendation is to strike this paragraph because it is nearly identical to S5.2.1, paragraph a), which appears a few paragraphs earlier, within the Code.

Part 2

INSPECTION OF YANKEE DRYERS (ROTATING CAST-IRON PRESSURE VESSELS) WITH FINISHED SHELL OUTER SURFACES

S5.2.1 DETERMINATION OF ALLOWABLE OPERATING PARAMETERS

- a) A Yankee dryer is designed and intended to have its shell thickness reduced over the life of the vessel through routine wear and grinding. The Yankee dryer shell is ground on the outside surface to restore the quality or shape of the papermaking surface, essential to the manufacturing of tissue or other paper products.

S5.2.3 DOCUMENTATION OF SHELL THICKNESS AND ADJUSTED MAXIMUM ALLOWABLE OPERATING PARAMETERS

~~a) Yankee dryers are designed and intended to have the shell thickness reduced over the life of the vessel as a result of routine wear and grinding. Yankee shell grinding is routinely performed to restore the quality or shape of the papermaking surface.~~

~~b)~~ a) Design documentation, a De-rate Curve, is required, which dictates the maximum allowable operating parameters, based on imposed loads over a range of shell thickness. The documentation shall be obtained from the original dryer manufacturer or from another qualified source acceptable to the Inspector.

~~c)~~ b) Yankee dryer shell grinding requires accurate shell thickness measurements in conjunction with the De-rate Curve in order to set load-limiting devices. The resulting shell thickness and maximum allowable operating parameters after grinding shall be documented, and the Inspector notified that load-limiting device settings have changed.