SC 2 Attachments

Last Name	First Name	Interest Category	Role	Exp. Date
Mooney	Mark	Authorized Inspection Agencies	Chair	08/30/2018
Staniszewski, Jr.	Stanley	Regulatory Authorities	Vice Chair	08/30/2018
Metzmaier	Jodi		Secretary	01/30/2099
Barker	Timothy	Authorized Inspection Agencies	Member	01/30/2018
Brantley	Ernest	Authorized Inspection Agencies	Member	01/30/2019
Buechel	David	Authorized Inspection Agencies	Member	07/30/2019
Canonico	Domenic	General Interest	Member	08/30/2018
Ford	David	Regulatory Authorities	Member	08/30/2018
Getter	Jim	Manufacturers	Member	08/30/2018
Horbaczewski	Mark	Users	Member	08/30/2018
McRae	Greg	Manufacturers	Member	08/30/2018
Newton	Venus	Authorized Inspection Agencies	Member	07/30/2019
Riley	James	Users	Member	08/30/2018
Schwartzwalder	Michael	Users	Member	08/30/2018
Vandini	Thomas	National Board Certificate Holders	Member	01/30/2017
Welch	Paul	Authorized Inspection Agencies	Member	01/30/2019

Darrell Graf

100 Bass Rd Carriere, Ms. 39426

Objective

Become a member of the subcommittee on inspections
Become a member of the NBIC Main Committee

Professional Achievements

- **NBIC In-Service Inspector NB# 14685**
- **Current member of the subgroup inspection**

Skills

- **Develop mechanical integrity programs for the plants within Air Products. Use an in house developed Risk Based Inspection program to develop and maintain MI programs for Hydrogen plants, air separation plants, Cogen plants, high purity N2 / O2 plants and liquid bulk distribution systems.**
- **Knowledgeable in API 510 Pressure Vessels Inspection Code**
- **Knowledgeable in API 570 Piping Inspection Code**
- **Knowledgeable in API 571 damage mechanisms**
- **Knowledgeable in API 579 Fitness for Service**
- **Knowledgeable in API 580 Risked Based Inspection**
- **NACE Basic Corrosion**
- **ASME Boiler and Pressure Vessel repair and inspection**
- **Work with inspection companies to qualify the technicians for work in the Air Products plants, understand the various NDE techniques and how they best fit the unique challenges the gasses industries face.**

Work History

Principal Mechanical Integrity Technician

Air Products & Chemicals Inc.

Allentown, Pa. 18195-1801

08/01/1983 – Present

- **Plant operations 08/01/1983 – December 1995**
- **Process Safety Technician Coordinator Jan 1996 thru June 1998**
- **Senior Mechanical Integrity Technician June 1998 thru Dec 2013**

- **Principal Mechanical Integrity Technician 2013 thru present**

References

Chad Texter Global Mechanical Integrity Manager Air Products & Chemicals Inc.

8944 RIVERWOOD DRIVE NORTH RIDGEVILLE, OH 44039
M: 216.804.1183 EMAIL: JASON.SAFARZ@GMAIL.COM

JASON M. SAFARZ

EXPERIENCE

HIMA Americas, Inc.
November 2016 - Present
Regional Sales Manager
Regional sales manager for safety solutions in industrial automation, burner management systems, and emergency shutdown systems. Specializing in SIL3 rated safety PLC based systems for fired equipment and high hazard industries.

Honeywell HTS (Honeywell Thermal Solutions)
January 2016 - October 2016
Sr. Sales Engineer
Acquired by Honeywell (January 2016)
Global accounts managment and sales for strategic end users in the automotive, building materials, and pharmaceutical segments.

CEC Combustion Safety, an Eclipse Company
October 2011 - December 2015
Sr. Account Engineer, Sales & Marketing Manager
Acquired by Eclipse (August 2011) then Elster Thermal Solutions starting (October 2014)
Key account sales and account management for safety services, system upgrades, and training. Development of global corporate programs. Directing sales and marketing activities for CEC Combustion Safety, synergy sales with Eclipse sales teams globally, and increasing incremental sales of Eclipse and partner products. Increased sales by 44% between CY2011 and CY2014 while improving margin.

CEC Combustion Safety, LLC
March 1999 - October 2011
Field Service / Mechanical Engineer, Account Engineer

CEC Consultants, Inc.
June 1995 - February 1999
Engineering Assistant, AutoCAD Drafter, Project Manager

EDUCATION

CLEVELAND STATE UNIVERSITY: B.S.M.E. May 1999

BALDWIN WALLACE COLLEGE: B.A. (Physics) May 1999
Sigma Phi Epsilon Fraternity, Ohio Zeta
Varsity Soccer

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QUALIFICATIONS

SALES & SALES MANAGEMENT

Increased business over a recent three year period in bookings by 44% over set goals while increasing Return on Sales (RoS)/EBIT and achieved nearly a 70% close ratio. Continually exceeded sales goals for team and individuals using management by exception process.

Assisted in development of a global accounts team within Eclipse including interfacing with local territory sales personnel and independent representatives (Agents). Averaged one new large global client per year with an average revenue of approximately $1.0 million each.

Created pricing templates and specific selling tools for our business units. Member of global team determining pricing and cost modeling of all Eclipse and CEC Combustion Safety products.

Generated detailed proposals for engineering studies, safety inspections, design jobs, training, and equipment upgrades. Maintained and exceeded minimum profit margin expectations.

Sales Methodology

- Global selection team member for CRM and sales methodology with Eclipse.
- Lead development and adoption team for Eclipse Global sales staff (approximately 100 sales personal and managers) in Americas, Europe, and Asia.
- Created and executed materials and templates for use by all sales teams. Developed and executed a rollout plan to stage in process over a 12-18 month period.
- Customized CRM to overlay terminology and sales process.

Client Relationship Management (CRM)

- Implemented SalesForce.com for company use, then later WinMan CRM including data mapping, development of customized formats and reporting, pipeline analysis, and forecasting.
- Campaign tracking for all major marketing and sales efforts including return on sales for trade-shows, eBlasts, white papers and presentations, and open training courses.

BUSINESS MANAGEMENT

Developed audit process for combustion systems and implemented this process for many global Fortune 500 corporations worldwide. Includes development of current employers training standards for new employees.

Created new business plans and annual strategies for establishment of company product and future growth. Revised approach and execution for business plan as company grew into new areas.

Maintain high level relationships with insurance, risk managment, and broker industry. Top relationships are with Zurich, AXA Matrix, GRC, FM Global, XL, Marsh, AON, and Chubb.

Directed every stage of a project: opportunity development, estimating, proposal, design and implementation, installation, training, invoicing, and final follow-up for success criteria.

Facilitate problem-solving meetings to generate creative solutions with new and existing clients.

Evaluated new combustion system technologies and cross applications of related European (EN) codes.

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TRAINING/PRESENTING

Designed and implemented training curriculum for workshops on combustion system fundamentals/operations, boilers, process equipment and related standards and codes.

Developed customized presentations to specific needs of an audience, company or organization and presented these to groups of 10 to 300 worldwide. Created hands-on activities and manipulatives to illustrate key concepts in the curriculum.

Experience in writing papers for trade associations and delivering associated presentations and webinars. Presentations include to associations such as ABMA, ASME, RIMS, SFPE, SMRP, SEMPES, and several insurance/risk management carriers.

ENGINEERING

Fluent in many computer applications including Microsoft Office (Word, Excel, Access, PowerPoint, Project), RsLogix, AutoCAD, Refrigerant Compliance Manager, WebEx, WinMan ERP, SalesForce (CRM), and Landslide (CRM).

Analyzed all varieties of combustion systems for proper and safe operation and code compliance.

Root Cause and Fault Tree Analysis for problematic systems, near miss incidents, and explosions.

Occupational Hazard Assessments (OHA) for at risk combustion systems.

Provided energy audits for large industrial and commercial clients. Projects included lighting retrofits, point of use heating projects, waste minimization, water reclamation, combustion equipment efficiency tuning, lead-lag boiler operation, and compressed air leak minimization and optimization.

Developed bid specifications for major power plant upgrades including boiler controls, PLC control upgrades, and water system retrofits.

COMMITTEE MEMBERSHIP & PROFESSIONAL DEVELOPMENT

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

Member, September, 1997-Present

ASME CSD-1 (Controls and Safety Devices for Automatically Fired Boilers) Committee Member, May 2003 - Present
Committee Chairman April 2013 through 2019 (two consecutive terms)

Attend biannual meetings to discuss code revision. Chaired project teams that researched the impact of changes to the standard and proposed new revisions. Joint task group for aligning equivalent codes and standards including international standards. As chairman of committee prepared meeting agendas and minutes, reported to ASME staff on activites, ran two day meetings biannually.

NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS

National Board Inspection Code (NB-23) Part 2: Inspections, Member

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M: 216.804.1183 EMAIL: JASON.SAFARZ@GMAIL.COM

UNDERWRITERS LABORATORY
UL 834 Standard Technical Panel for Heating, Water Supply, Power Boilers - Electric

SANDLER SELLING & SALES MANAGEMENT

SOLUTION SELLING (Sales Performance International)
Solution Selling Team Presentation Award, Europe October 2013

OTHER TRAINING/MEMBERSHIPS

- CEC Combustion Safety, Inc. - Junior & Senior Auditor Course
- Allen-Bradley Fundamentals of Programmable Controller Systems
- Eclipse Combustion Seminar
- Maxon Burner & Valve Seminar
- North American Combustion Courses
- OSHA Approved Course General Industrial Safety
- CPR Certified
- ITT Engineers Training for Pumps and Hydronic Systems
- Universal Refrigeration License, #071505022075
- www.safe2work.com compliance
- Nalco water treatment courses
- Association of Energy Engineers (AEE), Past Member
- Risk Insurance Management Society (RIMS), Member
- Society of Maintenance and Reliability Professionals (SMRP), Member
- Market Driven Organic Growth - Kellogg School of Business
- Global Entry for International Travel (TSSA)
- International Society of Automation (ISA), Member

Bryce A. Hart
1030 Alexander Drive, Temple, PA 19560
Phone: (610) 223-3560
bryce.hart@zurichna.com

SUMMARY

I am a risk engineering technical director with more than 15 years of experience in the insurance equipment breakdown discipline. I have demonstrated collaboration in the development of products to improve our customers risk and meet the needs of our underwriting partners. As a risk engineering manager, I have led my staff to improve their efficiency and productivity while maintaining high quality service. I have proven my abilities in planning and managing projects throughout my career, improving operational efficiencies, team building, and project analysis to determine effective and efficient processes.

EXPERIENCE:

Zurich North America
AVP, Machinery Breakdown Technical Director – March 2016 to Present
Regional Risk Engineering Manager – June 2013 to March 2016
Midatlantic Region Portfolio Engineer – December 2006 thru June 2013
Midatlantic Region MB Field Staff – May 2005 thru June 2013

- Currently responsible for determining the direction of our Machinery Breakdown team with respect to emerging risks, new technologies, and ensuring compliance with the rules and regulations of the National Board and the jurisdictions where we perform our service.
- Previously served as the Boiler & Machinery Northeast Regional Manager (since June 2013), leading a team of 10 staff members.
- Performing monthly conference calls with the regional staff and biweekly individual calls to ensure all appropriate guidance is understood and implemented, and to allow team building within the regional staff.
- Directing the ASME and National Board Inspection Code activity within the Northeast Team to meet the jurisdictional inspection requirements of the region.
- Developed an education program for our underwriting partners, improving Equipment Breakdown Underwriting technical acumen and aiding in building collaboration with the MB staff.
- Developed and implemented methods to ensure compliance with complex regulatory requirements, and empowered his staff to take the lead in their areas of responsibility.
- Provided leadership in the servicing of a major EB reinsurance customer, including analyzing their needs for additional services that lead to the development and implementation of our Observe and Report.
- As the Portfolio Engineer for the Midatlantic region I provided analysis of prospect and renewal accounts and collaborated with the RE property staff in this region, providing direction and support to our customers and business partners.

J. C. Penny, Inc.
November, 2002 to April 2005
Maintenance Manager

- Analyzed utility usage and instituted a program that saved more than $20,000 per month in utility bills.
- Aggressively pursued solutions to improve the operational accuracy and consistency of the sortation equipment. Implementing these solutions improved the operational accuracy to more than 99.8%, and reduced the rework caused by these inaccuracies by 90%.
- Managed and scheduled a department of eighteen mechanics and housekeepers. This included interviewing, hiring, evaluating and terminating employees, ensuring company policies were adhered to.
- Managed the maintenance department and warehouse supplies budgets, both closing the fiscal year below the forecasted budgets.

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R-V Industries, Inc.
August, 2000 to October, 2002
Project Manager

- Managed construction and fabrication projects for this ASME Code shop/specialty metal fabrication facility. At the height of activity, I managed eight projects with a combined value of $5.1 million in four separate fabrication facilities.
- Developed several models for analysis of labor, material, and overhead costs in four manufacturing facilities. Using these models reduced the time for data acquisition by 96%, and increased the project manager productivity by 20%.

Hartford Steam Boiler Inspection & Insurance Company
April, 1995 to August, 2000
Program Manager and Inspector

- Business Unit Manager for the Technical Resource Support Group, performing all duties required to operate this three person stand-alone business unit.
- Performed shop and field repair inspections for LJE Brunner and Potts Boiler Repair in Delaware.
- Grew the annual revenue 300% in three years.
- Coordinated and supervised the activities of up to 39 inspectors operating in six countries.

MILITARY:
U. S. Navy
October, 1980 to July, 1994
Chief Electronics Technician/Nuclear Operator

- Assistant Engineering Officer on Submarine NR-1: Developed a Nuclear Refueling Test Plan for Bettis Atomic Power Laboratory which included training of test personnel, scheduling of

ships force and civilian contractor personnel for testing, obtaining necessary test equipment, and supervising the conduct of the testing. Testing completed 7 shifts ahead of schedule.

Education:
Industrial Technology Bachelor of Science, Southern Illinois University at Carbondale, December 2000

Credentials:
National Board of Boiler & Pressure Vessel Inspectors Commissioned Boiler Inspector #11747
Commissioned Boiler & Pressure Vessel Inspector in Pennsylvania, New Jersey, New York, and Delaware.

Interpretation IN16-0501

Proposed Interpretation

Inquiry:	IN16-0501
Source:	Chris Heichel
Subject:	Change of service – LPG & ammonia
Edition:	2015 NBIC
Question 1:	Can pressure vessels that were previously used in anhydrous ammonia service be converted to LPG service?
Reply 1:	No, except for the following: *ASME containers of 3000 gal (11.4 m3) water capacity or less used to store anhydrous ammonia, except for containers used in cargo tank vehicle service, shall not be converted to LP-Gas service.* The above paragraph is proposed to be included in the 2017 NBIC (Part 2, S7.8.6)
SC Vote	Passed – Unanimous
NBIC Vote	

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Date: September 20, 2016

Commenter Name: Brian W. Moore

Commenter Address: Hartford Steam Boiler, One State Street
P.O. Box 5024, Hartford, CT 06102-5024

Commenter Phone: 860-722-5657

Commenter Fax: 860-722-5530

Commenter Email: brian_moore@hsb.com

Section/Subsection Referenced: Part 2 2.3.6.6 c1

Comment/Recommendation: *Proposed Solution:* □ New Text ■ Revise Text □ Delete Text

Vessels having no operating record shall not be used for service until such time previous operating history can be determined.

Replace "shall" with "should". This section is a guideline and should not contain mandatory language.

Source: □ Own Experience/Idea □ Other Source/Article/Code/Standard

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Part 2 Section 2.3.6.6

d) Any damage to the cylinder or closures can lead to premature failure. Frequent visual inspection should be made of internal and external surfaces of the cylinder, frame and closures. A thorough examination should be completed if any visually apparent damage is identified or if any excursion beyond design temperature or pressure occurs.

In addition, surfaces of the cylinder and closures should be examined by dye penetrant or magnetic particle method at intervals based on vessel remaining life. Closures may require ultrasonic examination of passageways.

As part of this inspection guideline for wire wound pressure vessels, frequent inspection, the following items should be reviewed:

1) ~~Verify no change in the process, such as the~~Changes of the processing fluid~~, that~~ might adversely impact vessel integrity.
2) ~~Review the vessel manufacturer's~~Manufacture's inspection recommendations for vessel, ~~closures~~closures, and frame are important. If manufacturer's recommendations are not available, the owner should obtain recommendations from a recognized wire wound vessel service provider.
3) ~~Verify any repair~~Repairs to pressure retaining items ~~has been~~should be completed by a National Board authorized service provider having wire wound vessel expertise.
4) ~~Verify overpressure~~Overpressure protection with appropriate set pressure and capacity ~~is~~ should be provided. Rupture discs are commonly used for pressures exceeding 14,500 psi (100 MPa) to avoid valve seat leakage. Overpressure protection devices are frequently replaced to avoid premature operation.
5) If there are no manufacturer's recommendations available for the vessel, the following are additional recommended inspections that should be conducted to ensure vessel integrity and safety.
    a. ~~Conduct annual~~Annual visual and dimensional vessel inspections ~~with~~ should be conducted using liquid penetrant examination of maximum stressed areas to ensure that the surfaces are free of defects. ~~Conduct ultrasonic~~Ultrasonic examination of the vessel should be conducted after every 25% of the design cycle life or every five years, whichever comes first, to detect subsurface cracks. Special attention should be given to the roots of threads and closures using threaded head retention construction. Other geometric discontinuities that are inherent in the design or irregularities resulting from localized corrosion, erosion, or mechanical damage should be carefully examined. This is particularly important for units of monoblock construction.

b. The closure mechanism of the vessel end-closure ~~is~~ may be opened and closed frequently during operation. ~~It~~ The closure mechanism should be closely inspected for freedom of movement and proper contact with its locking elements. ~~Wire wound vessels must have yoke~~The presences of yolk-type closures should be verified ~~so the yoke frame will need to be~~and should be closely inspected on a regular basis

6) Gages, Safety Devices, and Controls

a. ~~Verify that the~~The vessel ~~is~~ should be provided with control and monitoring of pressure, temperature, the electrical system, fluid flow, liquid levels, and all variables that are essential for the safe operation of the system. If the vessel is automatically controlled, manual override should be available. Also, safety interlocks should be provided on the vessel closure to prevent vessel pressurization if the vessel closure is not complete and locked.

b. ~~Verify that all~~All safety device isolation valves ~~are~~ should be locked open if used.

c. ~~Verify appropriate~~Appropriate pressure relief devices ~~is~~ should be installed with the setpoint at the lowest pressure possible, consistent with the normal operating pressure, but in no case higher than the design operating pressure of the vessel. Rupture discs are normally considered more suitable for these types of applications, since pressure relief devices operating at pressures above 14,500 psi may tend to leak by their seat.

d. ~~Verify that pressure~~Pressure and temperature of the vessel coolant and vessel wall ~~is~~ should be controlled and monitored. Interlock devices should be installed that will de-energize or depressurize the vessel at established setpoints.

e. ~~Verify audible~~Audible and visual alarms ~~are~~ should be installed to indicate unsafe conditions.

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Comment No. Issued: _____ _____

Part 2 Supplement 12

Replace mandatory "shall" with nonmandatory "should" in all places listed below.

S12.3 b) Portable LCDSV installations with no permanent remote fill connection:
Warning: LCDSVs ~~shall~~ should not be filled indoors…

4) Are provided with a pathway that provides a smooth rolling surface to the outdoor, unenclosed fill area. There ~~shall~~ should not be any stairs or other than minimal inclines in the pathway.

S12.5 A continuous gas detection system ~~shall~~ should be provided in the room or area where container systems are filled and used, in areas where the heavier that air gas can congregate and in below grade outdoor locations. Carbon dioxide (CO2) sensors ~~shall~~ should be provided within 12 inches (305mm) of the floor in the area where the gas is most likely to accumulate or leaks are most likely to occur. The system ~~shall~~ should be designed to detect and notify at a low level alarm and high level alarm.

a) The threshold for activation of the low level alarm ~~shall~~ should not exceed a carbon dioxide concentration of 5,000 ppm (9,000 mg/m3) Time Weighted Average (TWA) over 8 hours. When carbon dioxide is detected at the low level alarm, the system ~~shall~~ should activate a signal at a normally attended location within the building.

b) The threshold for activation of the high level alarm ~~shall~~ should not exceed a carbon dioxide concentration 30,000 ppm (54,000 mg/m3). When carbon dioxide is detected at the high level alarm, the system ~~shall~~ should activate an audible and visual alarm at a location approved by the jurisdiction having authority.

S12.6 SIGNAGE
The inspection should verify that hazard identification signs are posted at the entrance to the building, room, enclosure, or enclosed area where the container is located. The warning sign ~~shall~~ should be at least 8 in (200mm) wide and 6 in. (150mm) high and indicate…

S12.7 VALVES, PIPING, TUBING AND FITTINGS
a) 1) Components ~~shall~~ should be rated for the operational temperatures and pressures encountered in the applicable circuit of the system.

a) 2) All valves and fittings used on the LCDSV ~~shall~~ should be rated for the maximum allowable working pressure(MAWP) stamped on the tank.

a) 3) All piping, hoses and tubing used in the LCDSV system ~~shall~~ should be rated for the working pressure of the applicable circuit in the system and have a burst pressure rating of at least four times the MAWP of the piping, hose or tubing.

b) Relief Valves – The inspection should verify that each LCDSV ~~shall~~ should have at least one ASME/NB stamped & certified relief valve with a pressure setting at or below the MAWP of the tank. The relief valve ~~shall~~ should be suitable for the temperatures and flows experienced during relief valve operation. The minimum relief valve capacity ~~shall~~ should be designated by the manufacturer. Additional relief valves that do not require ASME stamps may be added per Compressed Gas Association pamphlet, CGA S-1.3 Pressure Relief Device Standards Part 3, Stationary Storage Containers for Compressed Gases, recommendations. Discharge lines from the relief valves ~~shall~~ should be sized in accordance with NBIC Part 2, Tables S12.7-a and S12.7-b.
Note: Due to the design of the LCDSV the discharge line may be smaller in diameter than the relief valve outlet size.
Caution: Company's and or individuals filling or refilling LCDSV's ~~shall~~ should be responsible for utilizing fill equipment that is acceptable to the manufacturer to prevent over pressurization of the vessel.

c) Isolation Valves – The inspection should verify that each LCDSV ~~shall~~ should have an isolation valve installed on the fill line and tank discharge, or gas supply line in accordance with the following requirements:

1) Isolation valves ~~shall~~ should be located on the tank or at an accessible point as near to the storage tank a possible.

2) All valves ~~shall~~ should be designed or marked to indicate clearly whether they are open or closed.

3) All valves ~~shall~~ should be capable of being locked or tagged in the closed position for servicing.

4) Gas supply and liquid CO2 fill valves ~~shall~~ should be clearly marked for easy identification.

d) Safety Relief/Vent Lines – The inspection, where possible, should verify the integrity of the pressure relief/vent line from the pressure relief valve to outside vent line discharge fitting. All connections ~~shall~~ should be securely fastened to the LCDSV. The minimum size and length of the lines ~~shall~~ should be in accordance with NBIC Part 2, Tables S12.7-a and S12.7-b. Fittings or other connections may result in a localized reduction in diameter have been factored into the lengths given by the NBIC Part 2, Tables S12.7-a and S12.7-b.

Table S12.7M-b
Note:
Due to the design of the LCDSV, the discharge line may be smaller in diameter than the relief valve outlet size but ~~shall~~ should not be smaller than that shown in tables NBIC Part 2, S12.7-a and -b.

COMMENT: The above note is immediately after the metric Tables S12.7M-a and -b, but the referenced tables are the customary units S12.7-a and -b. This appears to be a mistake.