



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 29, 1998

MEMORANDUM TO: Susan F. Shankman, Deputy Director
Licensing and Inspection Directorate
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards

THROUGH: Patricia L. Eng, Chief
Transportation and Storage Inspection Section
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards

FROM: Ronald J. Albert, Transportation and Storage Safety Inspector
Transportation and Storage Inspection Section
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards

SUBJECT: SUMMARY OF OCTOBER 26, 1998, MEETING BETWEEN THE
HARTFORD STEAM BOILER INSPECTION AND INSURANCE
COMPANY AND THE U.S. NUCLEAR REGULATORY
COMMISSION STAFF

Representatives of the Hartford Steam Boiler (HSB) Inspection and Insurance Company met with NRC staff members on October 26, 1998. HSB requested the meeting with the NRC to present an overview of the American Society of Mechanical Engineers (ASME) certification and inspection services provided by Authorized Inspection Agencies.

HSB representatives provided a brief history of the company. The company was established in 1866 and evolved from servicing the boilers of its policy holders, to inspecting, and to providing boiler specifications. By 1879, HSB's design, "The Hartford Standards," became widely accepted and was adopted by the American Boiler Manufacturer's Association. Currently, HSB is certified by ASME and has 800 inspectors at its disposal.

HSB provided an overview of the services that it provides to ASME-certified fabricators. Key elements of HSB's services consist of training and certifying its inspectors, developing and implementing inspection procedures, problem identification and corrective actions, and certification of products. The NRC's main focus and points of discussions were on HSB's approaches to problem identification and resolution.

The meeting was extended to the public in an October 16, 1998, Meeting Notice. Attachment 1 is an attendance list. Attachment 2 contains material handed out during the meeting by the HSB representatives.

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PDR

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04M-6 NRCB - Gen.

No proprietary information was discussed or presented during the meeting. No regulatory decisions were requested or made.

ATTACHMENTS:

As stated

cc: W. Kane

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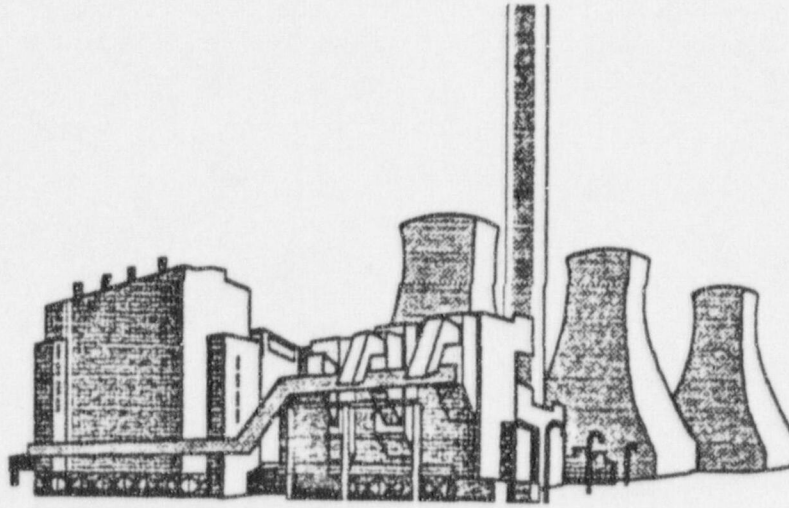
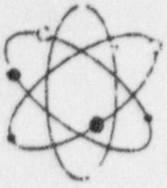
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DATE	10/21/98		10/29/98		10/27/98		10/ /98	

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ATTENDANCE LIST
HARTFORD STEAM BOILER INSPECTION AND INSURANCE COMPANY/NRC MEETING
OCTOBER 26, 1998

<u>NAME</u>	<u>ORGANIZATION</u>	<u>TELEPHONE NUMBER</u>
Ron Albert	NRC/SFPO	(301) 415-1986
Barry Bobo	HSB	(770) 396-9820
Ken Battige	NRC/SFPO	(301) 415-2730
Larry Campbell	NRC/HQMB	(301) 415-2976
Patricia Eng	NRC/SFPO	(301) 415-8577
Ernie Farrow	HSB	(423) 870-2769
Kim Gruss	NRC/SFPO	(301) 415-8586
Wayne Hodges	NRC/SFPO	(301) 415-2398
William F. Kane	NRC/SFPO	(301) 415-8500
Kirke Lathrop	NRC/SFPO	(301) 415-8553
Thomas Matula	NRC/SFPO	(301) 415-8563
Paul Narbut	NRC/SFPO	(301) 415-2962
Ron Parkhill	NRC/SFPO	(301) 415-1376
James Pearson	NRC/SFPO	(301) 415-1985
Susan F. Shankman	NRC/SFPO	(301) 415-2287
Fritz Sturz	NRC/SFPO	(301) 415-8530
William R. Ward	NRC/SFPO	(301) 415-8526



The Hartford Steam Boiler
Inspection and Insurance Company

History and Contribution to the ASME Code

HARTFORD POLYTECHNIC CLUB

1. March 1854
 - a. boiler explosion Fales & Gray Car Works
 - b. 9 killed instantly, 12 die later
 - c. boiler 4 weeks old, coroner's jury > excessive steam accumulation, operator inattentiveness (drunk)
 - d. governor calls for state safety inspections
 - e. boilers remote
 - f. employers assure operators fit
2. Established in 1857
3. Concerns
 - a. public safety
 - b. boiler explosion prevention
 - 1) good workmanship
 - 2) quality materials
 - 3) careful operation
 - 4) periodic inspections
3. Civil War
 - temporarily ended studies

THE SULTANA DISASTER

1. End of Civil War
2. Mississippi River Steamer
 - a. returning troops home
 - b. boiler explosion
 - c. 1,238 soldiers killed
 - d. worst boiler explosion in history
3. Polytechnic Club resumes studies
4. Revives idea of an agency to inspect and insure boilers

HARTFORD STEAM BOILER I and I Co.

1. October 6, 1866
 - a. Mssrs. Allen, Butler and Reed
2. February 14, 1867
 - a. first policy written
 - b. 3 HRT boilers, Worcester, MA
3. 1868
 - a. policy holder services inspections and recommendations for new boiler installations
4. 1870
 - a. first fee-based shop inspection
 - b. 99 boilers within 5 months
 - c. welcomed by boiler makers and users
 - d. 9 of 10 boilers by 1930 shop inspected by HSB
5. 1879
Engineering Department providing policy holders with boiler drawings and specifications without charge
7. Watertown Arsenal
 - a. tested HSB designs
 - b. found accurate to 0.2% of calculated value

8. THE HARTFORD STANDARDS

- a. designs became widely accepted
- b. adopted by the American Boiler Manufacturers' Association
"UNIFORM STEAM BOILER SPECIFICATIONS"
- c. virtually all new boilers were now being built to this standard

BY 1917, HSB HAD DESIGNED OVER 17,00
BOILERS, NOT ONE HAD EXPLODED

9. 1900

STILL NO UNIFORM ENFORCEMENT
THROUGHOUT THE NATION

10. Massachusetts

1898 - 1902

- a. HSB widely insuring/inspecting
 - 1) no serious boiler explosions
 - 2) 1600 serious boiler explosions throughout the nation (none insured by HSB)
- b. 1905
 - Brockton, MA shoe factory
 - 58 dead, 117 injured
 - \$250,000 damaged
- c. 1906
 - Lynn, MA
 - 1 killed
 - Governor demands legislation
- d. 1907
 - Massachusetts Rules approved

ASME CODE THE BEGINNING

1. American Society of Mechanical Engineers
 - a. founded in 1880
 - b. function
 - stimulating the exchange of technical information
 - prime importance - development and promulgation of sound engineering standards and safety codes
2. Boiler Code Committee
 - a. appointed in 1911
 - b. draft first boiler code
3. Purpose

" to establish rules of safety governing the design, fabrication and inspection of boilers during construction ...to afford protection of life and property and to provide a margin of safety... for a long safe period of usefulness"
4. Adoption

1914 Edition on March 12, 1915

STILL ONLY A VOLUNTARY CODE

THE AMERICAN BOILER and PRESSURE VESSEL LAWS SOCIETY

- Formed in 1915
- to present the ASME Code to governing bodies of states, provinces and cities to secure legal adoption

THE NATIONAL BOARD OF BOILER and PRESSURE VESSEL INSPECTORS

1. Organized in 1919
2. Chief Inspectors of:
 - a. States
 - b. cities
 - c. US territories
 - d. Provinces of Canada
3. Function
promoting safety and uniformity in the construction,
installation, inspection and repair of boilers and pressure
vessels

HSB TODAY

Philosophy

“We are an engineering consulting firm dedicated to providing technical and professional services which contribute to the safe, reliable, an efficient use of plant and equipment in the best interest of society.”

1. Oldest and largest service provider for ASME inspections approximately 800 Inspectors
2. ASME Certificate AIA-004
3. Professional Activities
ASME
 - Non-nuclear
 - Nuclear: 5 Representatives on 10 Committees
Section III, Division 3

AWS

AIA

ASTM

ASQC

ISO

B31.1

ANSI

ABMA

4. ASME New Construction

- service to approximately 2,500 of 4,000 ASME Certificate Holders
- Construction Inspections at 70% of all nuclear plants in US

5. ASME Section XI

- 27 of 48 nuclear licensees [56%]
- 44 of 72 sites [61%]
- 73 of 110 units [66%]
- See handout for complete listing

TABULATION OF HSB CONTRACTS

UTILITY	SITE	UNIT	
		NUMBER	TYPE
Arizona Public Service	Palo Verde	3	CE
CP&L	Brunswick	2	GE
	Robinson	1	W
	Sheron Harris	1	W
Commonwealth Edison	Braidwood	2	W
	Byron	2	W
	Dresden	2	GE
	LaSalle	2	GE
	Quad Cities	2	GE
	Zion	2	W
Connecticut Yankee	Haddam Neck	1	W
Consolidated Edison	Indian Point 3	1	-
Detroit Edison	Fermi	1	GE
Duke Power	Catawba	2	W
	McGuire	2	W
	Oconee	3	B&W
Florida Power Corp	Crystal River	1	B&W
Georgia Power	Hatch	2	GE
	Vogtle	2	W
GPU Nuclear Corp	Three Mile Island	1	B&W
	Oyster Creek	1	GE
Iowa Electric	Duane Arnold	1	GE
Nebraska Public Power	Cooper	1	GE
New Hampshire Yankee	Seabrook	1	W

UTILITY	SITE	UNIT	
		NUMBER	TYPE
New York Power Authority	Fitzpatrick	1	GE
	Indian Point	1	W
Northern States Power	Monticello	1	GE
	Prarie Island	2	W
Omaha Public Power	Ft Calhoun	1	CE
Pacific Gas & Electric	Diablo Canyon	2	W
Philadelphia Electric	Limerick	2	GE
Philadelphia Electric	Peach Bottom	2	GE
Rochester Gas & Electric	Ginna	1	W
S.C. Electric & Gas	V.C. Summer	1	W
Texas Utilities	Comanche Peak	2	W
TVA	Browns Ferry	3	GE
	Sequoyah	2	W
	Watts Bar	2	W
Union Electric	Callaway	1	W
Virginia Power	North Anna	2	W
	Surrey	2	W
Wisconsin Electric Power	Point Beach	2	W
Wisconsin Public Service	Kewaunee	1	W

	in US *	Served by HSB	Not Served by HSB
Total Licensees	48	27 (56%)	21
Total Sites	72	44 (61%)	28
Total Units	110	73 (66%)	37