Supplier Oversight Challenges

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Oversight Challenges

3 T’s

Tenure: Knowledge & Experience Retention

Treasure: Quality Costs

Technology: Virtual Audits

Tenure

Knowledge & Experience Retention

Body of Knowledge

- GL 89-02
- GL 91-05
- CPI
- EPRI NP 5652
- EPRI NP 6630

Remember when?

Every licensee audited every SR supplier

One or two QA auditors finished an audit in one or two days

Supplier’s QA Staff had full-time customer escorts

Part 21 was optional, ignored, or refused?

CASE

Coordinated Agency for Supplier Evaluation

Originated from the aerospace industry and administered by Aerojet Nuclear, created a nuclear section

CASE achievements included a standardized checklist; a method of sharing reports; periodic organization meetings for information sharing

Audits were programmatic

NFUF

Nuclear Fuel User's Forum

Managed by the fuel suppliers for their customers

Customers were separated at the meetings into "Affinity Groups" that met to share information

No joint auditing

NSQAC

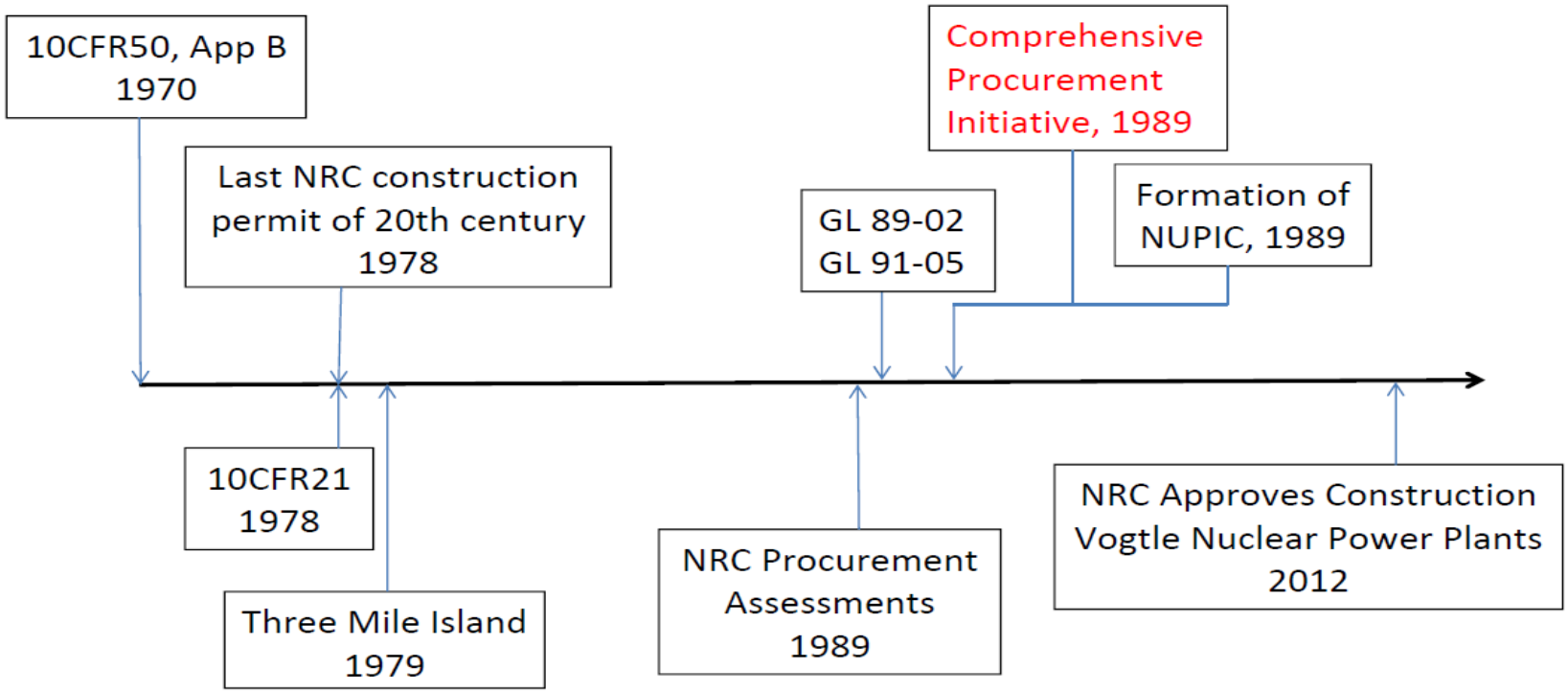
Nuclear Supplier QA Committee

QA auditors from participating utilities formed teams of 3-4 to audit selected nuclear suppliers. Audits were distributed and information sharing occurred at periodic meetings

Lead utilities retained audit files

Performance-based audits were attempted, by product type

Nuclear Industry Timeline



GL89-02 3/21/89

- "Actions to Improve the Detection of Counterfeit & Fraudulently Marketed Products"
- Concern with licensee's ability to assure quality of procured products and to reduce the likelihood of use of counterfeit or fraudulent products
- Required technical input; effective audits, receipt, and testing; and engineering based programs for dedication

GL91-05 4/9/91

- In 1986, the NRC began a series of "Procurement Assessments" of licensees, that produced disturbing results
- In March, 1990, NRC paused these assessments to give licensees time to implement improvements
- Industry committed (NUMARC 90-13) to implement improvements by July 1, 1992

NUMARC 90-13, "Nuclear Procurement Program Improvements" distributed November 5, 1990

- Described the "Comprehensive Procurement Initiative"
- Approved by the NUMARC Board of Directors in June, 1990
- Recognized by the NRC in GL91-05 as the industry's acceptable proposal to improve procurement practices

The CPI made a clear distinction between:

- Programmatic Audits: Based primarily on a paper review, and
- Performance-Based Audits: Assessing manufacturing controls, design, inspection, and test.

What did we commit to do?

- Vendor Audits & Information Sharing
- **Use performance-based audit methods consistent with EPRI NP6630**
- Share vendor audit information through joint audit forums

EPRI NP-6630

- Guidelines for Performance-Based Supplier Audits (NCIG-16)
- “Performance-based audits can raise the level of confidence that comes from evaluating the processes and activities that control the important features of the product."

NUPIC Charter/Mission Statement

The NUPIC Organization will strive to improve the supplier assurance processes through cooperative efforts while minimizing utility O & M costs and improving plant performance.

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From the NUPIC Joint Audit Procedure:

"NUPIC audits will include performance-based elements of EPRI NP-6630, Guidelines for Performance-Based Supplier Audits (NCIG-16), and verify compliance with 10CFR50 Appendix B/ANSI N45.2."

#	Cause Code	2011		2012		2013		2014 - YTD		Total
1	J6 - Programmatic/Other Problems-Records/Document Control	70	9.3	70	9.85	59	10.05	7	7.95	206
2	J3 - Programmatic/Other Problems-Audits	60	7.97	55	7.74	47	8.01	10	11.36	172
3	J7 - Programmatic/Other Problems-Failure to Follow Procedure	36	4.78	42	5.91	35	5.96	8	9.09	121
4	A1 - Commercial Grade Dedication Problems-Inadequate procedure	22	2.92	41	5.77	26	4.43	5	5.68	94
5	I7 - Nonconformance/Corrective Action Problems-Failure to Follow Procedure	27	3.59	29	4.08	28	4.77	6	6.82	90
6	J2 - Programmatic/Other Problems-Training	27	3.59	26	3.66	25	4.26	4	4.55	82
7	I1 - Nonconformance/Corrective Action Problems-Inadequate procedure	36	4.78	22	3.09	16	2.73	2	2.27	76
8	A3 - Commercial Grade Dedication Problems-Inadequate dedication (NP-5652, etc.)	17	2.26	36	5.06	20	3.41	1	1.14	74
9	J - Programmatic/Other Problems	29	3.85	13	1.83	18	3.07	0	0	60
10	J4 - Programmatic/Other Problems-Order entry	22	2.92	17	2.39	13	2.21	3	3.41	55
11	I5 - Nonconformance/Corrective Action Problems-Deficient PT 21 reporting	26	3.45	18	2.53	9	1.53	0	0	53
12	J1 - Programmatic/Other Problems-Does not fit any other category	20	2.66	20	2.81	10	1.7	1	1.14	51
13	F3 - Procurement Problems-Procurement documents not containing sufficient requirements	18	2.39	15	2.11	13	2.21	3	3.41	49
14	A6 - Commercial Grade Dedication Problems-Failure to Follow Procedure	9	1.2	16	2.25	16	2.73	6	6.82	47
15	F6 - Procurement Problems-Failure to Follow Procedure	18	2.39	13	1.83	12	2.04	3	3.41	46
16	F4 - Procurement Problems-Poor supplier control	15	1.99	13	1.83	14	2.39	3	3.41	45
17	A - Commercial Grade Dedication Problems	13	1.73	21	2.95	10	1.7	0	0	44
18	A2 - Commercial Grade Dedication Problems-No dedication plans	10	1.33	19	2.67	15	2.56	0	0	44
19	F1 - Procurement Problems-Inadequate procedures	20	2.66	11	1.55	10	1.7	2	2.27	43
20	C1 - Software Problems-Inadequate procedure	15	1.99	13	1.83	7	1.19	0	0	35

Audits

2011		2012		2013		2014 - YTD		Total	
Audits	Audit Findings	Audits	Audit Findings	Audits	Audit Findings	Audits	Audit Findings	Audit	Audit Findings
134	613	133	597	135	519	21	70	423	1799

Treasure

Cost of Quality

Equipment Reliability

Shrinking budgets will increase the pressure to accept lower quality and continually redefine minimum requirements.

Cost incurred by poor equipment reliability that results in reduced power or plant shutdown, will be many times the cost of quality oversight.

How much is this going to cost?

Assuming a conservative average expense of $1500 per person per trip, and assuming 2 auditors and a technical specialist for every audit that each licensee is required to perform, that's

40 audits X 1500 X 3 (2 ATMs + TS) = $180,000 each year just for a conservative estimate of audit expenses.

A single plant member of NUPIC is required to lead 3 and serve as a team member on 10 NUPIC Audits.

Using the same estimated costs, yields

3 audits X 1500 X 2 (ATL + TS) = $9,000
10 audits X 1500 X 1 (ATM) = $15,000
NUPIC Membership Dues = $3,500
Participation at 3 Meetings per year = $4,500
Total cost of NUPIC Membership = $32,000

By becoming a member of NUPIC, a single plant utility stands to save $180,000 - $32,000 = $148,000 per year.

NUPIC Key Benefits

- Consistent basis for supplier evaluation
- Audit focus of product quality & performance-based activities
- More in-depth evaluation approach
- Increased influence for resolution of supplier problems
- Cost-effective use of resources
- Consistency in audit scope and baseline requirements
- Increased knowledge of industry expectations and regulations
- Industry interface for resolution of supplier problems
- Decreased regulatory oversight

Technology

“Virtual” Oversight

Gadgets

Google Earth and Google Glass

iPhone, iWatch, Pod Cams

Laptops to iPads to Tablets

Shared Internet

Independence

Not relying on something else or somebody else

Can / Can’ts

Share files through the net

Webcam witness performance

Host a teleconference

Observe areas of the plant where cameras locate

Verify that all files are shared

Verify performance over time

Observe real-time interactions

Adjust plant observations based on discovery

Early Challenges

Design

Record keeping

Software

Training

(these are but a few)

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Remote Work Locations

Engineers

Scientists

Subject Matter Experts

Conclusions

3 T’s are the Challenge

Solutions require that we understand why we do what we do, how we can do it efficiently, and ways we can make technology work for us.

QUESTIONS?