

Westinghouse Electric Company Nuclear Power Plants P.O. Box 355 Pittsburgh, Pennsylvania 15230-0355 USA

U.S. Nuclear Regulatory Commission ATTENTION: Document Control Desk

Washington, D.C. 20555

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Your ref: Docket No. 52-006 Our ref: DCP_NRC_002512

June 24, 2009

Subject: Transmittal of Minutes, Attendance List and Slides presented during the April 28, 2009 QA/ITAAC Workshop conducted at the Westinghouse Energy Center in Monroeville, Pennsylvania.

Westinghouse is providing a hardcopy or electronic .pdf copy (as applicable) of the following files for your information and use:

- 1. 4-28 NRC QA-ITAAC Workshop Agenda.pdf
- 2. 4-28 NRC QA-ITAAC Workshop Attendance.pdf
- 3. 4-28 NRC QA and ITAAC Workshop Meeting Summary.pdf
- 4. WAAP-6827 CONSORTIUM-NRC QA AND ITAAC WORKSHOP PRESENTATION SLIDES.pdf

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse.

Very truly yours,

Robert Sisk, Manager

Licensing and Customer Interface

Regulatory Affairs and Standardization

/Enclosures

cc:	J. Peralta	-	U.S. NRC	1E
	M. Concepcion	-	U.S. NRC	1E
	D. Jaffe	-	U.S. NRC	1E
	R. Sisk	-	Westinghouse	1E
	D. Harmon	-	Westinghouse	1E
*	W. Crisler	-	Shaw	1E
	J. Oddo	-	Shaw	1E
	J. Davis	-	SNC	1E
	R. Grumbir	-	NUSTART	1E
	J. Whiteman	-	Westinghouse	1E



AGENDA

April 28 QA/ITAAC Workshop with NRC Monroeville, Energy Center

Time:	Topic:	Discussion Lead
A Continental Br	eakfast will be Available beginning at 8 AM	
8:15 AM	Welcome and Introduction	Rob Sisk/Juan Peralta
9:00 AM	EPC Quality Program Expectations Sub-Vendor Quality Program Vendor Inspection Program	Windell Crisler/Dale Harmon
	Mangiarotti Update	Gene Zottola
	Squib Valve Qualification Program Update	Ron Wessel
11:15 AM	Engineering Design Verification (EDV) Process - Timing	Discussion

AGENDA (Continued)

April 28 QA/ITAAC Workshop with NRC Monroeville, Energy Center

Time:	Topic:	Discussion Lead	
Noon	Lunch		
1:30 PM	ITAAC Procedures		
	- APP-GW-GAP-117	Thom Ray	
	- Our work with NEI on 08-01	John Oddo	
2:00 PM	ITAAC Closure Process		
	- COLA	Discussion	
	- Consortium	Thom Ray	
2:45 PM	Schedule for Performance and Documentation Plans	Thom Ray	
3:00 PM	The Timing of ITAAC Closure letters to the NRC	Thom Ray	
3:30 PM	Overall AP1000 Engineering Planning and Deployment Process	Bruce Bevilacqua	
4:15 PM	Wrap –up	Rob Sisk/Juan Peralta	
End by 5:00 PM		·	

spril 28 NRC/W DA workshop

	None	Organization	Enail
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April 28th NRC QA and ITAAC Workshop Meeting Summary

The following are key notes taken from the introductory remarks by the NRC and ongoing dialogue during the QA/ITAAC Workshop held at the Westinghouse Energy Center on Tuesday, April 28, 2009 in Monroeville, Pennsylvania.

This Workshop was set-up based on an NRC request. The Workshop included participants from the NRC, the Westinghouse – Shaw Consortium, and NUSTART (See the attached Attendance List). The Consortium presented a day long agenda (See attached Agenda) that covered topics from the Engineering, Procurement and Construction (EPC) Contract Quality Program to an overview of the AP1000 Engineering Planning and Deployment strategy for design finalization (See the attached PDF version of the slides presented).

The NRC came into this Workshop focused gathering information to enable them to begin to move forward. Specifically how far along actually is the AP1000 design and how finalization of the design is being sequenced (i.e., when is it going to be done) within the Consortium.

The NRC noted that the Engineering Design Verification (EDV) pilot inspection done last year was premature and not valuable. They are looking for the a practical way to determine when and how to apply EDV inspections (e.g., inspection by system, by area, tie EDV Inspection to ITAAC, etc).

It was noted in the meeting that EDV is not a Licensing Activity; it is not review of the design, it is verification that the design is being accurately implemented in what is being bought (i.e., translation of design into specifications and procurement)

The NRC is clearly focused on trying to determine when is the right time to do EDV Inspections and promoting ongoing dialogue in a manner that can build upon this exchange. It appeared to be clear in this meeting that everyone participating recognizes that the development of an open line of communication is vital to the successful implementation.

Resultant discussions focused on developing the means to expand upon the dialogue that has occurred to date and effectively determine when windows of Engineering involvement (e.g., it would be both prudent and practical to conduct EDV in conjunction with Final design reviews which are scheduled, offer sufficient detail, and trackable closure to open items) will be open.

Based on feedback provided in the wrap-up portion of the meeting, it appeared that the NRC was appreciative of the level of detail presented and the candid dialogue that took place afterward. A key Action Item was identified (below) and follow-up discussions

will be initiated after all of the participants have had the opportunity digest the information that was shared.

Action Item – A protocol needs to be developed to more readily enable the sharing of scheduler information between vendors and the NRC.

WAAP-6827

Westinghouse Letter DCP_NRC 002512

Consortium/NRC QA and ITAAC Workshop

Westinghouse Non-Proprietary Class 3
SHAW Non-Proprietary

April 28, 2009

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EPC QUALITY PROGRAM

Windell Crisler

Shaw

April 28, 2009



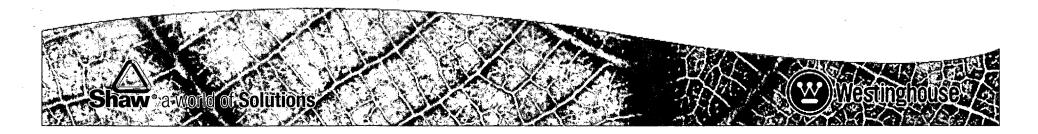
Director, Nuclear Quality Geoff Grant. E Part and Carlot and an Admin Assi Darlyna Siesada Chemy Hill Office Centennial Office Vogtle Project 510ughton Office Chartotte Office Wanager Quality Director Marager Manager Manager Rick Stevenson MAC Gilman Jud Mile Windell Crister Robbie Otis Susan Deffley-Admin Assi: Albin Fasting enencial, grand. Սոշ Ասուբ Ron Aurich Eddio Fisher Fred Cotta Store Selewitz Dave McCertie 1981 Curris Robert Page 10m Hansley with a Country Jon Ford · Tall Vouglm Ristant Boyd Charles (Pelé) Humar Mike Huss - Larry Walsia William Hamis - Frencisco Morales - Dave Legan (PT) Kevin Fahey Forn Faytor AP1000 Projects Large Director Projects Wiles Gibners LES Domestic Ron Asrich Chana AP1000 AP1000 Acttie Clis CENEP 3il Snellgrow -January Sobuson-WC Summer - Skohen Hubbard -JFMO Steinghai - Bavid Oktrolok - JFMO Steinghai -Eddle Fisher-Lee-Levy -Dave McCorde-Voglie David Wins -Sannes Robert McReynolds - Sannen Areva - Dictord Flaye-Clesign Finalization Rob Page Kemis Saest - Sanman Approved: Date:



Quality Control Staffing

Staffing Plan Developed Using Project Schedule

- Key Personnel Selected
 - QC Manager
 - QA Records
 - Performance Improvement
- In advance of Need to Allow for Training/Certification
- Disciplines Staffed to Support Upcoming Features of Work
- Core Group of Key Personnel
- Entry-Level Inspectors
- Inspection Planning in Advance of Need



Quality Control Inspector Training Programs

Discipline Specific

Civil (100)

Electrical (200)

Mechanical (300)

Quality (400)

Special Process (500)

Batch Plant
Pre-placement
Placement\Grout
Backfill
Struct Steel
Concrete Testing
Cement Testing
Soil Testing
Tensile/Rebar

Raceway Install, Supports & Embedment Cable Install &

Cable Install & Termination

Equipment/
Penetrations

Equipment
Comp Supports
Pressure testing
Piping
HVAC Systems
Mech I & C
Rigging/Handling

M&TE
Equip.
Receipt Insp.
Source
Surveillance

Cadwelding
Concrete Anchors
Protective Coatings
Studwelding
Welding
Structural Weld
Pipe Welding
Halogen Leak
Pressure Bubble
Alloy Analysis





NDE Training Programs

Visual

Liquid **Penetrant** Magnetic **Particle**

Radiography

Ultrasonic

Leak **Testing**

ASME III

NF/NG

ASME XI

Overview

ASME XI

VT-1

ASME XI

VT-2

ASME XI

VT-3/4

Examination

PT Visible

PT

Dye Solvent

MT

Examination

MT

Prod/Yoke Only

RT

Examination

RT Film

Interpretation

UT

Examination

UT Thickness

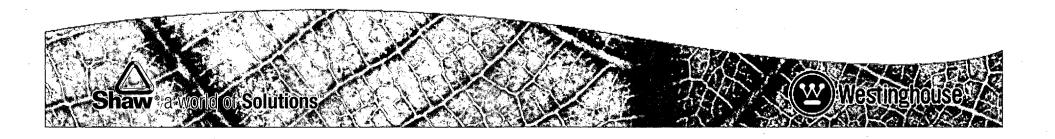
Bubble

Vacuum Box

Halogen Leak

Pressure

Change



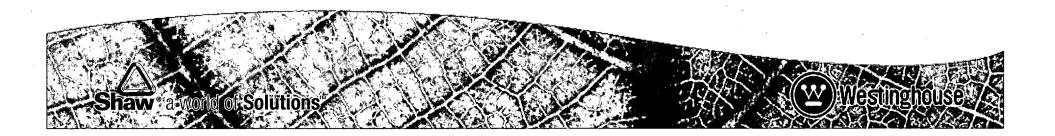
Supplier Quality Requirements and Expectations

WEC QA



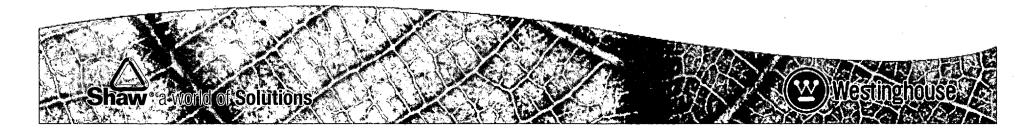
Westinghouse Quality Requirements

- Graded approach
 - Safety Related
 - Safety Significant
 - Non-safety
- Quality Program requirements based on
 - Regulatory requirement
 - Industry consensus standard
 - Westinghouse business need



Equipment and System Classifications

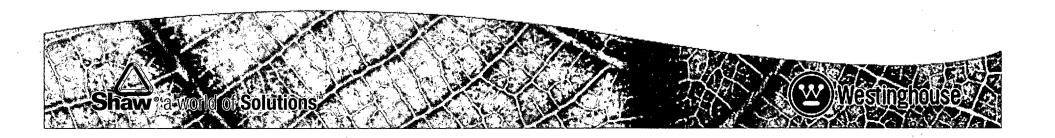
- "Safety Related"
 - Maintain integrity of the reactor pressure boundary
 - Required for safe shutdown of the plant.
 - Prevent release of radiation to the public.
- "Safety Significant"
 - Non-safety related systems that contribute to plant safety.
 - Important for protection of investment.
- "Non-safety Related"



Westinghouse Supplier Quality Requirements

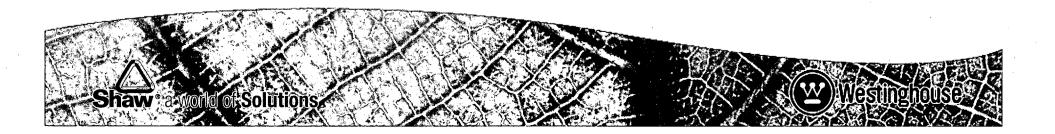
Safety Related components

- 10CFR50 Appendix B (regulatory requirement)
- NRC Regulatory Guide 1.28
- ASME NQA-1 1994
- 10CFR21 (Reporting of significant safety issues)
- Westinghouse QAR/SQAR (oversight, right of access)
- ASME Code (where applicable)



Westinghouse Supplier Quality Requirements

- Safety Significant systems and components
 - Westinghouse Spec APP-GW-GAM-200 (based on USNRC NUREG-0800 Section 17.5 II V)
 - Review of suppliers quality program with proposal
 - Audit performance of suppliers QA program
 - Aligned with 18 Criteria of 10CFR50 Appendix B and ASME NQA-1



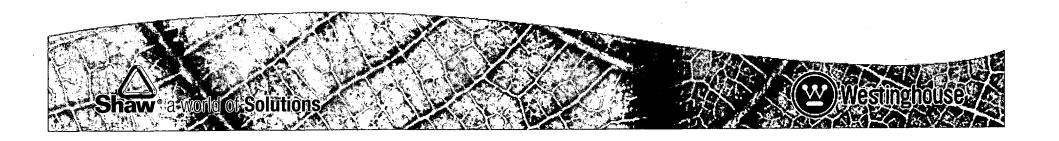
Westinghouse Supplier Quality Requirements

Non-safety related components

- Review of suppliers quality controls with proposal
- Good commercial practice
- Past performance

Supplier Qualification

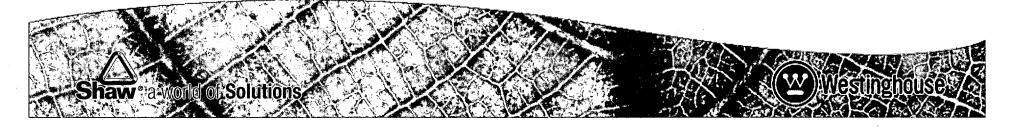
- Consideration of supplier capability / past performance
- Quality Assurance program to Nuclear or Westinghouse requirements
- Consideration of utility, nuclear and related industry experience with candidate suppliers
- Quality assurance compliance audit for Safety related and Safety Significant items



Supplier Oversight Principles

- Level of supplier oversight is situational dependant and addresses a combination of factors
 - Complexity / importance of component
 - Supplier experience and performance including first time application
 - Robustness of supplier controls / QA program
 - Supplier "quality culture"

Sufficient involvement and support to ensure effectiveness of suppliers internal controls



Supplier Oversight Performance

- Forms of supplier oversight
 - Resident QA and Technical support
 - Periodic process surveillance
 - Witness and hold point program
 - Final product review and release

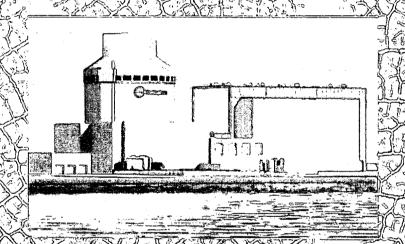


VENDORINSPECTION PROGRAM

WEC QA April 28, 2009



Mangiarotti Nuclear Milano, Italy



Gene Zottola

SCM

April 28, 2009

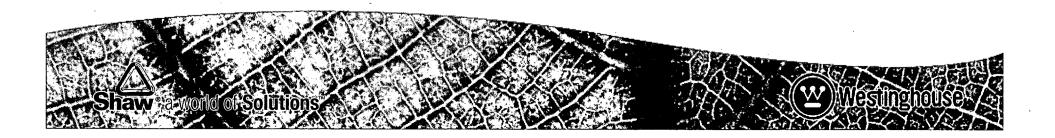


Agenda

- Scope of supply
- Witness and hold point program
- WEC Mfg & QA Residents

Scope of Supply

- Pressurizers
- Passive Residual Heat Removal Heat Exchanger
- Accumulator Tanks
- Core Make Up Tanks

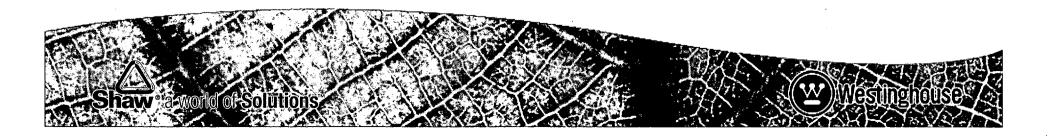


Witness & Hold Point Program

- Mangiarotti (MN) W/H Points on Significant Manufacturing Process
 Steps
- WEC review and approval of MN W/H Program
- Customer review and approval of WEC revised W/H Program
- Final Program made contract deliverable
- Sample W/H Point Schedules provided

WEC In-Country Residents

- SCM Manufacturing Specialist and in-country Lead
 - Mr. John Mortara May 1, 2009
 - QA Engineering Lead
 - Mr. Larry Mountan May 1, 2009



AP1000 Squib Valve Qualification Program Status

Ron Wessel Auxiliary Equipment Engineering/EQ April 28, 2009



Overall AP1000 Engineering Planning and Deployment Process

Discussion



Engineering Design Verification (EDV) Process

Bridging the GAP between DCD info and ITAAC Closure

Discussion



Westinghouse

Engineering Design Verification (EDV) Process

Discuss possibilities, including scope and schedule, for future EDV Pilots

Discussion



ITAAC Procedure APP-GW-GAP-117

Thom Ray

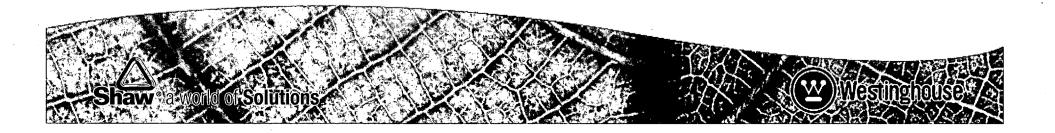
AP1000 Licensing & Customer Interface

(412) 374-5309

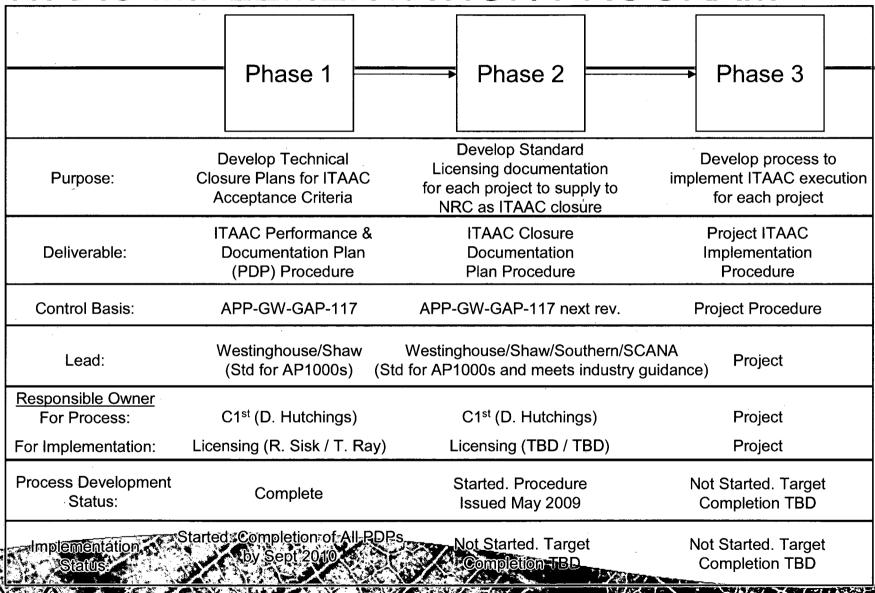


APP-GW-GAP-117

- ITAAC Implementation Program
- ITAAC Process Phase 1
- ITAAC Process Phase 2
- ITAAC Process Phase 3



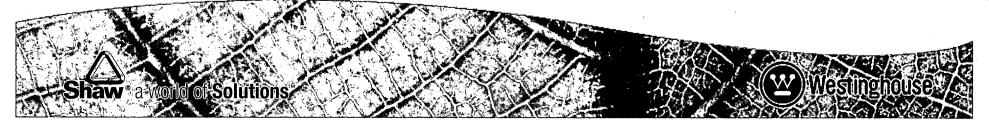
ITAAC IMPLEMENTATION PROGRAM



OkSolutions

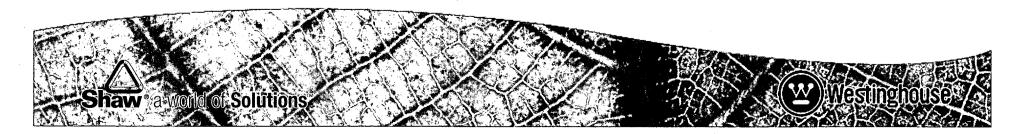
ITAAC Process – Phase 1

- Procedure developed for ITAAC Implementation
 - ITAAC Database created to track all Standard ITAACs
 - Development of ITAAC Performance and Documentation Plans (PDP) for Each Standard Plant Acceptance Criteria
 - Performance and Documentation plans reviewed by expert panel (Westinghouse/SHAW/Utilities)
 - ITAAC placed in Standard AP1000 schedule
 - ITAAC PDP used as part of ITAAC closure process as detailed in NEI 08-01



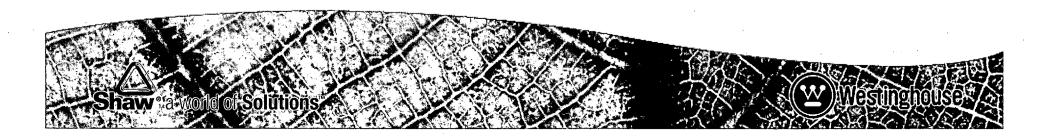
ITAAC Process – Phase 2

- Team of Westinghouse/SHAW and utilities working together to meet the following objectives:
 - Establish what needs to be done to perform and document Site-Specific ITAACs in technical space
 - Clearly establish how and what AP1000 Customers should communicate to the NRC for closure of all AP1000 ITAACs
 - Ensure that Westinghouse and its Customers have clearly defined roles and responsibilities so as to have high confidence in successfully closing all ITAAC (standard and site-specific)
- Use process developed in Phase 1 as Building Block for Guidance Developed for Phase 2 of the process.
- Issue Procedure in May of 2009.



ITAAC Process – Phase 3

- Project Team will take the Phase 2 procedure and create a project specific procedure for each Project.
- Based on APP-GW-GAP-117 but tailored for Project Specific Needs.
- Issued for Projects prior to Nuclear Safety Work onsite.



ITAAC Closure Process

Thom Ray, Jim Davis, Hamer Carter

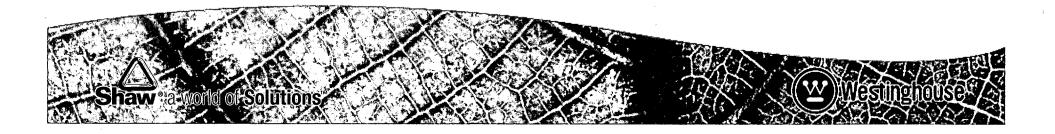
-Westinghouse/Southern/Progress

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APP-GW-GAP-117

- Requirements per 10 CFR 52.99
- Guidance Provided in NEI 08-01 (DG 1204)
- Closure Packages
- Closure Letters

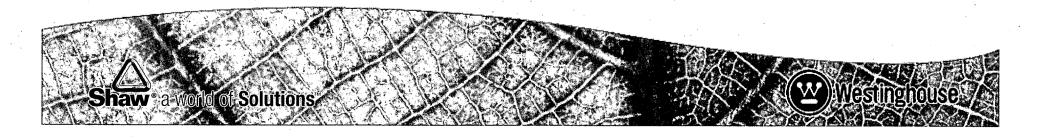


Requirements per 10 CFR 52.99

- 10CFR52.99(c)(1) Licensee shall notify the NRC that the acceptance criteria have been met.
 - Notification must contain sufficient information to demonstrate that the prescribed inspections, tests, and analyses have been performed and that the prescribed acceptance criteria have been met.

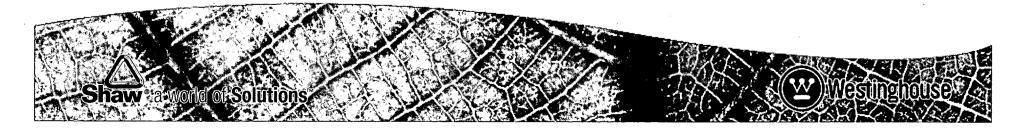
Guidance Provided in NEI 08-01 (DG 1204)

- Section 5.1 Guidance for Oversight of ITAAC closure activities and maintenance of records.
 - 5.1.1 The licensee should establish an ITAAC closure team for each site. – Part of Phase 3 makeup
 - 5.1.2 The licensee and it's vendors should establish a method for closing each ITAAC. – Phase 1 and Phase 2
 - 5.1.3 The ITAAC closure package provides the technical basis for the licensee's submittals under Section 52.99(c). Phase 2 and Phase 3.



ITAAC Closure Packages

- Format as defined in NEI 08-01 Section 5.2
 - Key Items:
 - Determination Basis
 - ITAAC-Related Construction Findings
 - PI&R Items Related to ITAAC
 - Documents referenced in the Closure Letter
- Readily retrievable for ease of later verification by team members or NRC during inspections



ITAAC Closure Letters

- Basis for the licensee's conclusion that ITAAC acceptance criteria have been met.
- Format as defined in NEI 08-01 Section 6 and examples as provided in Appendix D
 - Key Items:
 - ITAAC Determination Basis
 - ITAAC-Related Construction Findings
 - ITAAC Closure Statement
 - List of References



ITAAC Procedures Our Work with NEI on 08-01

John Oddo

Shaw a word of Solutions

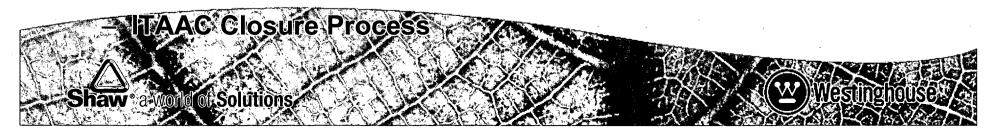


NEI 08-01 "INDUSTRY GUIDELINE FOR ITAAC CLOSURE PROCESS

- STATUS
- NRC DRAFT REGULATORY GUIDE DG-1204
- "GUIDANCE FOR ITAAC CLOSURE UNDER 10 CFR PART 52"
- (New Regulatory Guide) Issued March 2009
 - Provided for public comment
 - Endorse40s methodologies in NEI 08-01 Revision 3, January 2009

NEI 08-01 "INDUSTRY GUIDELINE FOR ITAAC CLOSURE PROCESS"

- CONTENT HIGHLIGHTS
- GENERAL DESCRIPTION OF 10 CFR PART 52 AND ITAAC
 PROCESSES
 - Role of ITAAC in Part 52 Process
 - Relationship of ITAAC to Engineering Design Verification
 Process
 - Role of Quality Assurance Program
 - Sampling Based Construction Inspection Program
 - ITAAC Performance by Licensees and Verification by NRC



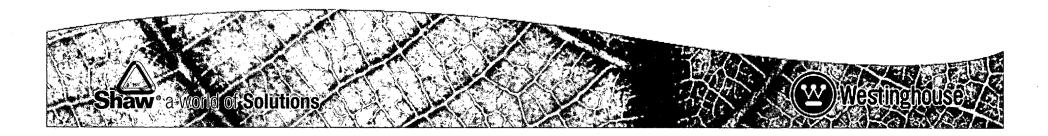
NEI 08-01 "INDUSTRY GUIDELINE FOR ITAAC CLOSURE PROCESS"

- SCHEDULE CONSIDERATIONS FOR ITAAC-RELATED ACTIVITIES AND COORDINATION TO SUPPORT NRC INSPECTION PLANNING
- LICENSEE PROCESS FOR REVIEW AND PREPARATION OF ITAAC
 CLOSURE LETTERS
- GUIDANCE FOR OVERSIGHT OF ITAAC CLOSURE ACTIVITIES AND MAINTENANCE OF RECORDS
- STANDARD FORMAT FOR ITAAC CLOSURE PACKAGES
- GUIDANCE ON SUFFICIENT INFORMATION FOR ITAAC CLOSURE LETTERS



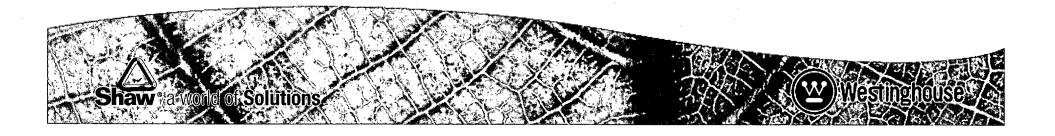
NEI 08-01 "INDUSTRY GUIDELINE FOR ITAAC CLOSURE PROCESS"

- GUIDANCE ON SUFFICIENT INFORMATION FOR 225 DAY NOTIFICATION
 OF UNCOMPLETED ITAAC
- SPECIAL TOPICS:
 - 1. MAINTAINING THE VALIDITY OF ITAAC CONCLUSIONS POST-ITAAC COMPLETION
 - 2. CRITERIA/PROCESS FOR WITHDRAWAL OR UPDATE OF SECTION 52.99 ITAAC COMPLETION NOTICES
- APPENDIX LIST OF ITAAC CLOSURE LETTER EXAMPLES
- APPENDIX EXAMPLE ITAAC CLOSURE LETTER TEMPLATE



ONGOING/FURTHER NRC INTERACTIONS

- Industry, via NEI, providing comments on DG-1204
- Industry preparing revision to NEI 08-01
 - Addressing "ITAAC Maintenance"
 - Addressing Supplement Guidance
 - Better aligning with planned revision to NEI 08-02 "Problem Identification and Resolution for Nuclear Power Plants During Construction"



Schedule for Performance and Documentation Plans

Thom Ray

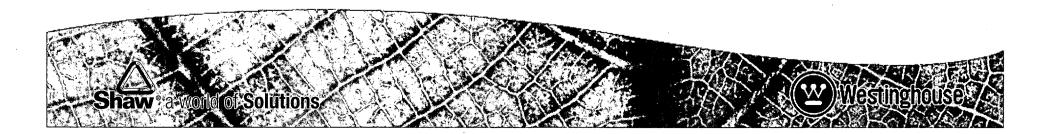
AP1000 Licensing and Customer Interface

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Schedule for Performance and Documentation Plans

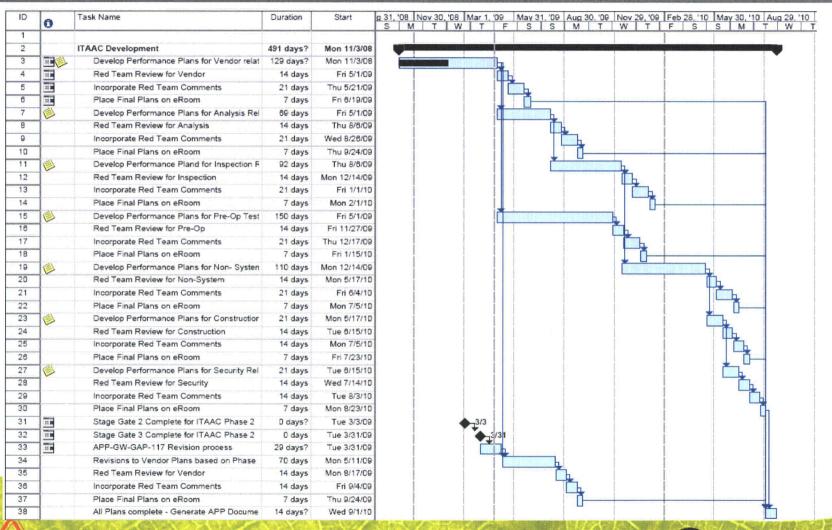
- Binned ITAACs into workable Divisions
 - Ensure that we are developing the plans for the ITAACs in the correct order
- Schedule for Performance and Documentation Plans



Binned ITAACs into workable Divisions

- ITAACs categorized in six bins to allow an easier way to determine timing
 - Analyses (117 Acceptance criteria)
 - Pre-Operational Testing (300 Acceptance criteria)
 - Inspections (230 Acceptance criteria)
 - Construction Tests (31 Acceptance criteria)
 - Security Related (17 Acceptance criteria)
 - Non-System Based e.g. Structures (111 Acceptance criteria)

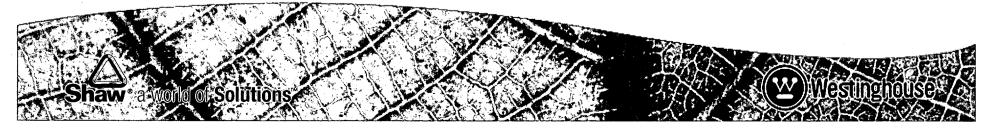
Schedule for Performance and Documentation Plans





Break Down for Each Section

- Vendor related: ITAACs starting 2009 to 2010
 - EQ Testing ITAAC
 - Charpy V-Notch
 - RCP Flywheel
 - Some ASME component related ITAACs
- Analysis: Examples Include some ADS, LBB, misc EQ, Cat II Seismic, System Specific, etc.
- Inspections: Examples include EQ walkdowns, ASME reconciliation, etc.
- Pre-Op Testing: Examples include Valve stroking, cold functional testing, etc.
- Non-System Based: Examples include Structural, HFE, Radiation Monitoring, etc.
- Construction: Hydrostatic Testing
- Security Related



Timing of ITAAC Closure Letters

Thom Ray

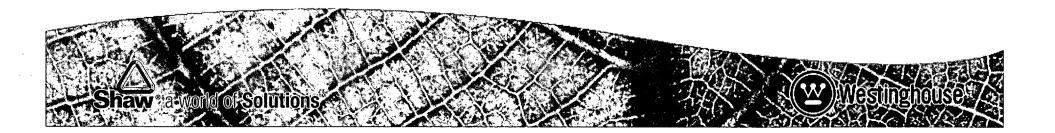
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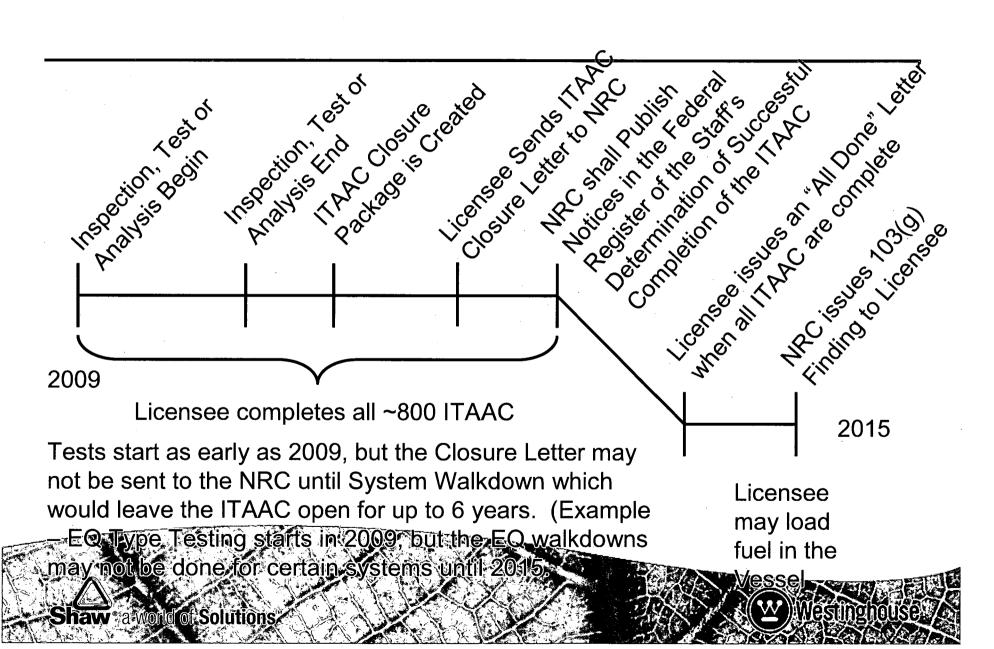


Timing of ITAAC Closure Letters

- ITAACs "Cradle to Grave"
- Example of EQ Testing "Cradle to Grave"
- ITAAC Closure Letter Timing
- Early Estimate of letters for a single site with 2 Units.



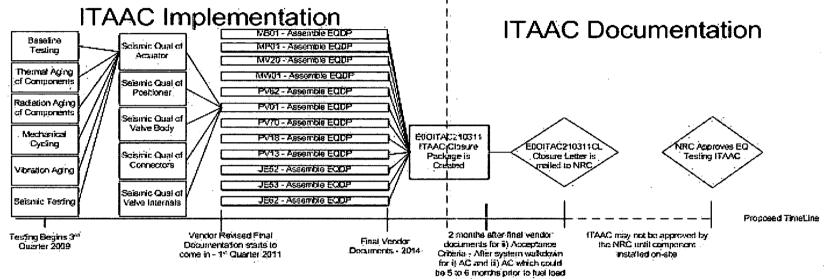
ITAACs Cradle to Grave



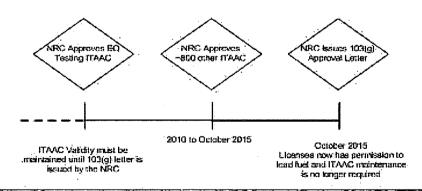
EQ Testing ITAAC Cradle to Grave

ITAAC Acceptance Criteria Wording: i) The seismic Category Lequipment identified in Table 2.1,2-1 is located on the Nuclear Island.

- ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function.
- iii) A report exists and concludes that the as-installed equipment including anchorage is seismically bounded by the tested or analyzed conditions.



ITAAC Maintenance



ITAAC Closure Letters Timing

- ITAAC Timing of 803 AP1000 ITAACs
 - 45 ITAACs related to Engineering Analysis (HFE, D-RAP, etc.) and Security
 - Earlier in the process than Construction type and Pre-Op type
 - 127 ITAACs related to components
 - ASME requirements, EQ Testing, Testing at Vendor
 - Won't be closed until component on-site or in place
 - 330 Construction Type Tests
 - 300 ITAACs that require System Walkdowns to Complete
 - 30 ITAACs that require Hydrostatic System Tests
 - 301 Pre-Operational Tests
 - Tests that start after system turnover approximately 5 to 6 months before Fuel Load
- Will require early and constant NRC review to remove end load of ITAAC Closure



Early Estimate of ITAAC Closure Letters to the NRC

ITAAC Closure Letters to the NRC

