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NRC/INPO INFO EXCHANGE MEETING

September 28, 2011

Tim Frye, Branch Chief
Division of Construction Inspection
Office of New Reactors

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- PLANNED INPO VISITS *(INPO DISCUSSION)*
  - OPERATIONAL READINESS EVALUATION VISITS, SIX TO EIGHT MONTHS PRIOR TO FUEL LOAD
  - PLANNED REVIEW VISITS TO NEW PLANT PROJECT SITES
    - WHAT IS THE FOCUS OF THESE INPO SITE VISITS (e.g., ITAAC CLOSURE, CONSTRUCTION PROGRAMS)
  - INPO BENCHMARKING TRIP TO MODULAR FABRICATION FACILITY

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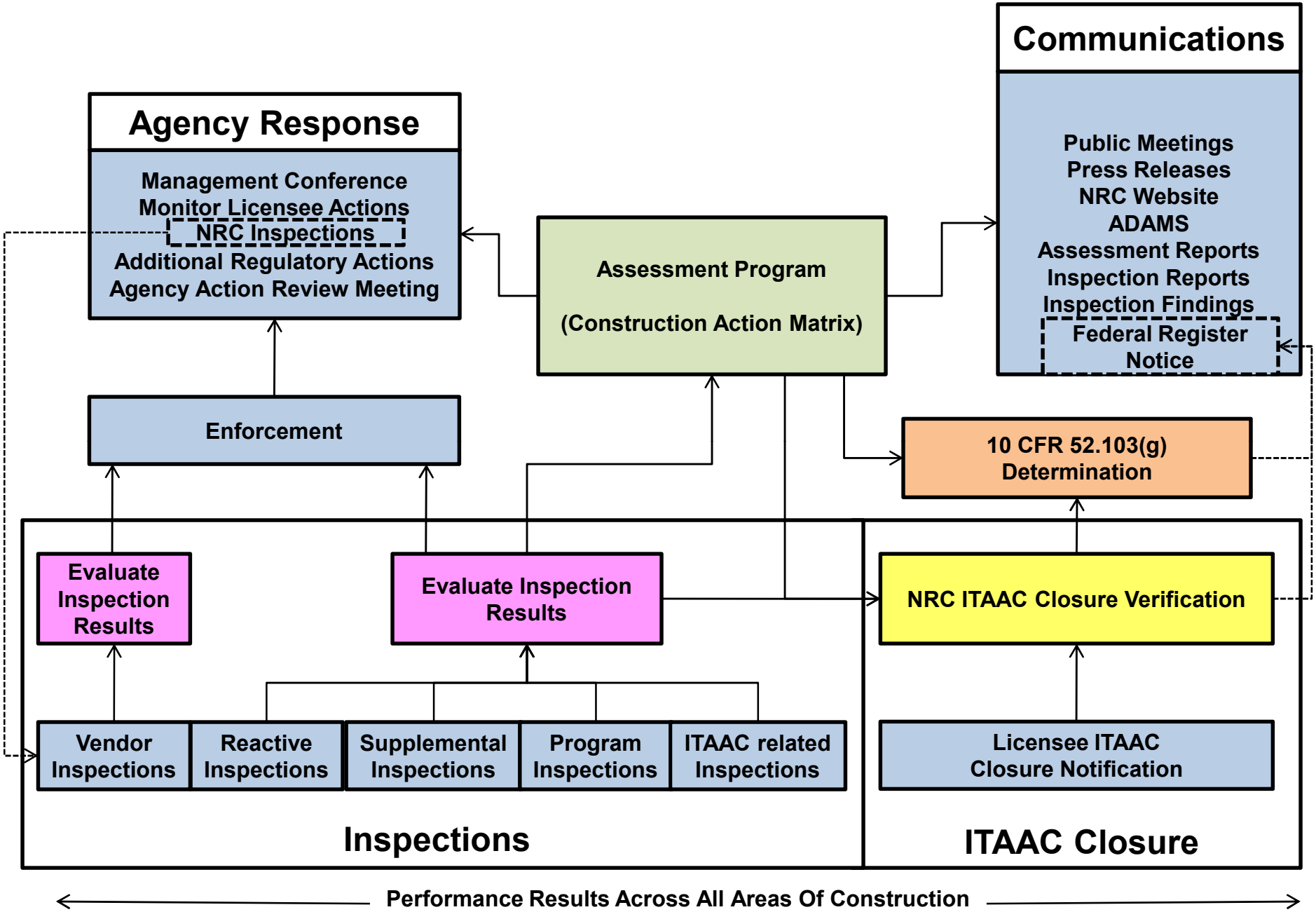
Overview of the Construction Reactor Oversight Process

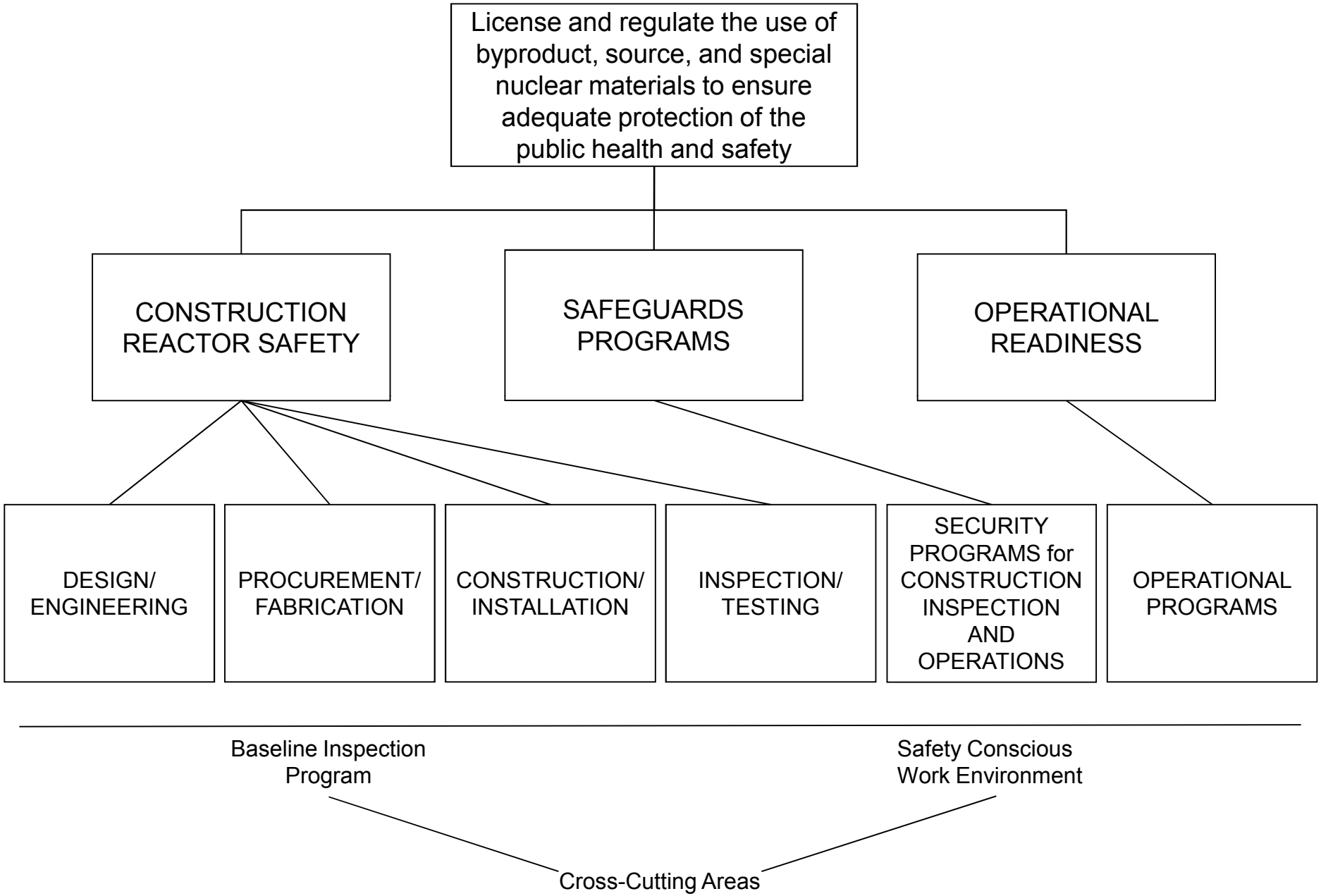
Construction Reactor Oversight Process Overview



Construction Reactor Oversight Process (cROP)

- Commission SRM SECY-10-0140 directed the staff to develop a construction assessment program that includes:
  - Regulatory Framework
  - Construction Significance Determination Process (SDP)
  - Construction Action Matrix
  - Pilot new program for 1 year
- The Pilot Program will start January 1st, 2012 and the results will be provided to the Commission in April 2013

CONSTRUCTION REACTOR OVERSIGHT PROCESS REGULATORY FRAMEWORK



Pilot Plans

- Issue pilot guidance document including evaluation and acceptance criteria by the end of the year
- Issue pilot versions of IMCs
  - IMC 0613P (Construction Inspection Reports)
  - IMC 2505P (Construction Assessment)
  - IMC 2519P (Construction SDP)
- Issue Enforcement Guidance Memorandum
- Implement pilot at Vogtle and possibly Summer on January 1, 2012
- Public Meeting to explain the pilot in March 2012

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cROP Questions/Comments

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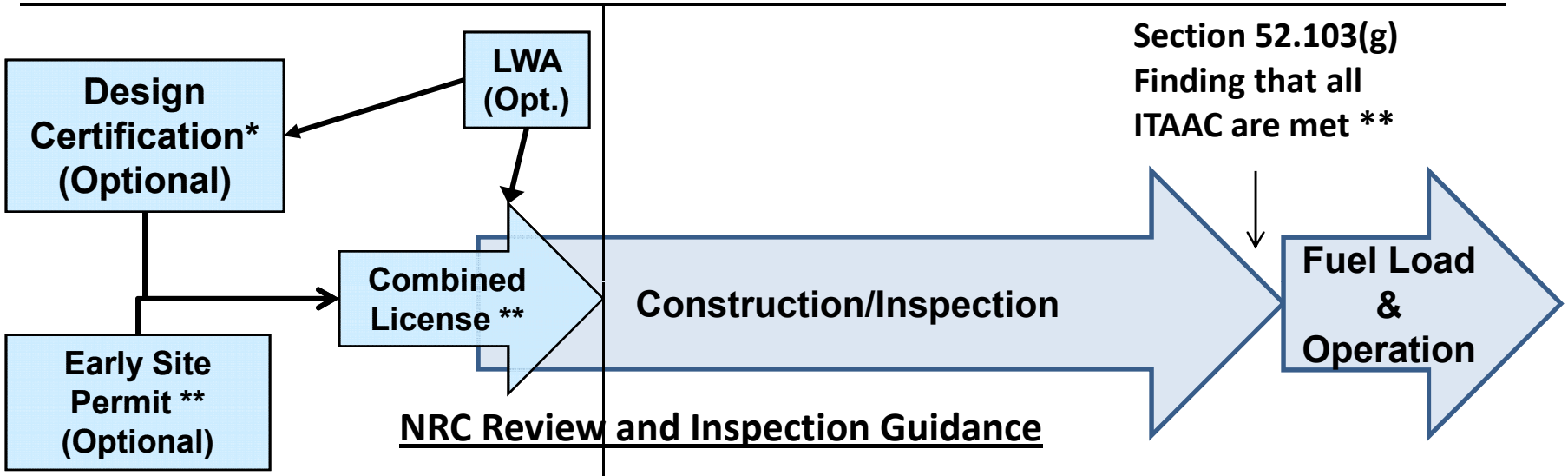
Overview of the Construction Inspection Program

Jim Beardsley
Chief, Construction Inspection Program
Division of Construction Inspection
Office of New Reactors

Part 52 Licensing and Inspection



NRC Review and Inspection Guidance

- NRC Standard Review Plan
- IMC-2501 (ESP)
- IMC-2502 (Pre-COL)
- IMC-2508 (DC)

- IMC-2503 (ITAAC)
- IMC-2504 (Construction Programs)
- IMC-2505 (Construction Assessment)

- *IMC-2507 (Vendor inspection)*

** Public Hearing Opportunity

* Public Comment Opportunity

IMC 2503 ITAAC Inspection

- ITAAC are divided into 114 possible families, only 70 are populated
- The families are organized in a matrix that are used to organize the IPs
  - Columns (6): Interdisciplinary IPs
  - Rows (19): Construction Processes & Resulting Products IPs that relate to a unique discipline

	A)As-Built Insp	B) Welding	C)Const Testing
01)Foundations & Buildings	A01	B01	C01
02)Struc Conc	A02	B02	C02
03)Piping	A03	B03	C03
04)Pipe Spt & Restraints	A04	B04	C04
05)RPV & Int'ls	A05	B05	C05
06)Mech Comp	A06	B06	C06
07)Valves	A07	B07	C07
08)Elec Comp & Systems	A08	B08	C08
09)Elec Cable	A09	B09	C09
10)I&C Comp & Systems	A10	B10	C10
11)Containment Integrity & Pen's	A11	B11	C11
12)HVAC	A12	B12	C12
13)Eqp Handle & Fuel Racks	A13	B13	C13
14)Complex Sys w/ Multi-Comp	A14	B14	C14
15)Fire Prot	A15	B15	C15
16)Engineering	A16	B16	C16

IMC 2503 ITAAC

- Within the families, the ITAAC are prioritized and ~35% are targeted (AP-1000)
  - The Inspection Program focuses on Targeted ITAAC
- Inspection Planning: (ITAAC Strategies)
  - Starts with targeted ITAAC
  - Looks at the family's Row and Column IPs
  - Consults with inspectors
  - As necessary work the HQ Technical Staff

IMC 2504 Program Inspection

- Construction Programs (6)
  - e.g. QA, ITAAC Management, Security, Pre-Operational Test Program
- Operational Programs (20)
  - e.g. Inservice Inspection, EQ, Preservice Testing, QA, Training & Requal, Maint. Rule
  - Host Region Support: HP, FP, EP & Security
- Ends with Operational Program Inspection and Readiness Assessment

CIPIMS & ITAAC Closure Verification (VOICES)

- CIPIMS will maintain status of all inspection findings.
- VOICES
  - ITAAC Closure Letters entered upon receipt
  - ITAAC Team
    - Review Letters for Quality
    - Review **CIPIMS** for related findings and compare to letter
  - Once verified, prepare FRN
  - Provide status on ITAAC Closure to the public

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CIP Questions/Comments

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- INPO MATERIALS BEING PREPARED *(INPO DISCUSSION)*
  - PO&CS FOR OPERATIONAL READINESS EVALUATIONS
  - OVERSIGHT DOCUMENT PROJECT
  - COMPUTER BASED TRAINING FOR “PRINCIPLES FOR EXCELLENCE IN NUCLEAR PROJECT CONSTRUCTION”
  - LATEST ON INPO VIEW OF CORRECTIVE ACTION PROGRAMS DURING CONSTRUCTION, NEI 08-02
  - INPO REVIEW OF SAFETY CULTURE AND SCWE DURING CONSTRUCTION

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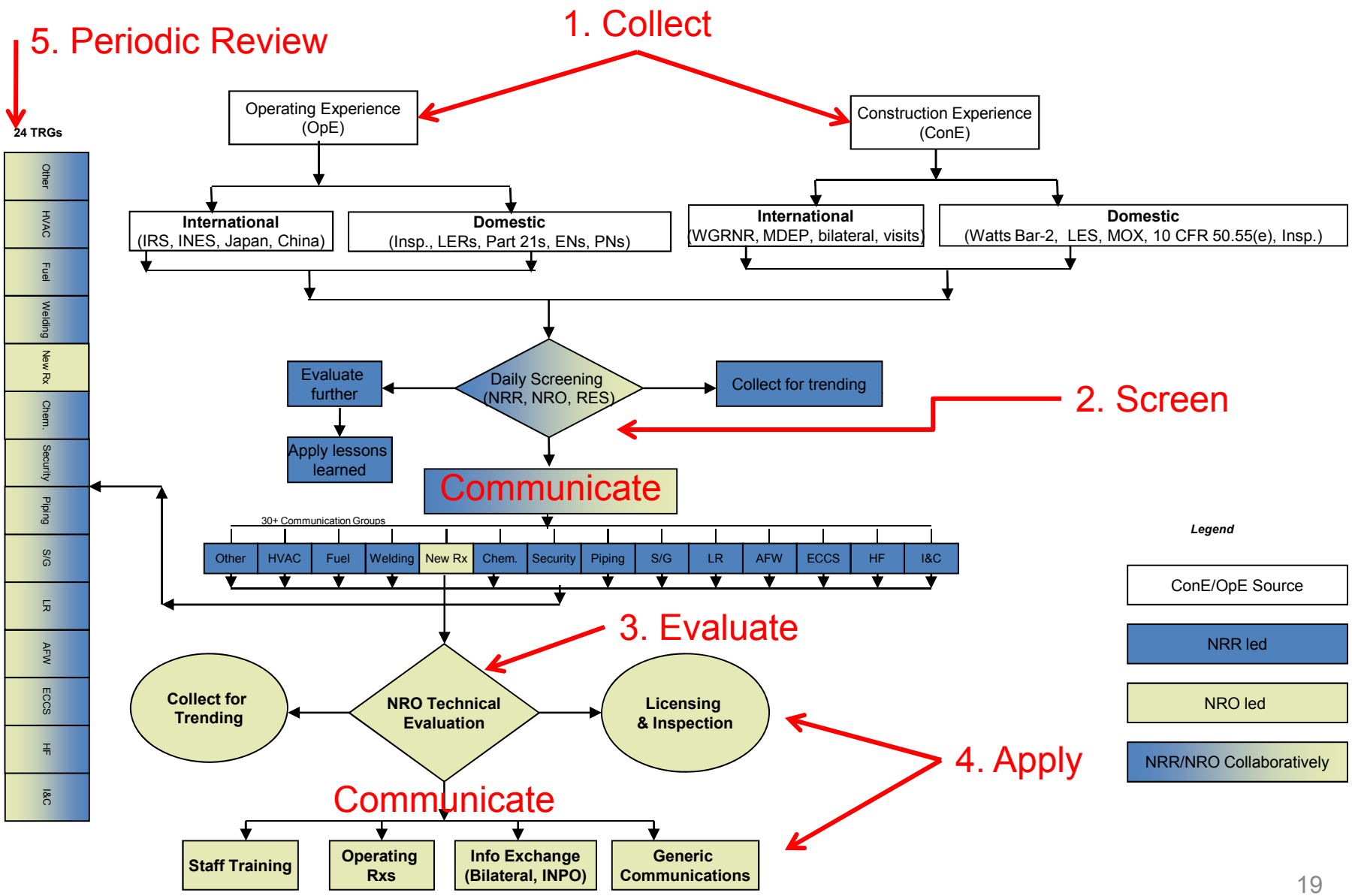
Overview of the Construction Experience (ConE) Program

ConE Program's Purpose

- Support the NRC's Mission of protecting public health and safety, and the environment by:
  - Collecting, screening, and evaluating construction and operational experience for lessons learned
  - Communicating lessons learned from construction and operating experience to NRC's inspection and licensing staff
  - Incorporating lesson learned from construction and operating experience into NRC's new reactor regulatory programs

ConE Process Flow Chart



Notable Events

- Seabrook Alkali Silica Reaction (ASR)
  - Draft IN
- Crystal River Containment Delamination
  - Cause Analysis in Process
- North Anna - Mineral Virginia Earthquake
  - AIT
- Fukushima Accident
  - Task Force Recommendations

Generic Communications

Information Notices:

- IN 2011-1: “Commercial-Grade Dedication Issues Identified During NRC Inspections
- IN 2011-5: “Tohoku-Taiheiyou-Oki Earthquake Effects On Japanese Nuclear Power Plants”
- IN 2011-17: “Calculation Methodologies For Operability Determinations Of Gas Voids in Nuclear Power Plant Piping”
- IN (Draft): “Concrete Degradation by Alkali-silica Reaction”

Regulatory Issue Summaries:

- RIS 2011-2: “Licensing Submittal Information and Design Development Activities for Small Modular Reactor Designs”

Licensing/Inspection Program Recommendations

- IP 65001.10, “Inspection of ITAAC-Related Installation of Instrument Components and Systems”
  - Revision request to enhance inspection guidance for gas- and liquid-sensing-line installation.
- IP 65001.11, “Construction Inspection Program Inspection of ITAAC-Related Containment Integrity and Containment Penetrations”
  - Revision to enhance inspection guidance for containment-liner installation.
- New ITAAC concerning the ABWR turbine building seismic design
  - Site-specific ITAAC added to the South Texas Project’s COL.
  - Related actions are planned for the ABWR design certification renewal application.

Continued Program Development

- ConE Database
  - Improvements to search capability
- Center of Excellence (CoE) for ConE/OpE Programs
  - Combined screening meetings
  - Shared screening database (ROE)
  - Joint IMC/OIs and Qualification Programs

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ConE Questions/Comments

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Capturing Counterfeit, Fraudulent, and Suspect Item Occurrences in ConE & OpE

INPO/NRC Meeting
September 28, 2011
NRO/DCIP/CQVB

COMMUNICATION:

The staff will expand on the current NRC operating experience and construction experience programs by incorporating CFSI information from appropriate sources (domestic and international) and related industry organizations that could apply to U.S. commercial nuclear facilities.

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Issue 14

The NRC does not have internal guidance or instructions explicitly addressing how the staff evaluates and shares CFSI operating experience information

(1) internally to management and affected staff and

(2) externally to licensees and vendors; other domestic, Federal, and international agencies; and stakeholders.

Planned Action No. 1

Establish quarterly meetings between the NRC and industry for the purpose of communicating each party's progress and direction, sharing best practices, and understanding and assisting with any identified barriers to success.

The focus of these meeting will include discussions of the following:

- sharing CFSI information, including issues identified during receipt inspection and during commercial-grade dedication
- using the corrective action programs and nonconformance programs for entering CFSI related to safety-related components

Planned Action No. 1 (cont'd)

- entering all CFSI (including nonsafety related) into the corrective action program
- using operating experience that has been discovered through expansion of the NRC operating experience program to capture CFSI that could affect the U.S. nuclear fleet
- alignment with ASME NQA-1 CFSI initiatives
- establish an industry CFSI database (INPO and EPRI databases in development)

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Further discussions are needed to:

- set ConE/OpE reporting thresholds
- determine credible sources of CFSI experience that could affect the U.S. nuclear fleet
- Establish ConE/OpE screening criteria for CFSI
- define the CFSI evaluation process
- define CFSI Safety significance relationships
- establish communication protocols (internal & external)
- trend CFSI occurrences and corrective actions
- establish an industry CFSI database to assist in receipt inspections

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CFSI Questions/Comments

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- INPO ACTIVITIES WITH SUPPLIER MEMBERS *(INPO DISCUSSION)*
  - INPO LOANED EMPLOYEE PROGRAM WITH SUPPLIERS
  - SUPPLIER TO VISIT INPO TO SPEAK ON SMRs
  - INPO ROLE IN PREVENTING CFSI IN THE NUCLEAR SUPPLY CHAIN

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- NEW PLANT EXECUTIVE WORKING MEETING TO BE HELD OCTOBER 6 AT INPO (NRC TO PARTICIPATE) MEMBERS *(INPO DISCUSSION)*

Questions/Comments