

BASELINE INSPECTION GUIDANCE FOR POWER REACTORS PREPARING FOR TRANSITION TO DECOMMISSIONING PHASE

2515G-01 PURPOSE

This appendix provides guidance and is not a program requirement, to the regional staff for nuclear power licensees preparing to transition from an operating power reactor to a decommissioning reactor facility. The guidance is specifically for the period that occurs prior to the transition from oversight in accordance with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program (ROP) - Operations Phase," ROP inspection program to IMC 2561, "Decommissioning Power Reactor Inspection Program."

2515G-02 BACKGROUND AND OBJECTIVES

The NRC staff developed this guidance using lessons learned from nuclear power plants that have permanently ceased operation (e.g., Vermont Yankee (VY), Kewaunee, Crystal River (CR), and San Onofre Nuclear Generating Station (SONGS)) and are now being inspected and assessed under IMC 2561. The guidance applies for the period that occurs prior to the transition of oversight from the ROP to IMC 2561, "Decommissioning Power Reactor Inspection Program." The attachments to this appendix provides recommendations on potential adjustments to the inspection activities that can be used to perform a more detailed assessment of performance in areas potentially impacted by the impending shutdown.

Attachment 1 – SUGGESTED INCREASE IN NUMBER OF INSPECTIONS PERFORMED FOR THE FOLLOWING AREAS

IP Number	Title/Section	Comments/Basis for Adjustment	Associated IMC 2561 Decommissioning Inspection Procedure
71111.04Q	Equipment Alignment/Partial	Attrition in staffing levels and reduction of craft skill. For example, at SONGS, non-licensed operators (NLO) were eliminated and the licensed operators assumed the role of the NLO outside the control room (e.g. equipment manipulations, tagouts, log keeping). Ensure licensed operators could perform their newly assumed duties that resulted from the staff reduction.	IP 60801 & IP 71801
71111.04S	Equipment Alignment/Complete	Attrition in staffing levels and reduction of craft skill.	IP 71801 Review SFP system or a SFP support system
71111.11Q	Licensed Operator Requalification	Increase the Control Room (CCR) observation, as staffing challenges may arise which may require Senior Reactor Operator (SRO)s taking Reactor Operator (RO) watches (this was the case at VY). Increase observation inside and outside the CCR as well as CCR observation during plant maneuvering or complex surveillances.	IP 41500 (Training and Qualification Effectiveness) & IP 71801
71111.15	Operability Determination and Functionality Assessments	Towards the end of the year, additional operability reviews for deferred maintenance, skipped surveillances, and degraded conditions that are accepted as-is. If engineering loses personnel and becomes short staffed, the quality of the engineering input could degrade for operability evaluations.	
71111.18	Plant Modifications	Increasing corrective maintenance backlogs Decrease in problem identification and/or resolution. <u>This can result in an increase in active temporary modifications</u>	IP 37801 Safety Reviews, Design Changes, and Modifications
71111.22	Surveillance Testing	Attrition in staffing levels and reduction of craft skill.	IP 61726 Surveillance Observation

Attachment 2 – SUGGESTED DECREASE IN NUMBER OF INSPECTIONS PERFORMED
FOR THE FOLLOWING AREAS

IP Number	Title/Section	Comments	Decommissioning Inspection Procedure as Applicable
71111.06	Internal Flood Protection Measures	Submerged cables for structures, systems and components (SSC) that will be taken out of service will not pose risk	
71111.07A	Heat Sink Performance	Consider Spent Fuel Pool (SFP) Heat Exchanger (HX) or Containment Spray HX	
71111.12	Maintenance Effectiveness	Consider 1 annual maintenance effectiveness review on an equipment issue or system important to spent fuel safety Review deferral of preventative maintenance and surveillance tests Attention to increasing corrective maintenance backlogs	IP 62801 Maintenance Rule
71111.13	Maintenance Risk Assessment & Emergent Work Control	Given the reduction or elimination of preventive maintenance work and planned work windows removing systems from service, there will be few planned maintenance work activities for which management of risk will be valuable sample. The noted flexibility takes into Account that emergent activities will continue to be a focus area.	
71111.19	Post Maintenance Testing	Number of maintenance activities will decrease	
71114.06	EP Drill Evaluation	As the staffing challenges arise ensure adequate staffing for Emergency response	

Attachment 3 – NO CHANGES IN NUMBER OF INSPECTIONS PERFORMED FOR THE FOLLOWING AREAS

IP Number	Title/Section	Comments	Decommissioning Inspection Procedure as Applicable
71111.01	Adverse Weather	Hurricane season Cold weather preparation	
71111.05A	Fire Drill		
71111.20	Refueling and Outage Activities	Verify SFP Foreign Material Exclusion (FME) controls and SFP protection	IP 60801 Spent Fuel Pool Safety at PSRs
71151	Performance Indicator Verification		
71152	Problem Identification & Resolution	Consider focus on maintenance backlog and preventive maintenance history	IP 40801, Self-Assessment, Auditing and Corrective Action for Decommissioning
71153	Event Follow up		
IMC 2515, App D	Plant Status	Focus on SSCs necessary for the safe storage of spent fuel including security, radiation protection, and emergency preparedness Periodically discuss with licensee representatives the status of decommissioning activities, problems encountered, and performance insights	IP 71801 Decommissioning Performance and Status Review

Attachment 4 - BASELINE INSPECTION PROGRAM TEAM INSPECTIONS:

In addition to the inspection procedures that Resident inspectors complete, baseline inspections continue to be conducted by the regional inspectors such as engineering, radiation protection, emergency preparedness, operator licensing, and security with focus including but not limited to the following:

- Samples of licensee evaluation and response to License Amendments, Generic Letters, Bulletins and Information Notices after shutdown announcement
- Potential degradation to radiological controls including increase in dose and area of contamination on site
- Evaluation of In Service Inspection deferrals
- Security IPs remain as scheduled until all spent nuclear fuel (SNF) is removed.
- Availability of emergency facilities, staffing and operability of emergency sirens
- For Component Design Basis Inspection (CDBI), IP 71111.21, "Component Design Bases Inspection," if the target date for the permanent shutdown is more than 3 years in the future, the next CDBI should occur as normally scheduled within the current triennial period (sample examples: standby fuel pool cooling system (pump, pump motor and heat exchanger), normal fuel pool cooling system isolation valve, review of corrective action for NRC Information Notice (IN) 2009-26 – Degraded Neutron Absorber in the Spent Fuel Pool, NRC IN 2011-03 – Non-conservative Criticality Safety Analyses for Fuel). If the target date for the permanent shutdown is less than 3 years in the future, the Region (in consultation with NRR/DIRS) should consider either cancelling the inspection or combining the CDBI with evaluations of changes, tests or experiments and permanent plant modifications (IP 71111.17T, "Evaluations of Changes, Tests and Experiments and Permanent Plant Modifications"). Combining the inspections allows flexibility for sample selection to the inspectors for covering CDBI and Plant Modifications.
- A Biennial Problem Identification and Resolution (PI&R) Inspection, if it falls in the last year of the shutdown cycle, the region can consider reduced scope of the inspection. A decreasing trend for identifying issues and correcting them in a timely manner may be evaluated by the resident inspectors routinely.
- Consideration should be given to other baseline team inspections performed on a biennial and triennial basis for performance/scope increase or decrease as mentioned in the above CDBI and PI&R discussions.

IP Number	Title/Section	Last year	Total Inspection Hours	Decommissioning Inspection Procedure as Applicable
71114.01-.04	Exercise Eval Emergency Action Level (EAL) Emergency Preparedness (EP) changes	Continue as scheduled until certification of permanent removal of fuel	IAW IP	IP 88XXX Emergency Preparedness
71130.0X	Security Baseline Inspection	Continue as scheduled until certification of permanent removal of fuel	IAW IP	IP 81200, Security
71124.0X	Radiation Protection (RP) Inspections	Continue as scheduled until certification of permanent removal of fuel	IAW IP	IPs 83750, 84750, 86750 may be used as additional guidance during transition
71152B	Problem Identification and Resolution, Biennial Inspection	Recommend Reduced Scope	212-228 hours	
71111.17T	Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications	Recommend increased sample size due to increase number of temporary modifications	172-212 hours (Maximize)	IP 37001 (Facility Modifications), IP 37700 (Design Changes and Modifications)
71111.21	Component Design Basis Inspection	Not Recommended or combine with Plant Modification	408 hours (+/- 15%)	
71111.05T	Triennial Fire Protection Inspection	Adjust schedule and scope based on licensee's schedule of decommissioning activities	IAW IP	IP 64704 (Fire Protection Program)
71111.08	In-Service Inspection	Not Recommended	30-42 for Boiling Water Reactor (BWR) 80-100 for Pressurized Water Reactor (PWR)	
71111.11	Operations Training	Recommend in the 1 st two Quarters (QTR)s to ensure adequate staffing and training	96 hours	
71130.11	Material Control and Accountability Inspection	If it is in the last year of the transition cycle use the guidance of IP 85102 from IMC 2561	IAW IP	IP 85102 (Material Control and Accounting – Reactors) as part of IMC 2561

END

Attachment 5

Revision History for IMC 2515 Appendix G

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment and Feedback Resolution Accession Number (Pre-Decisional, Non-Public)
	ML15183A264 02/01/16 CN 16-004	Initial issuance. Researched commitments for four years and found none. Created to provide guidance to the regional staff for nuclear power licensees preparing to transition from an operating power reactor to a decommissioning reactor facility		ML15188A020