Information Use

NUCLEAR OPERATING FLEET

ADMINISTRATIVE PROCEDURE

AD-WC-ALL-0320

OUTAGE PREPARATION MILESTONES

REVISION 7

Effective Dates:

07/20/2023 Brunswick	07/20/2023 Catawba	07/20/2023 Harris (HNP)	07/20/2023 McGuire	07/20/2023 Oconee
07/20/2023 Robinson	07/20/2023 NGO			

REVISION SUMMARY

PRR 02408508
DESCRIPTION

- Throughout: Minor editorial fixes (e.g., typos, step wording/formatting, acronym usage).
- Throughout: Replaced "FOM" with "Outage CFAM".
- Section 5.1 Table 1: Updated and reformatted/re-ordered table to align with changes made to Attachment 2.
- Section 5.1 Step 4 (old): Deleted step for the Outage CFAM group (FOM) developing spreadsheets that may be used by the sites to status milestones for each outage.
- Section 5.2 Step 1, Section 5.2 Step 2: Revised to reflect that OM will no longer generate NTMs for milestones. SPACE is utilized for milestone generation and tracking.
- Section 5.2 Step 3, Step 9.d (old): Updated/clarified criteria for green, yellow and red Milestone status colors. **(PRR 02432867)**
- Section 5.2 Step 7 (old): Deleted guidance for Milestone kickoff meetings.
- Section 5.2 Step 8.a bullet 1 (new) Added reference to guidance for milestone recovery plans. **(PRR 02432867)**
- Section 5.2 Step 9.a, Step 9.d(1) (new), Step 10.f (old), Step 9.g: Updated Recovery Plan guidance to direct users to the Fleet Outage Management SharePoint for the appropriate template. Added requirement that Recovery plans shall be monitored by the ORB to ensure the recovery plan is on track. **(PRR 02432867)**
- Section 5.2 Step 10.a: Updated to reference obtaining milestone closure documentation for the respective milestone from the Fleet Outage Management SharePoint and removed reference to NTMs.
- Section 5.2 Step 13 (new), Step 14 (new): Revised/reformatted guidance for processing Milestone exceptions.
- Section 5.3 Step 7.b: Clarified that the progress trend line endpoint before the milestone closure, but no later than the milestone closure date.
- Section 7.3: Deleted entry for ENHN 01421267, Catawba Management Observation Report. Added entry for CORR 02408835 42, Unit 2 Reactor Trip on 12-10-2021.
- Attachment 1(throughout): Revised attachment to address **PRRs 02408508, 02410891, 02429109, 02436649, 02439734, 02445871,** and **02456042**.
- Attachment 2 (throughout): Revised attachment to address **PRRs 02408508, 02410891, 02429109, 02436649, 02439734, 02445871, 02456042** and **02467990**.
- Attachment 3: Deleted entries for Milestone S-3, Vendor Performance Feedback Fall Season, and Milestone S-4 Vendor Performance Feedback Spring Season.
- Attachment 4: Updated Deliverable Dates for Milestone S-1. Deleted pages for S-3 and S-4 Milestones.

TABLE OF CONTENTS

1.0 PURPOSE

1. To provide the process used to prepare the Duke Energy nuclear sites to execute safe, effective and predictable refueling outages that meet the outage goals. {7.1.3}

2.0 SCOPE

1. This procedure applies to each operating Duke Energy nuclear site and to site personnel for activities that directly or indirectly impact preparation and execution of plant refueling outages.

3.0 DEFINITIONS

1. **Milestone:** An important event which summarizes the start or finish of several related activities or decisions. Milestones represent the basic structure or backbone of the outage preparation process and their opening and closing dates are normally described in terms of months prior to outage start (i.e., "T-15 to T-12" opens 15 months and closes 12 months prior to outage start)

2. **Significant ECs:** Engineering Changes (ECs) that are likely to impact the critical path and represent a challenge to the allocation. Significant ECs require an expedited approval date.

3. **Waypoint:** Intermediate milestone step(s) with specific deliverable(s) between the milestone opening and closing dates.

4.0 RESPONSIBILITIES

4.1 Milestone Owner

1. Ensures appropriate individuals and groups are aware of assigned expectations and deliverables needed to ensure successful completion of the milestone and that they are held appropriately accountable for the results.

2. During the span of the milestone window, monitors the progress towards milestone completion and provides an accurate status to the site OM and the Outage Review Board (ORB).

4.2 Outage Manager (OM)

1. Ensures that the milestones are met with integrity (i.e., meet the intent as well as the stated requirements).

4.3 Corporate Function Area Manager (CFAM)

1. Provides oversight of the process at the sites for their functional areas and provides validation of proper closure for specified Milestones to ensure the site meets requirements.

4.4 Outage Corporate Function Area Manager (CFAM)

1. Provides any additional clarification needed to ensure milestone compliance. All clarifications will be considered for inclusion in a future revision.

5.0 INSTRUCTIONS

5.1 General Information

1. There are three types of milestones addressed by this procedure:
   - Pre-outage Milestones
   - Post-outage Milestones
   - Fleet Seasonal Outage Milestones
2. The Milestone Owner Abbreviation Key is listed in Table 1, Milestone Owner Abbreviation Key

Table 1, Milestone Owner Abbreviation Key

Owner	Title	Owner	Title
DED	Design Engineering Department	NSS	Nuclear Support Services Manager
ENG	Engineering	WM	On-Line Work Management
H&S	Health and Safety Representative	CORE	Core Departments: • Operations • Maintenance • Engineering • Outage Management • Station Sciences • Nuclear Projects
IPS	In-Processing (KM)	OCFM	Outage CFAM
MNT	Maintenance	OWG	Outage Working Group
NSS	Nuclear Procedures Supervisor	PMC	Preventative Maintenance Coordinator
NSC	Nuclear Supply Chain	TRG	Training
NSF	Nuclear Site Finance	ORB	Outage Review Board
OLS	On-Line Superintendent	OPS	Operations
OM	Outage Manager	ALL	All departments
PM	Plant Manager	NP	Nuclear Projects
SORM	Site Outage Resource Manager	NPS	Nuclear Station Sciences

5.1 General Information (continued)

3. Perform the outage preparation milestones using the following attachments for guidance:

   - Attachment 1, Outage Preparation Milestone Summary and Windows
   - Attachment 2, Outage Preparation Milestone Descriptions
   - Attachment 3, Fleet Seasonal Outage Milestone Summary and Windows
   - Attachment 4, Fleet Seasonal Outage Milestone Descriptions

5.2 Milestone Management

1. Milestone management shall be conducted with formal action tracking.

2. Site Outage Management shall monitor milestone tracking assignments for closure documentation and quality in Nuclear SPaCE.

3. Milestone status shall be documented by the color of the milestone. The color definitions are as follows:

   - **WHITE** – The milestone is not yet active/open.
   - **GREEN** - The milestone is met or on schedule to be met, the associated PI burndown curve is on track (within 10% of trend line) and, if applicable, Milestone Recovery Plan(s) to correct previously identified off target deliverables or waypoints are complete and have been evaluated as effective.
   - **YELLOW** – Milestone completion by the closure date is in jeopardy based on Performance Indicator being more than 10% off the trend line from the expected trend line (as applicable), waypoints missed, or based on the judgment of the Milestone Owner or the site OM.
   - **RED** – The milestone is not or will not be met.
     - ◊ Milestones with post closure monitoring where the threshold established for monitoring has been exceeded shall be declared red.

4. Declaring a milestone in jeopardy is a positive behavior that ensures that the site is focused on the increased effort and oversight to ensure that milestones are met.

5.2 Milestone Management (continued)

5. Some milestones contain waypoints that have specific deliverables associated with the waypoint. Missing a waypoint should result in the milestone being statused as:

   - Yellow if the deliverables can be recovered by the milestone closure date.
   - Red if the deliverables cannot be recovered by the milestone closure date.
   - In either case, a Milestone Recovery Plan is required.

6. Performance Indicators, to monitor milestone progress, are listed in the Performance Indicators section of the milestone.

7. During the active phase of the milestone (i.e., between open and close), the Milestone Owner is responsible for the following:

   - Monitoring the progress of the milestone, providing periodic status to the site OM and ORB, and for providing an accurate color coded status.
   - Ensuring that the PIs are updated regularly.
   - For those milestones that do not have performance indicator curves to monitor progress, periodically verify progress using other means to ensure that satisfactory progress is being made.
   - Ensuring that the milestone is properly statused.

8. Yellow or Red milestones requirements:

   a. The Milestone Owner shall develop a Milestone Recovery Plan for Yellow or Red milestones.

      - Guidance for milestone recovery plans can be found in Section 5.2 Step 9.

   b. The site OM shall notify the Outage CFAM of any Yellow or Red milestones.

   c. Prior to a milestone status turning Red, consideration shall be given to removing the work that resulted in the milestone being missed (if due to specific and discreet scope). This consideration should account for criteria such as cost, impact on future outages, consequences to other outage milestones, and the probability of successful recovery.

5.2 Milestone Management (continued)

9. Milestone Recovery Plans:

   a. Milestone Recovery Plans shall be developed using the template stored on the Fleet Outage Management SharePoint.

   b. Red and Yellow milestones require an active recovery plan to be in effect until the conditions to complete the milestone are fully met with downstream milestones not/no longer impacted.

   c. Recovery plans must address the impact on successor milestones. All impacted downstream milestones shall have recovery dates listed in the recovery plan.

   d. Recovery plans shall be reviewed and approved by the site OM and the Plant Manager.

      (1) Recovery plans shall be monitored by the ORB to ensure the recovery plan is on track.

   e. Recovery plans should be developed and approved in a timely manner to ensure recovery time is not lost.

   f. Based on site OM judgment that the impact on downstream milestones does not significantly impact schedule development and readiness prep efforts, the Plant Manager may approve maintaining the downstream milestones as Green (i.e., cascading is not required).

   g. Recovery milestones shall be tracked and statused in the same manner as the original milestones.

   h. The site OM may approve minor changes to a recovery plan.

   i. Changes to any due dates in a recovery plan shall be approved by the site OM and the Plant Manager and shall be documented in the plan by striking through the previous due date and listing the new date.

5.2 Milestone Management (continued)

10. Prior to the milestone closure date, the Milestone Owner shall perform the following:

    a. Document milestone closure status in SPaCE with sufficient detail for all required deliverables, expectations, exceptions, exceptions approval method and the process for monitoring the exceptions (e.g., via Milestone Recovery Plan).

    b. Ensure the site OM reviews and approves the milestone closure status with focus on the validity and documentation for exceptions, to ensure the status is valid.

    c. If any Milestone closure is not met, then document the reason for the exception, the owner, and the expected closure date.

    - Budgetary requirements are **NOT** to be used as a reason for a Milestone exception.

    - The Outage Manager ensures all exceptions to Milestone closure are valid.

    d. Any Milestone closed with exceptions shall have a Yellow status and remain Yellow until **ALL** exceptions are completed.

    - Upon completion of **ALL** Milestone exceptions, the Milestone can return to a Green status.

    e. Off-track Milestone exceptions shall result in the Milestone being classified as missed **AND** shall have a Red status.

    - Any Milestone that has a Red status as a result of an off-track Milestone exception will remain in a Red status until **ALL** exceptions are completed **AND** shall not be closed to a Green status.

11. If the site OM determines that a milestone was not closed accurately and the inaccurate status was reasonably avoidable, the milestone shall be retroactively statused as red.

12. A retroactive challenge to a milestone, such as a late identified Engineering Change (EC), requires an active Milestone Recovery Plan that minimizes the impact to downstream milestones to the extent possible.

13. Milestone exceptions are only allowed and described in the Milestone Closure Requirements of each respective milestone.

14. Items that meet milestone exceptions shall be documented as follows:

    a. A Milestone Recovery Plan shall be developed and approved.

    b. The Outage CFAM shall be notified of every approved exception.

    c. The associated outage milestone tracking in SPaCE, and the associated Milestone Recovery Plan, shall be updated to document the exception.

    d. A total number of exceptions shall be tracked by the ORB.

5.3 Pre-Outage Performance Indicators

1. The pre-outage performance indicators (PIs) are designed to focus management attention on the pace of progress on meeting pre-outage milestones and pre-outage preparation.

2. The description for each milestone indicates whether a performance indicator is required.

3. The performance indicator template on the Fleet Outage Management SharePoint site shall be used to develop the PIs.

4. The owner of the associated milestone shall ensure that the PIs are updated regularly.

5. Outage Management shall ensure that the PIs are maintained current and are available from the Fleet Outage Management SharePoint site.

6. PIs shall be reviewed periodically (at least monthly) by the ORB. This review may be on exception only basis (a review of indicators that are off target or on a negative trend).

7. PIs that measure the progress towards meeting a milestone should conform to the following guidance:

    a. PIs should be configured for a decreasing trend (i.e., burn down curves). These will typically extend beyond the milestone to T-0 to monitor milestone deviation or closure of exceptions.

    b. PIs should include an expected progress trend line with an endpoint before the milestone closure, but no later than the milestone closure date that shall be used as criteria for determining whether that the milestone is in jeopardy (in a yellow status).

    c. Trend lines may be revised with ORB approval.

5.3 Pre-Outage Performance Indicators (continued)

d. Outage Managers may develop burn-down curves that have the milestone met before the milestone due date if this is required for successful outage preparation for the upcoming outage or to close a milestone for a future outage prior to starting the next outage.

8. PIs that measure the scope of deviation from a milestone should conform the following guidance:

a. PIs should be configured for an increasing trend with an endpoint at T-0.

b. PIs shall be statused (Green, Yellow, or Red) based on a common fleet criteria.

c. In these cases, a non-Green status should be addressed as follows:

(1) Do **NOT** retroactively re-status the associated milestone (the color reflects the status of the PI and not the milestone).

(2) An NTM shall be written.

(3) A Milestone Recovery Plan should be considered.

(4) An analysis of the associated data should be performed to determine if actions can be taken to mitigate the negative data trend impacts (for the upcoming outage and for future outages) on schedule development and readiness preps.

5.4 Fleet Seasonal Outage Milestones

1. Certain processes (i.e., business planning and supplemental personnel in-processing) require fleet level milestones with deliverables to support the integrated needs of all of the outages in a season (i.e., spring and fall).

2. Prior to each outage season (i.e., spring and fall), the Maintenance CFAM shall initiate a NTM for tracking of the Fleet Seasonal Outage Milestones and the associated Milestone Recovery Plan(s) (as needed).

3. Prior to Fleet Seasonal Outage Milestone start, the Maintenance CFAM shall initiate a NTM assignment to document the milestone closure status.

6.0 RECORDS

No records are generated by this procedure.

7.0 REFERENCES

7.1 Commitments

1. CAPR 00074875-17 and 37, Elevated RCS Sulfate Concentration
2. CAPR 00194873-05, Implement a Process to Ensure Adequate Resource Loading
3. CAPR 00217270-04-04, RNP NAS Pre-Outage Assessment Issue #1 R-OM-06-01-11
4. CAPR 00279704-18, On-line PM and Surveillances due during outages
5. CAPR 0181299-04, SA # 176004-B116R1 Pre-Outage Readiness S/A
6. SOER 01-1, Unplanned Radiation Exposures, Recommendation 2
7. SOER 09-1, Shutdown Safety, Recommendations 7 and 8

7.2 Procedures

1. AD-LS-ALL-0015, License Amendment Request and Changes to SLC, TRM, and TS Bases
2. AD-RP-ALL-2007, Radiation Protection Outage Readiness
3. AD-WC-ALL-0290, Quality Critical Maintenance Identification and Oversight
4. AD-WC-ALL-0300, Outage Management
5. AD-WC-ALL-0410, Work Activity Integrated Risk Management
6. AD-WC-ALL-0430, Outage Risk Review

7.3 Miscellaneous Documents

1. CORR 02408835 42, Unit 2 Reactor Trip on 12-10-2021

<< Outage Preparation Milestone Summary and Windows >>

No.	Milestone Description	Window (24 Month)	Window (18 month)	Milestone Owner
M-1	Identify Engineering Changes (Design & Nuclear Projects)	T-36 to T-18	T-36 to T-18	Design Engineering Director
M-2	Identify and Submit Required Licensing Actions	T-24 to T-14	T-24 to T-14	Nuclear Support Services Manager
M-3	Propose, Review and Prioritize Outage Scope	T-18 to T-12	T-16 to T-10	Engineering General Manager
M-4	Approve Engineering Changes (ECs)	T-18 to T-8	T-15 to T-8	Design Engineering Director
M-6	Determine Preliminary Cost Estimate	T-15 to T-12	T-13 to T-10	Nuclear Station Finance Manager
M-7	Determine Preliminary Dose Estimate	T-15 to T-12	T-13 to T-10	Radiation Protection Manager
M-8	Approve Outage Scope and Initiate Scope Control	T-14 to T-10	T-13 to T-9	Plant Manager
M-9	Update Models and Generate PM Work Orders	T-12 to T-10	T-11 to T-9	Maintenance Manager
M-10	Develop and Issue Rev. 'A' Schedule (Shell & Outage Scope Plan)	T-18 to T-10	T-17 to T-9	Outage Manager
M-11	Identify Contingency Work Orders	T-12 to T-7	T-11 to T-6	Maintenance Manager
M-12	Identify On-line Work for Bundling and Move	T-12 to T-6	T-11 to T-5	Maintenance Manager
M-13	Complete Outage Work Order Planning	T-12 to T-6	T-11 to T-6	Maintenance Manager
M-14	Order and Track Outage Parts and Materials	T-14 to T-0	T-13 to T-0	Nuclear Supply Chain Manager
M-15	Submit and Approve Contract Requisitions	T-12 to T-5	T-9 to T-4	Maintenance Manager
M-16	Identify Supplemental and Shared Resources	T-12 to T-1	T-10 to T-1	Maintenance Manager
M-17	Schedule Pre/Post-Outage Work Orders	T-10 to T-5	T-9 to T-5	Maintenance Manager
M-18	Develop and Issue Rev. ‘B’ Schedule (Logic-Tied)	T-10 to T-5	T-9 to T-5	Outage Manager
M-19	Identify Need for Document and Procedure Revisions	T-10 to T-0.5	T-10 to T-0.5	Nuclear Procedures Supervisor
M-20	Award Contracts	T-10 to T-3	T-9 to T-2	Nuclear Supply Chain Manager
M-21	Identify Site, Supplemental, and Shared Resource Training Needs	T-10 to T-1.5	T-7 to T-1.5	Maintenance Manager

<< Outage Preparation Milestone Summary and Windows >>

No.	Milestone Description	Window (24 Month)	Window (18 month)	Milestone Owner
M-22	Develop Outage Clearances	T-10 to T-0.5	T-9 to T-0.5	Operations Manager
M-23	Perform Work Readiness Reviews	T-8 to T-1	T-8 to T-1	Maintenance Manager
M-24	Identify and Approve TSRs and RWPs	T-8 to T-1	T-8 to T-1	Radiation Protection Manager
M-25	Perform Site Outage Readiness Process	T-8 to T-1	T-8 to T-1	Plant Manager
M-26	Perform Site Outage Safety Preparations	T-8 to T-0	T-8 to T-0	Maintenance Manager
M-27	Outage Execution Organization Assigned	T-6 to T-5	T-6 to T-5	Plant Manager
M-28	Develop Contingency and Risk Plans	T-6 to T-1	T-6 to T-1	Plant Manager
M-29	Plan/Schedule Supplemental and Shared Resource Training	T-6 to T-1	T-6 to T-1	In-Processing / Training Manager
M-30	Deleted (pertinent content transferred to M-14 Milestone)			
M-31	Perform Horizontal and Vertical Schedule Reviews	T-5 to T-2	T-5 to T-2	Outage Manager
M-32	Develop and Issue Rev. '0' Schedule (Resource Leveled)	T-5 to T-2	T-5 to T-2	Outage Manager
M-33	Perform Pre-Outage Work	T-6 to T-0	T-6 to T-0	Maintenance Manager
M-34	Validate Budget	T-4 to T-1	T-4 to T-1	Plant Manager
M-35	Operations Shift Review of Rev. '0' Schedule (Resource Leveled)	T-3 to T-0.5	T-3 to T-0.5	Operations Manager
M-36	Perform and Approve Independent Shutdown Risk Review	T-3 to T-0.5	T-3 to T-0.5	Operations Manager
M-37	Develop and Issue Final Schedule	T-3 to T-0.5	T-3 to T-0.5	Outage Manager
OUTAGE WINDOW		**T-0 to T-end**		
M-38	Complete Outage and Post-Outage Work Orders	T-end to T+2	T-end to T+2	Maintenance Manager

<< Outage Preparation Milestone Descriptions >>

Number: M-1
Description: Identify Engineering Changes (Design & Nuclear Projects)
Window: T-36 to T-18
Owner: Design Engineering Director (DED)

Expectations and Deliverables:

By T-30	DED	[W] - Provide the site OM a preliminary list of ECs, including those being performed by Nuclear Projects (NP), to be performed in the outage.
By T-24	DED	[W] - Provide sufficient information for each EC listed to the site OM for an evaluation of the site's ability to implement it within the approved budgetary and duration allocations.
By T-24	DED, NP	[W] - Initiate required funding requests for each EC listed to ensure adequate funds are approved to start EC development. [W] - Investments shall be updated inside the budget software with the outage designator in the fiscal year the outage occurs.
By T-18	DED-	[M] - Provide the site OM a final list of ECs to be performed in the outage with approval and planning completion dates and notify the site OM of any subsequent changes.
	OM-	[M] - Designate the ECs that are likely to impact the critical path and represent a challenge to the allocation as significant ECs, which require an expedited T-10 approval date per Milestone M-4.
	OM-	[M] - Notify the FOM of any challenges or gaps to the approved allocation and site plans to resolve the gaps or intent to request Supplemental Outage Duration Allocation (SODA). Any gap identified shall be documented in the Scheduling, Planning, and Cost Estimation (SPaCE) software to document the challenge.
	DED, NP	[W] - Validate funding approval for ECs to be performed in the outage. For ECs with funding not approved, obtain ORB approval to allow EC approval past the M-4 (T-8) approval date with an approved recovery plan (T-10 for Significant ECs) or obtain ORB approval for the EC to be deleted from the outage EC scope.

<< Outage Preparation Milestone Descriptions >>

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- A list of all ECs approved for the outage has been provided to the site OM and documented in the milestone closure documentation.
- The Outage CFAM has been notified of any challenges or gaps to the approved allocation and of site plans to resolve the gaps or intent to request SODA.
- Projects requiring SODA days have been identified to perform industry benchmarking and benchmarking assignments have been created with due dates that support M-8 Milestone dates.

Performance Indicators:

Engineering Change Scope Change reported from M-1 closure to outage start.

Logic:

- T-30 – Allows 6 months from milestone open for a preliminary EC list to be developed.
- T-24 – Allows 6 months for the site to estimate the ability to perform the selected ECs within the current approved allocation.
- T-18 – Allows 6 months for the site to approve a final list of changes, determine if the changes can be performed within the approved allocation, and determine if the site must request SODA.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

<< Outage Preparation Milestone Descriptions >>

Comments:

- The ECs selected are expected to be completed within the approved allocation. If extra duration is anticipated, the Outage CFAM shall be notified and a SODA request initiated as early as possible.
- The site OM should maintain an updated list of all ECs on the site Outage Management SharePoint site.
- Projects that require SODA requests must be benchmarked, by the project owner, in the industry to ensure that the SODA requested is consistent with best industry durations for the project. Alignment to the benchmark should be obtained at the site ORB.
- The following are approved exceptions:
  - ◊ ECs identified during the planning of other work (e.g., a need to cut out and replace a small bore valve) are considered unavoidable and are not processed as exceptions to this milestone, but, instead are to be processed as scope additions.
  - ◊ Scope that is identified late due to external or uncontrollable factors (emerging regulatory requirements, extent of condition issues from a recently completed outage in the fleet or industry).
  - ◊ Scope that does not meet the above criteria but represents a high priority for the site and can meet the M-4 Approve Engineering Changes (ECs) milestone.
  - ◊ The Milestone Recovery Plan for an EC exempted based on being identified late due to external or uncontrollable factors can establish recovery dates for downstream milestones up to but not including M 13, Complete Outage Work Order Planning, without affecting the status of the impacted downstream milestones. The impact on the status of M 13, Complete Outage Work Order Planning and all downstream milestone shall be determined based on site OM judgment that the impact on downstream milestones does or does not significantly impact schedule development and readiness prep efforts.

Note 1:

- T#s in "()" are 18-month core.
- [W] = Waypoint Milestone Deliverable
- [M] = Main Milestone Deliverable

<< Outage Preparation Milestone Descriptions >>

Number: M-2
Description: Identify and Submit Required Licensing Actions
Window: T-24 to T-14
Owner: Nuclear Support Services Manager (NSS)

Expectations and Deliverables:

At T-24	NSS-	Notify appropriate site and corporate groups to identify outage licensing actions (including code case and relief requests) to Regulatory Affairs by T-18 and provide technical input per AD-LS-ALL-0015, License Amendment Request and Changes to SLC, TRM, and TS Bases by T-15.
By T-18	ALL-	All outage licensing actions (including code case and relief requests) are identified to Regulatory Affairs.
	NSS-	Provide the site OM a list of required licensing actions (including code case and relief requests) for the outage.
	NSS-	Begin providing the ORB periodic status updates until all licensing actions are approved.
By T-15	ALL-	All outage licensing actions technical input provided to Regulatory Affairs per AD-LS-ALL-0015, License Amendment Request and Changes to SLC, TRM, and TS Bases to ensure the proper process has been identified (e.g., Regulatory Commitment Management Program, Applicability Determination, 10 CFR Part 50.59) and NRC approval determination can be completed.
By T-14	NSS-	Ensure all outage licensing actions have been determined by Regulatory Affairs to require NRC approval have been submitted to the Nuclear Regulatory Commission (NRC).

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- All required licensing actions (including code case and relief requests) identified by
- T-18 have been submitted.

Performance Indicators:

None (the number of licensing actions implemented per outage is typically very small and can be tracked without a burndown curve).

<< Outage Preparation Milestone Descriptions >>

Logic:

- The T-24 start ensures that notifications are made to the site and corporate organizations that typically generate the need for licensing actions during the period that design changes are being identified.
- The T-18 waypoint allows six months for Regulatory Affairs to develop licensing submittals (LARs, relief requests, and exceptions) and then submit by T-12, so that NRC approval may be received in time to support the outage.
- The T-15 waypoint allows Reg Affairs three months to assemble and submit requests to the NRC.
- The T-14 milestone end aligns timeline needed to get NRC approval.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- The OEM shall notify the site OM of any required licensing actions identified for the outage after T-18.
- The ORB shall ensure required licensing actions that are identified late are reviewed and approved and that recovery plans are developed.

Note 1: T#s in "()" are 18-month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-3
Description: Propose, Review and Prioritize Outage Scope
Window: 24 Month T-18 to T-12 – 18 Month (T-16 to T-10) [Note 1]
Owner: Engineering General Manager (ENG)

Expectations and Deliverables:

By T-18 (T-16)	OM-	• Provide Engineering a candidate list of proposed work.
	ENG-	• Engineering reviews list against engineering program requirements and adds work as appropriate.
By T-14 (T-13)	ENG-	Provide listing and disposition date for all open PM change requests for identified PM models in consideration for scope.
By T-14 (T-11)	ENG-	Engineering risk codes all proposed work per AD-WC-ALL-0330 Outage Scope Determination and Control Process. For work not needed during the Outage, Engineering codes as Priority 4000
By T-12 (T-10)	OM-	CITs review/verifies the risk coding of all work orders proposed for the outage.
	MNT-	Provides priming for unplanned work orders which would include support tasks, team assignments, and work hour estimates.
	OM-	Develop schedule and production estimates to be used for statusing the outage allocation and production leading indicators.
	OWG-	• Identify Long Lead Time materials and supply to MNT and NP for MR generation, as applicable.
	MNT- NP-	• Initiate and approve Material Requests (MRs) for items with a scope priority of '2222' and above identified as Long Lead Parts.
By T-12 (T-10)	ENG- OWG-	Complete outage scope review with CIT/Group Lead input: • CITs determine appropriate team loading to meet Outage Box schedule requirements for all execution teams.
By T-12 (T-10)	OWG- MNT-	Review recommended scope to capital optimization opportunities: • Provide identified capital optimization opportunities to Finance, and include the work order number with proposed capital criteria in accordance with the Property Unit Catalog (located on the Duke Energy SharePoint)

<< Outage Preparation Milestone Descriptions >>

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- Engineering and CITs/Group Leads have reviewed and prioritized all required sources for outage scope (including “as required” frequency and standing contingencies) and have identified all scope items via a work order or model with the appropriate outage designator.
- Engineering has provided the OWG with proposed outage scope that is within the capabilities of the execution groups to complete within the outage allocation and budget goals.
- Engineering/OWG has specifically identified the work that is desired to be completed, but, cannot be performed due to outage design (e.g., train, drain window) or exceeds execution resources for the allocation and budget limitations for ORB review.

Performance Indicators:

- Engineering prioritization of outage scope reported from T-18 (T-16) to T-16 (T-14).
- Work Order priming of outage scope reported from T-16 (T-14) to T-14 (T-12).
- Approval of long lead part material requests reported from T-13 (T-11) to T-12 (T-10).

Logic:

- The T-18 (T-16) milestone start is intended to focus the organization on updating program and trending data and reviewing listed areas of scope directly following the previous refueling outage.
- The T-16 (T-14) milestone waypoint allows the CITs/Group Leads to start scope review and prioritization as soon as Engineering completes their review.
- The T-12 (T-10) milestone end aligns with presentation of scope to the ORB allowing two additional months (one month for 18 month cycles) for verification that scope is correct for meeting allocation and budget goals and final approval of outage scope.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

<< Outage Preparation Milestone Descriptions >>

Comments:

- Identifying long lead time materials in this time frame reduces the potential impact on the outage preparation process and reduces expediting charges.
- Each CIT (or group lead where scope is not covered by a CIT) will perform their scope reviews per the Outage Scope Review and Prioritization Checklist and ensure a priority has been applied to each work order and model per the Outage Scope Priority Determination.
- Execution team CIT members are responsible for providing scope limits within their disciplines manpower limitations. This may require estimating the resources needed for unplanned WOs and ECs.
- By T-12 (T-10), Engineering and Outage Working Group has provided the correct outage scope within the capabilities of the execution teams taking into account allocation and budget goals.
- The following are approved exceptions:
  - ◊ Scope that is identified late due to external or uncontrollable factors (emerging regulatory requirements, extent of condition issues from a recently completed outage in the fleet or industry).

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-4
Description: Approve Engineering Changes (ECs)
Window: 24 Month T-18 to T-8 – 18 Month (T-15 to T-8) [Note 1]
Owner: Design Engineering Director (DED)

Expectations and Deliverables:

By T-12	DED-NP-	Generate work orders for implementation of all Engineering Changes (ECs) required to be performed in the outage for inclusion in scope freeze.
By T-10	DED-	• All significant ECs are approved. • Industry Benchmarking is completed as required.
By T-8	DED-	All ECs are approved and submitted to planning to support work package preparation.

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

- Engineering Change Approval.

Logic:

- The T-18 (T-15) milestone start coincides with the milestone for EC identification complete and scope control start.
- The T-10 waypoint provides a process for requiring "significant" ECs to be approved two months earlier than all other changes so that additional time is provided for quality planning and schedule development for this critical scope.
- The T-8 milestone end provides the planning organizations time to complete planning of the ECs under the M-13, Complete Outage Work Order Planning milestone.

☐ All Requirements Met / ☐ Not Met : _____/_____
(Milestone Owner) (Date)

Milestone color: Green / Red

Engineering CFAM Concurrence: _____/_____
(Date)

Outage Manager Concurrence: _____/_____
(Date)

<< Outage Preparation Milestone Descriptions >>

Comments:

- The list and planning completion dates provided in M-1 will provide the planning organizations ample time to complete planning of all ECs by the planning completion milestone. It is imperative that the planning organizations have agreed with the planning completion dates to ensure preparation efforts are successful.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-6
Description: Determine Preliminary Cost Estimate
Window: 24 Month T-15 to T-12 – 18 Month (T-13 to T-10) [Note 1]
Owner: Nuclear Station Finance Manager (NSF)

Expectations and Deliverables:

By T-14 (T-12)	NSF-	Develop a preliminary cost estimate to be used to status the Outage Budget Leading Indicator.
By T-12 (T-10)	NSF-	• Develop an outage cost estimate and compare against the current outage budget, identify vulnerabilities and variances, and present the results to the ORB. • Ensure that the known vulnerabilities and variances are being monitored and are being tracked through the formal financial controls process. • Notify the Outage CFAM of vulnerabilities and variances. Monthly updates will be provided to the Fleet Outage Review Board (FORB) from this point on.
	ORB-	Recommend HITs to support gap closure as needed.

Milestone Requirements:

- Provide cost estimate breakdown to the department level of the current preliminary cost estimate to be included in the waypoint closure documentation. Any vulnerabilities or variances shall be tracked via the pre-outage focus list.
- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-15 (T-13) milestone start allows finance management to start developing the cost comparison as soon as ENG identifies proposed outage scope and Outage Management has developed a shell schedule that can provide projected outage duration.
- The T-12 (T-10) milestone end aligns with the end of scope review and prioritization and presentation of scope to the ORB.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-7
Description: Determine Preliminary Dose Goal
Window: 24 Month T-15 to T-12 / 18 Month (T-13 to T-10) [Note 1]
Owner: Nuclear Station Sciences Manager

Expectations and Deliverables:

By T-14 (T-12)	RPM-	Develop a preliminary dose estimate to be used to status the Outage Dose Leading Indicator.
By T-12 (T-10)	RPM-	Develop an outage dose estimate and compare against the current fleet and industry goals, identify known vulnerabilities and gaps, and present the results to the ORB. Ensure that the known vulnerabilities and gaps are being monitored and are being tracked. Notify the Outage CFAM of vulnerabilities and variances.
	ORB-	Recommend HITs to support gap closure as needed.

Milestone Requirements:

- A listing of all jobs likely to require an ALARA plan for proposed outage scope used to establish the outage dose estimate shall be documented in the waypoint closure documentation.
- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-15 (T-13) milestone start allows Radiation Protection Manager to start developing the dose comparison as soon as ENG identifies proposed outage scope and outage management has developed a shell schedule that can provide projected outage duration.
- The T-12 (T-10) milestone end aligns with the end of scope review and prioritization and presentation of scope to the ORB.

☐ All Requirements Met / ☐ Not Met* : _____/_____
(Milestone Owner) (Date)

Milestone color: Green / Red
RP CFAM Concurrence obtained by: _____/_____
(Date)

Outage Manager Concurrence: _____/_____
(Date)

<< Outage Preparation Milestone Descriptions >>

Comments:

- The dose goal should be established based on impact to annualized CRE and industry performance. The intent is to establish a dose goal that will challenge the station to identify dose savings initiatives during planning. NOTE: Final dose goal is established at T-1 (M-24).

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-8
Description: Approve Outage Scope and Initiate Scope Control
Window: 24 Month T-14 to T-10 – 18 Month (T-13 to T-9) [Note 1]
Owner: Plant Manager (PM)

Expectations and Deliverables:

By T-12 (T-11)	OWG-	Reach agreement on outage PM scope.
		HITs needed to support gap closure and schedule development are identified.
	OM-	Present the proposed outage work scope to the ORB and any known or predicted gaps to the allocation.
	ORB	Serve as the appeal board for any issue that the OWG cannot come to a consensus agreement on.
		Get alignment with the site's Senior VP (SVP) on the need to request changes from the corporation to the current budget or allocation.
		Notify the Outage CFAM of any challenges to the allocation that are unlikely to be resolved prior to T-10 via a SODA request.
	OM-	Ensure benchmarking for projects that require SODA requests is scheduled to be completed by T-10 (T-9) or has been completed and the project is aligned to industry best durations.
		If a SODA request is needed, then input the SODA request in the Scheduling, Planning, and Cost Estimation (SPaCE) software to document the request.
By T-11 (T-10)	OM-	Outage work that would resolve an Equipment Health Report Card item, but is not selected in the outage scope, will be reviewed by ORB prior to scope freeze.
By T-10 (T-9)	OCFM	Coordinate a fleet challenge for any SODA requests (typically via the FORB).
	FORB-	Disposition any open SODA requests or start formal tracking through the FORB of the open SODA to resolution.
	OWG-	OWG shall provide the list of PMs not selected for outage scope to Engineering for disposition in accordance with AD-EG-ALL-1202, Preventive Maintenance and Surveillance Testing Administration.
	PM-	Approve the outage scope and initiation scope control.
	OM-	Ensure that a "snapshot" of the approved scope is taken to be used as a baseline for scope related performance indicators (e.g., Scope Change, Scope Completion).
	PM-	Request the site's associated Senior VP approve all cross-train work, including its effect on the outage schedule.
By T-10 (T-9)	OWG- MNT-	Review and identify capital optimization opportunities.
T-6	ENG	Disposition all out of scope PMs in accordance with AD-EG-ALL-1202, Preventive Maintenance and Surveillance Testing Administration.

<< Outage Preparation Milestone Descriptions >>

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- PM has approved outage scope and initiation of scope control
-
- Milestone closure documentation shall include:
  - ◊ All work orders selected for scope
  - ◊ All work orders evaluated for scope, but not selected

Performance Indicators:

Outage Scope Changes (to be statused with current information up to T-end).

Logic:

- The T-14 (T-13) milestone start allows overlap with the scope review and prioritization with the intent of starting this activity as soon as a sufficient inventory of scope is available.
- The T-12 (T-11) waypoint provides two months to determine if the desired scope represents a challenge to the budget or allocation, to reach agreement with the SVP on whether the scope shall be changed, the gap can be managed by the site, or if a request will be made to corporate for additional allocation or budget.
- The T-11 (T-10) Waypoint provides for time to perform a cross train work challenge by the Outage CFAM group and an ORB review of Outage work that would resolve an Equipment Health Report Card Item, but is not selected in the outage scope. The reviews allow for changes prior to scope freeze to avoid an impact to Scope Stability indicators.
- The T-10 (T-9) milestone end allows two additional months after scope presentation to the ORB to resolve any issues prior to scope approval and initiation of scope control and ensures that PM WOs are generated from updated models per overlapping milestones. At this point, the intent is for the site to have scope aligned with the allocation, budget, production and dose goals.

☐ All Requirements Met / ☐ Not Met* : _____/_____
(Milestone Owner) (Date)

Milestone color: Green / Red

Outage CFAM Concurrence obtained by: _____/_____
(Date)

Outage Manager Concurrence: _____/_____
(Date)

<< Outage Preparation Milestone Descriptions >>

Comments:

- Engineering and CITs/Group Leads should have identified on-line work bundling opportunities as part of M-3 (Propose, Review and Prioritize Outage Scope) however, additional opportunities may develop during scope challenge and planning. On-line work identified for addition after scope approval and initiation of scope control shall be processed as scope additions.
- By T-12 (T-11) the proposed outage scope and Rev. 'A' Schedule (Shell and Outage Scope Plan) are presented to the ORB for review allowing two additional months to resolve any issues prior to scope approval and initiation of scope control, thus, outage scope and schedule are expected to be relatively stable between T-12 and T-10.
- Projects that require SODA requests must be benchmarked in the industry to ensure that the SODA requested is consistent with best industry durations for the project and benchmarking must be completed prior to the submittal of the SODA request.
- Replacement work orders to correct planning and coding issues are not considered scope additions.
- Contingency and Supplemental (greater than 99 tasks, capital parts) work orders are part of original scope planning and are not considered scope additions.
- Unless otherwise approved by the site OM, work orders that have not been approved shall not be allowed to load into the outage schedule project.
- The following are approved exceptions:
  - ◊ Scope that is identified late due to external or uncontrollable factors (emerging regulatory requirements, extent of condition issues from a recently completed outage in the fleet or industry).

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-9
Description: Update Models and Generate PM Work Orders
Window: 24 Month T-12 to T-10 – 18 Month (T-11 to T-9) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-10 (T-9)	MNT-	Ensure that the PM models have been planned to current standards, and updated from last performance and PM feedback: • Tasks are assigned to a crew • Tasks exists for each crew or support organization that will perform work • Tasks exists for scaffolding and insulation as needed • Task granularity instructions and clearance requests are appropriate to facilitate proper scheduling (task should not have remove/restore in the same task. A separate task should be created). • A functional/PMT task exists if needed. • Tasks are in approved status (allowed 25 task exception similar to M-13). • OWG ensures tasks are approved Ensure any CRs assigned to Planning that affect the PM models have been processed.
	OM-	Outage schedulers shall ensure that the PM models are coded to current standards (e.g., window codes, PRA codes, clearance assignment).
	PMC-	Ensure scoped PM WOs have been generated from updated models.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-12 (T-11) milestone start is based on CITs/Group Leads/OWG agreement of outage PM scope.
- The T-10 (T-9) milestone end is based on allowing sufficient time for PM work orders to be generated prior to scope approval and initiation of scope control.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- Between T-18 and T-12 (T-15 and T-11) PM candidates and models were reviewed and prioritized under M-3 (Propose, Review and Prioritize Outage Scope).
- Between T-14 and T-12 (T-13 and T-11) the CITs/Group Leads, Group Leads and OWG reach agreement on outage PM scope under M-8 (Approve Outage Scope and Initiate Scope Control).
- Planning should review whether any significant changes were made to the generated work order the last time it was used as an indicator of whether the model needs to be revised (i.e., if a functional or scaffold task was added to the PM or any additional parts were required then the model likely needs to be corrected).
- Planning and coding of PM models should be validated prior to generating WOs. If the review is not done prior to generating the models, then any needed changes have to be done to both the model and the generated PM work order OR the model has to be regenerated (if done after outage work scope approval and initiation of scope control, this results in the generated WO initially being tagged as scope additions).
- When a model is changed, then consideration should be given to whether the change also needs to be made to the corresponding model on the other unit(s).

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-10
Description: Develop and Issue Rev. 'A' Schedule (Shell and Outage Scope Plan)
Window: 24 Month T-18 thru to T-10 – 18 Month (T-17 to T-9) [Note 1]
Owner: Outage Manager (OM)

Expectations and Deliverables:

By T-15 (T-14)	OM-	Develop the Outage Schedule Shell for CITs and Group Leads to determine the impact of ECs and other major work on the schedule (e.g., critical path, work window durations).
By T-10 (T-9)	OM-	Present current Rev. 'A' Schedule (Shell and Outage Scope Plan) to the ORB when the Proposed, Reviewed and Prioritized Outage Work Scope is presented.
By T-10 (T-9)	OM-	Ensure the Rev. 'A' Schedule (Shell and Outage Scope Plan) is available on the Site Outage Management SharePoint site and maintain it as a living document by providing updates as needed.

Milestone Requirements:
Milestone met if the site OM provides the following to the site (via the Fleet Outage Management SharePoint) with integrity:

- Outage Schedule Shell (i.e., a backbone or baseline schedule that includes the outage critical path)
- List of all outage ECs
- List of other significant projects, significant corrective work (resolve OBD/NCIs), and significant PMs (typically presented as the System Work Summary)
- List of significant issues challenging outage goals which are being tracked via OWG or ORB action registers (typically via the Pre-Outage Focus List)
- List of HIT, CIT and Project Manager contacts.

Performance Indicators:
None

Logic:

- The T-18 (T-15) milestone start aligns with Engineering start of proposed scope identification to develop the Outage Schedule Shell for CITs/Group Leads to use during their review and prioritization of the proposed outage scope.
- The T-10 (T-9) milestone end is aligned with milestone M-8 (Approve Outage Scope and Initiate Scope Control).

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Outage CFAM Concurrence: _____/_____

<< Outage Preparation Milestone Descriptions >>

(Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-11
Description: Identify Discovery Items and Contingency Work Orders
Window: 24 Month T-12 to T-8 – 18 Month (T-11 to T-7) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-9 (T-8)	OWG-	Review outage scope and schedule to identify discovery and contingency activities in accordance with AD-WC-ALL-0350, Outage Contingency Planning and Discovery Management.
By T-8 (T-7)	ALL-ORB-	Contingencies shall be risk ranked in accordance with AD-WC-ALL-0350, Outage Contingency Planning and Discovery Management, and contingency work orders are identified with "contingency" in the work order description Review and approve the discovery and contingency work order list established for the outage.

Milestone Requirements:
Milestone met if the Milestone Owner and Outage Manager agree that the expectations and deliverables have been met with integrity.

Performance Indicators:
None

Logic:
- The T-12 (T-11) milestone start aligns with completion of scope review and prioritization and presentation of proposed outage scope to the ORB.
- The T-8 (T-7) milestone end allows 2 months for planning completion after final contingencies are identified.

☐ All Requirements Met / ☐ Not Met : _____/_____
(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____
(Date)

Comments:
To support efficient outage execution, some pre-planned contingency WOs are desirable such as:
- Contingency WOs for potential equipment failures (i.e., refueling equipment, cranes).
- Contingency WOs for potential equipment/parts issues (i.e., valve replacement if repair fails, parts unavailability).

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-12
Description: Identify On-Line Work for Bundling and Movement
Window: 24 Month T-12 to T-6 – 18 Month (T-11 to T-5) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-10 (T-9)	OLS-	On-Line Superintendent-Provide the site OM a list of work that is desired to be bundled with outage work.
	OM-	Review the proposed list and reach consensus with the On-Line Superintendent. Re-code work to be bundled with applicable outage codes. Evaluate on-line work scheduled during the outage period and move the work to either before or after the outage (if possible).
By T-6 (T-5)	WM-	Ensure on-line work that potentially impacts the outage is integrated into the outage schedule. Ensure site OM and On-Line Superintendent review the outage period and agree that activities have been accurately and acceptably scheduled or approved for deferral. {7.1.4}

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-12 (T-11) milestone start logic provides two months to resolve issues prior to scope approval and initiation of scope control.
- The T-6 (T-5) milestone end aligns with the planning milestone and the start of the on-line work week development at T-26 weeks.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- The Maintenance Manager shall resolve any issue that the site OM and On-Line Superintendent cannot agree on.
- Engineering and CITs/Group Leads should have identified on-line work bundling opportunities as part of M-3 (Propose, Review and Prioritize Outage Scope); however, additional opportunities may develop during scope challenge and planning. On-line work identified for addition after scope approval and initiation of scope control shall be processed as scope additions.
- On-line work that is added into the outage project because it affects or is directly affected by outage logic should be moved into the schedule and retain its "I" priority so that it can be readily identified as having been on line work.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-13
Description: Complete Outage Work Order Planning
Window: 24 Month T-12 to T-6 – 18 Month (T-11 to T-6) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-10 (T-9)	MNT- NP-	Begin identifying pre and post-outage WOs and WOTs. Develop an expected burn down profile or curve indicating the projected rate of planning completion. Optimally, this profile will ensure that planning is completed in a fashion that ensures the outage schedulers have a steady inventory of tasks for coding and scheduling. A profile that results in a large volume of planned tasks being delivered at the last minute is **NOT** acceptable.
By T-9 (T-8)	MNT-	Develop a list of Quality Critical Maintenance (QCM) work and ensure items are properly coded per AD-WC-ALL-0290, Quality Critical Maintenance Identification and Oversight. For work on components identified with Quality Maintenance (QM) in Electronic Database (EDB) that are being excluded from the Quality Critical Maintenance (QCM) process, justification shall be documented in the milestone closure for the exclusion.
By T-8 (T-8)	MNT-	Identify work orders that will likely require equivalent ECs and expedite the planning to ensure it will be completed by T-6.
By T-6 (T-6)	MNT- NP-	All outage work orders are H/APPR or greater. All contingency work order tasks are planned as required.
	OM-	Confirm all outage, Pre and Post-outage WOs and WOTs have been planned and all contingency work order tasks are planned as required, and all Temporary Load Releases have been submitted to Engineering for review.

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- All work order tasks for EC types (e.g., DCHG, LCHG and TCHG) are coded for the outage are planned.
- All work identified in the listing of other significant projects, significant corrective work (resolve OBD/NCIs), and significant PMs (typically presented as the system work summary) shall be planned.
- All work order tasks not covered above that are coded for the outage are planned or are an approved exception and included in a Milestone Recovery Plan that specifies when each will be planned. No more than 25 work order exceptions can be managed in this manner.

<< Outage Preparation Milestone Descriptions >>

Performance Indicators:

- Unplanned Work Orders (to be statused with current information up to T-0).
- If the total number of unplanned work orders are greater than 25, then the indicator shall be yellow and follow the guidance in Section 5.3 Step 8.
- All work orders are planned by T 0.
- Task added to On Time Work Orders.
- Satisfactory performance is achieved by maintaining the tasks added to less than 15%.

Logic:

- The T-12 (T-11)milestone start aligns with the end of scope review and prioritization and presentation of scope to the ORB and progress monitoring begins.
- The T-6 (T-6) milestone end allows for time to complete the Rev. 'B' Schedule (Logic-Tied) which requires the tasks to be migrated from the holding project into the outage schedule.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Maintenance CFAM Concurrence: _____/_____

(Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

<< Outage Preparation Milestone Descriptions >>

Comments:

- This milestone applies to outage work order tasks, pre and post-outage work order tasks, and contingency tasks (i.e., lead paint or asbestos abatement after sampling, valve repair after testing, packing adjustments after repair).
- Although pre and post-outage WOs and WOTs are considered on-line activities, they must be planned by T-6 to ensure successful development of the on-line work weeks.
- This milestone applies to the first effort to plan the work order tasks. It is recognized that task may be returned for replanning based on walkdown and other reviews. While these do not count as exceptions, the volume of unplanned tasks must be constantly minimized to support schedule development and readiness efforts.
- At Brunswick Nuclear Plant responsible supervisors must review and approve contingency work order tasks. {7.1.5}
- The expectation is that the planning of all WOs is done so that they are completed at a time and rate compatible with the complexity of the work and the time needs to ensure proper review and integration into the schedule. While T-6 is the final milestone, the production rate of WO planning will also factor into the determination of whether the milestone is met or not.
- Scope addition WOs identified after T-6 are expected to be planned within two weeks of addition.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-14
Description: Order and Track Outage Parts and Materials
Window: 24 Month T-14 to T-0 – 18 Month (T-13 to T-0) [Note 1]
Owner: Nuclear Supply Chain Manager (NSC)

Expectations and Deliverables:

By T-12 (T-11)	NSC-	Order material identified as long lead material via material requests generated under Milestone M-3. Materials Requests (MRs) initiated and approved for all outage parts, materials, safety awards, consumables and necessary contingency materials.
By T-6	ALL- NSC-	Begin tracking: • Late identified parts for on-time work orders • Tasks on parts hold Parts not ready for issue (distinguish between those identified prior to T-6 and those that were not)
By T-3	NSC-	Begin providing the OWG updates on parts that are in jeopardy of not being delivered prior to T-0.
By T-1	NSC- OM-	All outage parts, materials, safety awards, consumables and necessary contingency materials ordered. Provide the ORB a recommendation on viability associated with work that requires parts that will not be delivered prior to T-0.
By T-0	NSC-	Outage parts and materials received or will be received to support scheduled work

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity. All parts are on site except as agreed to by the Milestone Owner and Site OM.

Performance Indicators:

- Late Identified Parts for On-Time Work Orders
- Tasks on Parts Hold
- Parts Not Ready for Issue

<< Outage Preparation Milestone Descriptions >>

Logic:

- The T-13 (T-11) waypoint aligns with the generation of long lead time parts material requests under Milestone M 3.
- The T-12 (T-11) aligns with CIT completion scope review and prioritization and the presentation of the outage scope to the ORB for approval.
- The T-6 Waypoint is at planning completion, and should ensure that an accurate estimate of material costs is compiled and that material needed for Pre-outage work will arrive on time.
- The T-1 milestone end is after planning completion, allowing NSC to order materials with cost savings in mind.
- The T-0 milestone end corresponds to the expectation for all required parts to be on site except as approved by the Site OM.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- Outage parts, materials, safety awards, consumables and necessary contingency material MRs approved after T-6 are expected to be ordered in a timely manner that supports outage execution.
- Late identified parts for on-time work orders is a lagging performance indicator on planning effectiveness.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-15
Description: Submit and Approve Contract Requisitions
Window: 24 Month T-12 to T-5 – 18 Month (T-9 to T-4) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-5 (T-4)	ALL-	Contract Requisitions have been submitted and approved.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

Late identified contract requisitions.

Logic:

- The T-12 (T-11) milestone start aligns with the presentation of the outage scope to the ORB.
- The T-5 (T-4) milestone end aligns with planning completion and Shared Resource commitment milestone.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- Contract Requisitions should generally not be approved prior to presentation of proposed outage work scope to the ORB and contracts should generally not be awarded until after approval of outage scope and initiation of scope control.
- For resources needed to support work that starts prior to the outage start date (i.e., pre-outage work and pre-fab), the milestone expectations and deliverables are measured from the work execution date.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-16
Description: Identify Supplemental and Shared Resources
Window: 24 Month T-12 to T-1 – 18 Month (T-10 to T-1) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-11 (T-9)	ALL-	Generate required supplemental and shared resources in EmPACT by crew for Site Outage Resource Manager (SORM) to begin review process.
By T-6 (T-6)	IPS-	In-Processing group begins tracking of EmPACT requisitions to validate requisitions are being moved from "Draft" to "Requested" status.
By T-4.5 (T-4.5)	ALL-	Site has developed initial list identifying personnel from the site to support "everyone has an outage job" and Initial mobilization and demobilization schedule is developed.
By T-4 (T-4)	IPS-	EM PACT Requisitions for supplemental and shared resource needs (by discipline) are submitted and approved by business group.
By T-2 (T-2)	IPS-	Supplemental resource requests are submitted to contract suppliers and Shared Resource requests are sent to the Site functional area Manager (or designee) by Kings Mountain In Processing.
By T-1 (T-1)	IPS-	100% of supplemental (Major Suppliers) and shared resources are entered and confirmed into EM-PACT by name and identification number by suppliers as specified in contract or agreement, or by Deployment Specialists. Any variances and potential outage impacts shall be provided to the Outage Manager.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity and without significant impact to the completion of pre-outage work **AND** any variances have been reviewed and determined to not be significant.

Performance Indicators:

None

Logic:

- The T-12 (T-10)milestone start aligns with the end of scope review and prioritization and presentation of scope to the ORB.
- The T-11 (T-9) milestone waypoint aligns with the scope control milestone at which time resources should be understood with respect to required supplemental and shared resources required. EmPACTs generated should remain in draft status until reviewed by the SORM.
- The T-1 milestone end reflects the need to provide In-Processing adequate time to supply the required personnel to support both the outage and the on-line work management milestone, at T-18 weeks, to identify resources.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- The initial identification of resources at T-11 (T-9) allows for the resource demand of skill types for contingent workers and internal demand for shared resources for the outage season to be preliminarily established for fleet planning of resource movement for the outage season for milestones S-1 to S-4.
- For resources needed to support work that starts prior to the outage start date (i.e., pre-outage work and pre-fab), the milestone expectations and deliverables are measured from the work execution date.
- Site personnel have been identified and informed of their support roles required for the outage to allow for accurate identification of any additional shared resources and any required training.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-17
Description: Schedule Pre and Post-Outage Work Orders
Window: 24 Month T-10 to T-5 - 18 Month (T-9 to T-5) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-5	MNT NP-	Ensure that tasks for pre-outage work have sufficient "granularity" to ensure that they can be completed and closed by T-0 (tasks should not contain work that is expected to complete after the outage has started). Ensure that all pre and post-outage work is identified and scheduled (by on-line WCG) to the appropriate schedule project. Develop an expected burndown curve indicating the projected rate of completion of pre outage tasks.
	MNT-	Ensure all items planned for off-site repair have requisitions submitted and separate work order tasks issued for Maintenance receipt inspection upon return. All items planned for on-site repair have a separate work order tasks issued for inclusion in the Pre-Outage Schedule.

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- All possible pre-outage work has been loaded and scheduled to the appropriate schedule project.

Performance Indicators:

None

Logic:

- The T-10 milestone start coincides with scope control (all pre-outage tasks associated with PMs are available for scheduling).
- The T-5 milestone end allows one month after planning cutoff for pre and post-outage tasks to be loaded to the appropriate schedule and sufficient time to meet on-line work scheduling cycle planning requirements.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- Pre-outage work that supports critical path activities should be scheduled such that it is completed at least one week prior to the outage start. The intent of this expectation is to allow critical path work to begin as soon as possible should there be a unit trip or forced shutdown that results in the outage starting early.
- At Brunswick Nuclear Plant the Dryer Separator Pit is sampled to ensure chemistry is compatible with Condensate Water. This activity is performed pre-outage. {7.1.1}

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-18
Description: Develop and Issue Rev. 'B' Schedule (Logic-Tied)
Window: 24 Month T-10 to T-5 - 18 Month (T-9 to T-5) [Note 1]
Owner: Outage Manager (OM)

Expectations and Deliverables:

By T-6	ALL-	Reach agreement with the site OM on the following and document in the "crew matrix": • Number of resources available • Crew calendars • Appropriate percent load for each crew A living document of the crew matrix shall be maintained by the Outage Management Group.
	PM-	Review and approve the above information.
By T-5	OM-	Review all outage activities to ensure that they are accurately loaded-assigned to the correct crew, have the appropriate duration, have the correct number of resources applied, and are on the correct calendar (may require two rounds of reviews for some crews/groups if significant changes made). Ensure all planned work order tasks are coded and migrated into the outage project.
	OM-	Ensure ALARA considerations (i.e., forced oxidation cleanup methodology, flushes, TSRs) have been integrated into the schedule. Ensure schedule integration has advanced sufficiently to support a reasonably accurate initial resource leveling. Schedule grooming to a finer level of detail is expected to continue through Final Schedule completion at T-0.5.
	OM-	Perform an initial resource leveling to provide an early indication of crews that are overloaded (i.e., scheduled work exceeds crew availability by greater than 10% for greater than four shifts). This process may result in a need to reduce scope due to available time for specific work windows being shorter than initially estimated. A copy of the initial resource leveling for Operations, Maintenance, Nuclear Projects, and Radiation Protection Crews shall be documented in the milestone closure.
	OM-	Any crews that are overloaded shall be placed on a pre-outage focus list to drive actions to resolve the issue.

Milestone Requirements:

Milestone met if the following have been met with integrity:

- The crew matrix has been developed and approved.
- The schedule has all planned work, resources and initial logic ties with challenges, conflicts and periods of higher shutdown risk identified.
- An initial resource levelization of the schedule has been performed to identify crews that are overloaded.

<< Outage Preparation Milestone Descriptions >>

Performance Indicators:

Crew Scope Review from T-10 (T-9) to T-5 (burndown of crew review activities for correct duration, number of resources, crew assignment, and correct calendar).

Logic:

- The T-10 milestone start follows scope approval and initiation of scope control and Rev. 'A' Schedule (Shell and Outage Scope Plan) complete.
- The T-5 milestone end aligns with Rev. 0 Schedule (Resource Leveled) development start.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- This schedule has all of the detailed activities and clearance orders with logic sequencing, durations, resources and calendar assignments. Initial resource leveling to known availability has been completed. Initial identification of heightened awareness activities and high-risk contingencies has been noted. On-Line work originally scheduled to occur during the refueling outage period has been properly scheduled pre-outage, during the outage, or post-outage.
- The focus on activity loading is so that as activities are migrated into the outage schedule problems are resolved ensuring a reasonable level of data quality so that a relatively accurate resource load and crew levelization can be performed for early identification of crews that are overloaded.
- During this window, schedulers begin to ensure duplicate and overlapping tasks are bundled (via logic) and that duplicate tasks have the resource number zeroed to reflect true requirements.
- The crew matrix is a "living document" that must be maintained accurate on an ongoing basis.
- Per AD-WC-ALL-0340, crews loading targets vary by crew and discipline:
  - ◊ Most resources are loaded to a nominal 75% of estimated available resources to ensure the allocation, budget, dose, and duration goals will be met after anticipated pre-outage and during outage scope expansion.
  - ◊ Since the beginning of the outage may have limited emergent work, a plant may choose to load crews higher at the beginning of an outage if they typically complete all pre-outage work as scheduled.
  - ◊ The department manager shall determine appropriate crew loading and present it and the supporting data to the site OM for concurrence.
  - ◊ Exceptions to the nominal 75% loading will be resolved by the Plant Manager.
- At Brunswick Nuclear Plant B-OM-06-01, Pre-Outage Preparations requires a process to ensure adequate resource loading. {7.1.2}

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-19
Description: Identify Need for Document and Procedure Revisions
Window: T-10 to T-0.5
Owner: Nuclear Procedures Supervisor (NPS)

Expectations and Deliverables:

By T-8	DED-	EC Test Procedures (including any temporary procedures) and Vendor Work procedures for Significant ECs are identified to support planning.
By T-6	DED-	Begin maintaining a pre-outage performance indicator for EC-related procedure changes and begin tracking late identified EC-related procedure changes.
By T-4	NPS- ALL-	Begin maintaining a pre-outage performance indicator for Non-EC-related procedure changes and begin tracking late identified Non-EC-related procedure changes. Identify and generate Procedure Revision Requests (PRRs) for all non EC related procedure changes required for the outage.
By T-3	DED-	EC Test Procedures (including any temporary procedures) and Vendor Work procedures are approved pending implementation to support planning.
By T-3	DED- NPS-	Review any required procedure changes that have not been approved and any that would require schedule changes based on updated procedures to support the development of the final schedule and the Independent Shutdown Safety Review.
By T-1	DED- NPS-	All required procedure changes have been approved.
By T-0.5	DED- NPS-	All required procedure changes for the refueling outage are implemented.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

Procedure change approvals (burndown of outstanding changes) and late procedure changes identified (percent late requests from T-6 to T-0).

<< Outage Preparation Milestone Descriptions >>

Logic:

- The T-10 milestone start coincides with issuance of the Outage Scope Plan.
- The T-6 Waypoint provides two months after initial Test Procedure development for the final inventory of EC-related procedure changes needed to be identified.
- The T-4 Waypoint provides two months after planning completion for final inventory of non-EC-related procedure changes needed to be identified.
- The T-0.5 milestone end provides sufficient time to complete procedure changes and ensure that any required schedule changes based on updated procedures are complete to support the development of the final schedule.
- The T-1 waypoint is to have all procedures approved that will need to be reviewed during IRT and integrated into the final schedule.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

Pre-outage PI for procedure changes shall trend the burn down of outstanding, unapproved changes up to the outage start. PI will measure success of the milestone as growth in percent due to late procedure revision requests less than a value determined prior to the T-4 waypoint.

<< Outage Preparation Milestone Descriptions >>

Number: M-20
Description: Award Contracts
Window: 24 Month T-10 to T-3 - 18 Month (T-9 to T-2) [Note 1]
Owner: Nuclear Supply Chain Manager (NSC)

Expectations and Deliverables:

By T-3 (T-2)	NSC-	Ensure contracts for services not covered by the existing long term contracts have been awarded.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity and without significant impact to the completion of pre-outage work and any variances have been reviewed and determined to not be significant.

Performance Indicators:

None

Logic:

- The T-10 milestone start coincides with outage scope approval and initiation of scope control.
- The T-3 milestone supports identification of personnel and in-processing.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- Contract Requisitions should generally not be approved prior to presentation of proposed outage work scope to the ORB and contracts should generally not be awarded until after approval of outage scope and initiation of scope control.
- Ensure contracts for services not covered by the existing long term contracts have price estimates with roles and responsibilities identified to the vendor in the contract to establish expectations for field oversight and technical decision making as well as support for schedule integration challenges as outlined in M-15 and M-16.
- For resources needed to support work that starts prior to the outage start date (i.e., pre-outage work and pre-fab), the milestone expectations and deliverables are measured from the work execution date.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-21
Description: Identify Site, Supplemental, and Shared Resource Training Needs
Window: 24 Month T-10 to T-1.5 - 18 Month (T-7 to T-1.5) [Note 1]
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-6	ALL-	Identify any new or modified training needs to the Training Organization.
By T-4	TRN-	Determine the craft skill set training requirements/matrix.
By T-1.5	TRN-	Training Organization (site and corporate) have developed a training schedule based on outage training requirements.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity and without significant impact to the completion of pre-outage work and any variances have been reviewed and determined to not be significant.

Performance Indicators:

None

Logic:

- The T-10 milestone start coincides with scope approval and initiation of scope control.
- The T-1.5 milestone end supports scheduling of personnel for in-processing.

☐ All Requirements Met / ☐ Not Met : _____/_____
(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____
(Date)

Comments:

- It is important that the training requirements for in-processing have been identified at this time to support developing an accurate plan for mobilizing the work force.
- Identification of all training at this time supports the Training Organization developing and delivering the desired training.

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-22
Description: Develop Outage Clearances
Window: 24 Month T-10 to T-0.5 - 18 Month (T-9 to T-0.5) [Note 1]
Owner: Operations Manager (OPS)

Expectations and Deliverables:

By T-5	OM-	Outage schedule is populated with resource loaded clearance tasks.
By T-2	OPS-	Outage clearance burndown curve established and on track for completion by T-0.5
By T-0.5	OPS-	Outage clearances are reviewed and exceptional clearances have been challenged.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity. Any exceptions have been reviewed by the milestone owner and site OM and determined to not have significant impact on schedule development or readiness efforts.

Performance Indicators:

Clearance Development

Logic:

- The T-10 milestone start coincides with scope approval and initiation of scope control and all PM tasks are available for clearance assignment.
- The T-2 milestone waypoint aligns to support Independent Shutdown Risk Review
- The T-5 milestone waypoint aligns with Rev. 'B' Schedule (Logic-Tied) completion.
- The T-0.5 milestone end aligns with Final Schedule completion.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

Note 1: T#s in "()" are 18 month core.

<< Outage Preparation Milestone Descriptions >>

Number: M-23
Description: Perform Work Readiness Reviews
Window: T-8 to T-1
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-7	CORE-	Develop an expected burndown curve indicating the projected rate of completion of work readiness reviews. Readiness reviews include Lift Plans, FME Plans, Dropped Object Plans, and Quality Critical Maintenance (QCM) Plans. Ensure work order packages are screened to determine which require work Ready-Ready reviews. Work Order walkdowns and reviews are complete. Perform outage crew readiness challenges MNT leadership has completed reviews of QCM plans Scheduled work order tasks have been evaluated for risk per AD-WC-ALL-0410, Work Activity Integrated Risk Management. Work order task holds are released.
By T-1	CORE-	Ensure adequate test equipment and tooling is available for scoped testing and work activities. • Contingencies shall be developed to ensure replacement test equipment and tooling is readily available, should failure of the normal test equipment or tooling be experienced. • Readily available is based on float of the outage and can be obtained quickly without impacting the schedule (e.g., test equipment supporting critical path activities shall be at the site and staged as readily as practical).

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

- Work Readiness (Ready-Ready) Reviews
- Tasks on Hold

Logic:

- The T-8 milestone start aligns with sufficient inventory of activities to review allowing 2 months for potential changes before planning completion.
- The T-1 milestone end reflects the desire to complete the reviews to support of the M-37 Milestone and to develop the final schedule.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

<< Outage Preparation Milestone Descriptions >>

Number: M-24
Description: Identify and Approve TSRs and RWPs
Window: T-8 to T-1
Owner: Nuclear Station Sciences Manager

Expectations and Deliverables:

By T-7.5	RPM-	Submit all known TSRs to Engineering.
By T-5	ALARA	Identify outage related RWPs.
By T-4	ALL-	Inform RP of any first time evolutions planned for the outage.
By T-3	RPM-	Activate RWPs for Pre-Outage work.
By T-3	RPM-	Identify all WOs affected by TSRs.
By T-2	ENG-	All standard/routine TSRs complete and provided to planning.
By T-2	ALARA	Evaluate the need for and submit any additional TSRs.
By T-1	RPM-	TSRs and RWPs approved and ready to support work. Station ALARA committee – Approve Outage Dose Goal.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

The T-8 milestone start aligns with planning needs and the T-1 milestone end aligns with ALARA Plan and RWP approval per AD-RP-ALL-2007, Radiation Protection Outage Readiness.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

Additional information is contained in AD-RP-ALL-2007, Radiation Protection Outage Readiness.

<< Outage Preparation Milestone Descriptions >>

Number: M-25
Description: Perform Site Outage Readiness Process
Window: T-8 to T-1
Owner: Plant Manager (PM)

Expectations and Deliverables:

T-6	ALL-	Required Superintendent or Manager presents Group, EC, Project, Engineering Program, CIT and HIT Readiness Review to the ORB per AD-WC-ALL-0370, Outage Readiness Process.
T-1	ALL-	Required Group, EC, Project, Engineering Program, CIT and HIT Readiness Review and actions complete (reference Outage CFAM Group SharePoint for job aids to assist in reviews).

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

HIT and CIT Effectiveness Grading

Logic:

- The T-8 milestone start allows sufficient time to develop presentation and internal challenges prior to the T-6 presentation at the ORB.
- The T-1 milestone end allows time to complete final outage preparations actions.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

<< Outage Preparation Milestone Descriptions >>

Number: M-26
Description: Perform Site Outage Safety Preparations
Window: T-8 to T-0
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-8	H&S-	Initiate Outage CIT.
By T-6		Present Site Outage Safety Readiness actions to the ORB. All readiness actions identified with assigned owners and due dates. All Job Safety Analyses (JSAs) are identified and assigned owners.
By T-5		
By T-3	H&S-	Present Site Outage Safety Readiness actions to the Fleet Outage Readiness Review team.
By T-0		All JSAs are approved. Required Site Outage Safety Readiness actions complete.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None, HIT and CIT teams performance are reviewed at ORB

Logic:

- The T-8 milestone start allows sufficient time to develop the presentation and conduct internal challenges prior to the T-6 presentation at the ORB.
- The T-0 milestone end allows time to complete final outage preparation actions.

☐ All Requirements Met / ☐ Not Met* : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

<< Outage Preparation Milestone Descriptions >>

Number: M-27
Description: Outage Execution Organization Assigned
Window: T-6 to T-5
Owner: Plant Manager (PM)

Expectations and Deliverables:

By T-5 PM- Ensure Outage Execution Organization positions are staffed and all names are acceptable to the site OM.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-6 milestone start allows one month for the Outage Execution Organization to be staffed and arrangements made for key Outage Execution Organization personnel to attend Horizontal and Vertical schedule reviews.
- The T-5 milestone end aligns completion of the Rev. 'B' Schedule (Resource Leveled) and the start of the Revision 0 Schedule development.

☐ All Requirements Met / ☐ Not Met* : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- The outage execution organization is considered to be comprised of the OCC tactical command, OCC support, Maintenance and Engineering war rooms (if establishing), and any additional support positions that are critical to outage success.
- As a contingency, OCC, OPS shift, and sufficient Engineering and Maintenance resources should be scheduled out two weeks past the projected end date of the outage. Consider using blackout periods for vacation to ensure needs are met.

<< Outage Preparation Milestone Descriptions >>

Number: M-28
Description: Develop Contingency and Risk Plans
Window: T-6 to T-1
Owner: Plant Manager (PM)

Expectations and Deliverables:

By T-5	WM- OM-	Review outage work scheduled in MODE 3 and above for PWRs, and MODE 2 and above for BWRs, for SECs in accordance with AD-WC-ALL-0200, Online Work Management. [7.3.1] Ensure all work and testing is reviewed for applicability of OR, SV, and CV. [7.3.1] Compile a list of IPTEs, Elevated Risk Activity Plans, and Operational Risk Mitigation Plans, with assigned owners and notify the individuals of their assignment and expected completion dates.
By T-3	ORB-	Present lists to ORB to ensure that it is adequate and that the appropriate owners are assigned.
By T-2	PM-	Periodically review the list of IPTEs, Elevated Risk Activity Plans, and Operational Risk Mitigation Plans, to ensure that it is adequate and that the appropriate owners are assigned. Ensure the use of contingency or FLEX equipment has been reviewed to lessen risk.
By T-1	OPS-	Verify by either validation, review, or exercise on the simulator that abnormal and emergency operating procedures for mitigating challenges to key safety functions can be performed as written based on the risk reviewed plant configurations in the pre-outage schedule. {7.1.6}
	PM-	Ensure all IPTEs, Elevated Risk Activity Plans, and Operational Risk Mitigation Plans, are approved.

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- Any exceptions have been approved by the Milestone Owner and site OM.

Performance Indicators:

None

Logic:

- The T-6 milestone start coincides with planning completion.
- The T-1 milestone end is intended to allow adequate time for preparation and approval of the plans with enough margin to outage start for implementation.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met* : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

IPTE, Elevated Risk Activity Plans, and Operational Risk Mitigation Plans, shall be prepared prior to the Independent Shutdown Risk Review and reviewed as part of that review.

- The plans used in the review shall be complete, but, final approval will typically be after all review comments have been incorporated and prior to entering the associated condition.
- Plans should also take into consideration the use of portable contingency or FLEX equipment to lessen the risk.

<< Outage Preparation Milestone Descriptions >>

Number: M-29
Description: Plan/Schedule Supplemental and Shared Resource Training
Window: T-6 to T-1
Owner: In-Processing (IPS) / Training Manager

Expectations and Deliverables:

By T-3	CORE-	Identify all JITT needs to the training organization for development and scheduling.
By T-1.5	IPS-	Ensure that the courses needed and the numbers of students attending have been provided to the Training Organization.
By T-1	IPS-	Students are registered for required training.
	IPS-TRG-	Ensure administrative and training support are scheduled 24 hours, 7 days a week to support training needs. All JIT is scheduled to be completed by T-0.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity and without significant impact to the completion of pre-outage work **AND** any variances have been reviewed and determined to not be significant.

Performance Indicators:

None

Logic:

- The T-6 milestone start coincides with planning completion.
- The T-1 milestone end reflects the desire to have a schedule in place to ensure personnel are available to support both the final outage preparation efforts and the outage.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

For resources needed to support work that starts prior to the outage start date (i.e., pre-outage work and pre-fab), the milestone expectations and deliverables are measured from the work execution date.

<< Outage Preparation Milestone Descriptions >>

Number: M-31
Description: Perform Horizontal and Vertical Schedule Reviews
Window: T-5 to T-2
Owner: Outage Manager (OM)

Expectations and Deliverables:

By T-3	OM-	Complete Horizontal Reviews to ensure all activities are contained and properly logic-tied in the schedule prior to starting Vertical Reviews.
By T-2	OM-	Horizontal and Vertical Reviews complete with issues adequately resolved to support the Independent Shutdown Risk Review.

Milestone Requirements:

Milestone met if the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-5 milestone start allows Horizontal Reviews to be started to support a high quality Rev. '0' Schedule (Resource Leveled).
- The T-2 milestone end is intended to ensure that the Horizontal and Vertical Schedule Reviews are completed to support the Independent Shutdown Risk Review.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

<< Outage Preparation Milestone Descriptions >>

Number: M-32
Description: Develop and Issue Rev. '0' Schedule (Resource Leveled)
Window: T-5 to T-2
Owner: Outage Manager (OM)

Expectations and Deliverables:

By T-5	OM-	Present a comprehensive list of the schedule, resource, and budget challenges which could not be resolved by the OWG to the PM with comprehensive viable options to resolve the issues for his consideration. Options to consider include the following:
		Finding efficiencies to allow more work to be completed by the same resources in the available time
		Deferring or deleting low priority work
		Acquiring additional resources or vendor support
		Expand work windows
By T-2	PM-	Resolve the identified issues
	OM-	Horizontal and Vertical Review are complete and all actions that significantly impact the schedule are complete.
		Scheduled work order tasks have been evaluated for risk per AD-WC-ALL-0410, Work Activity Integrated Risk Management.
		Resource level guidelines described on the Fleet Outage Management SharePoint site are met and an executable schedule has been developed.

Milestone Requirements:

- Milestone met if the following have been met with integrity:
- The schedule has all work and support activities loaded and resource leveled with logic ties.

Performance Indicators:

None

Logic:

- The T-5 milestone start follows Rev. 'B' Schedule (Logic-Tied) completion.
- The T-2 milestone end aligns after the performance of the T-3 Fleet Readiness Review and the start of the Independent Shutdown Risk Review and Final Schedule development.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

This schedule should have incorporated all comments from the Horizontal and Vertical Reviews as well as comments received from implementing Department's, High Impact Teams, and Project reviews of the Rev. 'B' Schedule. It should reflect validation of durations, resources, logic ties, clearance orders, heightened awareness activity identifications, and high-risk contingencies. This schedule allows ready determination of system configuration and available response time to implement contingency plans.

<< Outage Preparation Milestone Descriptions >>

Number: M-33
Description: Perform Pre-Outage Work
Window: T-6 to T-0
Owner: Maintenance Manager (MNT)

Expectations and Deliverables:

By T-5	ALL-	Scheduled work order tasks have been evaluated for risk per AD-WC-ALL-0410, Work Activity Integrated Risk Management.
By T-0	MNT NP-	Monitor the progress of completing pre-outage work to ensure the projected rate of completion meets expectations.

Milestone Requirements:

- Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.
- All possible pre-outage work was completed prior to the start of the outage.
- The associated Performance Indicators are statused as green.
- Any pre-outage work not completed does not adversely affect outage duration or crew loading profile.

Performance Indicators:

- Pre-outage tasks outstanding.
- Pre-outage task man-hrs. outstanding.

Logic:

- The T-5 milestone start coincides with the closure of the pre-outage work scheduling milestone.
- The T-0 milestone end coincides with the start of the outage.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

<< Outage Preparation Milestone Descriptions >>

Number: M-34
Description: Validate Budget
Window: T-4 to T-1
Owner: Plant Manager

Expectations and Deliverables:

By T-3	NSF-	Ensure that any remaining budget vulnerabilities are identified and being tracked to resolution by the ORB.
By T-1	NSF-	Validate that the outage scope (i.e., schedule, scope, materials, staffing) is within the approved outage budget.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-3 waypoint aligns with the completion of awarding contracts.
- The T-1 milestone end provides a reasonable time to resolve variances between the initial and planned budgets before the outage starts.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

None

<< Outage Preparation Milestone Descriptions >>

Number: M-35
Description: Operations Shift Review of Rev. '0' Schedule (Resource Leveled)
Window: T-3 to T-0.5
Owner: Operations Manager (OPS)

Expectations and Deliverables:

By T-0.5	OPS-	Shift Managers (SM) review Rev. 0 Schedule (Resource Leveled) to ensure an understanding of the overall outage schedule design and strategy and the role that Operations has in successful schedule execution and communicate questions, concerns and enhancements to the Operations Manager and OM.
	SM-	Communicate committment to schedule execution to the Operations Manager.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-3 milestone start coincides with the issuance of the Rev '0' Schedule (Resource Leveled).
- The T-0.5 milestone end aligns with the Independent Shutdown Risk Review and Final Schedule completion.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- This review is not intended to duplicate the requirements of the Ops group readiness reviews. Rather the intent is to ensure that the SMs and their shifts have reviewed the schedule in detail, have had an opportunity to become familiar with their role in executing the schedule, and have ownership of the schedule.
- A separate milestone is provided for the Operations Shift review of the Rev. '0' Schedule (Resource Leveled) because of the criticality of their role in outage execution.

<< Outage Preparation Milestone Descriptions >>

Number: M-36
Description: Perform and Approve Independent Shutdown Risk Review
Window: T-3 to T-0.5
Owner: Operations Manager (OPS)

Expectations and Deliverables:

By T-1	OPS-	Ensure the Operations EPs/APs and other mitigating procedures will work as written and the DID profile accurately reflects the availability of DID equipment. {7.1.7}
		Independent Shutdown Risk Review performed per AD-WC-ALL-0430, Outage Risk Review:
		Outage schedule reviewed and each Key Safety Function and DID profile validated and acceptable.
		Results documented in the report with action items clearly identifying those that must be completed prior to the outage and those that are longer term.
By T-0.5	ORB-	Independent Shutdown Risk Review Report is presented to the ORB. Independent Shutdown Risk Review Report is approved. {7.1.7}
By T-0	OM-	All action items specified as needed for the outage are complete.

Milestone Requirements:

Milestone met if the Milestone Owner and site OM agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

The T-3 milestone start is intended to ensure that the schedule and scope are stable and Horizontal and Vertical Reviews are complete.

- The T-0.5 milestone end is intended to reflect the latest point at which the review can be conducted and approved with sufficient time to resolve issues or action items identified by the review or Management review at ORB.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- It is desired and recommended that the Independent Shutdown Risk Review is conducted as early as possible to ensure sufficient time to resolve issues or action items identified.
- OM - Request the ORB to commit team members by name sufficiently in advance and schedule it on their calendars.
- OM - If the date for the review changes due to station readiness, the station assumes responsibility for the industry peer.
- OM - Ensure a member of the Outage Group is assigned to assist with assembling the needed reference materials and to assist with the review.
- OM, OPS – Prior to the review, Outage Management and Operations performs the final Defense in Depth (DID) evaluation and provides it to the review team.

<< Outage Preparation Milestone Descriptions >>

Number: M-37
Description: Develop and Issue Final Schedule
Window: T-3 to T-0.5
Owner: Outage Manager (OM)

Expectations and Deliverables:

By T-0.5

OM-
Incorporate necessary changes from readiness reviews, walkdown Ready-Ready reviews and the Independent Shutdown Risk Review into the Final Schedule.

ALL-
All site groups have communicated details of the outage scope and schedule to their groups to ensure an understanding of the overall outage schedule design and strategy and the role that they will play in successfully executing the schedule.

- All site groups will perform a detailed review of the first 72 hours of the final schedule and provide feedback to Outage Management.

Communicate commitment to schedule execution to the PM.

Milestone Requirements:

Milestone met if the following have been met with integrity:

- The schedule has incorporated all necessary changes from readiness reviews, walkdown Ready-Ready reviews and the Independent Shutdown Risk Review.

Performance Indicators:

None

Logic:

- The T-3 milestone start follows Rev. '0' Schedule (Resource Leveled) completion and Independent Shutdown Risk Review start.
- The T-0.5 milestone end aligns with management approval of the Independent Shutdown Risk Review.

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

This schedule has incorporated all implementing departments review comments of the Rev. '0' Schedule and resource histograms as well as incorporated all necessary changes from the Shutdown Risk Review. This schedule is in a ready to implement status.

<< Outage Preparation Milestone Descriptions >>

Number: M-38
Description: Complete Outage and Post-Outage Work Orders
Window: T-end to T+2
Owner: Maintenance Manager

Expectations and Deliverables:

T+2	ALL -	Unused materials have been returned to inventory. Required work order tasks are in 'COMPLETE' or 'FINISHED' status. Non-required work order tasks are in 'CANCELED', 'COMPLETE', 'FINISHED' status or rescoped to the appropriate outage or integrated into the on-line schedule. All outage work activities are reviewed for potential missed opportunities for capital utilization All identified missed opportunities forwarded to Finance, including the proposed capital criteria in accordance with the Property Unit Catalog (found on the Duke Energy SharePoint)
	OM -	Work orders deleted from scope are coded to the appropriate outage or integrated into the on-line schedule, and returned for replanning of completed tasks and initiation of new necessary support (i.e., lifting/rigging, risk reviews, confined space entry, lead/asbestos sampling, scaffolds, clearances, TSRs, RWPs) requirements.
	OM -	Outage Work Orders are in 'CLOSED' status.

Milestone Requirements:

Milestone met if the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

- The T-end milestone start aligns with outage end and the start of post-outage outage work and WO closure.
- The T+2 milestone end allows time to complete Post-Outage work, close O&M Work Orders, receive vendor invoices and close the associated Capital Work Orders. The T+2 end also ensures that WOs that are performed every outage are closed to support the scoping and regeneration of new WOs for the next outage.

<< Outage Preparation Milestone Descriptions >>

☐ All Requirements Met / ☐ Not Met : _____/_____

(Milestone Owner) (Date)

Milestone color: Green / Red

Outage Manager Concurrence: _____/_____

(Date)

Comments:

- The status of this post-outage milestone is not required to be reported to outside agencies.
- Final Disposition of PM and surveillance WOs is critical so that WOs can be generated for the next refueling outage.

<< Fleet Seasonal Outage Milestone Summary and Windows >>

No.	Milestone Description	Window	Milestone Owner
S-1	Shared Resource Spring Commitment	June 1 to July 15	Maintenance CFAM
S-2	Shared Resource Fall Commitment	January 1 to February 15	Maintenance CFAM

<< Fleet Seasonal Outage Milestone Descriptions >>

Number: S-1
Description: Shared Resource Spring Commitment
Window: June 1 to July 15
Owner: Maintenance CFAM (MNT CFAM)

Expectations and Deliverables:

July 1	CFAMs -	The Corporate Functional Area Managers with resource sharing responsibilities will ensure the shared resource needs for the upcoming year's spring refueling outages are forecasted based on the CFAMs criteria (e.g., percentages, numbers) for sharing sites. The non-outage sites will identify the resources they will provide.
August 1	CFAMs	The outage sites will identify any additional resource needs by discipline and qualification above the standard criteria.
August 15	CFAMs	The CFAMs with resource sharing responsibilities will facilitate meetings to collect names and identification numbers for the resources to be shared between sites. The corresponding list will ensure that the requesting site resource needs are satisfied. The requesting site ensures that ALL shared resource names and identification numbers are entered into EmPACT to satisfy the upcoming spring outage site's needs.

Milestone Requirements:

Milestone met if the Milestone Owner and Outage Manager agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

The July 1 date provides a look ahead across the fleet to ensure that resource requests and supplier requirements can be met while maximizing the shared resources applied to the spring outages for the following year.

Comments:

Most groups (i.e., Maintenance, Operations, Outage Management, Radiation Protection) participate in resource sharing to support fleet outages. This milestone will be accomplished per the Fleet Resource Sharing procedure.

<< Fleet Seasonal Outage Milestone Descriptions >>

Number: S-2
Description: Shared Resource Fall Commitment
Window: January 1 to February 15
Owner: Maintenance CFAM (MNT CFAM)

Expectations and Deliverables:

January 1	CFAMs -	The CFAMs with resource sharing responsibilities will ensure the shared resource needs for the upcoming year's fall refueling outages are forecasted based on the CFAMs criteria (e.g., percentages, numbers) for sharing sites. The non-outage sites will identify the resources they will provide.
February 1	CFAMs	The outage sites will identify any additional resource needs by discipline and qualification above the standard criteria.
February 15	CFAMs	The CFAMs with resource sharing responsibilities will facilitate meetings to collect names and identification numbers for the resources to be shared between sites. The corresponding list will ensure that the requesting site resource needs are satisfied. The requesting site ensures that **ALL** shared resource names and identification numbers are entered into EmPACT to satisfy the upcoming fall outage site's needs.

Milestone Requirements:

Milestone met if the Milestone Owner and the Outage Manager agree that the expectations and deliverables have been met with integrity.

Performance Indicators:

None

Logic:

The January 1 date provides a lookahead across the fleet to ensure that share resource requests and supplier requirements can be met while maximizing the shared resources applied to the spring outages for the following year.

Comments:

Most groups (i.e., Maintenance, Operations, Outage Management, Radiation Protection) participate in resource sharing to support fleet outages. This milestone will be accomplished per the Fleet Resource Sharing procedure.

ATTACHMENT 5
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<< Milestone Recovery Plans >>

To: (Outage Manager name)

From: (*Responsible Manager name*)

Milestone #: *(number)* Description: (*description*)

1. Cause of the Milestone Challenge:
   (description of the cause)

2. Course of action to recover Milestone:
   (description of the actions)

3. Impact on outage / implementation:
   (description of overall impact on subsequent milestones and their recovery plans)

4. Due dates and responsible individuals:
   (due dates and specific responsible individuals)

5. Date when full recovery will be completed:
   (define the overall recovery date(s) for all Milestones)

Outage Manager Approval: Date:

Plant Manager Approval: Date: