

UNITED STATES NUCLEAR REGULATORY COMMISSION

October 4, 1990

OFFICE OF THE COMMISSIONER

MEMORANDUM FOR:

James M. Taylor Executive Director for Operations

James R. Curtiss Um & Ulin

FROM:

SUBJECT:

VOLUNTARY ENTRY INTO TECHNICAL SPECIFICATION LIMITING CONDITIONS FOR OPERATION (LCCS) FOR THE PERFORMANCE OF MAINTENANCE

During recent visits to several nuclear power plants, I have noted a wide variation in licensee philosophies and practices concerning the performance of maintenance during plant operations and in preparation for refueling outages. Some licensees routinely and voluntarily enter technical specification LCOs to perform maintenance on a prescribed schedule (<u>e.g.</u> a quarterly rolling schedule for preventive maintenance) for the purpose, among other things, of minimizing the work to be done during a refueling outage, while others reserve such activities for either forced or planned plant outages, or for performance in conjunction with surveillance testing or corrective maintenance activities when equipment actually fails or is declared inoperable.

This difference in philosophies was perhaps most evident during my recent visit to the Prairie Island and Monticello plants, both operated by Northern States Power. Prairie Island has an aggressive program for the performance of maintenance at-power involving LCO entry. This approach has been quite effective in achieving high equipment reliability and high unit availability due to the reduced scope of work required during refueling outages. For example, Prairie Island's most recent refueling outage, which included 100% eddy-current testing of steam generator tubes, was completed in 25 days.

At Monticello, on the other hand, far less maintenance is performed at-power and the licensee does not voluntarily enter LCOS during power operations solely for the performance of preventive maintenance. One result of this approach is that the durations of Monticello's refueling outages are typically about twice that of Prairie Island's. Both plants are viewed by the staff as good performers with very effective maintenance programs.

Beyond this, I have also observed that practices vary from licensee to licensee with regard to the formalization of guidelines governing the conduct of LCO maintenance, ranging from what appears to be a rather informal process at some plants to a

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much more formal process at others. A good example of the latter are the guidelines that have been adopted for the conduct of LCO maintenance at the Vermont Yankee plant (copy attached).

In discussing this matter with various regional personnel and resident inspectors, it is my impression that there is a range of views on the wisdom of LCO maintenance from region to region and from site to site, perhaps leading to the potential for licensees receiving mixed signals on this subject. While I do not have a personal opinion at this point on the wisdom of LCO maintenance, my recent visits and discussions prompt me to ask whether this is a practice that the staff has examined and, if so, what the staff's views are on the matter. In particular, I would be interested in your thoughts on the following questions:

- 1) How widespread is the practice of LCO maintenance?
- 2) Has the staff examined the impact that this practice has on overall plant risk and individual system availability?
- 3) Do the technical specifications specifically provide for the conduct of LCO maintenance? If not, do they prohibit the practice? If the practice is allowed, do the technical specifications require the licensee to evaluate overall plant risk or individual system availability prior to conducting LCO maintenance?
- 4) The agency has emphasized in the past the importance of a conservative approach to the interpretation and implementation of technical specifications. At the same time, we have also emphasized the need for aggressive preventive maintenance programs. How are these two objectives balanced when it comes to the conduct of LCO maintenance?
- 5) What is the staff's view on the wisdom or acceptability of LCO maintenance?

I appreciate your attention to this matter and look forward to your response.

Enclosure: as stated

CC: Chairman Carr Commissioner Rogers Commissioner Remick SECY OGC *** NOTE: The process described below will be used on a trial basis from 7/16/90 through 12/31/90. At that point in time it will be reviewed, revised as necessary and incorporated into the Maintenance Program. Interpretations and/or revisions during this trach period will be the responsibility of the Operations Sup't. Rubert

PERFORMING LCO-PREVENTIVE MAINTENANCE DURING PLANT OPERATIONS

7/16/90

SCUSSION

CO-Preventive Maintenance practice adopted by Vermont Yankee represents a ordinated means for performing preventative maintenance tasks which serve increase equipment and plant reliability. By coordinating maintenance tivities, the total out-of-service time for safety related equipment is fectively minimized, and system availability potentially maximized.

peated voluntary entry into or exit from the same LCO or performing PM tasks der LCO conditions without sufficient justification are considered to be ntrary to the VY philosophy. Each LCO-Maintenance activity shall be anned; the degree of planning and review required will generally increase the scope, duration and/or perceived risk associated with the maintenance tivity increases.

AN/GUIDELINES

plan shall be developed prior to the implementation of any LCO-preventative intenance. The attached checklist should be used to facilitate the anning process. In any case, the following elements shall be considered the responsible maintenance department, with assistance of the Operations anning Coordinator as appropriate, when developing the plan:

Pre-planning shall be conducted to identify all related PM's, CM's, tests, inspections, etc. that could be performed during the out-of-service timeframe, including necessary support systems. The intent is that this scheduling method reduces the time that Tech Spec-required systems are unavailable (inoperable) and improves the integrated system reliability.

Should systems have to be removed from service for corrective maintenance, opportunities to perform PM's (tests, CM's, etc) shall be evaluated; again the intent is to reduce the time that Tech Spec-required systems are unavailable.

When possible, maintenance should be scheduled to precede surveillance testing; the surveillance test thus provides additional assurance that the maintenance has been performed correctly. Alternate testing, if required, shall be performed prior to LCO-Maintenance to ensure the availability of alternate safety systems.

Systems shall not be removed from service without first ensuring that all items and support necessary for the performance of work are ready in advance. This includes the availability of appropriate parts, preparation of permits/ tags, procedures, ALARA studies, personnel, etc. To the extent practicable, the job should be walked down by the lead work group and pre-staged (scaffolds erected, etc)

Work should be scheduled in such a manner to insure the system is returned to service as soon as practical. Specific items to be considered

- Availability of resources to perform work and support services, including vendor reps as appropriate
- number of shifts required
- day on which system should be removed from service, considering time needed to initiate/implement any contingency plans (eg, emergency Tech Specs, waivers of compliance, JCO's, additional resources, alternate equipment, vendor support, etc)

ontingency plans shall be considered to address what actions could be taken hould it be determined that the LCO timeframe will be exceeded or the lan not be implementable.

CO-Maint shall not be planned during periods when any other testing r maintenance that increases the likelihood of a plant transient s planned.

rior to releasing equipment from service, the Shift Supervisor shall valuate other ongoing tests and/or maintenance activities to ensure that he concurrent activities will not compromise plant safety or performance. intry into the LCO should only be done with the plant in a stable onfiguration/status. (AP 0125)

.11 departments involved in the development of a LCO-Maintenance plan hould consider the need for compensatory actions during the maintenance period, for example, supplementary fire watches, alternate power supplies, ncreased monitoring, etc

'IEW/APPROVAL

The plan, after development, shall be reviewed at the Daily Ops sting and approved by the appropriate maintenance foreman and Ops Planning ordinator. Copies shall be sent to the Operations Supervisor and applicable intenance Dept Head for information.

If the scheduled LCO-Preventive Maintenance:

- exceeds 60% of the allowable LCO time,

OR

- exceeds 5% total LCO-Maint unavailability on an cumulative, rolling 12 month basis

The LCO-Maintenance plan shall also be reviewed by the Operations Superintendent and PORC and approved by the Plant Manager.

LCO-MAINTENANCE FLANNING CHECKLIST

Have all related PM's, CM's, tests, inspections, etc. that could be performed during the out-of-service timeframe, including necessary support systems, been identified 7

Has required alternate testing been performed or identified ?

Are all items necessary for the performance of work ready, including:

the availability of appropriate parts, permits/tags, procedures, ALARA studies, personnel

Has the job been walked down by the lead work group and pre-staged (scaffolds erected, etc) ?

Has the work been scheduled in such a manner to insure the system is returned to service as soon as practical, including consideration of :

- Availability of resources to perform work and support services,
- number of shifts required,
- day on which system should be removed from service, considering time needed to initiate/implement any contingency plans (eg, emergency Tech Specs, waivers of compliance, CO's, alternate equipment. vendor support, etc.

Have contingency plans been developed to address what actions could be taken should it be determined that the LCO timeframe will be exceeded or the plan not be implementable ?

Has the LCO-Maint been planned during periods when any other testing or maintenance that increases the likelihood of a plant transient is planned ?

Have all departments involved in the development of a LCO-Maintenance plan considered the need for compensatory actions during the maintenance period, for example, supplementary fire watches, alternate power supplies, increased monitoring, etc ?

•	Is PA scheduled to t allowed Tech Spec Lo (If you, Ops Supt an required)	take greater than bee of the CO time ? nd PORC review and PM approval		—
	Will the LCO-Maint to the last 12 months to (If yes, Ops Supt as required)	result in >5% unavailability ov nd PORC review and PM approval	er	-
	On what basis is LCC (circle those that a	D-Maintenance justified 7 apply)		
	- Expected decrease	in number of CMR's		
	- Improved reliabili	ity		
	- Reduction in dista Room personnel dua activity periods	ractions to Control ring otherwise high		
	- Required PM freque	ency (per AP 4000)		
	- Vendor recommendat	tion		
	- Reduction in syste	em out-of-service time		
	- Other:			
	Reviewed/Approved:			
	1	maintenance Foreman	1	Date
		Operations Planning Coordinator	1,-	Date
reg	uired)	nna an an ann ann an an an an Canadar an Ann an A		
		Operations Superintendent	',-	Date
		ANA PLANA BU	1,-	Date
	Mtg Number	PORC Secteraly	-	Date