

April 5, 2002

Mr. Guy G. Campbell
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

SUBJECT: APPLICATION OF GENERIC LETTER 80-30 GUIDANCE TO AN INOPERABLE
NON-TECHNICAL SPECIFICATION SUPPORT SUBSYSTEM

Dear Mr. Campbell:

Recent discussions with your staff have focused on the performance of on-line maintenance on systems that provide a support function (i.e., a support system). Specifically, your staff has questioned how to address the single-failure design criterion for support systems that are not included in the technical specifications (TSs) that provide a support function for systems that are included in the TSs.

The staff has reviewed the guidance of Generic Letter 80-30, "Clarification of the Term 'Operable' as it Applies to Single Failure Criterion for Safety Systems Required by Technical Specifications," that allows a plant to temporarily depart from the single-failure design criterion when the plant is operating within a TS action requirement. In the enclosure, the staff has clarified the application of this guidance to non-TS support systems, and in particular to those that have two 100 percent capacity subsystems, such as Perry's ventilation system, with each subsystem capable of fully supporting both trains of TS equipment. The need for this clarification was highlighted by concerns about the conduct of on-line maintenance on Perry's ventilation system. This clarification of the existing generic guidance was developed by the TS Section of the Office of Nuclear Reactor Regulation's Operating Reactor Improvement Program.

Please feel free to contact me at (301) 415-1364 if you have any questions.

Sincerely,

/RA/

Douglas V. Pickett, Senior Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosure: As stated

cc w/encl: See next page

April 5, 2002

Mr. Guy G. Campbell
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

SUBJECT: APPLICATION OF GENERIC LETTER 80-30 GUIDANCE TO AN INOPERABLE
NON-TECHNICAL SPECIFICATION SUPPORT SUBSYSTEM

Dear Mr. Campbell:

Recent discussions with your staff have focused on the performance of on-line maintenance on systems that provide a support function (i.e., a support system). Specifically, your staff has questioned how to address the single-failure design criterion for support systems that are not included in the technical specifications (TSs) that provide a support function for systems that are included in the TSs.

The staff has reviewed the guidance of Generic Letter 80-30, "Clarification of the Term 'Operable' as it Applies to Single Failure Criterion for Safety Systems Required by Technical Specifications," that allows a plant to temporarily depart from the single-failure design criterion when the plant is operating within a TS action requirement. In the enclosure, the staff has clarified the application of this guidance to non-TS support systems, and in particular to those that have two 100 percent capacity subsystems, such as Perry's ventilation system, with each subsystem capable of fully supporting both trains of TS equipment. The need for this clarification was highlighted by concerns about the conduct of on-line maintenance on Perry's ventilation system. This clarification of the existing generic guidance was developed by the TS Section of the Office of Nuclear Reactor Regulation's Operating Reactor Improvement Program.

Please feel free to contact me at (301) 415-1364 if you have any questions.

Sincerely,
/RA/

Douglas V. Pickett, Senior Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosure: As stated

cc w/encl: See next page

Distribution:

PUBLIC PD 3-2 r/f OGC EMcKenna
WBeckner ACRS GGrant, RIII CHarback
RDennig CLipa, RIII AMendiola DPickett
THarris

ADAMS ACCESSION NUMBER: **ML020950074**

OFFICE	PM:LPD3	LA:LPD3	BC:RORP	SC:LPD3
NAME	DPickett	THarris	WBeckner*	AMendiola
DATE	04/05/02	04/05/02	04/02/02	04/05/02

*See 4/2/02 memo from WBeckner to SBajwa

Guy G. Campbell
FirstEnergy Nuclear Operating Company

Perry Nuclear Power Plant, Unit 1

cc:

Mary E. O'Reilly
FirstEnergy Corporation
76 South Main St.
Akron, OH 44308

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
P.O. Box 331
Perry, OH 44081-0331

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4531

Sue Hiatt
OCRE Interim Representative
8275 Munson
Mentor, OH 44060

Gregory A. Dunn
Manager - Regulatory Affairs
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P.O. Box 97, A210
Perry, OH 44081

William R. Kanda, Plant Manager
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P.O. Box 97, SB306
Perry, OH 44081

Mayor, Village of North Perry
North Perry Village Hall
4778 Lockwood Road
North Perry Village, OH 44081

Donna Owens, Director
Ohio Department of Commerce
Division of Industrial Compliance
Bureau of Operations & Maintenance
6606 Tussing Road
P. O. Box 4009
Reynoldsburg, OH 43068-9009

Carol O'Claire, Chief, Radiological Branch
Ohio Emergency Management Agency
2855 West Dublin Granville Road
Columbus, OH 43235-7150

Mayor, Village of Perry
P.O. Box 100
Perry, OH 44081-0100

Dennis Clum
Radiological Assistance Section Supervisor
Bureau of Radiation Protection
Ohio Department of Health
P.O. Box 118
Columbus, OH 43266-0118

Zack. A. Clayton
DERR
Ohio Environmental Protection Agency
ATTN: Mr. Zack A. Clayton
P.O. Box 1049
Columbus, OH 43266-0149

Chairman
Perry Township Board of Trustees
3750 Center Road, Box 65
Perry, OH 44081

Daniel Z. Fisher
Transportation Department
Public Utilities Commission
180 East Broad Street
Columbus, OH 43215-3793

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO APPLICATION OF GENERIC LETTER 80-30 GUIDANCE
TO AN INOPERABLE 100 PERCENT CAPACITY NON-TECHNICAL SPECIFICATION
SUPPORT SUBSYSTEM
FIRSTENERGY NUCLEAR OPERATING COMPANY
PERRY NUCLEAR POWER PLANT, UNIT 1
DOCKET NO. 50-440

Technical Specifications (TSs) play an important part in the risk management of maintenance activities by limiting the duration of safety equipment outages. Because a failure to meet a system's TS limiting condition for operation usually involves a loss of redundancy, the affected system cannot withstand a single-failure and still perform its intended safety function. TSs provide a time by which the design-basis must be restored (see Generic Letter (GL) 80-30). This staff position is acceptable because, by limiting the duration of plant operation with inoperable safety equipment, the TSs manage the associated increase in risk to an acceptable level.

For plant operation with only one or two TS-required components inoperable, probabilistic risk assessment has indicated that the TS strategy for managing risk is usually conservative. But for operation with multiple TS-required components inoperable, TSs may actually allow operation that is non-conservative compared to the established risk guidelines. One reason for this is that the Nuclear Regulatory Commission never intended TSs to fully address inoperable components in several systems at the same time. Therefore, in addition to observing the limitations of TSs, licensees must also assess and manage risk associated with maintenance activities in accordance with paragraph (a)(4) of 10 CFR 50.65, the "maintenance rule," which states,

Before performing maintenance activities (including but not limited to surveillance, post-maintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. The scope of the assessment may be limited to structures, systems, and components that a risk-informed evaluation process has shown to be significant to public health and safety.

The operability requirements for non-TS support systems are linked to the TS operability requirements of the systems they support, by the TS definition of operability:

A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or

ENCLOSURE

emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).

Thus, TSs also play a role in managing the risk associated with maintenance on non-TS support systems.

In most designs, the non-TS support system has two subsystems, each supporting just one TS train of safety equipment. The duration of the maintenance activity is limited by the Required Action Completion Times of the supported TS system(s). In this case, because the outage time of the non-TS support system is limited by the supported system TSs, the plant is temporarily allowed to depart from the single-failure design criterion, but the licensee may not rely solely on the TS limitations. As noted above, the licensee must still assess and manage risk in accordance with (a)(4).

In some designs, the non-TS support system has two redundant 100 percent capacity subsystems, each capable of supporting both TS trains. Loss of one support subsystem does not result in a loss of support for either train of TS equipment. Both TS trains remain operable, despite a loss of support function redundancy, because the TS definition of operability does not require a TS subsystem's necessary support function to meet the single-failure design criterion. Thus, no TS limits the duration of the non-TS support subsystem outage, even though the single-failure design requirement of the supported TS systems is not met. However, by assessing and managing risk in accordance with (a)(4), the licensee can determine an appropriate duration for the maintenance activity. Use of administrative controls to implement such a risk-informed limitation is an acceptable basis for also allowing a temporary departure from the design-basis configuration during such maintenance. Although not expected, were a licensee to determine that its risk assessment would permit the support subsystem to be inoperable for more than 90 days, then the licensee would have to evaluate the maintenance configuration as a change to the facility under 10 CFR 50.59, including consideration of the single-failure design criterion.

For the unusual non-TS support system design configuration described, the preceding is a clarification of the previous staff position (GL 80-30) regarding when a temporary departure from the single-failure design criterion is allowed. This allowance would be permitted regardless of whether the maintenance is corrective or preventive.

Regarding the situation in which the non-TS support subsystem is discovered to be in a degraded or non-conforming condition, the licensee must make a prompt determination of operability, as discussed in GL 91-18. If the non-TS support subsystem is determined to be inoperable, then the licensee must determine whether the subsystem's support function is actually needed to support operability of the supported TS systems. In some situations, the licensee may be able to establish other means to temporarily provide the required support function. If the support function is required, then the risk-management strategies of the TSs and (a)(4), as described above for planned maintenance, will determine the appropriate actions and time limits to return the non-TS support subsystem to operable status, or to shut down the plant.

Principal Contributor: C Harbuck, RORP, NRR

Date: