EXCEL

SERVICES CORPORATION

Date: April 2, 2001

To: Nan Gilles

From: Donald R. Hoffman

Subject: Transmittal of Editorial Changes and New Pages for Incorporation into TSTF 359, Revision 5

Per our discussion, attached is the replacement pages for the Justification and LCO/Bases Inserts for TSTF 359 R5. The changes to these pages were to make editorial and administrative changes to correct minor errors and provide for consistent wording throughout. The intent/meaning is not altered in any way. I apologize for any inconvenience this may have caused you. If you have any questions please contact me at (301)984-4400 or via email at donaldh@excelservices.com.

11921 Rockville Pike, Suite 100 ■ Rockville, Maryland 20852 USA ■ (301) 984-4400 ■ (301) 984-7600 Fax ■ http://www.excelservices.com

JUSTIFICATION

Background

LCO 3.0.4 states "When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time." The allowance to enter MODES or specified conditions in the Applicability while relying on ACTIONS is given because ACTIONS which permit continued operation of the unit for an unlimited period provide an acceptable level of safety for continued operation. This is without regard to the status of the unit before or after the MODE change.

The allowances of LCO 3.0.4 are based on NRC Generic Letter 87-09 which states with respect to unnecessary MODE changes, "Specification LCO 3.0.4 unduly restricts facility operation when conformance with Action Requirements provides an acceptable level of safety for continued operation. For an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operation MODE or other specified condition of operation should be permitted in accordance with the Action Requirements."

In the development of ITS, many improvements were made to LCO 3.0.4 including clarification of its applicability regarding normal shutdown and Required Action shutdowns, and MODE changes during Cold Shutdown and Refueling Operations. During ITS development, almost all the LCOs with Allowed Outage Times (AOTs) greater than or equal to 30 days, and many of the LCOs with AOTs greater than or equal to 7 days, were given individual LCO 3.0.4 exceptions. During many plant specific ITS conversions, individual plants provided justifications for other LCO 3.0.4 exceptions. These specific exceptions allow entry into a MODE or specified condition in the Applicability while relying on these ACTIONS.

Need for Change

ITS LCO 3.0.4 and SR 3.0.4 are still overly restrictive. The startup of a unit is frequently delayed due to the current restrictions of LCO 3.0.4. For example, a single maintenance activity that is almost complete can cause significant delays and changes in the previously well thought out plans for returning the unit to service. Allowing the unit to enter MODE of applicability for that specification would allow the work to be completed without creating error likely situations and avoid changes in other activities.

Proposed Change

The proposed change revises LCO 3.0.4 and SR 3.0.4 to state, "When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made: (a.) When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period or time, or, (b.) After performance of a risk evaluation, consideration of the results, determination of the acceptability of the MODE change, and establishment of risk management actions, if appropriate."

The paragraph in LCO 3.0.4, which describes exceptions, is deleted. Individual LCO 3.0.4 exceptions would be deleted throughout the ITS and replaced with use of the risk evaluation provision being added to LCO 3.0.4 and SR 3.0.4.

The Bases of LCO 3.0.4 are revised as follows to explain the use of the new LCO 3.0.4 exception:

> "When an LCO is not met, LCO 3.0.4 also allows changes in MODES or other specified conditions in the Applicability after a risk evaluation. The risk evaluation may use quantitative, qualitative, or blended approaches, and should be consistent with the approach of Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants". The results of the risk evaluation shall be considered in determining the acceptability of the MODE change, and any corresponding risk management actions. Consideration will be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability."
>
> "A pre-assessment or configuration-specific risk analysis is required for determination of acceptable risk for changes in MODES or other specified conditions in the Applicability when an LCO is not met. Regulatory Guide 1.182 addresses general guidance for conduct of the risk evaluation, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is unacceptable. If the risk of changing MODES is determined to be greater than the acceptable risk, the configuration-specific risk evaluation may be used to determine the risk impact, and the need for risk management actions as appropriate, which may include changing MODES."
>
> "A quantitative, qualitative, or blended risk evaluation should be performed to assess the risk impact of the MODE change, based on the specific plant configuration at that time. This quantitative, qualitative, or blended risk evaluation should take into account the impact on initiating event frequency and mitigation capability as a function of plant MODE. From such evaluations, systems/components can be identified whose unavailability results in an equal or greater risk impact in MODES 2-5 for PWRs and MODES 2 – 4 for BWRs than in MODE 1. For these systems/components, it would be generally acceptable to utilize the LCO 3.0.4 exceptions. There is a small subset of systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed. The Bases of each ITS NUREG contain this respective generic Owners Group list."
>
> "The applicability of the LCO should be reviewed with respect to the actual plant configuration at that time. Entry into more than one LCO 3.0.4.b exception at the same time would be evaluated under the auspices of 10 CFR 50.65.a.4 and consideration of risk management actions discussed in Regulatory Guide 1.182. To apply the LCO 3.0.4.b exception to plant

systems/components identified in the Bases as potentially higher risk than for MODE 1 operation, a plant specific justification would be required."

"The LCO 3.0.4 exception typically only applies to systems and components. The values and parameters are typically not addressed by LCO 3.0.4 and the list of the value and parameter exclusions are found in licensee controlled documents."

"Previous flexibility beyond the generic LCO 3.0.4 some plants may have had approved for LCO 3.0.4 exceptions and application may be justified using plant specific justification to be retained along with the generic LCO 3.0.4."

"The following is a list of those systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed:

System	MODE or Other Specified Condition in the Applicability
Diesel Generators	1, 2, 3, 4, 5, 6

(Owners Groups Specific Information Will Be Provided In Each NUREG Bases)"

The Bases of SR 3.0.4 are also revised to reflect the changes made to the Specifications.

While these Bases changes are being proposed as part of the generic justification of this proposed change, the Bases for each plant will be revised to be plant specific.

Justification

The proposal to allow entry into a MODE or other specified condition in the Applicability while relying on ACTIONS based on a risk evaluation is reasonable based on many factors. The licensee, and particularly the licensee management, is always responsible for maintaining overall plant configuration and safety. Developments in the Maintenance Rule and other Industry/NRC initiatives (including the configuration risk management programs) enhance the tools available to licensees to evaluate the risk associated with various plant configurations. This change is a logical step of requiring licensees to evaluate the application of LCO 3.0.4 exceptions in light of the newly available tools and information.

The risk evaluation may consider a variety of factors, but will focus on maintaining acceptable plant risk. Consideration would be given to the probability of completing restoration such that the requirements of the LCO would be met prior to entering ACTIONS that would require exiting the Applicability. The evaluation may also establish appropriate compensatory measures to enhance safe and effective operations until restoration of compliance with the LCO. The proposed change would provide the flexibility of not restricting which LCOs, MODES, or Applicability can be entered while relying on the ACTIONS as do the current LCO 3.0.4 exceptions, but would add the requirement to evaluate the risks prior to making the MODE change. This evaluation is not currently required. In

addition, the ITS Completion Times provide a limit to how long a licensee could be in a MODE or specified condition of the Applicability without meeting the LCO requirements.

The recent revisions to 10CFR50.65 require that licensees assess the effect equipment maintenance will have on the plant's capability to perform safety functions before beginning any maintenance activity on structures, systems, or components within the scope of the maintenance rule. The final rule clarifies that these requirements apply under all conditions of operation, including shutdown, and that the assessments are to be used so that the increase in risk that may result from the maintenance activity will be managed to ensure that the plant is not inadvertently placed in a condition of significant risk. So effectively, there is be a regulatory requirement to evaluate the risks prior to making the MODE change.

This proposed change would provide standardization and consistency to the use and application of LCO 3.0.4. Currently there are numerous variations of LCO 3.0.4 requirements in the Technical Specifications of individual plants. Additionally, the ITS NUREGs are not totally consistent in their treatment of LCO 3.0.4.

In addition, as the unit goes up in MODE the complement of systems available to mitigate certain events is increased (e.g., for PWRs - availability of SGs for cooling, in addition to shutdown cooling, for BWRs - availability of HPCI and RCIC). In most cases, increasing in MODE from shutdown cooling results in a reduction of risk due to the additional mitigation capability provided by steam driven systems at higher MODES. This is due to the added level of protection to prevent core damage on a loss of cooling, and the added ability to respond to a station blackout using steam driven systems. Thus in most cases, risk can be reduced by allowing entry into a MODE or specified condition in the Applicability. For cases beyond the generic evaluation, a risk evaluation is required. This will ensure that no MODE changes allowed by this change will result in an unacceptable risk increase. Overall, since most MODE changes allowed by this TSTF result in a risk decrease from one MODE to the next, and a risk evaluation is required for any potential MODE change resulting in a risk increase, this change is considered risk neutral.

This change in LCO 3.0.4 philosophy would require a change in SR 3.0.4. If a Surveillance Requirement is not met prior to entering the MODE or specified condition in the Applicability, the LCO would be declared not met and LCO 3.0.4 would apply.

Effect on Safety Analyses

Accident analyses presented in the UFSAR do not address the effects of the plant being in ACTIONS. The accident analyses assume that the necessary equipment is available and then, in most cases, assumes the single most limiting active failure occurs. It is this assumption that leads to limiting the length of Completion Times in order to minimize the length of time that the plant is not within the initial conditions of the accident analysis. This change does not affect the Completion Times. Therefore, this proposal would not affect the accident analyses.

Effect on Risk Informed Analysis

A quantitative, qualitative, or blended risk evaluation should be performed to assess the risk impact of the MODE change, based on the specific plant configuration at that time. This quantitative, qualitative, or blended risk evaluation should take into account the impact on initiating event frequency and mitigation capability as a function of plant MODE. From such evaluations, systems/components can be identified whose unavailability results in an equal or greater risk impact in MODES 2-5 for PWRs and MODES 2 – 4 for BWRs than in MODE 1. For these systems/components, it would be generally acceptable to utilize the LCO 3.0.4 exceptions. There is a small subset of systems that have been generically determined to be risk significant and do not typically have the LCO 3.0.4 exception allowed. The Bases of each ITS NUREG contain this generic Owners Group list.

The applicability of the LCO should be reviewed with respect to the actual plant configuration at that time. Entry into more than one LCO 3.0.4.b exception at the same time would be evaluated under the auspices of 10 CFR 50.65.a.4 and consideration of risk management actions discussed in Regulatory Guide 1.182. To apply the LCO 3.0.4.b exception to plant systems/components identified in the Bases as potentially higher risk than for MODE 1 operation, a plant specific justification would be required.

Owners Groups Qualitative Risk Assessment

Each of the Owners Groups has developed a Qualitative Risk Assessment to justify the relaxation and increased flexibility of the MODE restrictions. These reports are generic to the respective Owners Groups. Individual plants may perform plant specific evaluations and assessments along with their respective Owners Groups reports and this TSTF-359 to justify additional flexibility beyond the generic flexibility provided by this TSTF. These Owners Groups assessments are Attachments 1 – 4 of this TSTF-359.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS

A change is proposed to the Improved Technical Specifications NUREGs 1430 – 1434, LCO 3.0.4 to allow entry into a MODE or other specified condition in the Applicability while relying on ACTIONS after performance of a risk evaluation. LCO 3.0.4 exceptions in individual Specifications would be eliminated. SR 3.0.4 is revised to reflect the LCO 3.0.4 allowance.

In accordance with the criteria set forth in 10 CFR 50.92, the Industry has evaluated these proposed Improved Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change allows entry into a MODE while relying on ACTIONS. Being in an ACTION is not an initiator of any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The consequences of an accident while relying on

ACTIONS as allowed by the proposed LCO 3.0.4 are no different than the consequences of an accident while relying on ACTIONS for other reasons, such as equipment inoperability. Therefore, the consequences of an accident previously evaluated are not significantly increased by this change. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

The proposed change allows entry into a MODE while relying on ACTIONS. The Technical Specifications allow operation of the plant without a full complement of equipment. The risk associated with this allowance is managed by the imposition of ACTIONS and Completion Times. The net effect of ACTIONS and Completion Times on the margin of safety is not considered significant. The proposed change does not change the ACTIONS or Completion Times of the Technical Specifications. The proposed change allows the ACTIONS and Completion Times to be used in new circumstances. However, this use is predicated on an evaluation which focuses on minimizing risk. In addition, current allowances to utilize the ACTIONS and Completion Times which do not require risk evaluation to minimize risk are eliminated. As a result, the net change to the margin of safety is insignificant. Therefore, this change does not involve a significant reduction in a margin of safety.

LCO / BASES INSERTS

Insert 1 (LCO 3.0.4) (All Owners Groups)

a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specific condition in the Applicability for an unlimited period of time, or,

b. After performance of a risk evaluation, consideration of the results, determination of the acceptability of the MODE change, and establishment of risk management actions, if appropriate.

Insert 2 (LCO 3.0.4) (All Owners Groups)

When an LCO is not met, entry into a MODE or other specific condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specific condition in the Applicability for an unlimited period of time, or,

b. After performance of a risk evaluation, consideration of the results, determination of the acceptability of the MODE change, and establishment of risk management actions, if appropriate.

Insert 3 (LCO 3.0.4 Bases) (BWOG)

When an LCO is not met, LCO 3.0.4 also allows changes in MODES or other specified conditions in the Applicability after a risk evaluation. The risk evaluation may use quantitative, qualitative, or blended approaches, and should be consistent with the approach of Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants". The results of the risk evaluation shall be considered in determining the acceptability of the MODE change, and any corresponding risk management actions. Consideration will be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

A pre-assessment or configuration-specific risk analysis is required for determination of acceptable risk for changes in MODES or other specified conditions in the Applicability when an LCO is not met. Regulatory Guide 1.182 addresses general guidance for conduct of the risk evaluation, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is unacceptable. If the risk of changing MODES is determined to be greater than the acceptable risk, the configuration-specific risk evaluation may be used to determine the risk impact, and the need for risk management actions as appropriate, which may include changing MODES.

A quantitative, qualitative, or blended risk evaluation should be performed to assess the risk impact of the MODE change, based on the specific plant configuration at that time. This quantitative, qualitative, or blended risk evaluation should take into account the impact on initiating event frequency and mitigation capability as a function of plant MODE. From such evaluations, systems/components can be identified whose unavailability results in an equal or greater risk impact in MODES 2-5 for PWRs and MODES 2 – 4 for BWRs than in MODE 1. For these systems/components, it would be generally acceptable to utilize the LCO 3.0.4 exceptions. There is a small subset of systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed. The Bases of each ITS NUREG contain this respective generic Owners Group list.

The applicability of the LCO should be reviewed with respect to the actual plant configuration at that time. Entry into more than one LCO 3.0.4.b exception at the same time would be evaluated under the auspices of 10 CFR 50.65.a.4 and consideration of risk management actions discussed in Regulatory Guide 1.182. To apply the LCO 3.0.4.b exception to plant systems/components identified in the Bases as potentially higher risk than for MODE 1 operation, a plant specific justification would be required.

The LCO 3.0.4 exception typically only applies to systems and components. The values and parameters are typically not addressed by LCO 3.0.4 and the list of the value and parameter exclusions are found in licensee controlled documents.

Previous flexibility beyond the generic LCO 3.0.4 some plants may have had approved for LCO 3.0.4 exceptions and application may be justified using plant specific justification to be retained along with the generic LCO 3.0.4.

The following is a list of those systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed:

System	MODE or Other Specified Condition in the Applicability
EDG (Hydro-electric units for Oconee)	2, 3, 4, 5
LPI	4, 5
EFW	2, 3, 4

Insert 3 (LCO 3.0.4 Bases) (WOG)

When an LCO is not met, LCO 3.0.4 also allows changes in MODES or other specified conditions in the Applicability after a risk evaluation. The risk evaluation may use quantitative, qualitative, or blended approaches, and should be consistent with the approach of Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants". The results of the risk evaluation shall be considered in determining the acceptability of the MODE change, and any corresponding risk management actions. Consideration will be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

A pre-assessment or configuration-specific risk analysis is required for determination of acceptable risk for changes in MODES or other specified conditions in the Applicability when an LCO is not met. Regulatory Guide 1.182 addresses general guidance for conduct of the risk evaluation, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is unacceptable. If the risk of changing MODES is determined to be greater than the acceptable risk, the configuration-specific risk evaluation may be used to determine the risk impact, and the need for risk management actions as appropriate, which may include changing MODES.

A quantitative, qualitative, or blended risk evaluation should be performed to assess the risk impact of the MODE change, based on the specific plant configuration at that time. This quantitative, qualitative, or blended risk evaluation should take into account the impact on initiating event frequency and mitigation capability as a function of plant MODE. From such evaluations, systems/components can be identified whose unavailability results in an equal or greater risk impact in MODES 2-5 for PWRs and MODES 2 – 4 for BWRs than in MODE 1. For these systems/components, it would be generally acceptable to utilize the LCO 3.0.4 exceptions. There is a small subset of systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed. The Bases of each ITS NUREG contain this respective generic Owners Group list.

The applicability of the LCO should be reviewed with respect to the actual plant configuration at that time. Entry into more than one LCO 3.0.4.b exception at the same time would be evaluated under the auspices of 10 CFR 50.65.a.4 and consideration of risk management actions discussed in Regulatory Guide 1.182. To apply the LCO 3.0.4.b exception to plant systems/components identified in the Bases as potentially higher risk than for MODE 1 operation, a plant specific justification would be required.

The LCO 3.0.4 exception typically only applies to systems and components. The values and parameters are typically not addressed by LCO 3.0.4 and the list of the value and parameter exclusions are found in licensee controlled documents.

Previous flexibility beyond the generic LCO 3.0.4 some plants may have had approved for LCO 3.0.4 exceptions and application may be justified using plant specific justification to be retained along with the generic LCO 3.0.4.

The following is a list of those systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed:

System	MODE or Other Specified Condition in the Applicability
ESFAS Instrumentation (Function 6, Auxiliary Feedwater)	1, 2, 3, 4
RCS Loops (RHR)	5
LTOP System	4, 5, 6
ECCS Shutdown (ECCS High Head Subsystem)	4
ADVS	1, 2, 3, 4
AFW System	1, 2, 3, 4
AC Sources (Diesel Generators)	1, 2, 3, 4, 5, 6

Insert 3 (LCO 3.0.4 Bases) (CEOG)

When an LCO is not met, LCO 3.0.4 also allows changes in MODES or other specified conditions in the Applicability after a risk evaluation. The risk evaluation may use quantitative, qualitative, or blended approaches, and should be consistent with the approach of Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants". The results of the risk evaluation shall be considered in determining the acceptability of the MODE change, and any corresponding risk management actions. Consideration will be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

A pre-assessment or configuration-specific risk analysis is required for determination of acceptable risk for changes in MODES or other specified conditions in the Applicability when an LCO is not met. Regulatory Guide 1.182 addresses general guidance for conduct of the risk evaluation, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is unacceptable. If the risk of changing MODES is determined to be greater than the acceptable risk, the configuration-specific risk evaluation may be used to determine the risk impact, and the need for risk management actions as appropriate, which may include changing MODES.

A quantitative, qualitative, or blended risk evaluation should be performed to assess the risk impact of the MODE change, based on the specific plant configuration at that time. This quantitative, qualitative, or blended risk evaluation should take into account the impact on initiating event frequency and mitigation capability as a function of plant MODE. From such evaluations, systems/components can be identified whose unavailability results in an equal or greater risk impact in MODES 2-5 for PWRs and MODES 2 – 4 for BWRs than in MODE 1. For these systems/components, it would be generally acceptable to utilize the LCO 3.0.4 exceptions. There is a small subset of systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed. The Bases of each ITS NUREG contain this respective generic Owners Group list.

The applicability of the LCO should be reviewed with respect to the actual plant configuration at that time. Entry into more than one LCO 3.0.4.b exception at the same time would be evaluated under the auspices of 10 CFR 50.65.a.4 and consideration of risk management actions discussed in Regulatory Guide 1.182. To apply the LCO 3.0.4.b exception to plant systems/components identified in the Bases as potentially higher risk than for MODE 1 operation, a plant specific justification would be required.

The LCO 3.0.4 exception typically only applies to systems and components. The values and parameters are typically not addressed by LCO 3.0.4 and the list of the value and parameter exclusions are found in licensee controlled documents.

Previous flexibility beyond the generic LCO 3.0.4 some plants may have had approved for LCO 3.0.4 exceptions and application may be justified using plant specific justification to be retained along with the generic LCO 3.0.4.

The following is a list of those systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed:

System	MODE or Other Specified Condition in the Applicability
AFW and AC / DC Power Supporting AFW	2, 3
Emergency Diesels supporting AFW	4
Emergency Diesels	3
Turbine Driven AFW Pump	3

Insert 3 (LCO 3.0.4 Bases) (BWR/4)

When an LCO is not met, LCO 3.0.4 also allows changes in MODES or other specified conditions in the Applicability after a risk evaluation. The risk evaluation may use quantitative, qualitative, or blended approaches, and should be consistent with the approach of Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants". The results of the risk evaluation shall be considered in determining the acceptability of the MODE change, and any corresponding risk management actions. Consideration will be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

A pre-assessment or configuration-specific risk analysis is required for determination of acceptable risk for changes in MODES or other specified conditions in the Applicability when an LCO is not met. Regulatory Guide 1.182 addresses general guidance for conduct of the risk evaluation, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is unacceptable. If the risk of changing MODES is determined to be greater than the acceptable risk, the configuration-specific risk evaluation may be used to determine the risk impact, and the need for risk management actions as appropriate, which may include changing MODES.

A quantitative, qualitative, or blended risk evaluation should be performed to assess the risk impact of the MODE change, based on the specific plant configuration at that time. This quantitative, qualitative, or blended risk evaluation should take into account the impact on initiating event frequency and mitigation capability as a function of plant MODE. From such evaluations, systems/components can be identified whose unavailability results in an equal or greater risk impact in MODES 2-5 for PWRs and MODES 2 – 4 for BWRs than in MODE 1. For these systems/components, it would be generally acceptable to utilize the LCO 3.0.4 exceptions. There is a small subset of systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed. The Bases of each ITS NUREG contain this respective generic Owners Group list.

The applicability of the LCO should be reviewed with respect to the actual plant configuration at that time. Entry into more than one LCO 3.0.4.b exception at the same time would be evaluated under the auspices of 10 CFR 50.65.a.4 and consideration of risk management actions discussed in Regulatory Guide 1.182. To apply the LCO 3.0.4.b exception to plant systems/components identified in the Bases as potentially higher risk than for MODE 1 operation, a plant specific justification would be required.

The LCO 3.0.4 exception typically only applies to systems and components. The values and parameters are typically not addressed by LCO 3.0.4 and the list of the value and parameter exclusions are found in licensee controlled documents.

Previous flexibility beyond the generic LCO 3.0.4 some plants may have had approved for LCO 3.0.4 exceptions and application may be justified using plant specific justification to be retained along with the generic LCO 3.0.4.

The following is a list of those systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed:

System	MODE or Other Specified Condition in the Applicability
Reactor Protection System (RPS)	1, 2
High Pressure Coolant Injection (HPCI) System (BWR 3 and 4 plants)	1, 2
Reactor Core Isolation Cooling (RCIC) System (BWR 3 and 4 plants)	1, 2
Isolation Condenser (BWR 2 plants)	1, 2
Emergency / Shutdown AC Power	1, 2, 3, 4
Diesel Generators	1, 2, 3, 4
Hardened Wetwell Vent System	1, 2, 3, 4
Vital DC Bus Power	1, 2, 3, 4
Service Water System	1, 2, 3, 4
Residual Heat Removal System	4

Insert 3 (LCO 3.0.4 Bases) (BWR/6)

When an LCO is not met, LCO 3.0.4 also allows changes in MODES or other specified conditions in the Applicability after a risk evaluation. The risk evaluation may use quantitative, qualitative, or blended approaches, and should be consistent with the approach of Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants". The results of the risk evaluation shall be considered in determining the acceptability of the MODE change, and any corresponding risk management actions. Consideration will be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

A pre-assessment or configuration-specific risk analysis is required for determination of acceptable risk for changes in MODES or other specified conditions in the Applicability when an LCO is not met. Regulatory Guide 1.182 addresses general guidance for conduct of the risk evaluation, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is unacceptable. If the risk of changing MODES is determined to be greater than the acceptable risk, the configuration-specific risk evaluation may be used to determine the risk impact, and the need for risk management actions as appropriate, which may include changing MODES.

A quantitative, qualitative, or blended risk evaluation should be performed to assess the risk impact of the MODE change, based on the specific plant configuration at that time. This quantitative, qualitative, or blended risk evaluation should take into account the impact on initiating event frequency and mitigation capability as a function of plant MODE. From such evaluations, systems/components can be identified whose unavailability results in an equal or greater risk impact in MODES 2-5 for PWRs and MODES 2 – 4 for BWRs than in MODE 1. For these systems/components, it would be generally acceptable to utilize the LCO 3.0.4 exceptions. There is a small subset of systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed. The Bases of each ITS NUREG contain this respective generic Owners Group list.

The applicability of the LCO should be reviewed with respect to the actual plant configuration at that time. Entry into more than one LCO 3.0.4.b exception at the same time would be evaluated under the auspices of 10 CFR 50.65.a.4 and consideration of risk management actions discussed in Regulatory Guide 1.182. To apply the LCO 3.0.4.b exception to plant systems/components identified in the Bases as potentially higher risk than for MODE 1 operation, a plant specific justification would be required.

The LCO 3.0.4 exception typically only applies to systems and components. The values and parameters are typically not addressed by LCO 3.0.4 and the list of the value and parameter exclusions are found in licensee controlled documents.

Previous flexibility beyond the generic LCO 3.0.4 some plants may have had approved for LCO 3.0.4 exceptions and application may be justified using plant specific justification to be retained along with the generic LCO 3.0.4.

The following is a list of those systems that have been generically determined to be more important to risk and do not typically have the LCO 3.0.4 exception allowed:

System	MODE or Other Specified Condition in the Applicability
Reactor Protection System (RPS)	1, 2
High Pressure Core Spray (HPCS) (BWR 5 and 6 plants)	1, 2
Reactor Core Isolation Cooling (RCIC) System (BWR 5 and 6 plants)	1, 2
Emergency / Shutdown AC Power	1, 2, 3, 4
Diesel Generators	1, 2, 3, 4
Hardened Wetwell Vent System	1, 2, 3, 4
Vital DC Bus Power	1, 2, 3, 4
Service Water System	1, 2, 3, 4
Residual Heat Removal System	4

Insert 4 (SR 3.0.4 Bases) (All Owners Groups)

A provision is included to allow entry into a MODE or other specified condition in the Applicability:

a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specific condition in the Applicability for an unlimited period of time, [or,

b. After performance of a risk evaluation, consideration of the results, determination of the acceptability of the MODE change, and establishment of risk management actions, if appropriate.]