

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 112-8015  
SRP Section: 13 - Conduct of Operations  
Application Section: 13.05  
Date of RAI Issue: 07/24/2015

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### Question No. 13.05.02.01-2

#### REQUIREMENTS

Title 10 CFR 50.34(a)(6) and (10) and 50.34(b)(6)(iv) and (v) specify the requirement for an applicant to have plans for the conduct of normal operations and coping with emergencies. The review of these procedures is conducted following Chapter 13 of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," (SRP).

The paragraph under Section 13.5, "Plant Procedures," and the associated COL information item, COL 13.5(1), under Section 13.5.3, "Combined License Information," both state:

"The COL applicant is to describe the **administrative and operating procedures** that the operating organization (plant staff) use to **provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner.**"

Standard Review Plan (SRP) Section 13.5.1.1, "Administrative Procedures – General," Subsection I, specifically describes Administrative Procedures as "...procedures that provide for administrative control over safety-related activities for operation of the facility."

SRP Section 13.5.2.1, "Operating and Emergency Operating Procedures," Subsection I, specifically **describes Operating Procedures as "...procedures that will be used by the operating organization (plant staff) to ensure that routine operating, off-normal, and emergency activities are conducted in a safe manner."**

## ISSUE

Administrative Procedures and Operating Procedures are written to accomplish different objectives. Contrary to the cited statement above from Sections 13.5 and 13.5.3 of the DCD, **Administrative Procedures are not used to ensure that routine operating, offnormal, and emergency activities are conducted in a safe manner.** In accordance with SRP Section 13.5.2.1, Subsection I, **Operating Procedures are used to accomplish this objective.**

Contrary to the cited text above from Sections 13.5 and 13.5.3 of the DCD, **Operating Procedures are not used to “provide reasonable assurance”** that routine operating, off normal, and emergency activities are conducted in a safe manner. In accordance with SRP Section 13.5.2.1, Subsection I, **Operating procedures are used to “ensure”** that routine operating, off-normal, and emergency activities are conducted in a safe manner.

## INFORMATION NEEDED

Clarify the distinction between Administrative Procedures and Operating Procedures, and explain use of the phrase “provide reasonable assurance” in place of the word “ensure.” Provide any changes necessary to ensure the completeness and accuracy of the information in Section 13.5, “Plant Procedures,” and the associated COL information item, COL 13.5(1), in Section 13.5.3, “Combined License Information” for the Administrative and Operating Procedures.

## Response

To address consistency with the SRP, the terminology “provide reasonable assurance” will be deleted in Sections 13.5 and 13.5.3 and the word “ensure” will be used where applicable.

The description of the administrative procedures in Section 13.5.1 and the related COL 13.5(2) will be changed to state “that provide for administrative control over safety-related activities for operation of the facility.”

The description of operating procedures in Section 13.5.2.1 and the related COL 13.5(3) will be will be changed to state, “that will be used by the operating organization (plant staff) to ensure that routine operating, off-normal, and emergency activities are conducted in a safe manner.” The description of operating procedures will be deleted from section 13.5 and COL 13.5(1) since it is defined more appropriately in section 13.5.2.1 and COL 13.5(3).

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## Impact on DCD

DCD Table 1.8-2 and Sections 13.5, 13.5.1, 13.5.2.1, and 13.5.3 will be revised as indicated in the attached markup.

**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical Specifications**

There is no impact on the Technical Specification.

**Impact on Technical/Topical/Environmental Report**

There is no impact on any Technical, Topical, or Environment Reports.

**APR1400 DCD TIER 2**13.5 Plant Procedures

The COL applicant is to describe the administrative and operating procedures ~~that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner.~~ This section is not expected to include detailed written procedures. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (Reference 1, 2) (COL 13.5(1)).

for administrative control over safety-related activities for operation of the facility

13.5.1 Administrative Procedures

The COL applicant is to develop a description of administrative procedures that provide ~~administrative control over activities that are important to safety for operation of the facility.~~ NRC RG 1.33 (Reference 1) contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them (COL 13.5(2)).

13.5.1.1 Administrative Procedures-General

Administrative procedures provide administrative controls for procedures and define and provide controls for operational activities of the plant staff.

13.5.2 Operating and Maintenance Procedures

The COL applicant is to develop operating and maintenance procedures.

13.5.2.1 Operating and Emergency Operating Procedures

This subsection describes primarily the procedures that licensed operators perform in the MCR, ~~which are to be developed by the COL applicant.~~ Categories such as the procedure classification, operating procedure program, and emergency operating procedure program are included but are not necessarily the basis for classifying these procedures.

The COL applicant is to describe the operating procedures that will be used by the operating organization (plant staff) to ensure that routine operating, off-normal, and emergency activities are conducted in a safe manner.

**APR1400 DCD TIER 2**

following each class of procedures, and the general objectives and character of each class and subclass (COL 13.5(6)).

### 13.5.3 Combined License Information

for administrative control over safety-related activities for operation of the facility.

COL 13.5(1) The COL applicant is to describe the administrative and operating procedures ~~that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner.~~ The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (Reference 1 through 3).

COL 13.5(2) The COL applicant is to develop a description of administrative procedures that provide ~~administrative control over activities that are important to safety for operation of the facility.~~ NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.

COL 13.5(3) The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.

COL 13.5(4) The COL applicant is to provide a program for developing operating procedures.

COL 13.5(5) The COL applicant is to provide a program for developing and implementing emergency operating procedures.

The COL applicant is to describe the operating procedures that will be used by the operating organization (plant staff) to ensure that routine operating, off-normal, and emergency activities are conducted in a safe manner.

## APR1400 DCD TIER 2

Table 1.8-2 (23 of 29)

Item No.	Description
COL 13.3(3)	The COL applicant is to address an emergency classification and action level scheme as required by 10 CFR 50.47(b)(4).
COL 13.3(4)	The COL applicant is to develop the security-related aspects of an emergency plan.
COL 13.3(5)	The COL applicant is to develop a multi-unit site interface plan depending on the location of the new reactor on or near an operating reactor site with an existing emergency plan.
COL 13.3(6)	The COL applicant is to develop emergency planning inspections, tests, analyses, and acceptance criteria.
COL 13.4(1)	The COL applicant is to develop operational programs and provide schedules for implementation of the programs, as defined in SECY-05-0197. The COL applicant is to provide commitments for the implementation of operational programs that are required by regulation. In some instances, the programs may be implemented in phases, where practical, and the applicant is to include the phased implementation milestones.
COL 13.4(2)	The COL applicant is responsible for developing a leakage monitoring and prevention program for the systems, as specified in Subsection 5.5.2 in Chapter 16, Technical Specifications. The leakage monitoring and prevention program is to provide suitable methods and acceptance criteria as defined in NUREG-0737, Item III.D.1.1.
COL 13.5(1)	The COL applicant is to describe the administrative and operating procedures <del>that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner.</del> The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures.
COL 13.5(2)	The COL applicant is to develop a description of administrative procedures that provide <del>administrative control over activities that are important to safety for operation of the facility.</del> NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.
COL 13.5(3)	The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.
COL 13.5(4)	The COL applicant is to provide a program for developing operating procedures.
COL 13.5(5)	The COL applicant is to provide a program for developing and implementing emergency operating procedures.

for administrative control over safety-related activities for operation of the facility.

The COL applicant is to describe the operating procedures that will be used by the operating organization (plant staff) to ensure that routine operating, off-normal, and emergency activities are conducted in a safe manner.

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 112-8015  
SRP Section: 13 - Conduct of Operations  
Application Section: 13.05  
Date of RAI Issue: 07/24/2015

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### Question No. 13.05.02.01-3

#### REQUIREMENTS

The paragraph under Section 13.5, "Plant Procedures," states:

"The COL applicant is to **provide a brief description** of the nature and content of the procedures and a schedule for the preparation of appropriate written **administrative procedures** (Reference 1, 2)."

The associated COL information item, COL 13.5(1), under Section 13.5.3, "Combined License Information," states:

"The COL applicant is to **provide a brief description** of the nature and content of the procedures and a schedule for the preparation of appropriate written **administrative procedures** (Reference 1 through 3)."

Standard Review Plan (SRP) Section 13.5.1.1, "Administrative Procedures – General," Subsection I, states: "The **application should describe** the nature and content of procedures ..."

SRP Section 13.5.2.1, "Operating and Emergency Operating Procedures," Subsection I, states:

"The **SAR should provide descriptions** of the content and development process for procedures..."

## ISSUE

Use of the word “**brief**” in the cited text above from Sections 13.5 and 13.5.3 of the DCD, as it pertains to descriptions associated with the content of procedures, is vague, and has the potential to negatively impact the quality of COL applicant information item submittals.

The cited text above from Sections 13.5 and 13.5.3 of the DCD, **only addresses Administrative Procedures**. There is no reference to Operating Procedures. Administrative and Operating Procedures are the subject of the associated paragraph in each of these sections.

The **parenthetical “Reference” information** in the cited text above from Sections 13.5 and 13.5.3 of the DCD, **is different**. Given that the associated paragraph in each of these sections provides the same information, it is unclear

## INFORMATION NEEDED

Explain: (1) use of the word “”brief” as it pertains to descriptions associated with the content of procedures, (2) exclusion of the Operating Procedures from the cited text, and (3) the disparity in the parenthetical “References” identified.

Provide any changes necessary to ensure the completeness and accuracy of the information in Section 13.5, “Plant Procedures,” and the associated COL information item, COL 13.5(1), in Section 13.5.3, “Combined License Information,” for the Administrative and Operating Procedures.

## Response

To address consistency with the SRP, the word “brief” will be deleted from the description in Section 13.5 and the related COL 13.5(1).

COL 13.5(1) and the associated description in section 13.5 will be modified to include the requirement for the COL applicant to provide a description of the content and development process for operating procedures, including preliminary schedules for the preparation of the operating procedures. This is in addition to the currently specified requirement for administrative procedures.

The parenthetical references in section 13.5 will be changed to (Reference 1 through 3) to match that of COL 13.5(1).

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## Impact on DCD

DCD Table 1.8-2 and sections 13.5 and 13.5.3 will be revised as indicated in the attached markup.



**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical Specifications**


There is no impact on the Technical Specification.

**Impact on Technical/Topical/Environmental Report**

There is no impact on any Technical, Topical, or Environment Reports.

**APR1400 DCD TIER 2**13.5 Plant Procedures

The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. This section is not expected to include detailed written procedures. The COL applicant is to provide a ~~brief~~ description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (~~Reference 1, 2~~) (COL 13.5(1)).


13.5.1 Administrative Procedures

The COL applicant is to provide a description of the content and development process for procedures, including preliminary schedules for preparation of operating procedures (Reference 1 through 3)

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he portions of NRC RG 1.33

applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them (COL 13.5(2)).

13.5.1.1 Administrative Procedures-General

Administrative procedures provide administrative controls for procedures and define and provide controls for operational activities of the plant staff.

13.5.2 Operating and Maintenance Procedures

The COL applicant is to develop operating and maintenance procedures.

13.5.2.1 Operating and Emergency Operating Procedures

This subsection describes primarily the procedures that licensed operators perform in the MCR, which are to be developed by the COL applicant. Categories such as the procedure classification, operating procedure program, and emergency operating procedure program are included but are not necessarily the basis for classifying these procedures.

**APR1400 DCD TIER 2**

following each class of procedures, and the general objectives and character of each class and subclass (COL 13.5(6)).

### 13.5.3 Combined License Information

COL 13.5(1) The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. The COL applicant is to provide a ~~brief~~ description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (Reference 1 through 3).

COL 13.5(2) The COL applicant is to develop a description of administrative procedures that provide administrative control over activities that are important to safety for operation of the facility. NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.

COL 13.5(3) The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.

COL 13.5(4) The COL applicant is to provide a program for developing operating procedures.

COL 13.5(5) The COL applicant is to provide a program for developing and implementing emergency operating procedures.

The COL applicant is to provide a description of the content and development process for procedures, including preliminary schedules for preparation of operating procedures

## APR1400 DCD TIER 2

Table 1.8-2 (23 of 29)

Item No.	Description
COL 13.3(3)	The COL applicant is to address an emergency classification and action level scheme as required by 10 CFR 50.47(b)(4).
COL 13.3(4)	The COL applicant is to develop the security-related aspects of an emergency plan.
COL 13.3(5)	The COL applicant is to develop a multi-unit site interface plan depending on the location of the new reactor on or near an operating reactor site with an existing emergency plan.
COL 13.3(6)	The COL applicant is to develop emergency planning inspections, tests, analyses, and acceptance criteria.
COL 13.4(1)	The COL applicant is to develop operational programs and provide schedules for implementation of the programs, as defined in SECY-05-0197. The COL applicant is to provide commitments for the implementation of operational programs that are required by regulation. In some instances, the programs may be implemented in phases, where practical, and the applicant is to include the phased implementation milestones.
COL 13.4(2)	The COL applicant is responsible for developing a leakage monitoring and prevention program for the systems, as specified in Subsection 5.5.2 in Chapter 16, Technical Specifications. The leakage monitoring and prevention program is to provide suitable methods and acceptance criteria as defined in NUREG-0737, Item III.D.1.1.
COL 13.5(1)	The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures.
COL 13.5(2)	The COL applicant is to develop a description of administrative procedures that provide administrative control over activities that are important to safety for operation of the facility. NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.
COL 13.5(3)	The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.
COL 13.5(4)	The COL applicant is to provide a program for developing operating procedures.
COL 13.5(5)	The COL applicant is to provide a program for developing and implementing emergency operating procedures.

The COL applicant is to provide a description of the content and development process for procedures, including preliminary schedules for preparation of operating procedures

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 112-8015  
SRP Section: 13 - Conduct of Operations  
Application Section: 13.05  
Date of RAI Issue: 07/24/2015

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### Question No. 13.05.02.01-4

#### REQUIREMENTS

The paragraph under Section 13.5.1, "Administrative Procedures," and the associated COL information item, COL 13.5(2), under Section 13.5.3, "Combined License Information," both state:

"The COL applicant is to develop a description of administrative procedures that provide administrative control over activities that are **important to safety** for operation of the facility."

Standard Review Plan (SRP) Section 13.5.1.1, "Administrative Procedures – General," Subsection I, states: "This SAR section should describe the procedures that provide for administrative control over **safety-related** activities for operation of the facility."

#### ISSUE

Per 10 CFR 50.2, "Definitions," Safety-Related means those structures, systems, and components that are relied upon to remain functional during and following design basis events to assure:

- (1) The integrity of the reactor coolant pressure boundary,
- (2) The capability to shut down the reactor and maintain it in a safe shutdown condition;  
or
- (3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the applicable guideline exposures set forth in 10 CFR 50.34(a)(1) or 10 CFR 100.11, as applicable.

Per 10 CFR 50, Appendix A, "General Design Criteria for Nuclear Power Plants," "Introduction," Important to Safety means structures, systems, and components that provide

reasonable assurance that the facility can be operated without undue risk to the health and safety of the public.

Contrary to the cited statement above from Sections 13.5.1 and 13.5.3 of the DCD, **Administrative Procedures do not provide administrative control over activities that are Important to Safety.** In accordance with SRP Section 13.5.1.1, Subsection I, **Administrative Procedures provide for administrative control over “Safety-Related” activities.**

The cited text above from Sections 13.5.1 and 13.5.3 of the DCD, states that the COL applicant is to develop a description of the Administrative Procedures. The **requirement to develop a description of the Administrative Procedures has already been delineated in COL information item 13.5(1).** COL 13.5(2) and COL 13.5(1) are asking for the same information relative to the Administrative Procedures. **A COL information item, similar to COL 13.5(5) for the COL applicant to provide a program for development and implementation of the Emergency Operating Procedures, has not been provided for the Administrative Procedures.**

### **INFORMATION NEEDED**

Explain the use of “Important-to-Safety” instead of “Safety-Related” in the cited text from Sections 13.5.1 and 13.5.3 of the DCD. Provide a COL information item for the COL applicant to provide a program for development and implementation of the Administrative Procedures.

Provide any changes necessary to ensure the completeness and accuracy of the information in Section 13.5.1, “Administrative Procedures,” and the associated COL information item, COL 13.5(2), in Section 13.5.3, “Combined License Information,” for the Administrative Procedures.

### **Response**

To address consistency with the SRP, KHNP will replace “activities that are important to safety” with “safety related activities” in DCD sections 13.5.1 and 13.5.3.

COL 13.5(2) will be revised to provide a program for developing and implementing administrative procedures.

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### **Impact on DCD**

DCD Table 1.8-2 and Sections 13.5.1 and 13.5.3 will be revised as indicated in the attached markup.

### **Impact on PRA**

There is no impact on the PRA.

**Impact on Technical Specifications**

There is no impact on the Technical Specification.

**Impact on Technical/Topical/Environmental Report**

There is no impact on any Technical, Topical, or Environment Reports.

**APR1400 DCD TIER 2**13.5 Plant Procedures

The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. This section is not expected to include detailed written procedures. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (Reference 1, 2) (COL 13.5(1)).

13.5.1 Administrative Procedures

The COL applicant is to provide a program for developing and implementing administrative procedures.

The COL applicant is to develop a description of administrative procedures that provide administrative control over ~~activities that are important to safety~~ for operation of the facility. NRC RG 1.33 (Reference 1) contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them (COL 13.5(2)).

13.5.1.1 Administrative Procedures-General

safety related activities

Administrative procedures provide administrative controls for procedures and define and provide controls for operational activities of the plant staff.

13.5.2 Operating and Maintenance Procedures

The COL applicant is to develop operating and maintenance procedures.

13.5.2.1 Operating and Emergency Operating Procedures

This subsection describes primarily the procedures that licensed operators perform in the MCR, which are to be developed by the COL applicant. Categories such as the procedure classification, operating procedure program, and emergency operating procedure program are included but are not necessarily the basis for classifying these procedures.



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following each class of procedures, and the general objectives and character of each class and subclass (COL 13.5(6)).

13.5.3 Combined License Information

The COL application is to provide a program for developing and implementing administrative procedures.

COL 13.5(1) The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (Reference 1 through 3).

COL 13.5(2) The COL applicant is to develop a description of administrative procedures that provide administrative control over ~~activities that are important to safety~~ for operation of the facility. NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.

safety related activities

COL 13.5(3) The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.

COL 13.5(4) The COL applicant is to provide a program for developing operating procedures.

COL 13.5(5) The COL applicant is to provide a program for developing and implementing emergency operating procedures.

## APR1400 DCD TIER 2

Table 1.8-2 (23 of 29)

Item No.	Description
COL 13.3(3)	The COL applicant is to address an emergency classification and action level scheme as required by 10 CFR 50.47(b)(4).
COL 13.3(4)	The COL applicant is to develop the security-related aspects of an emergency plan.
COL 13.3(5)	The COL applicant is to develop a multi-unit site interface plan depending on the location of the new reactor on or near an operating reactor site with an existing emergency plan.
COL 13.3(6)	The COL applicant is to develop emergency planning inspections, tests, analyses, and acceptance criteria.
COL 13.4(1)	The COL applicant is to develop operational programs and provide schedules for implementation of the programs, as defined in SECY-05-0197. The COL applicant is to provide commitments for the implementation of operational programs that are required by regulation. In some instances, the programs may be implemented in phases, where practical, and the applicant is to include the phased implementation milestones.
COL 13.4(2)	The COL applicant is responsible for developing a leakage monitoring and prevention program for the systems, as specified in Subsection 5.5.2 in Chapter 16, Technical Specifications. The leakage monitoring and prevention program is to provide suitable methods and acceptance criteria as defined in NUREG-0737, Item III.D.1.1.
COL 13.5(1)	The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures.
COL 13.5(2)	The COL applicant is to develop a description of administrative procedures that provide administrative control over <del>activities that are important to safety</del> for operation of the facility. NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.
COL 13.5(3)	The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.
COL 13.5(4)	The COL applicant is to provide a program for developing operating procedures.
COL 13.5(5)	The COL applicant is to provide a program for developing and implementing emergency operating procedures.

safety related activities

The COL application is to provide a program for developing and implementing administrative procedures.

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 112-8015  
SRP Section: 13 - Conduct of Operations  
Application Section: 13.05  
Date of RAI Issue: 07/24/2015

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### Question No. 13.05.02.01-5

#### REQUIREMENTS

The paragraph under Section 13.5.2.1.2, "Operating Procedure Program," states:

"The COL applicant is to provide a **program for developing** operating and shutdown procedures (COL 13.5(4), COL 13.5(7))."

Associated COL information items COL 13.5(4) and COL 13.5(7), under Section 13.5.3, "Combined License Information," state:

COL 13.5(4):

"The COL applicant is to provide a **program for developing** operating procedures."

COL 13.5(7):

"The COL applicant is to provide a **program for developing** shutdown procedures."

Standard Review Plan (SRP) Section 13.5.2.1, "Operating and Emergency Operating Procedures," Subsection I.2, states: "The **staff will review the applicant's program for development and implementation** of the operating procedures." SRP Section 13.5.2.1, Subsection I.1, identifies Operating Procedure classifications. Procedures that provide instructions for shutdown operations fall under the General Plant Procedures classification of Operating Procedures. Subsection I.1.B describes General Plant Procedures as: "Procedures that provide instructions for the integrated operations of the plant, e.g., startup, shutting down, **shutdown**, power operation and load changing, process monitoring, and fuel handling."

#### ISSUE

The cited text above from Sections 13.5.2.1.2 and 13.5.3 of the DCD, **only states that the COL applicant is to provide a program for development** of the Operating and Shutdown

Procedures. **The implementation aspect of the program has not been addressed.** In accordance with SRP Section 13.5.2.1, Subsection I.2, the staff reviews the COL applicant's program for both the development and implementation of these procedures. Note that both the development and implementation aspects of the program for the Emergency Operating Procedures have been addressed in Section 13.5.2.1.3 and associated COL information item COL 13.5(5) in Section 13.5.3.

The cited text above from Sections 13.5.2.1.2 and 13.5.3 of the DCD, appears to make a distinction between Operating Procedures and Shutdown Procedures. **It is unclear whether the reference to Shutdown Procedures in these sections is intended to identify a set of shutdown procedural instructions other than what is described in SRP Section 13.5.2.1, Subsection I.1.B.**

### **INFORMATION NEEDED**

Explain: (1) exclusion of the implementation aspect of the Operating Procedure program that is to be provided by the COL applicant, and (2) whether a set of shutdown procedural instructions other than what is described in SRP Section 13.5.2.1, Subsection I.1.B, exists.

Provide any changes necessary to ensure the completeness and accuracy of the information in Section 13.5.2.1.2, "Operating Procedure Program," and associated COL information items, COL 13.5(4) and COL 13.5(7), in Section 13.5.3, "Combined License Information," for the Operating Procedures.

### **Response**

To be consistent with the SRP, the implementation aspect of operating procedures will be included in the description of COL 13.5(4).

The definition of shutdown procedures was to differentiate between normal operation and shutdown operation. However, based on SRP 13.5.2.1, the definition of operating procedure includes shutdown operation. Therefore, a separate COL Item for shutdown procedures is not necessary and will be deleted.

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### **Impact on DCD**

DCD Table 1.8-2 and Sections 13.5.2.1.2 and 13.5.3 will be revised as indicated in the attached markup.

### **Impact on PRA**

There is no impact on the PRA.

### **Impact on Technical Specifications**

There is no impact on the Technical Specification.

### **Impact on Technical/Topical/Environmental Report**

There is no impact on any Technical, Topical, or Environment Reports.

**APR1400 DCD TIER 2**13.5.2.1.1 Procedure Classification

The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group in the operating organization that is responsible for maintaining the procedures and is to describe the general format and content of the different classifications (COL 13.5(3)). Each applicant's procedures do not necessarily conform precisely to the same classification because the objective is to provide reasonable assurance that procedures are available to the plant staff to accomplish the functions in NRC RG 1.33.

13.5.2.1.2 Operating Procedure Program

The COL applicant is to provide a program for a developing operating ~~and shutdown~~ procedures (COL 13.5(4), ~~COL 13.5(7)~~). The applicant is to develop target dates for completion of program elements.

and implementing

13.5.2.1.3 Emergency Operating Procedure Program

The COL applicant is to provide a program for developing and implementing emergency operating procedures (COL 13.5(5)). The applicant also is to develop target dates for completion and submittal to the NRC (as required) of program elements. The procedure-generation package includes the following:

- a. Plant-specific technical guidelines
- b. Plant-specific writer's guide
- c. Description of the program for verification and validation
- d. Description of the program for training operators

13.5.2.2 Maintenance and Other Operating Procedures

The COL applicant is to describe how other operating and maintenance procedures are classified, which group or groups within the operating organization have responsibility for

**APR1400 DCD TIER 2**

following each class of procedures, and the general objectives and character of each class and subclass (COL 13.5(6)).

**13.5.3 Combined License Information**

COL 13.5(1) The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (Reference 1 through 3).

COL 13.5(2) The COL applicant is to develop a description of administrative procedures that provide administrative control over activities that are important to safety for operation of the facility. NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.

COL 13.5(3) The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.

COL 13.5(4) The COL applicant is to provide a program for developing operating procedures.

COL 13.5(5) The COL applicant is to provide a program for developing and implementing emergency operating procedures.

and implementing

**APR1400 DCD TIER 2**

COL 13.5(6) The COL applicant is to describe how other operating and maintenance procedures are classified, which group or groups within the operating organization have the responsibility for following each class of procedures, and the general objectives and character of each class and subclass.

~~COL 13.5(7) The COL applicant is to provide a program for developing shutdown procedure.~~

#### 13.5.4 References

1. Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Rev. 3, U.S. Nuclear Regulatory Commission, June 2013.
2. ANSI/ANS 3.2, "Managerial, Administrative, and Quality Assurance Controls for Operational Phase of Nuclear Power Plants," American Nuclear Society, 2012.
3. NUREG-0899, "Guidelines for the Preparation of Emergency Operating Procedures," U.S. Nuclear Regulatory Commission, 1982.
4. NUREG-0737, "Clarification of TMI Action Plan Requirements," U.S. Nuclear Regulatory Commission, 1980.

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Table 1.8-2 (23 of 29)

Item No.	Description
COL 13.3(3)	The COL applicant is to address an emergency classification and action level scheme as required by 10 CFR 50.47(b)(4).
COL 13.3(4)	The COL applicant is to develop the security-related aspects of an emergency plan.
COL 13.3(5)	The COL applicant is to develop a multi-unit site interface plan depending on the location of the new reactor on or near an operating reactor site with an existing emergency plan.
COL 13.3(6)	The COL applicant is to develop emergency planning inspections, tests, analyses, and acceptance criteria.
COL 13.4(1)	The COL applicant is to develop operational programs and provide schedules for implementation of the programs, as defined in SECY-05-0197. The COL applicant is to provide commitments for the implementation of operational programs that are required by regulation. In some instances, the programs may be implemented in phases, where practical, and the applicant is to include the phased implementation milestones.
COL 13.4(2)	The COL applicant is responsible for developing a leakage monitoring and prevention program for the systems, as specified in Subsection 5.5.2 in Chapter 16, Technical Specifications. The leakage monitoring and prevention program is to provide suitable methods and acceptance criteria as defined in NUREG-0737, Item III.D.1.1.
COL 13.5(1)	The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures.
COL 13.5(2)	The COL applicant is to develop a description of administrative procedures that provide administrative control over activities that are important to safety for operation of the facility. NRC RG 1.33 contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them.
COL 13.5(3)	The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group within the operating organization responsible for maintaining the procedures and describe the general format and content of the different classifications.
COL 13.5(4)	The COL applicant is to provide a program for developing operating procedures.
COL 13.5(5)	The COL applicant is to provide a program for developing and implementing emergency operating procedures.



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Table 1.8-2 (24 of 29)

Item No.	Description
COL 13.5(6)	The COL applicant is to describe how other operating and maintenance procedures are classified, which group or groups within the operating organization have the responsibility for following each class of procedures, and the general objectives and character of each class and subclass.
<del>COL 13.5(7)</del>	<del>The COL applicant is to provide a program for developing shutdown procedure.</del>
COL 13.6(1)	The COL applicant is to develop a physical security plan, training and qualification plan, and safeguards contingency plan. The COL applicant is to address site-specific information related to the physical security, contingency, and guard training and qualification plans. These documents are categorized as SGI and are withheld from public disclosure pursuant to 10 CFR 73.21. The COL applicant is to address site-specific physical security ITAACs as applicable.
COL 13.6(2)	The COL applicant is to develop an access authorization program that meets the requirements of 10 CFR 73.56, and conformance with the requirement is to be specified in the physical security plan.
COL 13.6(3)	The COL applicant is to develop a cyber security plan and implementation program in accordance with 10 CFR 73.54. The plan document is categorized as SGI and is to be withheld from public disclosure pursuant to 10 CFR 2.390(d)(1).
COL 13.7(1)	The COL applicant is to develop the description of the fitness-for-duty programs during construction and for the operating plant.
COL 14.2(1)	The COL applicant is to develop the site-specific organization and staffing level appropriate for its facility.
COL 14.2(2)	The COL applicant is to prepare the site-specific test procedures and/or guidelines that are to be used for the conduct of the plant startup program.
COL 14.2(3)	The COL applicant is to prepare a startup administrative manual and also provide preoperational and startup test summaries that contain testing objectives and acceptance criteria applicable for its scope of the plant design. Testing performed at other than design operating conditions for systems is to be reconciled either through the test acceptance criteria or post-test data analysis.
COL 14.2(4)	The COL applicant is to perform review and evaluation of individual test results.
COL 14.2(5)	The COL applicant is to develop the detailed description of test and acceptance criteria for the Security System.
COL 14.2(6)	The COL applicant is to develop a schedule for the development of the plant operating and emergency procedures that should allow sufficient time for trial use of these procedures during the initial test program. The schedule for plant startup is to be developed by the COL applicant to allow sufficient time to systematically perform the required testing in each phase.
COL 14.2(7)	The COL applicant is to describe its program for reviewing available information on reactor operating and testing experiences and discusses how it used this information in developing the initial test program. The description is to include the sources and types of information reviewed, the conclusions or findings, and the effect of the review on the initial test program.

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 112-8015  
SRP Section: 13 - Conduct of Operations  
Application Section: 13.05  
Date of RAI Issue: 07/24/2015

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### Question No. 13.05.02.01-6

#### REQUIREMENTS

The paragraph under Section 13.5.2.1, "Operating and Emergency Operating Procedures," states:

"This subsection describes primarily the procedures that licensed operators perform in the MCR, which are to be developed by the COL applicant. Categories such as procedure classification, operating procedure program, and emergency operating procedure program are included but **are not necessarily the basis for classifying these procedures.**"

Standard Review Plan (SRP) Section 13.5.2.1, "Operating and Emergency Operating Procedures," Subsection I.1, states: "The SAR or other submittal should describe the different classifications of procedures the operators will use in the control room and locally in the plant for plant operations." Examples of classifications provided in Subsection I.1 of the SRP include System Procedures, General Plant Procedures, Off-Normal Condition Procedures, Emergency Operating Procedures, and Alarm Procedures.

#### ISSUE

The cited text above from Section 13.5.2.1 of the DCD is **confusing and ambiguous with respect to intent**. It is unclear what is meant by: (1) Categories such as procedure classification are included but are not necessarily the basis for classifying these procedures, (2) Categories such as operating procedure program are included but are not necessarily the basis for classifying these procedures, or (3) Categories such as emergency operating procedure program

**INFORMATION NEEDED**

Clarify the information in Section 13.5.2.1 of the DCD. Provide any changes necessary to ensure the completeness and accuracy of the information in Section 13.5.2.1, "Operating and Emergency Operating Procedures."

**Response**

To address consistency with the SRP, the terminology "but are not necessarily the basis for classifying these procedures" will be deleted as well as the use of "categories" in section 13.5.2.1 since this wording is not in accordance with the SRP and may cause confusion in the intent of the provided description.

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**Impact on DCD**

DCD section 13.5.2.1 will be revised as indicated in the attached markup.

**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical Specifications**

There is no impact on the Technical Specification.

**Impact on Technical/Topical/Environmental Report**

There is no impact on any Technical, Topical, or Environment Reports.

**APR1400 DCD TIER 2**13.5 Plant Procedures

The COL applicant is to describe the administrative and operating procedures that the operating organization (plant staff) use to provide reasonable assurance that routine operating, off-normal, and emergency activities are conducted in a safe manner. This section is not expected to include detailed written procedures. The COL applicant is to provide a brief description of the nature and content of the procedures and a schedule for the preparation of appropriate written administrative procedures (Reference 1, 2) (COL 13.5(1)).

13.5.1 Administrative Procedures

The COL applicant is to develop a description of administrative procedures that provide administrative control over activities that are important to safety for operation of the facility. NRC RG 1.33 (Reference 1) contains guidance on facility administrative policies and procedures. The COL applicant is to determine whether the portions of NRC RG 1.33 applicable to plant procedures are followed. If the guidance is not followed, the COL applicant is to develop a description of alternative methods that will be used and the manner of implementing them (COL 13.5(2)).

13.5.1.1 Administrative Procedures-General

Administrative procedures provide administrative controls for procedures and define and provide controls for operational activities of the plant staff.

13.5.2 Operating and Maintenance Procedures

The COL applicant is to develop operating and maintenance procedures.

13.5.2.1 Operating and Emergency Operating Procedures

This subsection describes primarily the procedures that licensed operators perform in the MCR, which are to be developed by the COL applicant. ~~Categories such as the procedure classification, operating procedure program, and emergency operating procedure program are included but are not necessarily the basis for classifying these procedures.~~ ↑

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 112-8015  
SRP Section: 13 - Conduct of Operations  
Application Section: 13.05  
Date of RAI Issue: 07/24/2015

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### Question No. 13.05.02.01-7

#### REQUIREMENTS

The paragraph under Section 13.5.2.1.1, "Procedure Classification," states:

"Each applicant's procedures do not necessarily conform precisely to the same classification because the objective is to provide reasonable assurance that procedures are available to the plant staff to accomplish the functions in NRC RG 1.33."

Standard Review Plan (SRP) Section 13.5.2.1, "Operating and Emergency Operating Procedures," Subsection I.1, states: "It is not necessary that each applicant's procedures conform precisely to the same classification since the objective is to ensure that procedures will be available to the plant staff to accomplish the functions contained in the listing of Regulatory Guide 1.33. For example, some licensees prefer a classification of abnormal operating procedures, whereas others may use off-normal condition procedures."

#### ISSUE

Contrary to the cited text above from Section 13.5.2.1.1 of the DCD regarding applicant procedural conformance relative to classification, **the objective, in accordance with SRP Section 13.5.2.1, Subsection I, is to "ensure" the availability of procedures to accomplish the functions contained in the listing of RG 1.33. "Providing reasonable assurance" is not the objective.**

#### INFORMATION NEEDED

Explain the use of the words "provide reasonable assurance" in place of the word "ensure."

Provide any changes necessary to ensure the completeness and accuracy of the information in Section 13.5.2.1.1, "Procedure Classification."

**Response**

To address be consistent with the SRP, the terminology "provide reasonable assurance" will be changed to the word "ensure" in Section 13.5.2.1.1.

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**Impact on DCD**

DCD section 13.5.2.1.1 will be revised as indicated in the attached markup.

**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical Specifications**

There is no impact on the Technical Specification.

**Impact on Technical/Topical/Environmental Report**

There is no impact on any Technical, Topical, or Environment Reports.

**APR1400 DCD TIER 2**13.5.2.1.1 Procedure Classification

The COL applicant is to describe the different classifications of procedures the operators use in the MCR and locally in the plant for plant operations. The COL applicant is to identify the group in the operating organization that is responsible for maintaining the procedures and is to describe the general format and content of the different classifications (COL 13.5(3)). Each applicant's procedures do not necessarily conform precisely to the same classification because the objective is to ~~provide reasonable assurance~~ that procedures are available to the plant staff to accomplish the functions in NRC RG 1.33.

13.5.2.1.2 Operating Procedure Program

ensure

The COL applicant is to provide a program for a developing operating and shutdown procedures (COL 13.5(4), COL 13.5(7)). The applicant is to develop target dates for completion of program elements.

13.5.2.1.3 Emergency Operating Procedure Program

The COL applicant is to provide a program for developing and implementing emergency operating procedures (COL 13.5(5)). The applicant also is to develop target dates for completion and submittal to the NRC (as required) of program elements. The procedure-generation package includes the following:

- a. Plant-specific technical guidelines
- b. Plant-specific writer's guide
- c. Description of the program for verification and validation
- d. Description of the program for training operators

13.5.2.2 Maintenance and Other Operating Procedures

The COL applicant is to describe how other operating and maintenance procedures are classified, which group or groups within the operating organization have responsibility for

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 112-8015  
SRP Section: 13 - Conduct of Operations  
Application Section: 13.05  
Date of RAI Issue: 07/24/2015

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### **Question No. 13.05.02.01-8**

#### **REQUIREMENTS**

The following references are listed among those identified in Standard Review Plan (SRP) Sections 13.5.1.1, "Administrative Procedures – General," and 13.5.2.1, "Operating and Emergency Operating Procedures," and are applicable to Section 13.5, "Plant Procedures," of the APR1400 DCD. Accordingly, they should be listed in Section 13.5.4, "References."

- NUREG-0737, Supplement No. 1, "Clarification of TMI Action Plan requirements: Requirements for Emergency Response Capability"
- 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"
- 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants"

#### **ISSUE**

The identified references have been excluded from Section 13.5.4, "References":

#### **INFORMATION NEEDED**

Explain exclusion of the references from Section 13.5.4 of the DCD. Provide any changes necessary to ensure the completeness and accuracy of the information in Section 13.5.4, "References."

#### **Response**

To be consistent with the SRP, DCD Section 13.5.4, References, will be revised to include NUREG-0737, Supplement No. 1, 10 CFR Part 50, and 10 CFR Part 52.

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**Impact on DCD**

DCD Section 13.5.4 will be revised as indicated in the attached markup.

**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical Specifications**

There is no impact on the Technical Specification.

**Impact on Technical/Topical/Environmental Report**

There is no impact on any Technical, Topical, or Environment Reports.


**APR1400 DCD TIER 2**

COL 13.5(6) The COL applicant is to describe how other operating and maintenance procedures are classified, which group or groups within the operating organization have the responsibility for following each class of procedures, and the general objectives and character of each class and subclass.

COL 13.5(7) The COL applicant is to provide a program for developing shutdown procedure.

**13.5.4 References**

1. Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Rev. 3, U.S. Nuclear Regulatory Commission, June 2013.
2. ANSI/ANS 3.2, "Managerial, Administrative, and Quality Assurance Controls for Operational Phase of Nuclear Power Plants," American Nuclear Society, 2012.
3. NUREG-0899, "Guidelines for the Preparation of Emergency Operating Procedures," U.S. Nuclear Regulatory Commission, 1982.
4. NUREG-0737, "Clarification of TMI Action Plan Requirements," U.S. Nuclear Regulatory Commission, 1980.

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5. NUREG-0737, Supplement No. 1, "Clarification of TMI Action Plan requirements: Requirements for Emergency Response Capability"
  6. 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"
  7. 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants"