

Section 1

Subsections 1.2 and 1.3, pages 1-2 through 1-10

These subsections provide additional background information on the development of the SSCA Report since the original March 1983 submittal. Included are other editorial changes, clarifications, and general update of the original submittal.

In addition, these pages were changed in order to reflect additional information added to the report because of the additions of Chapter 9, modifications to Table 1-1, addition of the supplemental information of August 1983, and in general more detailed information on the method used to compile the book.

page 1-14

The Condensate Storage Tank (CST) was added to this list.

Table 1-1

Table 1-1 has a new format. The table also reflects changes to the previous fire area designations. Plant locations that were not previously identified in the March 1983 SSCA Report are now identified and given fire zone numbers (6A, and 126 through 146). These new fire zones have been combined with adjacent existing fire areas. Additionally, in some cases, what were once separate fire areas have now been combined to form one larger fire area. As a result, the number of fire areas has decreased from 80 to 57, and the number of individual fire zones has increased. The combining of these fire zones and fire areas had no impact on compliance with Appendix R as demonstrated in Sections 7 and 9 fire hazards analyses and safe shutdown system evaluations.

Section 2

Subsections 2.2 and 2.3, pages 2-3 through 2-11

These subsections provide background information on the development of fire zones and fire areas as they are now identified in Revision 1 of the SSCA.

Subsection 2.4, page 2-12

Subsection 2.4 provides background information on the development of the latest combustible loadings now identified in Revision 1 of the SSCA.

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Subsection 2.5, pages 2-13 through 2-17 and Figures 2.0-a and 2.0-b

Subsection 2.5 and Figures 2.0-a and 2.0-b are new. They add the information previously submitted in the Supplemental Information Report to Revision 0 of the SSCA, Section 2, dated August 1983. Section 2 provided supplemental information to support the contention that cables in conduit embedded in concrete are not part of the fire areas.

Subsection 2.6, page 2-17 and Table 2-3

Subsection 2.6 and Table 2-3 are new. They explain and identify the maximum allowable combustible loading values (an upper bound) upon which the exemption requests (Section 7) and engineering evaluations (Section 9) for an area are now to be based. Table 2-3 only includes those fire areas involved in an exemption or evaluation. This upper bound was intended to account for small increases in the combustible loadings over time and not void the bases and conclusions of the original engineering evaluation or exemption request and its acceptance.

Table 2-1

Identifies all new areas of the plant that were previously not identified as fire zones in the 1983 Appendix R submittal. The new fire zone numbers are 6A and 129 through 146. Enhancements in the naming of the other previously identified fire zones are also noted (e.g., addition of elevations, unit designations).

Table 2-2

Table 2-2 has a new format. New columns providing actual fire load, floor area, and figure number reference are given. The actual fire load and equivalent fire severity reflect our latest fire loading surveys. These values have for the most part been revised upward. New footnotes are provided including references to the exemption requests of Section 7 and boundary evaluation of Section 9. The table also reflects changes to the previous fire area designations (i.e., the addition of new fire zones and their inclusion into existing fire areas, and the combining of previous Revision 0 fire areas into one larger fire area).

Figures 2.1 through 2.11

The fire zone and fire area boundary drawings, Figure 2.1 through 2.11, have been revised to reflect the changes in the fire zones and fire areas. These changes include the addition of new fire zones and their inclusion into existing fire areas, and the combining of previous Revision 0 fire areas into one larger fire area.

### Section 3

pages 3-1 through 3-12

Revision to the descriptions of the fire detection and suppression systems reflect editorial changes, clarifications, and general update of the original March 1983 SSCA submittal.

Figures 3-1 through 3-6

Figures 3-1 through 3-6 are new. These drawings show, in a generalized fashion, the various types of fire detection and suppression systems identified in Table 2-2 and their area of coverage.

### Section 4

page 4-12

These changes were made because of the further explanations given in the texts concerning the components/systems taken as optional (not required for Safe Shutdown but available for operator flexibility).

page 4-14

These changes are due to the adding of figure, table, and other section references to the book to better link the text and respective tables/figures.

page 4-21

These changes were made because of the further explanations given in the texts concerning the components/systems taken as optional (not required for Safe Shutdown but available for operator flexibility).

page 4-27

The first revision bar on the page supplies a specific number of gallons of water available in the condensate storage tank rather than the qualitative amount of hours of water available.

page 4-42

These changes were made because of the further explanations given in the texts concerning the components/systems taken as optional (not required for Safe Shutdown but available for operator flexibility).

pages 4-49 through 4-56

This section incorporates information provided in the previous supplemental submittal dated August 1983. In addition, this text provides more detailed information given on the criteria used in compiling the information in the SSCA and also some clarifications on this information.

## Table 4-1

Chemical and Volume Control System  
Added system boundary valves.

Reactor Coolant System  
Deleted optional pressurizer backup heaters.  
Added expanded LSI station numbers.

Main Steam System  
Added Steam Generator (Main Steam) Stop Valves  
Auxiliary support equipment.

Auxiliary Feedwater System  
Added location of Condensate Storage Tank and Cross-tie valves.  
Added system boundary valves.

Component Cooling Water System  
Added system boundary valves.

Residual Heat Removal System  
Added system boundary valves.

## Table 4-2

Added same information for Unit 2 as reported for Unit 1.

In addition, Accumulator Discharge Valves, which had been previously omitted, were added to the Residual Heat Removal System

## Original Tables 4-4, 4-5

These tables were removed and replaced by the Safe Shutdown System Analysis data books. These tables were originally put in the book as an example of the formatted information available on a zone-by-zone basis.

## Figure 4.34

These changes are due to the adding of figure, table, and other section references to the book to better link the text and respective tables/figures.

Section 5

## page 5-11

These changes were made because of the further explanations given in the texts concerning the components/systems taken as optional (not required for Safe Shutdown but available for operator flexibility). In addition, this text provides more detailed information given on the criteria used in compiling the information in the SSCA and also some clarifications on this information.

page 5-13

This text was changed to reflect the addition of LSI panels LSI-5 and LSI-6 directly next to LSI-1 and LSI-2 respectively. These two new panels were added because there was not sufficient room on LSI panels 1 and 2 for the additional instrumentation.

page 5-15

This text reflects the changes to the SSCA due to the addition of new fire zones.

Subsection 5.3.5, page 5-18

Incorporated additional fire zone into Method AS-5.

Subsection 5.4, page 5-24

Statement reflects the actual safety-related systems modified by the SSCA rather than those initially proposed by March 1983 report.

page 5-30

This text was changed to reflect the addition of LSI panels LSI-5 and LSI-6 directly next to LSI-1 and LSI-2 respectively. These two new panels were added because there was not sufficient room on LSI panels 1 and 2 for the additional instrumentation.

page 5-31

These changes are due to the adding of figure, table, and other section references to the book to better link the text and respective tables/figures.

This text was changed to reflect the addition of LSI panels LSI-5 and LSI-6 directly next to LSI-1 and LSI-2 respectively. These two new panels were added because there was not sufficient room on LSI panels 1 and 2 for the additional instrumentation.

page 5-32

These changes were made because of the further explanations given in the texts concerning the components/systems taken as optional (not required for Safe Shutdown but available for operator flexibility).

page 5-33

This text was changed to reflect the addition of LSI panels LSI-5 and LSI-6 directly next to LSI-1 and LSI-2 respectively. These two new panels were added because there was not sufficient room on LSI panels 1 and 2 for the additional instrumentation.

## Subsection 5.6.5 pages 5-35 and 5-36

Incorporated information previously provided in supplemental submittal dated August 1983.

## Tables

Incorporated expanded LSI stations numbering.

## Table 5-1

This text reflects the change to the SSCA due to the addition of new fire zones.

## Table 5-2

This text was changed to reflect the addition of LSI panels LSI-5 and LSI-6 directly next to LSI-1 and LSI-2 respectively. These two new panels were added because there was not sufficient room on LSI panels 1 and 2 for the additional instrumentation.

In addition, this text reflects the changes to the SSCA due to the addition of new fire zones.

## Table 5-6

Deleted original Table 5.6 and incorporated this information into Table 5.7.

## Table 5-7

This text was changed to reflect the addition of LSI panels LSI-5 and LSI-6 directly next to LSI-1 and LSI-2 respectively. These two new panels were added because there was not sufficient room on LSI panels 1 and 2 for the additional instrumentation.

## Table 5-8

Added additional fire zones to CCW Pump Cable Table.

Due to the changing of the last column title, additional fire zones were added to this column to complete the information.

## Table 5-9

Added additional fire zones to ESW System Cables.

The footnotes at the bottom of this table were added when design verification discovered a discrepancy in the cable numbers.

Section 6

## General Comment:

These changes were made because of the further explanations given in the texts concerning the components/systems taken as optional (not required for Safe Shutdown but available for operator flexibility).

## Subsection 6.2.2 page 6-6

Expanded the description of the repair methodology for the pressurizer heaters.

Section 7

## Subsection 7.1, pages 7-1 through 7-6

Subsection 7.1 provides background information on the development of the exemption requests as they now appear in Revision 1 of the SSCA.

## Subsections 7.2 through 7.14

The combustible loading values for the fire areas in which an exemption request has been written have been revised upward based on our latest fire loading surveys. The combustible loading values are given in the following manner. First, a combustible loading value upon which the exemption should now be based is given. This is followed by the actual combustible loading which is enclosed within parentheses. The actual combustible loading is based on our latest fire loading survey, is the same as given in Table 2-2, and is detailed in the Summary Evaluation Table following each exemption. The combustible loading value upon which the exemption should now be reviewed is based on the actual loading plus a margin and is the same as given in Table 2-3. The addition of this margin was done in order to prevent small increases in combustible materials over time from voiding the bases and conclusions of the evaluations.

When appropriate, the exemption requests make reference to the new engineering evaluations (Chapter 9) that have been performed since the original March 1983 SSCA submittal. Reference is also made, when appropriate, to the two new exemption requests (7.13 and 7.14) which were submitted and accepted after the original March, 1983 SSCA submittal.

Numerous changes reflect editorial changes, clarifications, and general update of the original March 1983 SSCA submittal.

## Subsection 7.2, pages 7-7 through 7-18

The fire area in which the exemption request was originally written has been increased to include Fire Zones 136, 137, 138A, 138B, and 138C. These new fire zones are areas of the plant that were previously not identified as fire zones in the 1983 Appendix R submittal. As demonstrated by this exemption request, the addition of these fire zones has had no effect on the exemption request.

## Subsection 7.7, pages 7-43 through 7-51 and Figures 7.7.2 and 7.7.3

The hatch between Fire Zones 29C and 29G will not be upgraded to a three-hour rating. Boundary evaluation 9.25 was performed justifying the existence of the unrated hatch.



Subsection 7.7 has been revised to reflect, where appropriate, the addition of the information previously submitted in the Supplemental Information Report to Revision 0 of the SSCA, Section 6, dated August 1983. Section 6 provided supplemental information to support Exemption Request 7.7 for Fire Zone 29G. Figures 7.7.2 and 7.7.3 were part of the Supplemental Information Report and are new to the SSCA.

Subsection 7.7.5.3, page 7-48

The cable numbers listed reflect design verification on the cable numbers and the number of cables required.

Subsection 7.8, pages 7-52 through 7-63

The fire area in which the exemption request was originally written has been increased to include Fire Zone 105. This new fire zone is an area of the plant that was previously not identified as a fire zone in the 1983 Appendix R submittal. Boundary evaluation 9.29 has been performed justifying the combining of the two fire areas.

Subsection 7.8.3, page 7-53 and Summary Evaluation Table 7.8-1,  
Item D 2, page 7-57

The automatic charcoal filter suppression system has been converted to a manual system in accordance with our previous correspondence. Refer to letter number AEP:NRC:0960, dated March 14, 1986.

Subsection 7.9.4, page 7-53

The construction of the fire zones has been clarified to identify additional portions of the fire barriers that do not have a minimum fire rating of one hour and that all construction is not of reinforced concrete. Boundary evaluations 9.23, 9.29, 9.35, and 9.38 have been performed and a new Exemption Request 7.14 was granted justifying these unrated fire area boundaries.

Subsection 7.9.3, page 7-59 and Summary Evaluation Table 7.9-1,  
Item D.2, page 7-63

The automatic charcoal filter suppression system has been converted to a manual system in accordance with our previous correspondence. Refer to letter AEP:NRC:0960, dated March 14, 1986.

Subsection 7.9.4, page 7-59

The construction of the fire zones has been clarified to identify additional portions of the fire barriers that do not have a minimum fire rating of one hour. Boundary evaluation 9.36 has been performed and a new Exemption Request 7.14 was granted justifying these unrated fire area boundaries.

#### Subsection 7.10 and Figures 7.10.1 and 7.10.4 through 7.10.9

Subsection 7.10 and Figure 7.10.1 have been revised to reflect, where appropriate, the addition of the information previously submitted in the Supplemental Information Report to Revision 0 of the SSCA, Section 7, dated August 1983. Section 7 provided supplemental information to support Exemption Request 7.10, Fire Zone 44S. Figures 7.10.4 through 7.10.9 were part of the Supplemental Information Report and are new to the SSCA.

#### Subsection 7.10.1, page 7-65

The hoods over the individual component cooling pumps are ventilation supply ducts rather than ventilation exhaust ducts. Boundary evaluation 9.3 has been performed analyzing this situation.

#### Subsection 7.11, pages 7-75 through 7-81

The floor and ceiling hatches between the control room and the cable vault below and the HVAC equipment room above will not be upgraded to a three-hour rating. Boundary evaluations 9.5 and 9.13 have been performed justifying the existence of the unrated hatches.

#### Subsection 7.12, pages 7-82 through 7-88

The floor and ceiling hatches between the control room and the cable vault below and the HVAC equipment room above will not be upgraded to a three-hour rating. Boundary evaluations 9.5 and 9.17 have been performed justifying the existence of the unrated hatches.

#### Original Subsections 7.13 through 7.20 of SSCA, Revision 0

The original Exemption Requests 7.13 through 7.20 of Revision 0 to the SSCA have been withdrawn as explained on page 7-3 and in the Supplemental Information Report to Revision 0 of the SSCA, Section 8, dated August, 1983.

#### Subsection 7.13

This is a new Exemption Request as explained on page 7-2. This exemption request was originally submitted in Supplement Two, "Appendix R Evaluation of Auxiliary Building HVAC Duct Penetration and Containment Seismic Gaps," dated August 1984.

#### Subsection 7.14

This is a new Exemption Request as explained on page 7-2. This exemption request was originally submitted in Supplement Two, "Appendix R Evaluation of Auxiliary Building HVAC Duct Penetration and Containment Seismic Gaps," dated August 1984.

Section 8

## General comment:

These changes are due to the adding of figure, table, and other section references to the book to better link the text and respective tables/figures.

pages 8-1 through 8-36

Section 8 has been revised to reflect editorial changes, clarifications, and general update of the original March 1983 SSCA submittal for the modifications performed. Included in the revision is additional background information on the proposed modifications (e.g., the reasons why a particular modification was being performed) as now identified in Revision 1 of the SSCA.

When appropriate, references are made to the new engineering evaluations in Section 9 that have been performed since the original March 1983' SSCA submittal. Reference is also made, when appropriate, to the exemption requests in Section 7.

In addition, pages 8-1, 8-4, 8-27, 8-28, and 8-33 through 8-36 provide more detailed information given on the criteria used in compiling the information in the SSCA and also some clarifications on this information.

## Subsection 8.1, page 8-4

This text reflects the changes to the SSCA due to the addition of new fire zones.

## Subsection 8.6A, pages 8-7, 8-12A, 8-13 .

These changes reflect the addition of Trays/Conduits protected as a result of further design verification.

## Subsection 8.20.3, page 8-27

This text reflects the changes to the SSCA due to the addition of new fire zones.

## Subsection 8.21.3, page 8-28

This text reflects the changes to the SSCA due to the addition of new fire zones.

## page 8-18

These changes reflect the addition of Trays/Conduits protected as a result of further design verification.

page 8-31

These changes reflect the addition of Trays/Conduits protected as a result of further design verification.

pages 8-33 through 8-36

This text was changed to reflect the addition of LSI panels LSI-5 and LSI-6 directly next to LSI-1 and LSI-2 respectively. These two new panels were added because there was not sufficient room on LSI panels 1 and 2 for the additional instrumentation.

## Section 9

Subsections 9.1 through 9.41

Section 9 is an entirely new section. It provides a compilation of fire area boundary evaluations which have been performed since the issuance of the March 1983 SSCA Report. These engineering evaluations were performed to justify unrated components of fire area boundaries, or when combining various fire areas or zones. Each evaluation was analyzed for its impact on the other evaluations and exemption requests contained in the report.



19 MAR 1987

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Mr. John Doan, Vice President  
Indiana and Michigan Electric Company  
c/o American Electric Power Service Corporation  
1 Riverside Plaza  
Columbus, Ohio 43216

SUBJECT: D. C. Cook Nuclear Plant, Units 1 and 2

The following documents concerning our review of the subject facility are transmitted for your information.

- ☐ Notice of Receipt of Application, dated \_\_\_\_\_.
- ☐ Draft/Final Environmental Statement, dated \_\_\_\_\_.
- ☐ Notice of Availability of Draft/Final Environmental Statement, dated \_\_\_\_\_.
- ☐ Safety Evaluation Report, or Supplement No. \_\_\_\_\_ dated \_\_\_\_\_.
- ☐ Environmental Assessment and Finding of No Significant Impact, dated \_\_\_\_\_.
- ☐ Notice of Consideration of Issuance of Facility Operating License or Amendment to Facility Operating License, dated \_\_\_\_\_.
- ☒ Bi-Weekly Notice; Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations, dated 03/12/87 [see page(s)] 7685/7707.
- ☐ Exemption, dated \_\_\_\_\_.
- ☐ Construction Permit No. CPPR-\_\_\_\_\_, Amendment No. \_\_\_\_\_ dated \_\_\_\_\_.
- ☐ Facility Operating License No. \_\_\_\_\_, Amendment No. \_\_\_\_\_ dated \_\_\_\_\_.
- ☐ Order Extending Construction Completion Date, dated \_\_\_\_\_.
- ☐ Monthly Operating Report for \_\_\_\_\_ transmitted by letter dated \_\_\_\_\_.
- ☐ Annual/Semi-Annual Report- \_\_\_\_\_  
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Office of Nuclear Reactor Regulation

Enclosures:  
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