

## Appendix 2A ARCON96 Source/Receptor Inputs

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

### 2A.2.1 Meteorological Data

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Add the following as the last sentence of this section.

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EF3COL 2A.2-1-A

Instrumentation heights used in the analysis are described in [Subsection 2.3.3.1.1](#) Meteorological data from 2001 through 2007 and 1985 through 1989 is used in the analysis.

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### 2A.2.3 ARCON96 ESBWR Inputs

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Replace the last sentence of the first paragraph with the following.

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EF3COL 2A.2-1-A

These directions are adjusted by the difference in angle (approximately 19 degrees counterclockwise) between the true north and the Fermi 3 plant north; Fermi 3 receptor to source directions are shown in [Table 2A-4R](#) analysis.

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### 2A.2.4 Confirmation of the ESBWR $\chi/Q$ Values

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Replace this section with the following.

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EF3COL 2A.2-1-A

DCD Figure 2A-1 shows the locations of the sources and receptors for ESBWR control room determinations, also used in the Fermi 3 evaluations. The dimensions of the diffuse source planes provided in DCD Table 2A-3 are determined as directed by RG 1.194, Regulatory Position 3.2.4.5, for the nearest receptor locations. ARCON96 calculations are performed for source/receptor pairs listed in DCD Table 2A-3 and [Table 2A-4R](#) using site-specific meteorological data. Results of the site-specific analysis are provided in [Table 2.3-301](#) and [Table 2.3-302](#) and [Table 2.3-378](#) and [Table 2.3-379](#).

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### 2A.2.5 Confirmation of the Reactor Building $\chi/Q$ Values

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Replace this section with the following.

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During refueling, doors or personnel air locks on the east sides of the Reactor Building or Fuel Building could act as a point source that could result in control room  $\chi/Q$  values that are higher than the ESBWR  $\chi/Q$  values for a release in the Reactor Building. Therefore, the doors or personnel air locks are administratively controlled to remain closed.

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**2A.3 COL Information**

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|-------------------------|---|
| <b>EF3 COL 2A.2-1-A</b> | <b>2A.2-1-A Confirmation of the ESBWR <math>\chi/Q</math> Values</b><br>This COL item is addressed in <a href="#">Subsection 2.3.4.3</a> and in <a href="#">Subsection 2A.2.4</a> . |
| <b>EF3 COL 2A.2-2-A</b> | <b>2A.2-2-A Confirmation of the Reactor Building <math>\chi/Q</math> Values</b><br>This COL item is addressed in <a href="#">Subsection 2A.2.5</a> .                                |

**Table 2A-4R ARCON 96 Input-Receptor to Source Direction [EF3 COL 2A.2-1-A]**

**Source\Receptor      Receptor to Source  
 Direction {deg.}**

RB to CBL	289
RB to EN	279
RB to ES	299
RB to N	303
RB to TSCB	231
RB to TSCA	235
PCCS to CBL	328
PCCS to EN	304
PCCS to ES	323
PCCS to N	327
PCCS to TSCB	233
PCCS to TSCA	236
TB to CBL	2
TB to EN	343
TB to ES	350
TB to N	355
TB to TSCB	251
TB to TSCA	255
TB-TD to CBL	360
TB-TD to EN	350
TB-TD to TSCB	296
FB to CBL	247
FB to EN	253
FB to ES	267
FB to N	271
RW to N	323
RB-VS to CBL	266
RB-VS to ES	280
RB-VS to N	281
TB-VS to CBL	15
TB-VS to EN	360
TB-VS to N	7
RW-VS to CBL	321
RW-VS to EN	309
RW-VS to N	323
BPN to CBL	341
BPN to EN	304
BPN to ES	325

**Table 2A-4R ARCON 96 Input-Receptor to Source Direction [EF3 COL 2A.2-1-A]**

<b>Source\Receptor</b>	<b>Receptor to Source Direction {deg.}</b>
BPNto N	334
BPS to CBL	238
BPS to EN	248
BPS to ES	274
BPS to N	278
Fermi 3 to Fermi 2	48
Fermi 2 to Fermi 3	228