

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

Add the following as the last sentence of this section.

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.

2A.2.3 ARCON96 ESBWR Inputs

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

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.

2A.2.4 Confirmation of the ESBWR χ/Q Values

Replace this section with the following.

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](#).

2A.2.5 Confirmation of the Reactor Building χ/Q Values

Replace this section with the following.

During movement of irradiated fuel, 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 χ/Q values that are higher than the ESBWR χ/Q values for a release in the Reactor Building or Fuel Building. Therefore, the doors and personnel air locks on the east sides of the Reactor Building and Fuel Building are administratively controlled to remain closed during movement of irradiated fuel.

2A.3 COL Information

| | |
|-------------------------|---|
| | 2A.2-1-A Confirmation of the ESBWR χ/Q Values |
| EF3 COL 2A.2-1-A | This COL item is addressed in Subsection 2.3.4.3 and in Subsection 2A.2.4 . |
| | 2A.2-2-A Confirmation of the Reactor Building χ/Q Values |
| EF3 COL 2A.2-2-A | This COL item is addressed in Subsection 2A.2.5 . |

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]

| Source\Receptor | Receptor to Source Direction {deg.} |
|------------------------|--|
| 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 |