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Table 3-1 Average Annual Exposure Data for Certain Categories of NRC Licensees

| NRC License Category* and Program Code                                                                                                  | Calendar Year | Number of Licensees Reporting | Number of Monitored Individuals | Number of Individuals with Measurable TEDE | Collective TEDE (person-rem) | Average TEDE (rem) | Average Measurable TEDE per Individual (rem) |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------|---------------------------------|--------------------------------------------|------------------------------|--------------------|----------------------------------------------|
| Industrial Radiography<br>03310<br>03320<br>04312<br>04313                                                                              | 2013          | 60                            | 2,925                           | 2,506                                      | 1,547.351                    | 0.53               | 0.62                                         |
|                                                                                                                                         | 2014          | 57                            | 3,288                           | 2,862                                      | 1,778.171                    | 0.54               | 0.62                                         |
|                                                                                                                                         | 2015          | 69                            | 3,426                           | 2,908                                      | 1,695.040                    | 0.49               | 0.58                                         |
|                                                                                                                                         | 2016          | 64                            | 3,035                           | 2,635                                      | 1,270.459                    | 0.42               | 0.48                                         |
|                                                                                                                                         | 2017          | 62                            | 3,389                           | 2,912                                      | 1,709.858                    | 0.50               | 0.59                                         |
|                                                                                                                                         | 2018          | 61                            | 3,876                           | 3,303                                      | 1,967.879                    | 0.51               | 0.60                                         |
|                                                                                                                                         | 2019          | 60                            | 3,732                           | 3,152                                      | 1,668.408                    | 0.45               | 0.53                                         |
|                                                                                                                                         | 2020          | 56                            | 3,058                           | 2,577                                      | 1,130.511                    | 0.37               | 0.44                                         |
|                                                                                                                                         | 2021          | 43                            | 2,331                           | 1,996                                      | 789.140                      | 0.34               | 0.40                                         |
|                                                                                                                                         | 2022          | 48                            | 2,523                           | 2,137                                      | 962.450                      | 0.38               | 0.45                                         |
|                                                                                                                                         | 2023          | 51                            | 3,241                           | 2,817                                      | 1,541.161                    | 0.48               | 0.55                                         |
| Manufacturing and Distribution<br>02500<br>03211<br>03212<br>03214                                                                      | 2013          | 20                            | 994                             | 627                                        | 114.550                      | 0.12               | 0.18                                         |
|                                                                                                                                         | 2014          | 19                            | 962                             | 656                                        | 138.631                      | 0.14               | 0.21                                         |
|                                                                                                                                         | 2015          | 21                            | 949                             | 634                                        | 155.688                      | 0.16               | 0.25                                         |
|                                                                                                                                         | 2016          | 21                            | 905                             | 606                                        | 142.958                      | 0.16               | 0.24                                         |
|                                                                                                                                         | 2017          | 21                            | 940                             | 615                                        | 139.071                      | 0.15               | 0.23                                         |
|                                                                                                                                         | 2018          | 14                            | 1,086                           | 718                                        | 136.505                      | 0.13               | 0.19                                         |
|                                                                                                                                         | 2019          | 16                            | 1,188                           | 804                                        | 147.927                      | 0.12               | 0.18                                         |
|                                                                                                                                         | 2020          | 13                            | 1,112                           | 799                                        | 134.045                      | 0.12               | 0.17                                         |
|                                                                                                                                         | 2021          | 16                            | 1,258                           | 896                                        | 181.531                      | 0.14               | 0.20                                         |
|                                                                                                                                         | 2022          | 16                            | 1,287                           | 998                                        | 182.718                      | 0.14               | 0.18                                         |
|                                                                                                                                         | 2023          | 17                            | 1,300                           | 1,034                                      | 192.289                      | 0.15               | 0.19                                         |
| Independent Spent Fuel Storage<br>23100<br>23200                                                                                        | 2013          | 2                             | 53                              | 18                                         | 1.533                        | 0.03               | 0.09                                         |
|                                                                                                                                         | 2014          | 2                             | 51                              | 22                                         | 3.192                        | 0.06               | 0.15                                         |
|                                                                                                                                         | 2015          | 2                             | 57                              | 20                                         | 1.102                        | 0.02               | 0.06                                         |
|                                                                                                                                         | 2016          | 2                             | 57                              | 22                                         | 0.579                        | 0.01               | 0.03                                         |
|                                                                                                                                         | 2017          | 2                             | 67                              | 20                                         | 0.631                        | 0.01               | 0.03                                         |
|                                                                                                                                         | 2018          | 2                             | 70                              | 17                                         | 1.740                        | 0.02               | 0.10                                         |
|                                                                                                                                         | 2019          | 2                             | 79                              | 28                                         | 1.939                        | 0.02               | 0.07                                         |
|                                                                                                                                         | 2020          | 2                             | 59                              | 19                                         | 0.454                        | 0.01               | 0.02                                         |
|                                                                                                                                         | 2021          | 2                             | 76                              | 20                                         | 0.795                        | 0.01               | 0.04                                         |
|                                                                                                                                         | 2022          | 3                             | 96                              | 27                                         | 1.891                        | 0.02               | 0.07                                         |
|                                                                                                                                         | 2023          | 2                             | 93                              | 15                                         | 0.994                        | 0.01               | 0.07                                         |
| Fuel Cycle Licenses – Fabrication, Processing, and Uranium Enrichment, and UF <sub>6</sub> Production Plants<br>11400<br>21200<br>21210 | 2013          | 8                             | 7,476                           | 3,942                                      | 357.067                      | 0.05               | 0.09                                         |
|                                                                                                                                         | 2014          | 9                             | 6,689                           | 3,685                                      | 366.224                      | 0.05               | 0.10                                         |
|                                                                                                                                         | 2015          | 7                             | 5,296                           | 3,033                                      | 327.112                      | 0.06               | 0.11                                         |
|                                                                                                                                         | 2016          | 7                             | 5,413                           | 2,999                                      | 277.687                      | 0.05               | 0.09                                         |
|                                                                                                                                         | 2017          | 7                             | 5,058                           | 2,930                                      | 254.997                      | 0.05               | 0.09                                         |
|                                                                                                                                         | 2018          | 7                             | 4,737                           | 2,783                                      | 229.530                      | 0.05               | 0.08                                         |
|                                                                                                                                         | 2019          | 7                             | 4,347                           | 2,690                                      | 250.522                      | 0.06               | 0.09                                         |
|                                                                                                                                         | 2020          | 7                             | 3,900                           | 2,755                                      | 244.264                      | 0.06               | 0.09                                         |
|                                                                                                                                         | 2021          | 7                             | 4,267                           | 2,769                                      | 238.564                      | 0.06               | 0.09                                         |
|                                                                                                                                         | 2022          | 7                             | 4,933                           | 3,464                                      | 304.805                      | 0.06               | 0.09                                         |
|                                                                                                                                         | 2023          | 7                             | 6,036                           | 4,001                                      | 329.353                      | 0.05               | 0.08                                         |
| Commercial LWRs**<br>41111                                                                                                              | 2013          | 100                           | 174,614                         | 67,236                                     | 6,759.547                    | 0.04               | 0.10                                         |
|                                                                                                                                         | 2014          | 100                           | 174,853                         | 70,847                                     | 7,124.519                    | 0.04               | 0.10                                         |
|                                                                                                                                         | 2015          | 99                            | 176,886                         | 70,798                                     | 7,019.088                    | 0.04               | 0.10                                         |
|                                                                                                                                         | 2016          | 99                            | 155,574                         | 59,353                                     | 5,365.709                    | 0.03               | 0.09                                         |
|                                                                                                                                         | 2017          | 99                            | 157,072                         | 64,761                                     | 6,416.548                    | 0.04               | 0.10                                         |
|                                                                                                                                         | 2018          | 98                            | 150,219                         | 61,014                                     | 5,829.471                    | 0.04               | 0.10                                         |
|                                                                                                                                         | 2019          | 96                            | 134,897                         | 53,615                                     | 5,080.795                    | 0.04               | 0.09                                         |
|                                                                                                                                         | 2020          | 95                            | 125,010                         | 52,820                                     | 4,899.128                    | 0.04               | 0.09                                         |
|                                                                                                                                         | 2021          | 93                            | 122,681                         | 50,667                                     | 5,303.198                    | 0.04               | 0.10                                         |
|                                                                                                                                         | 2022          | 92                            | 125,338                         | 51,010                                     | 5,085.286                    | 0.04               | 0.10                                         |
|                                                                                                                                         | 2023          | 92                            | 124,892                         | 51,049                                     | 5,552.061                    | 0.05               | 0.12                                         |
| Grand Totals and Averages                                                                                                               | 2013          | 190                           | 186,062                         | 74,329                                     | 8,780.048                    | 0.05               | 0.12                                         |
|                                                                                                                                         | 2014          | 187                           | 185,843                         | 78,072                                     | 9,410.737                    | 0.05               | 0.12                                         |
|                                                                                                                                         | 2015          | 198                           | 186,614                         | 77,393                                     | 9,198.030                    | 0.05               | 0.12                                         |
|                                                                                                                                         | 2016          | 193                           | 164,984                         | 65,615                                     | 7,057.392                    | 0.04               | 0.11                                         |
|                                                                                                                                         | 2017          | 190                           | 159,355                         | 67,341                                     | 7,909.670                    | 0.05               | 0.12                                         |
|                                                                                                                                         | 2018          | 182                           | 159,988                         | 67,835                                     | 8,165.125                    | 0.05               | 0.12                                         |
|                                                                                                                                         | 2019          | 174                           | 143,026                         | 59,765                                     | 6,590.069                    | 0.05               | 0.11                                         |
|                                                                                                                                         | 2020          | 163                           | 132,942                         | 58,501                                     | 6,109.158                    | 0.05               | 0.10                                         |
|                                                                                                                                         | 2021          | 167                           | 131,520                         | 57,293                                     | 6,755.062                    | 0.05               | 0.12                                         |
|                                                                                                                                         | 2022          | 166                           | 134,177                         | 57,636                                     | 6,537.150                    | 0.05               | 0.11                                         |
|                                                                                                                                         | 2023          | 169                           | 135,562                         | 58,916                                     | 7,615.858                    | 0.06               | 0.13                                         |

NOTE: The data shown in this table for all categories of licensees have not been adjusted to account for transient workers (see section 5).

\* These categories consist only of NRC licensees required to submit an annual report (see section 2).

\*\* This category includes all light-water reactors (LWRs) in commercial operation for a full year for each of the years indicated.

## DRAFT Tables and Figures

Table 3-2 Distribution of Annual Collective TEDE by License Category 2023

| License Category<br>(Number of sites reporting) | Number of Individuals with TEDE in the Ranges (rem) * |                |               |               |               |              |             |             |             |             |      | Total<br>Number<br>Monitored | Number with<br>Meas. Dose | Total Collective<br>Dose (TEDE)<br>(person-rem) |
|-------------------------------------------------|-------------------------------------------------------|----------------|---------------|---------------|---------------|--------------|-------------|-------------|-------------|-------------|------|------------------------------|---------------------------|-------------------------------------------------|
|                                                 | No.<br>Meas.                                          | Meas.<br><0.01 | 0.10–<br>0.25 | 0.25–<br>0.50 | 0.50–<br>0.75 | 0.75–<br>1.0 | 1.0–<br>2.0 | 2.0–<br>3.0 | 3.0–<br>4.0 | 4.0–<br>5.0 | >5.0 |                              |                           |                                                 |
| INDUSTRIAL RADIOGRAPHY                          |                                                       |                |               |               |               |              |             |             |             |             |      |                              |                           |                                                 |
| Fixed Locations (2)                             | 4                                                     | 7              | 1             | -             | -             | -            | -           | -           | -           | -           | -    | 12                           | 8                         | 0.409                                           |
| 1–5 Temporary Job Sites (45)                    | 319                                                   | 556            | 338           | 356           | 252           | 174          | 359         | 83          | 24          | 4           | -    | 2,465                        | 2,146                     | 1,314.182                                       |
| 6–20 Temporary Job Sites (4)                    | 101                                                   | 204            | 137           | 173           | 76            | 35           | 35          | 2           | 1           | -           | -    | 764                          | 663                       | 226.570                                         |
| Total (51)                                      | 424                                                   | 767            | 476           | 529           | 328           | 209          | 394         | 85          | 25          | 4           | -    | 3,241                        | 2,817                     | 1,541.161                                       |
| MANUFACTURING AND DISTRIBUTION                  |                                                       |                |               |               |               |              |             |             |             |             |      |                              |                           |                                                 |
| Type "A" Broad (2)                              | 45                                                    | 247            | 62            | 40            | 15            | 11           | 31          | 11          | -           | -           | -    | 465                          | 420                       | 134.366                                         |
| Type "B" Broad and Other (0)                    | -                                                     | -              | -             | -             | -             | -            | -           | -           | -           | -           | -    | -                            | -                         | -                                               |
| Nuclear Pharmacies (15)                         | 221                                                   | 443            | 116           | 36            | 13            | 3            | 3           | -           | -           | -           | -    | 835                          | 614                       | 57.923                                          |
| Total (17)                                      | 266                                                   | 690            | 178           | 76            | 28            | 14           | 34          | 11          | -           | -           | -    | 1,300                        | 1,034                     | 192.289                                         |
| INDEPENDENT SPENT FUEL STORAGE                  |                                                       |                |               |               |               |              |             |             |             |             |      |                              |                           |                                                 |
| Total (2)                                       | 78                                                    | 11             | 2             | 2             | -             | -            | -           | -           | -           | -           | -    | 93                           | 15                        | 0.994                                           |
| FUEL CYCLE**                                    |                                                       |                |               |               |               |              |             |             |             |             |      |                              |                           |                                                 |
| Total (7)                                       | 2,035                                                 | 3,047          | 537           | 307           | 93            | 13           | 1           | -           | -           | -           | -    | 6,036                        | 4,001                     | 329.353                                         |
| COMMERCIAL POWER REACTORS***                    |                                                       |                |               |               |               |              |             |             |             |             |      |                              |                           |                                                 |
| Boiling Water (31)                              | 22,051                                                | 16,651         | 5,310         | 2,625         | 879           | 377          | 288         | 5           | -           | -           | -    | 48,186                       | 26,135                    | 3,607.444                                       |
| Pressurized Water (61)                          | 51,792                                                | 19,074         | 4,325         | 1,215         | 234           | 46           | 20          | -           | -           | -           | -    | 76,706                       | 24,914                    | 1,944.617                                       |
| Total (92)                                      | 73,843                                                | 35,725         | 9,635         | 3,840         | 1,113         | 423          | 308         | 5           | -           | -           | -    | 124,892                      | 51,049                    | 5,552.061                                       |
| GRAND TOTALS                                    | 76,646                                                | 40,240         | 10,828        | 4,754         | 1,562         | 659          | 737         | 101         | 25          | 4           | -    | 135,562                      | 58,916                    | 7,615.858                                       |

NOTE: The data shown in this table for all categories of licensees have not been adjusted to account for transient workers (see Section 5).

\* Dose values exactly equal to the values separating ranges are reported in the next higher range.

\*\* This category includes fabrication, processing, and uranium enrichment plants (see Section 3.3.5).

\*\*\* This category includes all reactors in commercial operation for a full year during 2023. Vogtle 3 became operational July 31, 2023, and is not included in these values. These values have not been adjusted for the multiple counting of transient reactor workers (see Section 5).

**Table 3-3 Annual Exposure Information for Industrial Radiography Licensees 2021–2023**

| Year | Type of License          | Number of Licensees | Number of Monitored Individuals | Individuals with Measurable Dose | Collective Dose (person-rem) | Average Measurable Dose (rem) |
|------|--------------------------|---------------------|---------------------------------|----------------------------------|------------------------------|-------------------------------|
| 2021 | Fixed Location           | 2                   | 10                              | 9                                | 2.513                        | 0.28                          |
|      | 1–5 Temporary Job Sites  | 37                  | 1,243                           | 1,070                            | 527.537                      | 0.49                          |
|      | 6–20 Temporary Job Sites | 4                   | 1,078                           | 917                              | 259.090                      | 0.28                          |
|      | <b>Total</b>             | <b>43</b>           | <b>2,331</b>                    | <b>1,996</b>                     | <b>789.140</b>               | <b>0.40</b>                   |
| 2022 | Fixed Location           | 2                   | 11                              | 6                                | 1.565                        | 0.26                          |
|      | 1–5 Temporary Job Sites  | 42                  | 1,699                           | 1,449                            | 747.824                      | 0.52                          |
|      | 6–20 Temporary Job Sites | 4                   | 813                             | 682                              | 213.061                      | 0.31                          |
|      | <b>Total</b>             | <b>48</b>           | <b>2,523</b>                    | <b>2,137</b>                     | <b>962.450</b>               | <b>0.45</b>                   |
| 2023 | Fixed Location           | 2                   | 12                              | 8                                | 0.409                        | 0.05                          |
|      | 1–5 Temporary Job Sites  | 45                  | 2,465                           | 2,146                            | 1,314.182                    | 0.61                          |
|      | 6–20 Temporary Job Sites | 4                   | 764                             | 663                              | 226.570                      | 0.34                          |
|      | <b>Total</b>             | <b>51</b>           | <b>3,241</b>                    | <b>2,817</b>                     | <b>1,541.161</b>             | <b>0.55</b>                   |

**Table 3-4 Annual Exposure Information for Manufacturing and Distribution Licensees 2021–2023**

| Year | Type of License                  | Number of Licensees | Number of Monitored Individuals | Individuals with Measurable Dose | Collective Dose (person-rem) | Average Measurable Dose (rem) |
|------|----------------------------------|---------------------|---------------------------------|----------------------------------|------------------------------|-------------------------------|
| 2021 | M & D - Type "A" Broad           | 2                   | 418                             | 346                              | 134.309                      | 0.39                          |
|      | M & D - Type "B" Broad and Other | 0                   | 0                               | 0                                | 0.000                        | 0.00                          |
|      | M & D - Nuclear Pharmacies       | 14                  | 840                             | 550                              | 47.222                       | 0.09                          |
|      | <b>Total</b>                     | <b>16</b>           | <b>1,258</b>                    | <b>896</b>                       | <b>181.531</b>               | <b>0.20</b>                   |
| 2022 | M & D - Type "A" Broad           | 2                   | 443                             | 393                              | 129.751                      | 0.33                          |
|      | M & D - Type "B" Broad and Other | 0                   | 0                               | 0                                | 0.000                        | 0.00                          |
|      | M & D - Nuclear Pharmacies       | 14                  | 844                             | 605                              | 52.967                       | 0.09                          |
|      | <b>Total</b>                     | <b>16</b>           | <b>1,287</b>                    | <b>998</b>                       | <b>182.718</b>               | <b>0.18</b>                   |
| 2023 | M & D - Type "A" Broad           | 2                   | 465                             | 420                              | 134.366                      | 0.32                          |
|      | M & D - Type "B" Broad and Other | 0                   | 0                               | 0                                | 0.000                        | 0.00                          |
|      | M & D - Nuclear Pharmacies       | 15                  | 835                             | 614                              | 57.923                       | 0.09                          |
|      | <b>Total</b>                     | <b>17</b>           | <b>1,300</b>                    | <b>1,034</b>                     | <b>192.289</b>               | <b>0.19</b>                   |

**Table 3-5 Annual Exposure Information for Fuel Cycle Licensees 2021–2023**

| Year | Type of License | Number of Licensees | Number of Monitored Individuals | Individuals with Meas. TEDE | Collective TEDE (person-rem) | Average Meas. TEDE (rem) | Individuals with Meas. DDE | Collective DDE (person-rem) | Average Meas. DDE (rem) | Individuals with Meas. CEDE | Collective CEDE (person-rem) | Average Meas. CEDE (rem) |
|------|-----------------|---------------------|---------------------------------|-----------------------------|------------------------------|--------------------------|----------------------------|-----------------------------|-------------------------|-----------------------------|------------------------------|--------------------------|
| 2021 | Fuel Cycle      | 7                   | 4,267                           | 2,769                       | 238.564                      | 0.09                     | 1,920                      | 141.244                     | 0.07                    | 1,841                       | 97.320                       | 0.05                     |
| 2022 | Fuel Cycle      | 7                   | 4,933                           | 3,464                       | 304.805                      | 0.09                     | 2,757                      | 194.757                     | 0.07                    | 2,296                       | 110.048                      | 0.05                     |
| 2023 | Fuel Cycle      | 7                   | 6,036                           | 4,001                       | 329.353                      | 0.08                     | 3,218                      | 219.769                     | 0.07                    | 2,364                       | 109.676                      | 0.05                     |

**Table 3-6 Intake by Licensee Category and Radionuclide Mode of Intake–Ingestion 2023**

| Mode      | Licensee Category     | Program Code | Radionuclide | Number of Intake Records | Collective Intake in microcuries (sci. notation) |
|-----------|-----------------------|--------------|--------------|--------------------------|--------------------------------------------------|
| Ingestion | Nuclear Power Reactor | 41111        | Co-58        | 1                        | 5.54E-02                                         |
|           | Nuclear Power Reactor | 41111        | Co-60        | <b>3</b>                 | <b>6.34E-01</b>                                  |

NOTE: The data values shown in bold and boxed represent the highest value in each category.

## DRAFT Tables and Figures

Table 3-7 Intake by Licensee Category and Radionuclide Mode of Intake–Inhalation 2023

| Licensee Category              | Program Code | Radionuclide | Pulmonary Clearance Class or Solubility Type | Number of Intake Records * | Collective Intake in microcuries (sci. notation) |
|--------------------------------|--------------|--------------|----------------------------------------------|----------------------------|--------------------------------------------------|
| Nuclear Pharmacies             | 02500        | I-123        | W                                            | 16                         | 2.14E-01                                         |
|                                | 02500        | I-131        | D                                            | 4                          | 8.60E-01                                         |
|                                | 02500        | I-131        | W                                            | <b>89</b>                  | <b>2.59E+00</b>                                  |
| Nuclear Power Reactor          | 41111        | Ag-110M      | Y                                            | 2                          | 5.60E-02                                         |
|                                | 41111        | Am-241       | W                                            | 1                          | 1.65E-05                                         |
|                                | 41111        | C-14         | Y                                            | 2                          | 5.20E-05                                         |
|                                | 41111        | Co-60        | Y                                            | 31                         | 1.49E+00                                         |
|                                | 41111        | Cs-137       | D                                            | 3                          | 3.00E-02                                         |
|                                | 41111        | Fe-55        | D                                            | 4                          | 3.44E-01                                         |
|                                | 41111        | H-3          | V                                            | <b>58</b>                  | <b>1.06E+03</b>                                  |
|                                | 41111        | Mn-54        | D                                            | 1                          | 5.90E-02                                         |
|                                | 41111        | Ni-59        | W                                            | 2                          | 3.30E-04                                         |
|                                | 41111        | Ni-63        | D                                            | 4                          | 5.00E-01                                         |
|                                | 41111        | P-239        | Y                                            | 1                          | 2.04E-05                                         |
|                                | 41111        | Pu-241       | W                                            | 2                          | 1.73E-05                                         |
|                                | 41111        | Sr-90        | Y                                            | 1                          | 1.40E-02                                         |
| Uranium Fuel Processing Plants | 21210        | Am-241       | M                                            | 50                         | 4.10E-05                                         |
|                                | 21210        | Pu-239       | M                                            | 69                         | 1.57E-04                                         |
|                                | 21210        | Sr-90        | S                                            | 295                        | 5.84E-01                                         |
|                                | 21210        | Th-232       | M                                            | 12                         | 4.56E-04                                         |
|                                | 21210        | Th-232       | S                                            | 4                          | 3.38E-05                                         |
|                                | 21210        | U-232        | Y                                            | 64                         | 2.46E-04                                         |
|                                | 21210        | U-234        | D                                            | 88                         | 6.82E-02                                         |
|                                | 21210        | U-234        | F                                            | 727                        | 1.01E-01                                         |
|                                | 21210        | U-234        | M                                            | 595                        | 9.75E-03                                         |
|                                | 21210        | U-234        | S                                            | <b>1,760</b>               | <b>1.84E+00</b>                                  |
|                                | 21210        | U-234        | W                                            | 35                         | 4.45E-02                                         |
|                                | 21210        | U-234        | Y                                            | 465                        | 5.93E-01                                         |
|                                | 21210        | U-235        | D                                            | 82                         | 2.43E-03                                         |
|                                | 21210        | U-235        | S                                            | 277                        | 5.13E-02                                         |
|                                | 21210        | U-235        | W                                            | 35                         | 1.65E-03                                         |
|                                | 21210        | U-235        | Y                                            | 201                        | 2.03E-02                                         |
|                                | 21210        | U-236        | D                                            | 82                         | 1.04E-04                                         |
|                                | 21210        | U-236        | F                                            | 683                        | 1.00E-03                                         |
|                                | 21210        | U-236        | S                                            | 47                         | 4.89E-04                                         |
|                                | 21210        | U-236        | W                                            | 35                         | 7.06E-05                                         |
|                                | 21210        | U-236        | Y                                            | 201                        | 8.54E-03                                         |
|                                | 21210        | U-238        | D                                            | 88                         | 9.34E-03                                         |
|                                | 21210        | U-238        | M                                            | 530                        | 2.91E-04                                         |
|                                | 21210        | U-238        | S                                            | 279                        | 1.80E-01                                         |
|                                | 21210        | U-238        | W                                            | 35                         | 6.04E-03                                         |
|                                | 21210        | U-238        | Y                                            | 465                        | 7.81E-02                                         |

NOTE: The data values shown in bold and boxed represent the highest value in each category.

\* An intake event may involve multiple nuclides; individuals may incur multiple intakes during the year. The number of intake records given here indicates the number of separate intake reports that were submitted on NRC Form 5 reports under 10 CFR 20.2206.

## DRAFT Tables and Figures

**Table 3-7 Intake by Licensee Category and Radionuclide Mode of Intake—Inhalation 2023 (continued)**

| Licensee Category                                         | Program Code | Radionuclide | Pulmonary Clearance Class or Solubility Type | Number of Intake Records * | Collective Intake in microcuries (sci. notation) |
|-----------------------------------------------------------|--------------|--------------|----------------------------------------------|----------------------------|--------------------------------------------------|
| Uranium Hexafluoride (UF <sub>6</sub> ) Production Plants | 11400        | Ac-227       | D                                            | 2                          | 2.00E-06                                         |
|                                                           | 11400        | Ac-227       | W                                            | 301                        | 5.93E-04                                         |
|                                                           | 11400        | Pa-231       | D                                            | 2                          | 2.00E-06                                         |
|                                                           | 11400        | Pa-231       | W                                            | 301                        | 5.93E-04                                         |
|                                                           | 11400        | Pb-210       | D                                            | 2                          | 2.00E-06                                         |
|                                                           | 11400        | Pb-210       | W                                            | 265                        | 4.67E-04                                         |
|                                                           | 11400        | Po-210       | D                                            | 2                          | 2.00E-06                                         |
|                                                           | 11400        | Po-210       | W                                            | 231                        | 3.69E-04                                         |
|                                                           | 11400        | Ra-226       | D                                            | 4                          | 7.00E-06                                         |
|                                                           | 11400        | Ra-226       | W                                            | 449                        | 1.45E-03                                         |
|                                                           | 11400        | Ra-228       | D                                            | 1                          | 1.00E-06                                         |
|                                                           | 11400        | Ra-228       | W                                            | 211                        | 3.33E-04                                         |
|                                                           | 11400        | Th-228       | D                                            | 1                          | 1.00E-06                                         |
|                                                           | 11400        | Th-228       | W                                            | 211                        | 3.33E-04                                         |
|                                                           | 11400        | Th-230       | D                                            | 11                         | 7.30E-05                                         |
|                                                           | 11400        | Th-230       | W                                            | 727                        | 1.50E-02                                         |
|                                                           | 11400        | Th-232       | D                                            | 1                          | 1.00E-06                                         |
|                                                           | 11400        | Th-232       | W                                            | 211                        | 3.33E-04                                         |
|                                                           | 11400        | U-234        | D                                            | 11                         | 6.78E-03                                         |
|                                                           | 11400        | U-234        | W                                            | <b>738</b>                 | <b>1.38E+00</b>                                  |
|                                                           | 11400        | U-235        | D                                            | 11                         | 3.16E-04                                         |
|                                                           | 11400        | U-235        | W                                            | <b>738</b>                 | 6.44E-02                                         |
|                                                           | 11400        | U-238        | D                                            | 11                         | 5.66E-03                                         |
|                                                           | 11400        | U-238        | W                                            | <b>738</b>                 | 1.15E+00                                         |

NOTE: The data values shown in bold and boxed represent the highest value in each category.

\* An intake event may involve multiple nuclides; individuals may incur multiple intakes during the year. The number of intake records given here indicates the number of separate intake reports that were submitted on NRC Form 5 reports under 10 CFR 20.2206.

## DRAFT Tables and Figures

Table 3-8 Collective and Average CEDE by Licensee Category 2023

| Licensee Category                     | Licensee Name                                  | License Number | Number with Meas. CEDE | Collective CEDE (person-rem) | Average Meas. CEDE (rem) |
|---------------------------------------|------------------------------------------------|----------------|------------------------|------------------------------|--------------------------|
| <b>MANUFACTURING AND DISTRIBUTION</b> |                                                |                |                        |                              |                          |
| 02500                                 | CARDINAL HEALTH                                | 34-29200-01MD  | <b>30</b>              | 0.067                        | 0.002                    |
| 02500                                 | CARDINAL HEALTH                                | 34-31473-02MD  | 4                      | 0.004                        | 0.001                    |
| 02500                                 | PHARMALOGIC MT, INC.                           | 09-29398-01MD  | 2                      | <b>0.193</b>                 | <b>0.097</b>             |
| 02500                                 | RLS - KENTWOOD                                 | 21-26707-01MD  | 1                      | 0.006                        | 0.006                    |
|                                       | RLS - LIVONIA                                  | 21-24828-01MD  | 3                      | 0.017                        | 0.006                    |
|                                       | <b>Totals and Averages</b>                     |                | <b>40</b>              | <b>0.287</b>                 | <b>0.007</b>             |
| <b>UF<sub>6</sub> PRODUCTION</b>      |                                                |                |                        |                              |                          |
| 11400                                 | HONEYWELL PERFORMANCE MATERIALS AND TECHNOLOGY | SUB-0526       | <b>738</b>             | <b>19.852</b>                | <b>0.027</b>             |
|                                       | <b>Totals and Averages</b>                     |                | <b>738</b>             | <b>19.852</b>                | <b>0.027</b>             |
| <b>FUEL FABRICATION</b>               |                                                |                |                        |                              |                          |
| 21210                                 | BWX TECHNOLOGIES, INC                          | SNM-0042       | 278                    | 9.943                        | 0.036                    |
| 21210                                 | FRAMATOME INC                                  | SNM-1227       | 201                    | 17.365                       | 0.086                    |
| 21210                                 | GLOBAL NUCLEAR FUEL - AMERICAS, LLC            | SNM-1097       | 266                    | 20.912                       | 0.079                    |
| 21210                                 | NUCLEAR FUEL SERVICES, INC.                    | SNM-0124       | <b>604</b>             | 3.414                        | 0.006                    |
| 21210                                 | WESTINGHOUSE ELECTRIC COMPANY, LLC             | SNM-1107       | 277                    | <b>38.190</b>                | <b>0.138</b>             |
|                                       | <b>Totals and Averages</b>                     |                | <b>1,626</b>           | <b>89.824</b>                | <b>0.055</b>             |
| <b>COMMERCIAL LWRs</b>                |                                                |                |                        |                              |                          |
| 41111                                 | ARKANSAS                                       | DPR-51         | 2                      | 0.015                        | 0.008                    |
| 41111                                 | BRUNSWICK                                      | DPR-62         | 1                      | 0.011                        | <b>0.011</b>             |
| 41111                                 | RIVER BEND                                     | NPF-47         | 24                     | <b>0.158</b>                 | 0.007                    |
| 41111                                 | WATERFORD                                      | NPF-38         | <b>39</b>              | 0.070                        | 0.002                    |
| 41111                                 | MILLSTONE                                      | NPF-49         | 3                      | 0.013                        | 0.004                    |
|                                       | <b>Totals and Averages</b>                     |                | 69                     | 0.267                        | 0.004                    |
| <b>Grand Totals and Averages</b>      |                                                |                | <b>2,473</b>           | <b>110.230</b>               | <b>0.045</b>             |

NOTE: The data values shown in bold and boxed represent the highest value in each category.



**Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities 2023**  
**DRAFT Tables and Figures**

**Table 3-9 Internal Dose (CEDE) Distribution 1994–2023**

| Year | Number of Individuals with CEDE in the Ranges (rem) * |             |             |             |             |           |         |         |         |         | Indiv. with Meas. CEDE | Collective CEDE (person-rem) | Average Meas. CEDE (rem) |
|------|-------------------------------------------------------|-------------|-------------|-------------|-------------|-----------|---------|---------|---------|---------|------------------------|------------------------------|--------------------------|
|      | Meas. 0.020                                           | 0.020–0.100 | 0.100–0.250 | 0.250–0.500 | 0.500–0.750 | 0.750–1.0 | 1.0–2.0 | 2.0–3.0 | 3.0–4.0 | 4.0–5.0 |                        |                              |                          |
| 1994 | 3,425                                                 | 577         | 287         | 683         | 237         | 141       | 293     | 69      | 2       | -       | 5,714                  | 1,170.453                    | 0.205                    |
| 1995 | 2,869                                                 | 691         | 338         | 730         | 254         | 147       | 290     | 49      | 2       | -       | 5,370                  | 1,167.105                    | 0.217                    |
| 1996 | 3,096                                                 | 598         | 305         | 584         | 324         | 138       | 187     | 22      | 2       | 2       | 5,258                  | 931.799                      | 0.177                    |
| 1997 | 3,835                                                 | 869         | 381         | 827         | 267         | 148       | 169     | 30      | -       | -       | 6,526                  | 998.406                      | 0.153                    |
| 1998 | 3,310                                                 | 932         | 426         | 746         | 246         | 140       | 153     | 21      | 2       | -       | 5,976                  | 922.935                      | 0.154                    |
| 1999 | 3,423                                                 | 752         | 466         | 438         | 206         | 117       | 173     | 29      | -       | -       | 5,604                  | 813.605                      | 0.145                    |
| 2000 | 3,275                                                 | 1001        | 570         | 383         | 216         | 98        | 224     | 58      | 7       | 1       | 5,833                  | 988.640                      | 0.169                    |
| 2001 | 1,774                                                 | 827         | 716         | 364         | 128         | 53        | 146     | 82      | 15      | 1       | 4,106                  | 884.134                      | 0.215                    |
| 2002 | 1,760                                                 | 746         | 647         | 531         | 144         | 33        | 23      | 3       | -       | -       | 3,887                  | 494.821                      | 0.127                    |
| 2003 | 2,208                                                 | 778         | 726         | 388         | 116         | 17        | 5       | -       | -       | -       | 4,238                  | 395.573                      | 0.093                    |
| 2004 | 1,989                                                 | 838         | 657         | 381         | 105         | 17        | 3       | -       | -       | -       | 3,990                  | 375.021                      | 0.094                    |
| 2005 | 1,205                                                 | 706         | 685         | 341         | 98          | 33        | 2       | -       | -       | -       | 3,070                  | 365.258                      | 0.119                    |
| 2006 | 1,302                                                 | 726         | 686         | 346         | 96          | 18        | 3       | -       | -       | -       | 3,177                  | 346.918                      | 0.109                    |
| 2007 | 1,480                                                 | 805         | 646         | 310         | 52          | 5         | 3       | -       | -       | -       | 3,301                  | 300.863                      | 0.091                    |
| 2008 | 1,008                                                 | 761         | 526         | 303         | 41          | 8         | 4       | -       | -       | -       | 2,651                  | 267.415                      | 0.101                    |
| 2009 | 1,115                                                 | 711         | 597         | 229         | 80          | 21        | 7       | -       | -       | -       | 2,760                  | 293.251                      | 0.106                    |
| 2010 | 1,216                                                 | 884         | 669         | 210         | 67          | 30        | 6       | -       | -       | -       | 3,082                  | 308.332                      | 0.100                    |
| 2011 | 1,243                                                 | 916         | 628         | 270         | 72          | 19        | 14      | 1       | -       | -       | 3,163                  | 322.615                      | 0.102                    |
| 2012 | 1,158                                                 | 933         | 554         | 155         | 52          | 6         | 3       | -       | -       | -       | 2,861                  | 232.462                      | 0.081                    |
| 2013 | 1,632                                                 | 758         | 353         | 149         | 20          | 1         | -       | -       | -       | -       | 2,913                  | 164.799                      | 0.057                    |
| 2014 | 1,175                                                 | 829         | 417         | 86          | 24          | 1         | -       | -       | -       | -       | 2,532                  | 157.191                      | 0.062                    |
| 2015 | 1,036                                                 | 838         | 442         | 103         | 16          | -         | -       | -       | -       | -       | 2,435                  | 162.670                      | 0.067                    |
| 2016 | 1,100                                                 | 920         | 407         | 69          | 7           | -         | -       | -       | -       | -       | 2,503                  | 144.627                      | 0.058                    |
| 2017 | 1,073                                                 | 766         | 324         | 99          | 6           | -         | -       | -       | -       | -       | 2,268                  | 128.373                      | 0.057                    |
| 2018 | 1,159                                                 | 489         | 297         | 99          | 1           | -         | -       | -       | -       | -       | 2,045                  | 112.004                      | 0.055                    |
| 2019 | 1,096                                                 | 482         | 318         | 91          | 3           | 1         | -       | -       | -       | -       | 1,991                  | 111.187                      | 0.056                    |
| 2020 | 978                                                   | 484         | 291         | 75          | 2           | -         | -       | -       | -       | -       | 1,830                  | 99.151                       | 0.054                    |
| 2021 | 1,141                                                 | 475         | 268         | 81          | 2           | 1         | -       | -       | -       | -       | 1,968                  | 99.971                       | 0.051                    |
| 2022 | 1,352                                                 | 665         | 266         | 90          | 4           | 0         | -       | -       | -       | -       | 2,377                  | 110.594                      | 0.047                    |
| 2023 | 1,446                                                 | 657         | 302         | 65          | 3           | 0         | -       | -       | -       | -       | 2,473                  | 110.230                      | 0.045                    |

\* Dose values exactly equal to the values separating ranges are reported in the next higher range.

## DRAFT Tables and Figures

Table 4-1 Summary of Information Reported by Commercial Boiling-Water Reactors 1994–2023

| Year | Number of Reactors Included* | No. of Individuals with Measurable Dose** | Annual Collective Dose (person-rem) | Average Measurable Dose per Individual (rem)** | Average Collective Dose per Reactor (person-rem) | Average No. Individuals with Measurable Doses per Reactor** | Electricity Generated*** (MW-yr) | Average Collective Dose per MW-yr (person-rem/MW-yr) | Average Electricity Generated per Reactor (MW-yr) | Average Maximum Dependable Capacity Net (MWe) | Maximum Dependable Capacity Achieved |
|------|------------------------------|-------------------------------------------|-------------------------------------|------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|----------------------------------|------------------------------------------------------|---------------------------------------------------|-----------------------------------------------|--------------------------------------|
| 1994 | 37                           | 39,171                                    | 12,098                              | 0.31                                           | 327                                              | 1,059                                                       | 22,139.0                         | 0.55                                                 | 598                                               | 801                                           | 75%                                  |
| 1995 | 37                           | 35,686                                    | 9,471                               | 0.27                                           | 256                                              | 964                                                         | 24,737.0                         | 0.38                                                 | 669                                               | 835                                           | 80%                                  |
| 1996 | 37                           | 37,792                                    | 9,466                               | 0.25                                           | 256                                              | 1,021                                                       | 24,322.2                         | 0.39                                                 | 657                                               | 838                                           | 78%                                  |
| 1997 | 37                           | 34,021                                    | 7,603                               | 0.22                                           | 205                                              | 919                                                         | 22,866.1                         | 0.33                                                 | 618                                               | 845                                           | 73%                                  |
| 1998 | 36                           | 32,899                                    | 6,829.296                           | 0.21                                           | 190                                              | 914                                                         | 23,781.2                         | 0.29                                                 | 661                                               | 874                                           | 76%                                  |
| 1999 | 35                           | 31,482                                    | 6,434.430                           | 0.20                                           | 184                                              | 899                                                         | 26,962.6                         | 0.24                                                 | 770                                               | 885                                           | 87%                                  |
| 2000 | 35                           | 31,186                                    | 6,089.676                           | 0.20                                           | 174                                              | 891                                                         | 28,476.9                         | 0.21                                                 | 814                                               | 893                                           | 91%                                  |
| 2001 | 35                           | 28,797                                    | 4,835.397                           | 0.17                                           | 138                                              | 823                                                         | 28,730.4                         | 0.17                                                 | 821                                               | 895                                           | 92%                                  |
| 2002 | 35                           | 30,978                                    | 6,107.767                           | 0.20                                           | 175                                              | 885                                                         | 29,460.0                         | 0.21                                                 | 842                                               | 907                                           | 93%                                  |
| 2003 | 35                           | 30,759                                    | 5,659.434                           | 0.18                                           | 162                                              | 879                                                         | 29,094.4                         | 0.19                                                 | 831                                               | 912                                           | 91%                                  |
| 2004 | 35                           | 33,948                                    | 5,450.982                           | 0.16                                           | 156                                              | 970                                                         | 29,424.8                         | 0.19                                                 | 841                                               | 893                                           | 94%                                  |
| 2005 | 35                           | 33,544                                    | 5,995.975                           | 0.18                                           | 171                                              | 958                                                         | 29,386.8                         | 0.20                                                 | 840                                               | 946                                           | 89%                                  |
| 2006 | 35                           | 34,159                                    | 4,989.761                           | 0.15                                           | 143                                              | 976                                                         | 30,238.4                         | 0.17                                                 | 864                                               | 954                                           | 91%                                  |
| 2007 | 35                           | 37,515                                    | 5,388.416                           | 0.14                                           | 154                                              | 1,072                                                       | 30,189.3                         | 0.18                                                 | 863                                               | 955                                           | 90%                                  |
| 2008 | 35                           | 34,642                                    | 4,522.413                           | 0.13                                           | 129                                              | 990                                                         | 31,248.3                         | 0.14                                                 | 893                                               | 957                                           | 93%                                  |
| 2009 | 35                           | 36,207                                    | 5,282.869                           | 0.15                                           | 151                                              | 1,034                                                       | 30,762.7                         | 0.17                                                 | 879                                               | 959                                           | 92%                                  |
| 2010 | 35                           | 37,214                                    | 4,807.656                           | 0.13                                           | 137                                              | 1,063                                                       | 31,274.6                         | 0.15                                                 | 894                                               | 961                                           | 93%                                  |
| 2011 | 35                           | 38,202                                    | 4,976.503                           | 0.13                                           | 142                                              | 1,091                                                       | 30,549.7                         | 0.16                                                 | 873                                               | 937                                           | 93%                                  |
| 2012 | 35                           | 38,164                                    | 4,200.281                           | 0.11                                           | 120                                              | 1,090                                                       | 30,485.4                         | 0.14                                                 | 871                                               | 968                                           | 90%                                  |
| 2013 | 35                           | 36,513                                    | 4,459.270                           | 0.12                                           | 127                                              | 1,043                                                       | 31,221.1                         | 0.14                                                 | 892                                               | 967                                           | 92%                                  |
| 2014 | 35                           | 33,706                                    | 3,798.108                           | 0.11                                           | 109                                              | 963                                                         | 31,904.2                         | 0.12                                                 | 912                                               | 976                                           | 93%                                  |
| 2015 | 34                           | 35,346                                    | 4,155.273                           | 0.12                                           | 122                                              | 1,040                                                       | 31,720.1                         | 0.13                                                 | 933                                               | 992                                           | 94%                                  |
| 2016 | 34                           | 31,299                                    | 3,339.055                           | 0.11                                           | 98                                               | 921                                                         | 31,464.8                         | 0.11                                                 | 925                                               | 995                                           | 93%                                  |
| 2017 | 34                           | 32,234                                    | 4,007.342                           | 0.12                                           | 118                                              | 948                                                         | 31,820.0                         | 0.13                                                 | 936                                               | 995                                           | 94%                                  |
| 2018 | 33                           | 31,169                                    | 3,659.588                           | 0.12                                           | 111                                              | 945                                                         | 30,722.7                         | 0.12                                                 | 931                                               | 1,008                                         | 92%                                  |
| 2019 | 32                           | 29,100                                    | 3,372.909                           | 0.12                                           | 105                                              | 909                                                         | 31,237.4                         | 0.11                                                 | 976                                               | 1,018                                         | 96%                                  |
| 2020 | 31                           | 26,398                                    | 2,946.746                           | 0.11                                           | 95                                               | 852                                                         | 30,249.1                         | 0.10                                                 | 976                                               | 1,032                                         | 95%                                  |
| 2021 | 31                           | 26,540                                    | 3,345.582                           | 0.13                                           | 108                                              | 856                                                         | 30,946.5                         | 0.11                                                 | 998                                               | 1,043                                         | 96%                                  |
| 2022 | 31                           | 25,318                                    | 3,111.590                           | 0.12                                           | 100                                              | 817                                                         | 30,335.1                         | 0.10                                                 | 979                                               | 1,042                                         | 94%                                  |
| 2023 | 31                           | 26,135                                    | 3,607.444                           | 0.14                                           | 116                                              | 843                                                         | 30,465.2                         | 0.12                                                 | 983                                               | 1,043                                         | 94%                                  |

\* Includes only those reactors that had been in commercial operation for at least 1 full year as of December 31 of each of the indicated years.

\*\* Figures are not adjusted for the multiple reporting of transient individuals (see Section 5).

\*\*\* Beginning in 1997, the electricity reflects the net electricity generated.

## DRAFT Tables and Figures

Table 4-2 Summary of Information Reported by Commercial Pressurized-Water Reactors 1994–2023

| Year | Number of Reactors Included* | No. of Individuals with Measurable Dose** | Annual Collective Dose (person-rem) | Average Measurable Dose per Individual (rem)** | Average Collective Dose per Reactor (person-rem) | Average No. Individuals with Measurable Doses per Reactor** | Electricity Generated*** (MW-yr) | Average Collective Dose per MW-yr (person-rem/MW-yr) | Average Electricity Generated per Reactor (MW-yr) | Average Maximum Dependable Capacity Net (MWe) | Maximum Dependable Capacity Achieved |
|------|------------------------------|-------------------------------------------|-------------------------------------|------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|----------------------------------|------------------------------------------------------|---------------------------------------------------|-----------------------------------------------|--------------------------------------|
| 1994 | 70                           | 44,283                                    | 9,574                               | 0.22                                           | 137                                              | 633                                                         | 52,397.6                         | 0.18                                                 | 749                                               | 928                                           | 81%                                  |
| 1995 | 70                           | 49,985                                    | 11,762                              | 0.24                                           | 168                                              | 714                                                         | 54,138.2                         | 0.22                                                 | 773                                               | 929                                           | 83%                                  |
| 1996 | 72                           | 46,852                                    | 9,417                               | 0.20                                           | 131                                              | 651                                                         | 55,337.8                         | 0.17                                                 | 769                                               | 935                                           | 82%                                  |
| 1997 | 72                           | 50,690                                    | 9,546                               | 0.19                                           | 133                                              | 704                                                         | 48,985.3                         | 0.19                                                 | 680                                               | 943                                           | 72%                                  |
| 1998 | 69                           | 38,586                                    | 6,358.096                           | 0.16                                           | 92                                               | 559                                                         | 53,288.7                         | 0.12                                                 | 772                                               | 942                                           | 82%                                  |
| 1999 | 69                           | 43,938                                    | 7,231.281                           | 0.16                                           | 105                                              | 637                                                         | 56,235.0                         | 0.13                                                 | 815                                               | 942                                           | 87%                                  |
| 2000 | 69                           | 42,922                                    | 6,562.006                           | 0.15                                           | 95                                               | 622                                                         | 57,529.9                         | 0.11                                                 | 834                                               | 943                                           | 88%                                  |
| 2001 | 69                           | 38,773                                    | 6,273.155                           | 0.16                                           | 91                                               | 562                                                         | 58,822.4                         | 0.11                                                 | 852                                               | 946                                           | 90%                                  |
| 2002 | 69                           | 42,264                                    | 6,018.423                           | 0.14                                           | 87                                               | 613                                                         | 59,369.7                         | 0.10                                                 | 860                                               | 947                                           | 91%                                  |
| 2003 | 69                           | 44,054                                    | 6,296.136                           | 0.14                                           | 91                                               | 638                                                         | 57,920.6                         | 0.11                                                 | 839                                               | 949                                           | 88%                                  |
| 2004 | 69                           | 35,901                                    | 4,916.915                           | 0.14                                           | 71                                               | 520                                                         | 60,398.7                         | 0.08                                                 | 875                                               | 943                                           | 93%                                  |
| 2005 | 69                           | 44,583                                    | 5,459.832                           | 0.12                                           | 79                                               | 646                                                         | 59,790.9                         | 0.09                                                 | 867                                               | 955                                           | 91%                                  |
| 2006 | 69                           | 46,106                                    | 6,031.425                           | 0.13                                           | 87                                               | 668                                                         | 59,751.3                         | 0.10                                                 | 866                                               | 960                                           | 90%                                  |
| 2007 | 69                           | 42,015                                    | 4,731.597                           | 0.11                                           | 69                                               | 609                                                         | 61,955.6                         | 0.08                                                 | 898                                               | 961                                           | 93%                                  |
| 2008 | 69                           | 44,808                                    | 4,673.527                           | 0.10                                           | 68                                               | 649                                                         | 60,586.0                         | 0.08                                                 | 878                                               | 964                                           | 91%                                  |
| 2009 | 69                           | 45,547                                    | 4,741.935                           | 0.10                                           | 69                                               | 660                                                         | 60,467.9                         | 0.08                                                 | 876                                               | 966                                           | 91%                                  |
| 2010 | 69                           | 37,796                                    | 3,823.728                           | 0.10                                           | 55                                               | 548                                                         | 60,859.4                         | 0.06                                                 | 882                                               | 967                                           | 91%                                  |
| 2011 | 69                           | 43,119                                    | 3,795.601                           | 0.09                                           | 55                                               | 625                                                         | 59,682.5                         | 0.06                                                 | 865                                               | 937                                           | 92%                                  |
| 2012 | 69                           | 41,385                                    | 3,835.112                           | 0.09                                           | 56                                               | 600                                                         | 57,272.5                         | 0.07                                                 | 830                                               | 974                                           | 85%                                  |
| 2013 | 65                           | 30,723                                    | 2,300.277                           | 0.07                                           | 35                                               | 473                                                         | 58,785.5                         | 0.04                                                 | 904                                               | 987                                           | 92%                                  |
| 2014 | 65                           | 37,141                                    | 3,326.411                           | 0.09                                           | 51                                               | 571                                                         | 59,262.2                         | 0.06                                                 | 912                                               | 989                                           | 92%                                  |
| 2015 | 65                           | 35,452                                    | 2,863.815                           | 0.08                                           | 44                                               | 545                                                         | 59,377.2                         | 0.05                                                 | 913                                               | 990                                           | 92%                                  |
| 2016 | 65                           | 28,054                                    | 2,026.654                           | 0.07                                           | 31                                               | 432                                                         | 60,052.5                         | 0.03                                                 | 924                                               | 1,001                                         | 92%                                  |
| 2017 | 65                           | 32,527                                    | 2,409.206                           | 0.07                                           | 37                                               | 500                                                         | 60,148.9                         | 0.04                                                 | 925                                               | 1,001                                         | 92%                                  |
| 2018 | 65                           | 29,845                                    | 2,169.883                           | 0.07                                           | 34                                               | 459                                                         | 61,113.7                         | 0.04                                                 | 940                                               | 1,002                                         | 94%                                  |
| 2019 | 64                           | 24,515                                    | 1,707.886                           | 0.07                                           | 27                                               | 383                                                         | 60,400.6                         | 0.03                                                 | 944                                               | 1,008                                         | 94%                                  |
| 2020 | 64                           | 26,422                                    | 1,952.382                           | 0.07                                           | 31                                               | 413                                                         | 59,648.7                         | 0.03                                                 | 932                                               | 1,008                                         | 92%                                  |
| 2021 | 62                           | 24,127                                    | 1,957.616                           | 0.08                                           | 32                                               | 389                                                         | 57,834.3                         | 0.03                                                 | 933                                               | 1,008                                         | 93%                                  |
| 2022 | 61                           | 25,692                                    | 1,973.696                           | 0.08                                           | 32                                               | 421                                                         | 57,506.2                         | 0.03                                                 | 943                                               | 1,013                                         | 93%                                  |
| 2023 | 61                           | 24,914                                    | 1,944.617                           | 0.08                                           | 32                                               | 408                                                         | 57,643.9                         | 0.03                                                 | 945                                               | 1,013                                         | 93%                                  |

\* Includes only those reactors that had been in commercial operation for at least 1 full year as of December 31 of each of the indicated years.

\*\* Figures are not adjusted for the multiple reporting of transient individuals (see Section 5).

\*\*\* Beginning in 1997, the electricity reflects the net electricity generated.

## DRAFT Tables and Figures

Table 4-3 Summary of Information Reported by Commercial Light-Water Reactors 1994–2023

| Year | Number of Reactors Included* | No. of Individuals with Measurable Dose** | Annual Collective Dose (person-rem) | Average Measurable Dose per Individual (rem)** | Average Collective Dose per Reactor (person-rem) | Average No. Individuals with Measurable Doses per Reactor** | Electricity Generated*** (MW-yr) | Average Collective Dose per MW-yr (person-rem/MW-yr) | Average Electricity Generated per Reactor (MW-yr) | Average Maximum Dependable Capacity Net (MWe) | Maximum Dependable Capacity Achieved |
|------|------------------------------|-------------------------------------------|-------------------------------------|------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|----------------------------------|------------------------------------------------------|---------------------------------------------------|-----------------------------------------------|--------------------------------------|
| 1994 | 107                          | 83,454                                    | 21,672                              | 0.26                                           | 203                                              | 780                                                         | 74,536.6                         | 0.29                                                 | 697                                               | 884                                           | 79%                                  |
| 1995 | 107                          | 85,671                                    | 21,233                              | 0.25                                           | 198                                              | 801                                                         | 78,875.2                         | 0.27                                                 | 737                                               | 896                                           | 82%                                  |
| 1996 | 109                          | 84,644                                    | 18,883                              | 0.22                                           | 173                                              | 777                                                         | 79,660.0                         | 0.24                                                 | 731                                               | 902                                           | 81%                                  |
| 1997 | 109                          | 84,711                                    | 17,149                              | 0.20                                           | 157                                              | 777                                                         | 71,851.4                         | 0.24                                                 | 659                                               | 910                                           | 72%                                  |
| 1998 | 105                          | 71,485                                    | 13,187.392                          | 0.18                                           | 126                                              | 681                                                         | 77,069.9                         | 0.17                                                 | 734                                               | 918                                           | 80%                                  |
| 1999 | 104                          | 75,420                                    | 13,665.711                          | 0.18                                           | 131                                              | 725                                                         | 83,197.6                         | 0.16                                                 | 800                                               | 923                                           | 87%                                  |
| 2000 | 104                          | 74,108                                    | 12,651.682                          | 0.17                                           | 122                                              | 713                                                         | 86,006.8                         | 0.15                                                 | 827                                               | 926                                           | 89%                                  |
| 2001 | 104                          | 67,570                                    | 11,108.552                          | 0.16                                           | 107                                              | 650                                                         | 87,552.8                         | 0.13                                                 | 842                                               | 929                                           | 91%                                  |
| 2002 | 104                          | 73,242                                    | 12,126.190                          | 0.17                                           | 117                                              | 704                                                         | 88,829.7                         | 0.14                                                 | 854                                               | 934                                           | 91%                                  |
| 2003 | 104                          | 74,813                                    | 11,955.570                          | 0.16                                           | 115                                              | 719                                                         | 87,015.0                         | 0.14                                                 | 837                                               | 936                                           | 89%                                  |
| 2004 | 104                          | 69,849                                    | 10,367.897                          | 0.15                                           | 100                                              | 672                                                         | 89,823.5                         | 0.12                                                 | 864                                               | 926                                           | 93%                                  |
| 2005 | 104                          | 78,127                                    | 11,455.807                          | 0.15                                           | 110                                              | 751                                                         | 89,177.7                         | 0.13                                                 | 857                                               | 952                                           | 90%                                  |
| 2006 | 104                          | 80,265                                    | 11,021.186                          | 0.14                                           | 106                                              | 772                                                         | 89,989.7                         | 0.12                                                 | 865                                               | 958                                           | 90%                                  |
| 2007 | 104                          | 79,530                                    | 10,120.013                          | 0.13                                           | 97                                               | 765                                                         | 92,144.9                         | 0.11                                                 | 886                                               | 959                                           | 92%                                  |
| 2008 | 104                          | 79,450                                    | 9,195.940                           | 0.12                                           | 88                                               | 764                                                         | 91,834.3                         | 0.10                                                 | 883                                               | 961                                           | 92%                                  |
| 2009 | 104                          | 81,754                                    | 10,024.804                          | 0.12                                           | 96                                               | 786                                                         | 91,230.6                         | 0.11                                                 | 877                                               | 964                                           | 91%                                  |
| 2010 | 104                          | 75,010                                    | 8,631.384                           | 0.12                                           | 83                                               | 721                                                         | 92,134.0                         | 0.09                                                 | 886                                               | 965                                           | 92%                                  |
| 2011 | 104                          | 81,321                                    | 8,771.326                           | 0.11                                           | 84                                               | 782                                                         | 90,232.2                         | 0.10                                                 | 868                                               | 967                                           | 90%                                  |
| 2012 | 104                          | 79,549                                    | 8,035.393                           | 0.10                                           | 77                                               | 765                                                         | 87,757.9                         | 0.09                                                 | 844                                               | 972                                           | 87%                                  |
| 2013 | 100                          | 67,236                                    | 6,759.547                           | 0.10                                           | 68                                               | 672                                                         | 90,006.6                         | 0.08                                                 | 900                                               | 980                                           | 92%                                  |
| 2014 | 100                          | 70,847                                    | 7,124.519                           | 0.10                                           | 71                                               | 708                                                         | 91,166.4                         | 0.08                                                 | 912                                               | 985                                           | 93%                                  |
| 2015 | 99                           | 70,798                                    | 7,019.088                           | 0.10                                           | 71                                               | 715                                                         | 91,097.3                         | 0.08                                                 | 920                                               | 991                                           | 93%                                  |
| 2016 | 99                           | 59,353                                    | 5,365.709                           | 0.09                                           | 54                                               | 600                                                         | 91,517.3                         | 0.06                                                 | 924                                               | 999                                           | 93%                                  |
| 2017 | 99                           | 64,761                                    | 6,416.548                           | 0.10                                           | 65                                               | 654                                                         | 91,968.8                         | 0.07                                                 | 929                                               | 999                                           | 93%                                  |
| 2018 | 98                           | 61,014                                    | 5,829.471                           | 0.10                                           | 59                                               | 623                                                         | 91,836.4                         | 0.06                                                 | 937                                               | 1,004                                         | 93%                                  |
| 2019 | 96                           | 53,615                                    | 5,080.795                           | 0.09                                           | 53                                               | 558                                                         | 91,638.0                         | 0.06                                                 | 955                                               | 1,011                                         | 94%                                  |
| 2020 | 95                           | 52,820                                    | 4,899.128                           | 0.09                                           | 52                                               | 556                                                         | 89,897.8                         | 0.05                                                 | 946                                               | 1,016                                         | 93%                                  |
| 2021 | 93                           | 50,667                                    | 5,303.198                           | 0.10                                           | 57                                               | 545                                                         | 88,780.8                         | 0.06                                                 | 955                                               | 1,020                                         | 94%                                  |
| 2022 | 92                           | 51,010                                    | 5,085.286                           | 0.10                                           | 55                                               | 554                                                         | 87,841.3                         | 0.06                                                 | 955                                               | 1,023                                         | 93%                                  |
| 2023 | 92                           | 51,049                                    | 5,552.061                           | 0.11                                           | 60                                               | 555                                                         | 88,109.0                         | 0.06                                                 | 958                                               | 1,022                                         | 94%                                  |

\* Includes only those reactors that had been in commercial operation for at least 1 full year as of December 31 of each of the indicated years.

\*\* Figures are not adjusted for the multiple reporting of transient individuals (see Section 5).

\*\*\* Beginning in 1997, the electricity reflects the net electricity generated.

## DRAFT Tables and Figures

Table 4-4a Summary of Distribution of Annual Doses\* at Commercial Light-Water Reactors\*\* 1994–2023

| Year | Number of Individuals with Annual Doses* in the Ranges (rem) ***<br>Note: Numbers of individuals shown have <u>not</u> been adjusted for the multiple reporting of transient individuals (see Section 5). |                    |               |               |               |              |             |             |             |             |      | Total<br>Number<br>Monitored | Number<br>with<br>Measurable<br>Exposure | Collective<br>Dose<br>(person-rem) | Average<br>Measurable<br>Dose<br>(person-rem) |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|---------------|---------------|--------------|-------------|-------------|-------------|-------------|------|------------------------------|------------------------------------------|------------------------------------|-----------------------------------------------|
|      | No Measurable<br>Exposure                                                                                                                                                                                 | Measurable<br><0.1 | 0.10–<br>0.25 | 0.25–<br>0.50 | 0.50–<br>0.75 | 0.75–<br>1.0 | 1.0–<br>2.0 | 2.0–<br>3.0 | 3.0–<br>4.0 | 4.0–<br>5.0 | >5.0 |                              |                                          |                                    |                                               |
| 1994 | 85,145                                                                                                                                                                                                    | 36,528             | 18,633        | 14,246        | 6,800         | 3,502        | 3,323       | 215         | 6           | -           | -    | 168,398                      | 83,253                                   | 21,534.000                         | 0.259                                         |
| 1995 | 81,032                                                                                                                                                                                                    | 38,575             | 20,245        | 15,279        | 6,884         | 3,336        | 3,077       | 125         | 5           | -           | -    | 168,558                      | 87,526                                   | 21,674.000                         | 0.248                                         |
| 1996 | 78,197                                                                                                                                                                                                    | 39,426             | 19,955        | 14,201        | 5,809         | 2,648        | 2,342       | 68          | -           | -           | -    | 162,646                      | 84,449                                   | 18,874.000                         | 0.223                                         |
| 1997 | 80,163                                                                                                                                                                                                    | 41,759             | 19,951        | 13,396        | 5,394         | 2,240        | 1,671       | 59          | 3           | -           | -    | 164,636                      | 84,473                                   | 17,136.000                         | 0.203                                         |
| 1998 | 77,080                                                                                                                                                                                                    | 37,039             | 17,189        | 10,467        | 3,930         | 1,562        | 1,129       | 35          | -           | -           | -    | 148,431                      | 71,351                                   | 13,169.366                         | 0.185                                         |
| 1999 | 74,867                                                                                                                                                                                                    | 39,663             | 18,063        | 10,964        | 3,994         | 1,569        | 1,141       | 24          | 2           | -           | -    | 150,287                      | 75,420                                   | 13,665.711                         | 0.181                                         |
| 2000 | 73,793                                                                                                                                                                                                    | 40,301             | 17,598        | 10,310        | 3,525         | 1,375        | 976         | 23          | -           | -           | -    | 147,901                      | 74,108                                   | 12,651.682                         | 0.171                                         |
| 2001 | 73,206                                                                                                                                                                                                    | 37,461             | 16,078        | 9,231         | 2,930         | 1,060        | 747         | 63          | -           | -           | -    | 140,776                      | 67,570                                   | 11,108.552                         | 0.164                                         |
| 2002 | 76,270                                                                                                                                                                                                    | 41,588             | 16,752        | 9,426         | 3,121         | 1,245        | 1,003       | 105         | 2           | -           | -    | 149,512                      | 73,242                                   | 12,126.190                         | 0.166                                         |
| 2003 | 77,889                                                                                                                                                                                                    | 42,720             | 17,231        | 9,589         | 3,139         | 1,233        | 864         | 37          | -           | -           | -    | 152,702                      | 74,813                                   | 11,955.570                         | 0.160                                         |
| 2004 | 80,473                                                                                                                                                                                                    | 41,583             | 15,626        | 8,245         | 2,733         | 978          | 668         | 16          | -           | -           | -    | 150,322                      | 69,849                                   | 10,367.897                         | 0.148                                         |
| 2005 | 82,574                                                                                                                                                                                                    | 46,444             | 17,754        | 9,191         | 2,934         | 1,104        | 683         | 17          | -           | -           | -    | 160,701                      | 78,127                                   | 11,455.807                         | 0.147                                         |
| 2006 | 84,558                                                                                                                                                                                                    | 48,571             | 18,269        | 9,312         | 2,675         | 904          | 532         | 2           | -           | -           | -    | 164,823                      | 80,265                                   | 11,021.186                         | 0.137                                         |
| 2007 | 84,551                                                                                                                                                                                                    | 49,998             | 17,672        | 8,294         | 2,329         | 824          | 402         | 11          | -           | -           | -    | 164,081                      | 79,530                                   | 10,120.013                         | 0.127                                         |
| 2008 | 89,875                                                                                                                                                                                                    | 51,831             | 17,337        | 7,578         | 1,847         | 583          | 269         | 5           | -           | -           | -    | 169,325                      | 79,450                                   | 9,195.940                          | 0.116                                         |
| 2009 | 94,627                                                                                                                                                                                                    | 52,670             | 17,417        | 8,352         | 2,161         | 741          | 413         | -           | -           | -           | -    | 176,381                      | 81,754                                   | 10,024.804                         | 0.123                                         |
| 2010 | 104,638                                                                                                                                                                                                   | 49,571             | 16,042        | 6,656         | 1,801         | 602          | 333         | 5           | -           | -           | -    | 179,648                      | 75,010                                   | 8,631.384                          | 0.115                                         |
| 2011 | 110,217                                                                                                                                                                                                   | 55,407             | 16,651        | 6,753         | 1,675         | 559          | 276         | -           | -           | -           | -    | 191,538                      | 81,321                                   | 8,771.326                          | 0.108                                         |
| 2012 | 114,428                                                                                                                                                                                                   | 55,735             | 15,593        | 6,072         | 1,509         | 385          | 242         | 13          | -           | -           | -    | 193,977                      | 79,549                                   | 8,035.393                          | 0.101                                         |
| 2013 | 107,378                                                                                                                                                                                                   | 47,190             | 13,158        | 5,088         | 1,227         | 380          | 191         | 2           | -           | -           | -    | 174,614                      | 67,236                                   | 6,759.547                          | 0.101                                         |
| 2014 | 104,006                                                                                                                                                                                                   | 50,110             | 13,650        | 5,231         | 1,167         | 421          | 235         | 33          | -           | -           | -    | 174,853                      | 70,847                                   | 7,124.519                          | 0.101                                         |
| 2015 | 106,088                                                                                                                                                                                                   | 50,067             | 13,856        | 4,980         | 1,230         | 421          | 242         | 2           | -           | -           | -    | 176,886                      | 70,798                                   | 7,019.088                          | 0.099                                         |
| 2016 | 96,221                                                                                                                                                                                                    | 43,386             | 10,938        | 3,829         | 865           | 243          | 92          | -           | -           | -           | -    | 155,574                      | 59,353                                   | 5,365.709                          | 0.090                                         |
| 2017 | 92,311                                                                                                                                                                                                    | 45,920             | 12,376        | 4,745         | 1,184         | 382          | 154         | -           | -           | -           | -    | 157,072                      | 64,761                                   | 6,416.548                          | 0.099                                         |
| 2018 | 89,205                                                                                                                                                                                                    | 44,206             | 11,030        | 4,207         | 1,086         | 316          | 168         | 1           | -           | -           | -    | 150,219                      | 61,014                                   | 5,829.471                          | 0.096                                         |
| 2019 | 81,282                                                                                                                                                                                                    | 39,068             | 9,512         | 3,636         | 942           | 300          | 156         | 1           | -           | -           | -    | 134,897                      | 53,615                                   | 5,080.795                          | 0.095                                         |
| 2020 | 72,190                                                                                                                                                                                                    | 39,021             | 9,254         | 3,192         | 815           | 320          | 217         | 1           | -           | -           | -    | 125,010                      | 52,820                                   | 4,899.128                          | 0.093                                         |
| 2021 | 72,014                                                                                                                                                                                                    | 36,168             | 9,206         | 3,521         | 999           | 478          | 286         | 9           | -           | -           | -    | 122,681                      | 50,667                                   | 5,303.198                          | 0.105                                         |
| 2022 | 74,328                                                                                                                                                                                                    | 36,262             | 9,837         | 3,500         | 886           | 338          | 185         | 2           | -           | -           | -    | 125,338                      | 51,010                                   | 5,085.286                          | 0.100                                         |
| 2023 | 73,843                                                                                                                                                                                                    | 35,725             | 9,635         | 3,840         | 1,113         | 423          | 308         | 5           | -           | -           | -    | 124,892                      | 51,049                                   | 5,552.061                          | 0.109                                         |

\* These doses are annual TEDE doses.

\*\* Summary of reports submitted in accordance with 10 CFR 20.2206 by BWRs and PWRs that had been in commercial operation for at least 1 full year as of December 31 of each of the indicated years. Figures shown have not been adjusted for the multiple reporting of transient individuals (see Table 4-4b and Section 5).

\*\*\* Dose values exactly equal to the values separating ranges are reported in the next higher range.

## DRAFT Tables and Figures

**Table 4-4b Summary of Distribution of Annual Doses\* at Commercial Light-Water Reactors\*\*, Adjusted for Transients 1994–2023**

| Year | Number of Individuals with Annual Doses* in the Ranges (rem) ***<br>Note: Numbers of individuals shown have been adjusted for the multiple reporting of transient individuals (see Section 5). |                 |           |           |           |          |         |         |         |         |      | Total Number Monitored | Number with Measurable Exposure | Collective Dose (person-rem) | Average Measurable Dose (person-rem) |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-----------|-----------|----------|---------|---------|---------|---------|------|------------------------|---------------------------------|------------------------------|--------------------------------------|
|      | No Measurable Exposure                                                                                                                                                                         | Measurable <0.1 | 0.10–0.25 | 0.25–0.50 | 0.50–0.75 | 0.75–1.0 | 1.0–2.0 | 2.0–3.0 | 3.0–4.0 | 4.0–5.0 | >5.0 |                        |                                 |                              |                                      |
| 1994 | 67,700                                                                                                                                                                                         | 29,847          | 14,841    | 11,716    | 6,124     | 3,586    | 4,222   | 508     | 40      | -       | -    | 138,584                | 70,884                          | 21,534.000                   | 0.304                                |
| 1995 | 61,505                                                                                                                                                                                         | 29,588          | 15,097    | 12,020    | 6,121     | 3,300    | 3,906   | 595     | 133     | 2       | -    | 132,267                | 70,762                          | 21,674.000                   | 0.306                                |
| 1996 | 58,292                                                                                                                                                                                         | 30,021          | 14,831    | 11,340    | 5,418     | 2,831    | 3,194   | 408     | 67      | -       | -    | 126,402                | 68,110                          | 18,874.000                   | 0.277                                |
| 1997 | 58,647                                                                                                                                                                                         | 31,751          | 14,881    | 10,902    | 5,228     | 2,447    | 2,598   | 286     | 41      | -       | -    | 126,781                | 68,134                          | 17,136.000                   | 0.252                                |
| 1998 | 57,041                                                                                                                                                                                         | 27,905          | 12,829    | 8,802     | 3,930     | 1,839    | 1,829   | 182     | 15      | 1       | -    | 114,373                | 57,332                          | 13,169.366                   | 0.230                                |
| 1999 | 55,121                                                                                                                                                                                         | 29,271          | 13,278    | 9,017     | 3,806     | 1,908    | 1,898   | 245     | 18      | -       | -    | 114,562                | 59,441                          | 13,665.711                   | 0.230                                |
| 2000 | 53,324                                                                                                                                                                                         | 28,480          | 12,921    | 8,679     | 3,571     | 1,644    | 1,734   | 186     | 18      | -       | -    | 110,557                | 57,233                          | 12,651.682                   | 0.221                                |
| 2001 | 52,636                                                                                                                                                                                         | 27,246          | 11,491    | 7,659     | 2,907     | 1,323    | 1,392   | 221     | 53      | -       | -    | 104,928                | 52,292                          | 11,108.552                   | 0.212                                |
| 2002 | 53,440                                                                                                                                                                                         | 28,523          | 11,610    | 7,668     | 3,004     | 1,479    | 1,820   | 320     | 35      | 1       | -    | 107,900                | 54,460                          | 12,126.190                   | 0.223                                |
| 2003 | 54,028                                                                                                                                                                                         | 29,161          | 11,971    | 8,190     | 3,253     | 1,527    | 1,651   | 184     | 18      | -       | -    | 109,983                | 55,955                          | 11,955.570                   | 0.214                                |
| 2004 | 57,420                                                                                                                                                                                         | 28,863          | 11,178    | 7,335     | 2,873     | 1,233    | 1,190   | 188     | 13      | -       | -    | 110,293                | 52,873                          | 10,367.897                   | 0.196                                |
| 2005 | 56,709                                                                                                                                                                                         | 31,035          | 12,422    | 7,813     | 3,106     | 1,537    | 1,490   | 147     | 3       | -       | -    | 114,262                | 57,553                          | 11,455.807                   | 0.199                                |
| 2006 | 57,546                                                                                                                                                                                         | 32,439          | 12,687    | 7,802     | 2,971     | 1,415    | 1,407   | 82      | 2       | -       | -    | 116,351                | 58,805                          | 11,021.186                   | 0.187                                |
| 2007 | 57,314                                                                                                                                                                                         | 32,706          | 11,961    | 7,396     | 2,714     | 1,284    | 1,100   | 97      | 9       | -       | -    | 114,581                | 57,267                          | 10,120.013                   | 0.177                                |
| 2008 | 61,336                                                                                                                                                                                         | 33,832          | 12,322    | 6,786     | 2,430     | 1,026    | 922     | 38      | -       | -       | -    | 118,692                | 57,356                          | 9,195.940                    | 0.160                                |
| 2009 | 66,310                                                                                                                                                                                         | 35,877          | 12,318    | 7,317     | 2,562     | 1,174    | 1,144   | 68      | 4       | -       | -    | 126,774                | 60,464                          | 10,024.804                   | 0.166                                |
| 2010 | 74,218                                                                                                                                                                                         | 33,873          | 11,670    | 6,356     | 2,231     | 946      | 832     | 42      | 3       | -       | -    | 130,171                | 55,953                          | 8,631.384                    | 0.154                                |
| 2011 | 78,090                                                                                                                                                                                         | 36,745          | 12,119    | 6,307     | 2,226     | 1,008    | 837     | 23      | -       | -       | -    | 137,355                | 59,265                          | 8,771.326                    | 0.148                                |
| 2012 | 79,222                                                                                                                                                                                         | 36,990          | 11,943    | 5,904     | 1,962     | 774      | 672     | 37      | -       | -       | -    | 137,504                | 58,282                          | 8,035.393                    | 0.138                                |
| 2013 | 76,261                                                                                                                                                                                         | 32,326          | 10,166    | 5,231     | 1,680     | 674      | 430     | 18      | -       | -       | -    | 126,786                | 50,525                          | 6,759.547                    | 0.134                                |
| 2014 | 73,390                                                                                                                                                                                         | 32,917          | 10,285    | 5,212     | 1,685     | 695      | 589     | 58      | -       | -       | -    | 124,831                | 51,441                          | 7,124.519                    | 0.138                                |
| 2015 | 71,980                                                                                                                                                                                         | 31,806          | 10,208    | 5,034     | 1,686     | 708      | 647     | 27      | 3       | -       | -    | 122,099                | 50,119                          | 7,019.088                    | 0.140                                |
| 2016 | 67,685                                                                                                                                                                                         | 29,063          | 8,736     | 4,196     | 1,236     | 429      | 332     | 16      | 1       | -       | -    | 111,694                | 44,009                          | 5,365.709                    | 0.122                                |
| 2017 | 62,882                                                                                                                                                                                         | 29,448          | 9,210     | 4,695     | 1,666     | 671      | 532     | 11      | -       | -       | -    | 109,115                | 46,233                          | 6,416.548                    | 0.139                                |
| 2018 | 59,356                                                                                                                                                                                         | 28,012          | 8,146     | 4,205     | 1,488     | 663      | 462     | 20      | 2       | -       | -    | 102,354                | 42,998                          | 5,829.471                    | 0.136                                |
| 2019 | 55,718                                                                                                                                                                                         | 25,322          | 7,167     | 3,798     | 1,272     | 554      | 402     | 4       | -       | -       | -    | 94,237                 | 38,519                          | 5,080.795                    | 0.132                                |
| 2020 | 50,006                                                                                                                                                                                         | 25,125          | 6,962     | 3,416     | 1,154     | 532      | 457     | 13      | -       | -       | -    | 87,665                 | 37,659                          | 4,899.128                    | 0.130                                |
| 2021 | 48,780                                                                                                                                                                                         | 22,249          | 6,640     | 3,489     | 1,292     | 676      | 646     | 24      | -       | -       | -    | 83,796                 | 35,016                          | 5,303.198                    | 0.151                                |
| 2022 | 49,530                                                                                                                                                                                         | 21,948          | 7,233     | 3,712     | 1,231     | 555      | 462     | 19      | -       | -       | -    | 84,690                 | 35,160                          | 5,085.286                    | 0.145                                |
| 2023 | 49,291                                                                                                                                                                                         | 21,363          | 6,708     | 3,568     | 1,404     | 679      | 732     | 39      | -       | -       | -    | 83,784                 | 34,493                          | 5,552.061                    | 0.161                                |

\* These doses are annual TEDE doses.

\*\* Summary of reports submitted in accordance with 10 CFR 20.2206 by BWRs and PWRs that had been in commercial operation for at least 1 full year as of December 31 of each of the indicated years.

\*\*\* Dose values exactly equal to the values separating ranges are reported in the next higher range.

## DRAFT Tables and Figures

**Table 4-5 Three-Year Totals and Averages Listed in Ascending Order of Collective TEDE per BWR 2021–2023**

| Plant Name*                     | Reactor Years | Three-year Collective TEDE per Reactor Year 2021–2023 (person-rem) | Three-year Collective TEDE per Site (person-rem) | Number of Workers with Measurable TEDE | Average TEDE per Worker (rem) | Total MW-Yrs    | Average TEDE per MW-Yr (rem) |
|---------------------------------|---------------|--------------------------------------------------------------------|--------------------------------------------------|----------------------------------------|-------------------------------|-----------------|------------------------------|
| HATCH 1,2                       | 6             | 52.492                                                             | 314.953                                          | 3,346                                  | 0.094                         | 4,913.2         | 0.06                         |
| COOPER STATION                  | 3             | 55.252                                                             | 165.757                                          | 1,680                                  | 0.099                         | 2,217.5         | 0.07                         |
| FITZPATRICK                     | 3             | 63.697                                                             | 191.090                                          | 1,654                                  | 0.116                         | 2,441.1         | 0.08                         |
| PEACH BOTTOM 2,3                | 6             | 64.269                                                             | 385.612                                          | 4,315                                  | 0.089                         | 7,608.4         | 0.05                         |
| DRESDEN 2,3                     | 6             | 65.405                                                             | 392.431                                          | 5,413                                  | 0.072                         | 5,209.1         | 0.08                         |
| LIMERICK 1,2                    | 6             | 68.769                                                             | 412.612                                          | 4,791                                  | 0.086                         | 6,572.0         | 0.06                         |
| SUSQUEHANNA 1,2                 | 6             | 75.983                                                             | 455.897                                          | 3,425                                  | 0.133                         | 6,861.5         | 0.07                         |
| GRAND GULF                      | 3             | 83.772                                                             | 251.316                                          | 2,516                                  | 0.100                         | 3,685.7         | 0.07                         |
| NINE MILE POINT 1,2             | 6             | 86.344                                                             | 518.064                                          | 4,205                                  | 0.123                         | 5,338.4         | 0.10                         |
| BROWNS FERRY 1,2,3              | 9             | 87.977                                                             | 791.790                                          | 7,513                                  | 0.105                         | 10,411.5        | 0.08                         |
| CLINTON                         | 3             | 98.901                                                             | 296.703                                          | 2,716                                  | 0.109                         | 2,931.0         | 0.10                         |
| HOPE CREEK 1                    | 3             | 100.511                                                            | 301.532                                          | 2,730                                  | 0.110                         | 3,229.9         | 0.09                         |
| QUAD CITIES 1,2                 | 6             | 101.665                                                            | 609.987                                          | 5,323                                  | 0.115                         | 5,254.3         | 0.12                         |
| BRUNSWICK 1,2                   | 6             | 104.876                                                            | 629.255                                          | 4,395                                  | 0.143                         | 5,309.9         | 0.12                         |
| MONTICELLO                      | 3             | 110.516                                                            | 331.547                                          | 2,139                                  | 0.155                         | 1,750.2         | 0.19                         |
| RIVER BEND 1                    | 3             | 178.371                                                            | 535.113                                          | 4,033                                  | 0.133                         | 2,302.6         | 0.23                         |
| COLUMBIA GENERATING             | 3             | 188.376                                                            | 565.128                                          | 3,613                                  | 0.156                         | 3,056.0         | 0.18                         |
| FERMI 2                         | 3             | 222.121                                                            | 666.363                                          | 4,599                                  | 0.145                         | 2,902.2         | 0.23                         |
| PERRY                           | 3             | 243.050                                                            | 729.149                                          | 2,949                                  | 0.247                         | 3,226.6         | 0.23                         |
| LASALLE 1,2                     | 6             | 253.386                                                            | 1,520.317                                        | 6,638                                  | 0.229                         | 6,525.7         | 0.23                         |
| <b>Totals and Averages</b>      | <b>93</b>     | <b>-</b>                                                           | <b>10,064.616</b>                                | <b>77,993</b>                          | <b>0.129</b>                  | <b>91,746.8</b> | <b>0.11</b>                  |
| <b>Average per Reactor-Year</b> | <b>-</b>      | <b>108.222</b>                                                     | <b>-</b>                                         | <b>839</b>                             | <b>-</b>                      | <b>986.5</b>    | <b>-</b>                     |

\* Sites where not all reactors had completed 3 full years of commercial operations as of December 31, 2023, are not included.

## DRAFT Tables and Figures

**Table 4-6 Three-Year Totals and Averages Listed in Ascending Order of Collective TEDE per PWR 2021–2023**

| Plant Name*                 | Reactor Years | Three-year Collective TEDE per Reactor Year 2021-2023 (person-rem) | Three-year Collective TEDE per Site (person-rem) | Number of Workers with Measurable TEDE | Average TEDE per Worker (rem) | Total MW-Yrs     | Average TEDE per MW-Yr (rem) |
|-----------------------------|---------------|--------------------------------------------------------------------|--------------------------------------------------|----------------------------------------|-------------------------------|------------------|------------------------------|
| HARRIS 1                    | 3             | 12.348                                                             | 37.045                                           | 896                                    | 0.041                         | 2,790.0          | 0.01                         |
| PALO VERDE 1,2,3            | 9             | 14.251                                                             | 128.257                                          | 2,565                                  | 0.050                         | 10,855.1         | 0.01                         |
| DIABLO CANYON 1,2           | 6             | 15.109                                                             | 90.656                                           | 1,727                                  | 0.052                         | 5,935.4          | 0.02                         |
| OCONEE 1,2,3                | 9             | 15.110                                                             | 135.987                                          | 3,080                                  | 0.044                         | 7,486.1          | 0.02                         |
| FARLEY 1,2                  | 6             | 18.546                                                             | 111.277                                          | 1,790                                  | 0.062                         | 4,879.8          | 0.02                         |
| DAVIS-BESSE 1               | 3             | 19.249                                                             | 57.748                                           | 994                                    | 0.058                         | 2,540.5          | 0.02                         |
| CALLAWAY 1                  | 3             | 19.948                                                             | 59.843                                           | 1,014                                  | 0.059                         | 2,557.4          | 0.02                         |
| SUMMER 1                    | 3             | 21.038                                                             | 63.113                                           | 1,126                                  | 0.056                         | 2,637.6          | 0.02                         |
| BYRON 1,2                   | 6             | 21.502                                                             | 129.011                                          | 2,317                                  | 0.056                         | 6,755.3          | 0.02                         |
| PRAIRIE ISLAND 1,2          | 6             | 22.996                                                             | 137.977                                          | 1,672                                  | 0.083                         | 2,894.5          | 0.05                         |
| ROBINSON 2                  | 3             | 23.812                                                             | 71.435                                           | 1,032                                  | 0.069                         | 2,148.0          | 0.03                         |
| CALVERT CLIFFS 1,2          | 6             | 24.814                                                             | 148.886                                          | 2,213                                  | 0.067                         | 5,114.5          | 0.03                         |
| NORTH ANNA 1,2              | 6             | 24.837                                                             | 149.021                                          | 2,045                                  | 0.073                         | 5,183.6          | 0.03                         |
| SOUTH TEXAS 1,2             | 6             | 25.865                                                             | 155.187                                          | 1,784                                  | 0.087                         | 7,383.0          | 0.02                         |
| BRAIDWOOD 1,2               | 6             | 28.041                                                             | 168.243                                          | 2,754                                  | 0.061                         | 6,820.1          | 0.02                         |
| SEABROOK                    | 3             | 28.243                                                             | 84.730                                           | 1,184                                  | 0.072                         | 3,460.2          | 0.02                         |
| GINNA                       | 3             | 29.765                                                             | 89.296                                           | 1,250                                  | 0.071                         | 1,641.9          | 0.05                         |
| COOK 1,2                    | 6             | 30.809                                                             | 184.851                                          | 2,244                                  | 0.082                         | 6,076.2          | 0.03                         |
| BEAVER VALLEY 1,2           | 6             | 31.869                                                             | 191.216                                          | 1,915                                  | 0.100                         | 5,039.2          | 0.04                         |
| ST. LUCIE 1,2               | 6             | 34.415                                                             | 206.488                                          | 2,328                                  | 0.089                         | 5,520.8          | 0.04                         |
| VOGTLE 1,2                  | 6             | 35.151                                                             | 210.907                                          | 2,240                                  | 0.094                         | 6,619.1          | 0.03                         |
| MILLSTONE 2,3               | 6             | 39.026                                                             | 234.157                                          | 2,564                                  | 0.091                         | 5,422.3          | 0.04                         |
| SEQUOYAH 1,2                | 6             | 39.224                                                             | 235.342                                          | 3,350                                  | 0.070                         | 6,359.5          | 0.04                         |
| SURRY 1,2                   | 6             | 39.418                                                             | 236.509                                          | 2,392                                  | 0.099                         | 4,675.9          | 0.05                         |
| COMANCHE PEAK 1,2           | 6             | 42.217                                                             | 253.301                                          | 2,140                                  | 0.118                         | 6,666.1          | 0.04                         |
| POINT BEACH 1,2             | 6             | 42.630                                                             | 255.780                                          | 1,683                                  | 0.152                         | 3,396.7          | 0.08                         |
| CATAWBA 1,2                 | 6             | 42.803                                                             | 256.815                                          | 2,571                                  | 0.100                         | 6,474.7          | 0.04                         |
| TURKEY POINT 3,4            | 6             | 44.038                                                             | 264.228                                          | 2,622                                  | 0.101                         | 4,777.3          | 0.06                         |
| WOLF CREEK 1                | 3             | 46.954                                                             | 140.862                                          | 1,871                                  | 0.075                         | 3,180.2          | 0.04                         |
| MCGUIRE 1,2                 | 6             | 47.153                                                             | 282.920                                          | 3,418                                  | 0.083                         | 6,534.4          | 0.04                         |
| SALEM 1,2                   | 6             | 48.112                                                             | 288.672                                          | 2,730                                  | 0.106                         | 6,483.6          | 0.04                         |
| ARKANSAS 1,2                | 6             | 48.719                                                             | 292.314                                          | 4,084                                  | 0.072                         | 4,892.0          | 0.06                         |
| WATERFORD 3                 | 3             | 51.042                                                             | 153.125                                          | 2,056                                  | 0.074                         | 2,909.8          | 0.05                         |
| WATTS BAR 1,2               | 6             | 61.029                                                             | 366.174                                          | 4,974                                  | 0.074                         | 6,072.8          | 0.06                         |
| <b>Totals and Avgs</b>      | <b>183</b>    | <b>-</b>                                                           | <b>5,871.373</b>                                 | <b>74,625</b>                          | <b>0.079</b>                  | <b>172,183.6</b> | <b>0.03</b>                  |
| <b>Avg per Reactor-Year</b> | <b>-</b>      | <b>32.084</b>                                                      | <b>-</b>                                         | <b>408</b>                             | <b>-</b>                      | <b>940.9</b>     | <b>-</b>                     |

NOTE: Data does not Palisades which closed in May 2022.

\* Sites where not all reactors had completed 3 full years of commercial operation as of December 31, 2023, are not included.



Table 4-7 Three-Year Collective TEDE per Reactor-Year for BWRs 2021–2023

|                          | Plant Name          | Three-Year Coll. TEDE per Reactor Year 2021-2023 | Percent Change From 2020-2022 | 2020-2022 Quartile (if changed) |
|--------------------------|---------------------|--------------------------------------------------|-------------------------------|---------------------------------|
| 1st Quartile             | HATCH 1,2           | 52.492                                           | -10% ▼                        | -                               |
|                          | COOPER STATION      | 55.252                                           | -31% ▼                        | 2                               |
|                          | FITZPATRICK         | 63.697                                           | -39% ▼                        | 3                               |
|                          | PEACH BOTTOM 2,3    | 64.269                                           | -8% ▼                         | 2                               |
|                          | DRESDEN 2,3         | 65.405                                           | 11% ▲                         | -                               |
| 2nd Quartile             | LIMERICK 1,2        | 68.769                                           | 3% ▲                          | 1                               |
|                          | SUSQUEHANNA 1,2     | 75.983                                           | 7% ▲                          | -                               |
|                          | GRAND GULF          | 83.772                                           | -46% ▼                        | 4                               |
|                          | NINE MILE POINT 1,2 | 86.344                                           | -15% ▼                        | 3                               |
|                          | BROWNS FERRY 1,2,3  | 87.977                                           | -12% ▼                        | 3                               |
| 3rd Quartile             | CLINTON             | 98.901                                           | 98% ▲                         | 1                               |
|                          | HOPE CREEK 1        | 100.511                                          | 4% ▲                          | -                               |
|                          | QUAD CITIES 1,2     | 101.665                                          | 11% ▲                         | 2                               |
|                          | BRUNSWICK 1,2       | 104.876                                          | 20% ▲                         | 2                               |
|                          | MONTICELLO          | 110.516                                          | 66% ▲                         | 1                               |
| 4th Quartile             | RIVER BEND 1        | 178.371                                          | 91% ▲                         | 3                               |
|                          | COLUMBIA GENERATING | 188.376                                          | 57% ▲                         | -                               |
|                          | FERMI 2             | 222.121                                          | -42% ▼                        | -                               |
|                          | PERRY               | 243.050                                          | 118% ▲                        | -                               |
|                          | LASALLE 1,2         | 253.386                                          | 39% ▲                         | -                               |
| Average per Reactor-Year |                     | 108.222                                          | 7% ▲                          |                                 |

< Average 108.222

Table 4-8 Three-Year Collective TEDE per Reactor-Year for PWRs 2021–2023

|              | Plant Name                      | Three-Year Coll. TEDE per Reactor Year 2021-2023 | Percent Change From 2020-2022 | 2020-2022 Quartile (if changed) |
|--------------|---------------------------------|--------------------------------------------------|-------------------------------|---------------------------------|
| 1st Quartile | HARRIS 1                        | 12.348                                           | 0%                            | -                               |
|              | PALO VERDE 1,2,3                | 14.251                                           | 12% ▲                         | -                               |
|              | DIABLO CANYON 1,2               | 15.109                                           | 12% ▲                         | -                               |
|              | OCONEE 1,2,3                    | 15.110                                           | -15% ▼                        | -                               |
|              | FARLEY 1,2                      | 18.546                                           | -17% ▼                        | -                               |
|              | DAVIS-BESSE 1                   | 19.249                                           | -40% ▼                        | 3                               |
|              | CALLAWAY 1                      | 19.948                                           | -3% ▼                         | -                               |
|              | SUMMER 1                        | 21.038                                           | 1% ▲                          | -                               |
|              | BYRON 1,2                       | 21.502                                           | 1% ▲                          | -                               |
| 2nd Quartile | PRAIRIE ISLAND 1,2              | 22.996                                           | 53% ▲                         | 1                               |
|              | ROBINSON 2                      | 23.812                                           | -39% ▼                        | 3                               |
|              | CALVERT CLIFFS 1,2              | 24.814                                           | -2% ▼                         | -                               |
|              | NORTH ANNA 1,2                  | 24.837                                           | -2% ▼                         | -                               |
|              | SOUTH TEXAS 1,2                 | 25.865                                           | -9% ▼                         | -                               |
|              | BRAIDWOOD 1,2                   | 28.041                                           | 16% ▲                         | -                               |
|              | SEABROOK                        | 28.243                                           | 19% ▲                         | -                               |
|              | GINNA                           | 29.765                                           | 9% ▲                          | -                               |
| 3rd Quartile | COOK 1,2                        | 30.809                                           | 0%                            | 2                               |
|              | BEAVER VALLEY 1,2               | 31.869                                           | 18% ▲                         | 2                               |
|              | ST. LUCIE 1,2                   | 34.415                                           | -4% ▼                         | -                               |
|              | VOGTLE 1,2                      | 35.151                                           | -8% ▼                         | -                               |
|              | MILLSTONE 2,3                   | 39.026                                           | 26% ▲                         | -                               |
|              | SEQUOYAH 1,2                    | 39.224                                           | -2% ▼                         | 4                               |
|              | SURRY 1,2                       | 39.418                                           | 12% ▲                         | -                               |
|              | COMANCHE PEAK 1,2               | 42.217                                           | 13% ▲                         | -                               |
| 4th Quartile | POINT BEACH 1,2                 | 42.630                                           | 7% ▲                          | -                               |
|              | CATAWBA 1,2                     | 42.803                                           | 6% ▲                          | -                               |
|              | TURKEY POINT 3,4                | 44.038                                           | 7% ▲                          | -                               |
|              | WOLF CREEK 1                    | 46.954                                           | 1% ▲                          | -                               |
|              | MCGUIRE 1,2                     | 47.153                                           | 30% ▲                         | 3                               |
|              | SALEM 1,2                       | 48.112                                           | -2% ▼                         | -                               |
|              | ARKANSAS 1,2                    | 48.719                                           | 5% ▲                          | -                               |
|              | WATERFORD 3                     | 51.042                                           | 24% ▲                         | -                               |
|              | WATTS BAR 1,2                   | 61.029                                           | 12% ▲                         | -                               |
|              | <b>Average per Reactor-Year</b> | <b>32.084</b>                                    | <b>5% ▲</b>                   |                                 |

← Average 32.084

NOTE: Data does not include Palisades which closed in May 2022.

Table 4-9 Plants No Longer in Operation 2023

| Plant Name                           | Date of First Commercial Operation | Ceased Operations | License Termination Plan Approved by NRC | PSDAR Submitted | Plant Status* | Completion of Decommissioning** |
|--------------------------------------|------------------------------------|-------------------|------------------------------------------|-----------------|---------------|---------------------------------|
| CRYSTAL RIVER 3                      | 12/1/1976                          | 2/2013            | TBD                                      | 12/2013         | SAFSTOR       | 2030                            |
| DUANE ARNOLD                         | 2/1/1975                           | 10/2020           | TBD                                      | 4/2020          | SAFSTOR       | 2080                            |
| DRESDEN 1                            | 8/1/1960                           | 10/1978           | TBD                                      | 6/1998          | SAFSTOR       | 2036                            |
| FERMI 1                              | 5/10/1963                          | 9/1972            | TBD                                      | 4/1998          | SAFSTOR       | 2032                            |
| FORT CALHOUN                         | 8/9/1973                           | 10/2016           | TBD                                      | 3/2017          | SAFSTOR       | 2026                            |
| INDIAN POINT 1                       | 8/1/1962                           | 10/1974           | TBD                                      | 1/1996          | SAFSTOR       | 2032                            |
| INDIAN POINT 2                       | 7/1/1974                           | 4/2020            | TBD                                      | 12/2019         | DECON         | 2032                            |
| INDIAN POINT 3                       | 8/30/1976                          | 4/2021            | TBD                                      | 12/2019         | DECON         | 2032                            |
| KEWAUNEE                             | 12/1/1973                          | 5/2013            | TBD                                      | 2/2013          | DECON         | 2073                            |
| LACROSSE                             | 11/1/1969                          | 4/1987            | TBD                                      | 5/1991          | DECON         | 2022                            |
| MILLSTONE 1                          | 12/28/1970                         | 7/1998            | TBD                                      | 6/1999          | SAFSTOR       | 2056                            |
| OYSTER CREEK                         | 12/1/1969                          | 9/2018            | TBD                                      | 5/2018          | DECON         | 2035                            |
| PALISADES                            | 12/31/1971                         | 5/2022            | TBD                                      | 12/2020         | SAFSTOR       | 2041                            |
| PEACH BOTTOM 1                       | 6/1/1967                           | 10/1974           | TBD                                      | 6/1998          | SAFSTOR       | 2034                            |
| PILGRIM 1                            | 12/1/1972                          | 5/2019            | TBD                                      | 11/2018         | SAFSTOR       | 2080                            |
| SAN ONOFRE 1                         | 1/1/1968                           | 11/1992           | TBD                                      | 5/7/2020        | SAFSTOR       | 2051                            |
| SAN ONOFRE 2                         | 1/1/1983                           | 6/2013            | TBD                                      | 5/7/2020        | DECON         | 2051                            |
| SAN ONOFRE 3                         | 1/1/1984                           | 6/2013            | TBD                                      | 5/7/2020        | DECON         | 2051                            |
| THREE MILE ISLAND 1                  | 9/2/1974                           | 9/2019            | TBD                                      | 4/2019          | SAFSTOR       | 2079                            |
| THREE MILE ISLAND 2                  | 12/30/1978                         | 3/1979            | TBD                                      | 10/2022         | SAFSTOR       | 2053                            |
| VERMONT YANKEE                       | 11/30/1972                         | 12/2014           | TBD                                      | 12/2014         | DECON         | 2073                            |
| ZION 1                               | 12/31/1973                         | 2/1997            | TBD                                      | 3/2008          | DECON         | 2023                            |
| ZION 2                               | 9/17/1974                          | 9/1996            | TBD                                      | 3/2008          | DECON         | 2023                            |
| REACTOR DECOMMISSIONING COMPLETED*** |                                    |                   |                                          |                 |               |                                 |
| BIG ROCK POINT                       | 3/29/1963                          | 8/1997            | TBD                                      | 9/1997          | ISFSI only    | 2007                            |
| HADDAM NECK                          | 12/27/1974                         | 12/1996           | TBD                                      | 8/1997          | ISFSI only    | 2007                            |
| HUMBOLDT BAY 3                       | 8/1/1963                           | 7/1976            | 2012                                     | 2/1998          | ISFSI only    | 2021****                        |
| MAINE YANKEE                         | 6/29/1973                          | 8/1997            | TBD                                      | 8/1997          | ISFSI only    | 2005                            |
| RANCHO SECO                          | 4/17/1975                          | 6/1989            | 5/2008                                   | 3/1997          | ISFSI only    | 2009                            |
| TROJAN                               | 5/20/1976                          | 11/1992           | 2/2001                                   | 8/1995          | ISFSI only    | 2004****                        |
| YANKEE ROWE                          | 12/24/1963                         | 10/1991           | TBD                                      | -               | ISFSI only    | 2007                            |

\* Plant Status as of 2020.

\*\* Including the generally licensed ISFSI.

\*\*\* Not including ISFSI.

\*\*\*\* Part 72 ISFSI, Part 50 license terminated.

NOTE: Information regarding the latest decommissioning status of plants listed in this table can be found in Status of the Decommissioning Program: 2022 Annual Report from the NRC's public library under ADAMS Accession No. ML22286A047. Rows displayed in gray represent plants that have completed decommissioning [Refs. 21–22].

TBD = To Be Determined.

SAFSTOR = (often considered 'delayed DECON'): a nuclear facility that is maintained and monitored in a condition that allows the radioactivity to decay; afterwards, it is dismantled.

DECON = (immediate dismantlement): soon after the nuclear facility closes or transitions out of SAFSTOR, equipment, structures, and portions of the facility containing radioactive contaminants are removed or decontaminated to a level that permits release of the property and termination of the NRC license.

## DRAFT Tables and Figures

Table 5-1 Effects of Transient Individuals on Annual Statistical Compilations 2023

| License Category                    | Number of Individuals with TEDE in the Ranges (rem)* |                  |           |           |           |          |         |         |         |         |      | Total Number Monitored | Number with Measurable TEDE | Collective TEDE (person-rem) | Average Meas. TEDE (rem) |
|-------------------------------------|------------------------------------------------------|------------------|-----------|-----------|-----------|----------|---------|---------|---------|---------|------|------------------------|-----------------------------|------------------------------|--------------------------|
|                                     | No Measurable Exposure                               | Measurable <0.10 | 0.10–0.25 | 0.25–0.50 | 0.50–0.75 | 0.75–1.0 | 1.0–2.0 | 2.0–3.0 | 3.0–4.0 | 4.0–5.0 | >5.0 |                        |                             |                              |                          |
| COMMERCIAL LIGHT-WATER REACTORS     |                                                      |                  |           |           |           |          |         |         |         |         |      |                        |                             |                              |                          |
| (1a) Form 5 Summation               | 73,843                                               | 35,725           | 9,635     | 3,840     | 1,113     | 423      | 308     | 5       | -       | -       | -    | 124,892                | 51,049                      | 5,552.061                    | 0.11                     |
| (2a) Transients, As Reported        | 30,893                                               | 21,485           | 6,508     | 2,643     | 795       | 292      | 191     | 4       | -       | -       | -    | 62,811                 | 31,918                      | 3,736.453                    | 0.12                     |
| (3a) Transients, Actual             | 6,341                                                | 7,123            | 3,581     | 2,371     | 1,086     | 548      | 615     | 38      | -       | -       | -    | 21,703                 | 15,362                      | 3,736.453                    | 0.24                     |
| Corrected Distribution (1-[2-3]) ** | 49,291                                               | 21,363           | 6,708     | 3,568     | 1,404     | 679      | 732     | 39      | -       | -       | -    | 83,784                 | 34,493                      | 5,552.061                    | 0.16                     |
| ALL LICENSEES                       |                                                      |                  |           |           |           |          |         |         |         |         |      |                        |                             |                              |                          |
| (1b) Form 5 Summation               | 76,646                                               | 40,240           | 10,828    | 4,754     | 1,562     | 659      | 737     | 101     | 25      | 4       | -    | 135,562                | 58,916                      | 7,615.858                    | 0.13                     |
| (2b) Transients, As Reported        | 31,690                                               | 21,860           | 6,614     | 2,716     | 837       | 305      | 216     | 5       | 1       | -       | -    | 64,244                 | 32,554                      | 3,868.092                    | 0.12                     |
| (3b) Transients, Actual             | 6,485                                                | 7,261            | 3,623     | 2,420     | 1,114     | 571      | 655     | 41      | 1       | -       | -    | 22,171                 | 15,686                      | 3,868.092                    | 0.25                     |
| Corrected Distribution (1-[2-3]) ** | 51,441                                               | 25,641           | 7,837     | 4,458     | 1,839     | 925      | 1,176   | 137     | 25      | 4       | -    | 93,489                 | 42,048                      | 6,537.150                    | 0.16                     |

\* Dose values exactly equal to the values separating ranges are reported in the next higher range.

\*\* The corrected distribution only applies to the number of individuals and is calculated by the total number in (1) minus the difference between (2) and (3).

**Table 6-1 Summary of Annual Dose Distributions for Certain\* NRC Licensees 2013–2023**

| Year | Total Number of Monitored Individuals |                     | Individuals with Dose (TEDE) *** |         |         |         |
|------|---------------------------------------|---------------------|----------------------------------|---------|---------|---------|
|      |                                       |                     | < 2 rem                          | > 2 rem | < 5 rem | > 5 rem |
|      | Reported Number                       | Corrected Number ** | %                                | Number  | %       | Number  |
| 2013 | 186,062                               | 138,233             | 99.8%                            | 142     | 100%    | -       |
| 2014 | 185,843                               | 135,817             | 99.8%                            | 224     | 100%    | -       |
| 2015 | 186,614                               | 131,827             | 99.9%                            | 133     | 99.9%   | 2       |
| 2016 | 164,984                               | 121,129             | 99.9%                            | 81      | 100%    | -       |
| 2017 | 166,526                               | 118,715             | 99.9%                            | 164     | 99.9%   | 2       |
| 2018 | 159,988                               | 110,861             | 99.8%                            | 188     | 99.9%   | 1       |
| 2019 | 144,243                               | 102,182             | 99.9%                            | 110     | 100%    | -       |
| 2020 | 133,139                               | 94,779              | 99.9%                            | 74      | 99.9%   | 2       |
| 2021 | 130,613                               | 90,470              | 99.9%                            | 84      | 100%    | -       |
| 2022 | 134,177                               | 107,070             | 99.9%                            | 92      | 100%    | -       |
| 2023 | 135,562                               | 93,489              | 99.8%                            | 172     | 100%    | -       |

\* Licensees required to submit radiation exposure reports to the NRC under 10 CFR 20.2206.

\*\* This column lists the actual number of persons who may have been counted more than once because they worked at more than one facility during the calendar year (see Section 5).

\*\*\* Data for 2013–2023 are based on the distribution of individual doses after adjusting for the multiple counting of transient individuals (see Section 5).

**Table 6-2 Maximum Occupational Doses for Each Exposure Category\* 2023**

| Dose Category** | Annual Dose Limit 10CFR20*** | Maximum Annual Dose Reported (rem) | Max Dose Percent of the Limit | Number of Individuals with Measurable Dose | Number of Individuals >25% of the Limit | Number of Individuals >50% of the Limit | Number of Individuals >75% of the Limit | Number of Individuals >95% of the Limit | Number of Individuals > Limit |
|-----------------|------------------------------|------------------------------------|-------------------------------|--------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------------|
| SDE-ME          | 50 rem                       | 39.398                             | 79%                           | 36,069                                     | 67                                      | 13                                      | 2                                       | -                                       | -                             |
| SDE-WB          | 50 rem                       | 4.711                              | 9%                            | 42,194                                     | -                                       | -                                       | -                                       | -                                       | -                             |
| LDE             | 15 rem                       | 4.713                              | 31%                           | 41,545                                     | 8                                       | -                                       | -                                       | -                                       | -                             |
| CEDE            |                              | 0.514                              |                               | 2,473                                      |                                         |                                         |                                         |                                         |                               |
| CDE             |                              | 4.229                              |                               | 2,060                                      |                                         |                                         |                                         |                                         |                               |
| DDE             |                              | 4.668                              |                               | 42,114                                     |                                         |                                         |                                         |                                         |                               |
| TEDE            | 5 rem                        | 4.668                              | 93%                           | 42,087                                     | 794                                     | 71                                      | 7                                       | -                                       | -                             |
| TODE            | 50 rem                       | 5.524                              | 11%                           | 41,806                                     | -                                       | -                                       | -                                       | -                                       | -                             |

\* Only records reported by licensees required to report under 10 CFR 20.2206 are included. Numbers have been adjusted for the multiple reporting of transient individuals.

\*\* SDE-ME= shallow dose equivalent to the maximally exposed extremity

SDE-WB= shallow dose equivalent to the whole-body

LDE = lens dose equivalent to the lens of the eye

CEDE = committed effective dose equivalent

CDE = committed dose equivalent

DDE = deep dose equivalent

TEDE = total effective dose equivalent

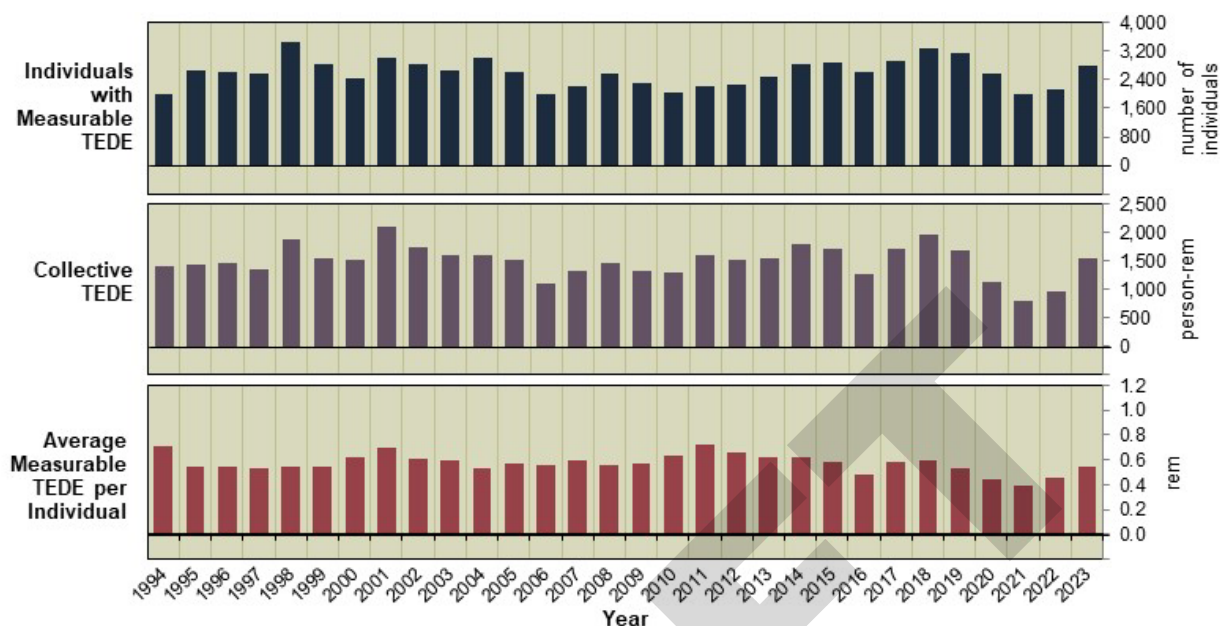
TODE = total organ dose equivalent

\*\*\* Shaded boxes represent dose categories that do not have specific dose limits defined in 10 CFR Part 20.

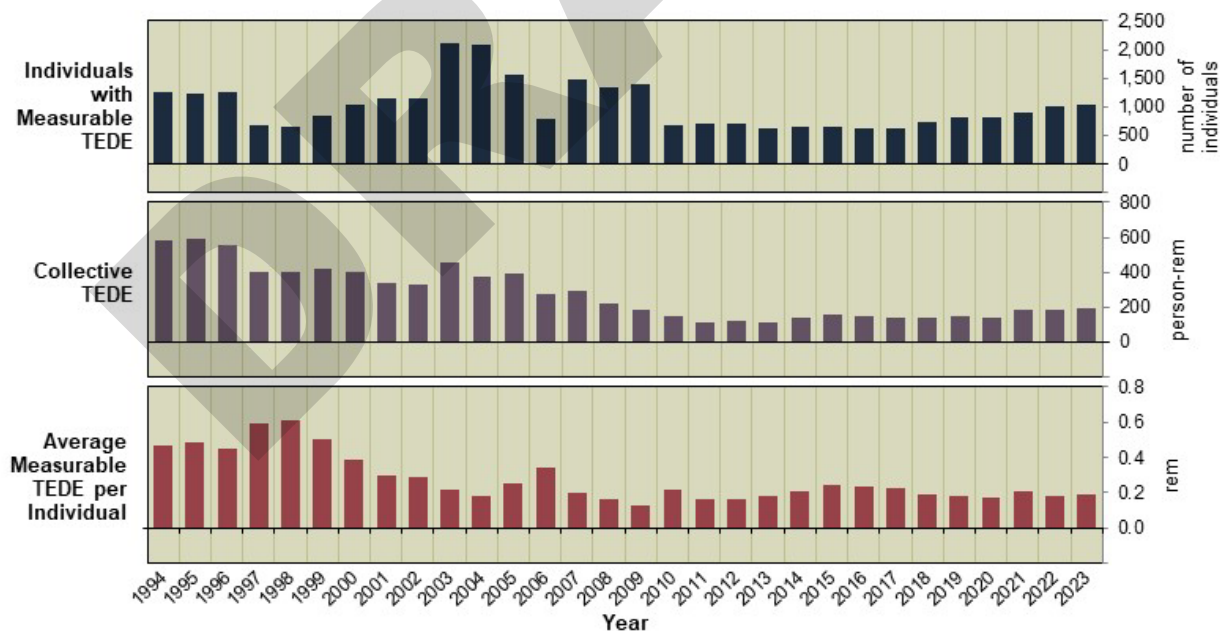
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**Figure 3-1** Individuals with Measurable TEDE, Collective TEDE, and Average Measurable TEDE for Industrial Radiography Licensees 1994–2023



**Figure 3-2** Individuals with Measurable TEDE, Collective TEDE, and Average Measurable TEDE for Manufacturing and Distribution Licensees 1994–2023

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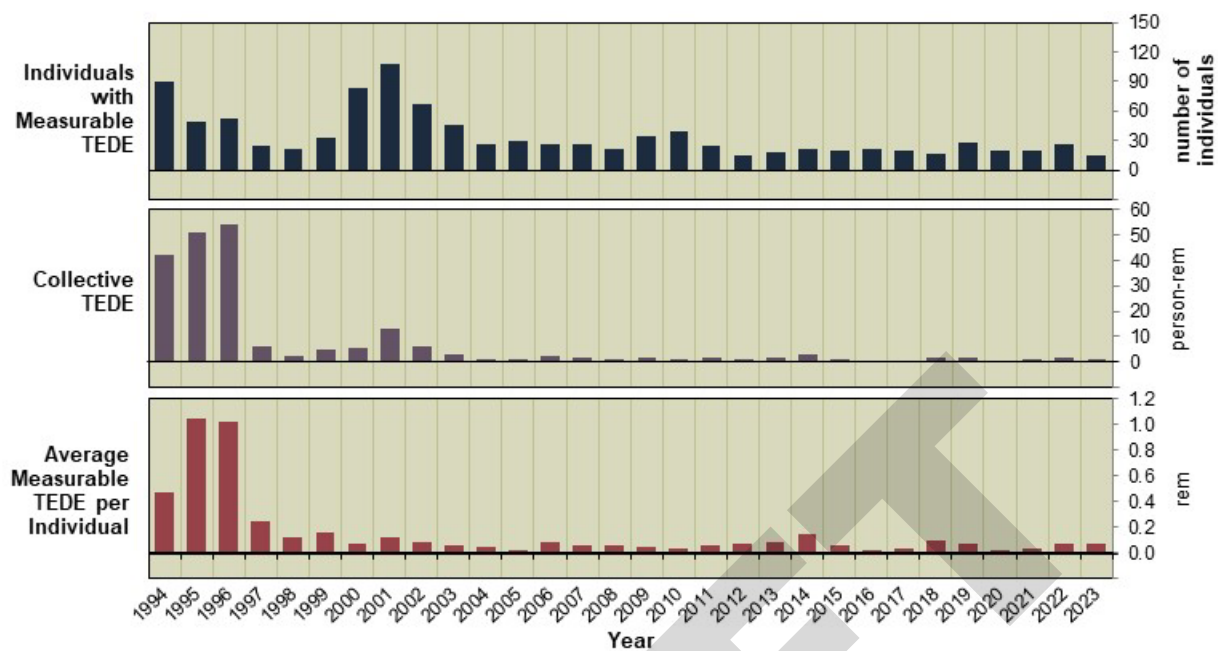


Figure 3-3 Individuals with Measurable TEDE, Collective TEDE, and Average Measurable TEDE for Independent Spent Fuel Storage Installation Licensees 1994–2023



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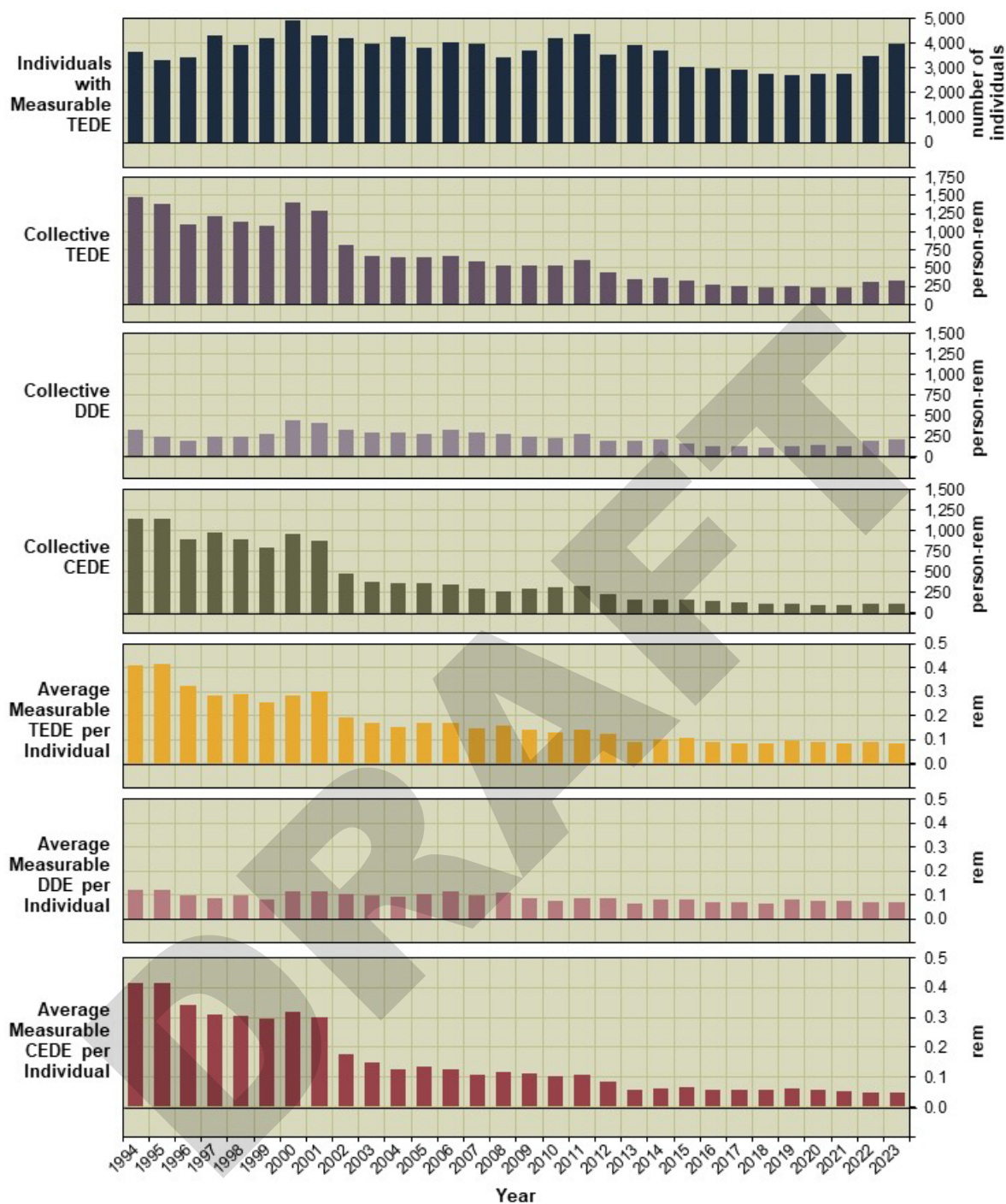
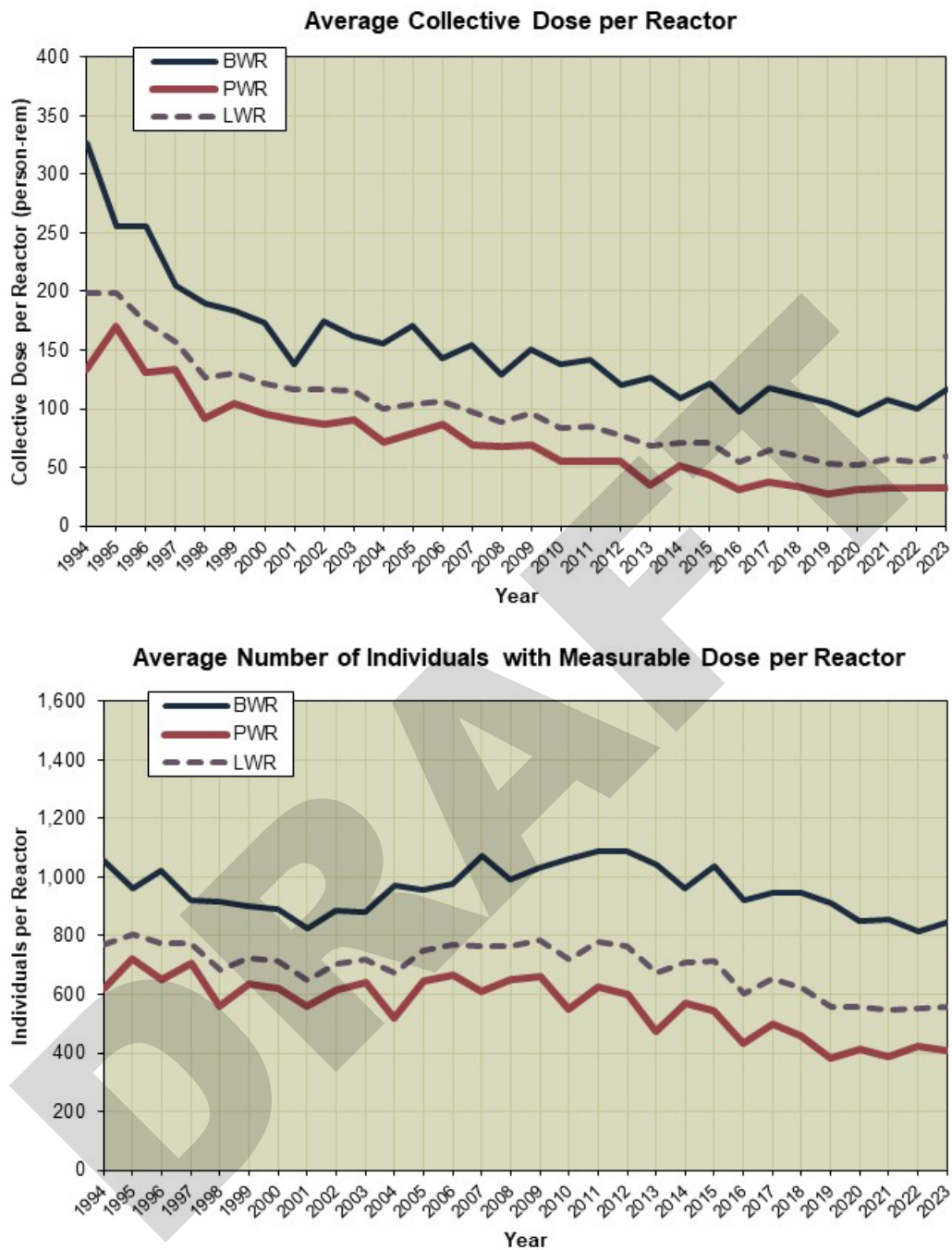
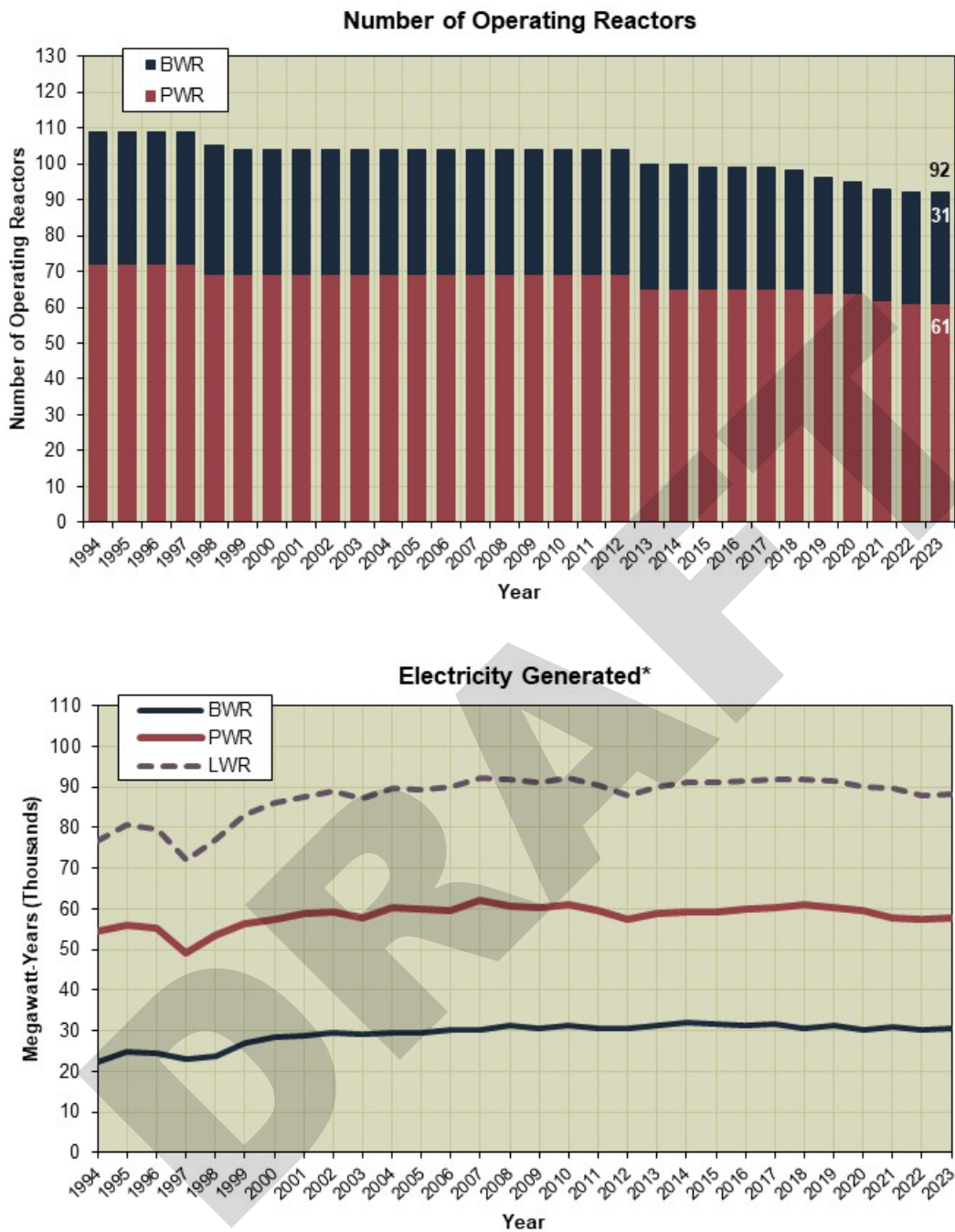


Figure 3-4 Annual Exposure Information for Fuel Cycle Licensees 1994–2023

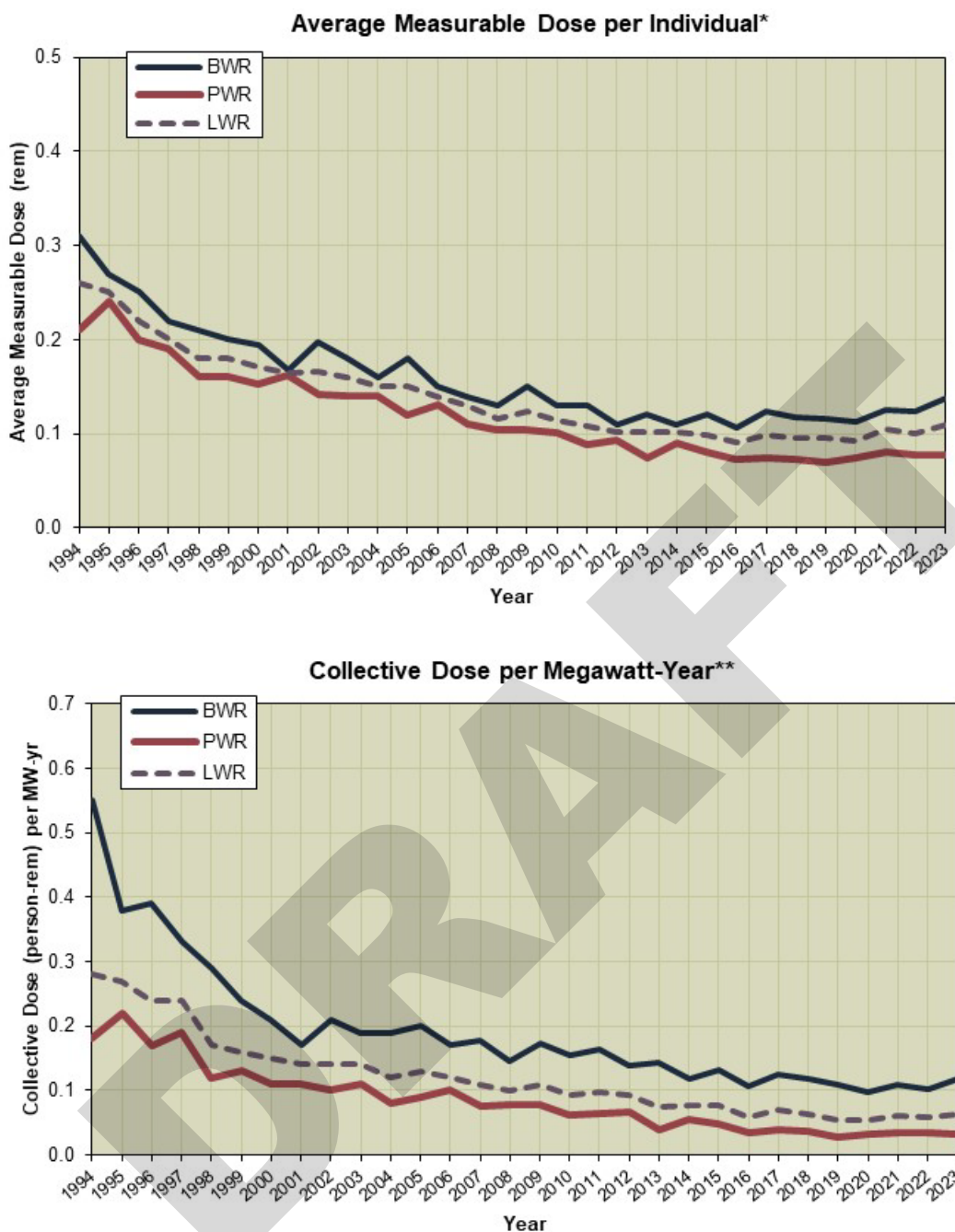


**Figure 4-1** Average Collective Dose per Reactor and Average Number of Individuals with Measurable Dose per Reactor 1994–2023



\* Gross electricity is shown for 1994–1996, net electricity is shown for 1997–2023.

**Figure 4-2 Number of Operating Reactors and Electricity Generated 1994–2023**



\* Not adjusted for transient workers. See Section 5.

\*\* Gross electricity is shown for 1994–1996, net electricity is shown for 1997–2023.

**Figure 4-3 Average Measurable Dose per Individual and Collective Dose per Megawatt-Year 1994–2023**

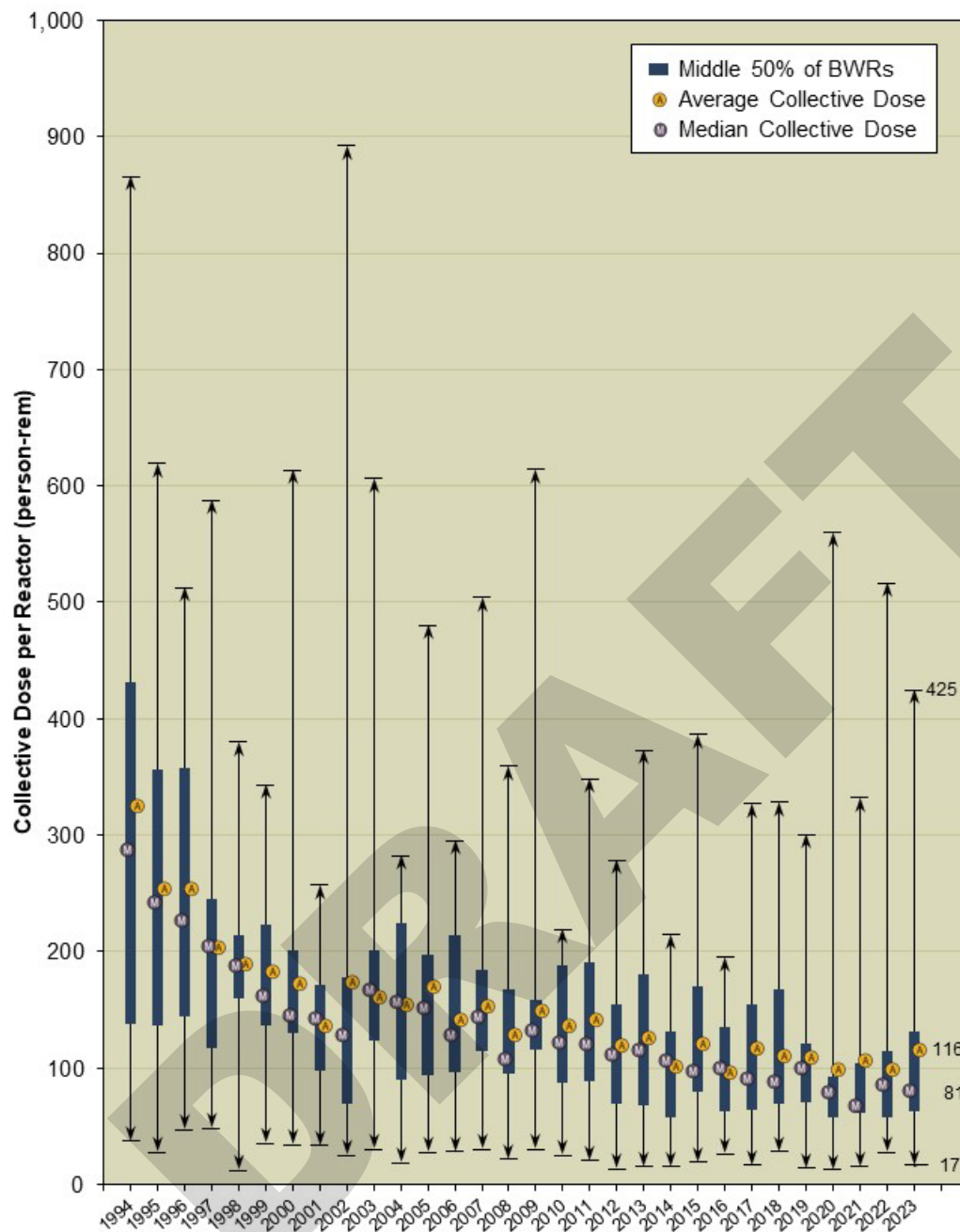


Figure 4-4a Average, Median, and Extreme Values of the Collective Dose per BWR Reactor 1994–2023



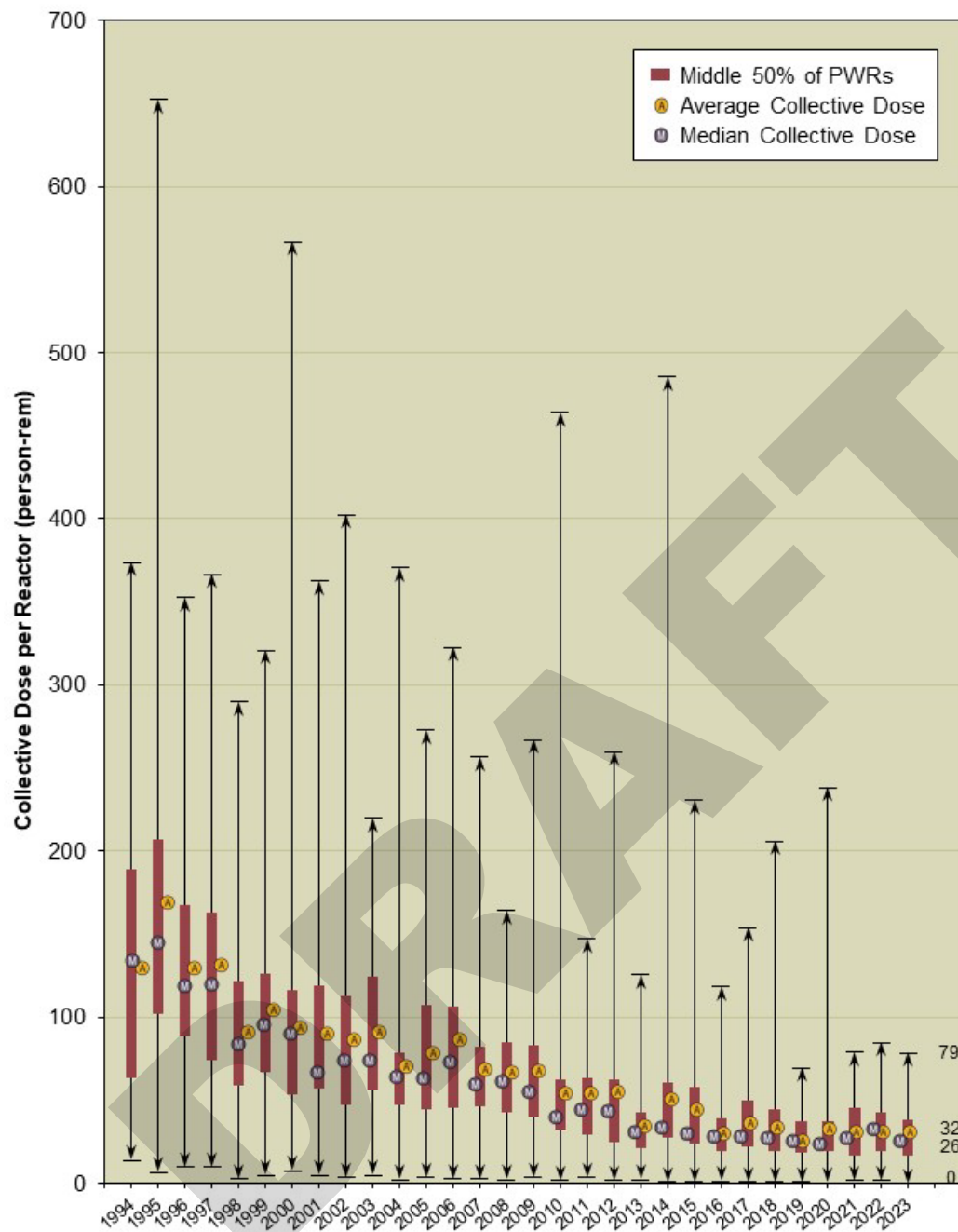


Figure 4-4b Average, Median, and Extreme Values of the Collective Dose per PWR Reactor 1994–2023

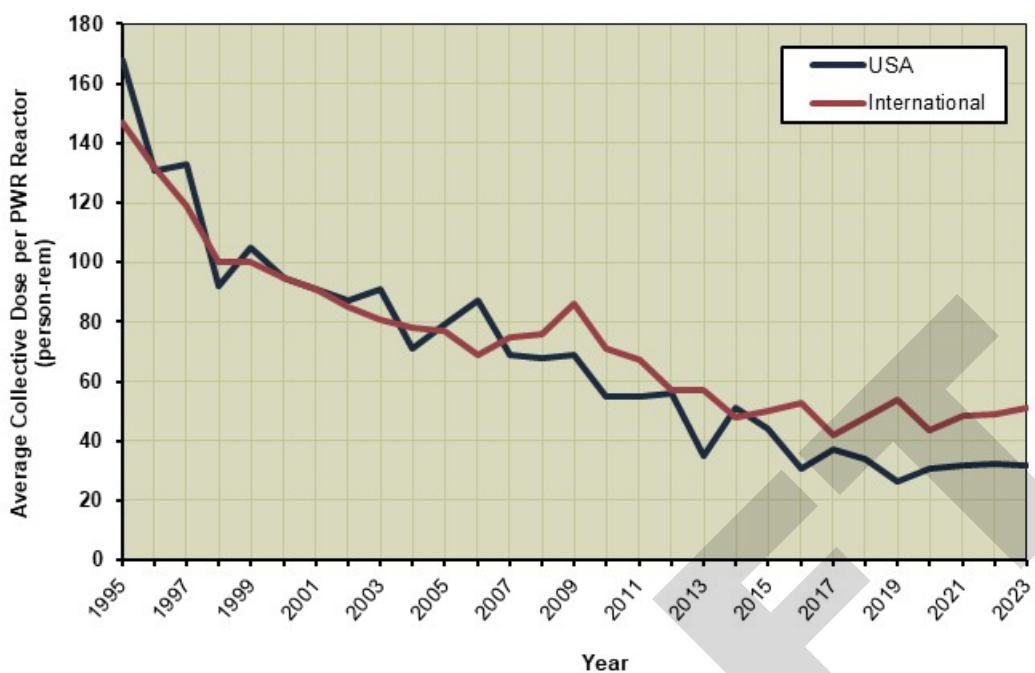


Figure 4-5 Average Collective Dose per PWR Reactor 1995–2023

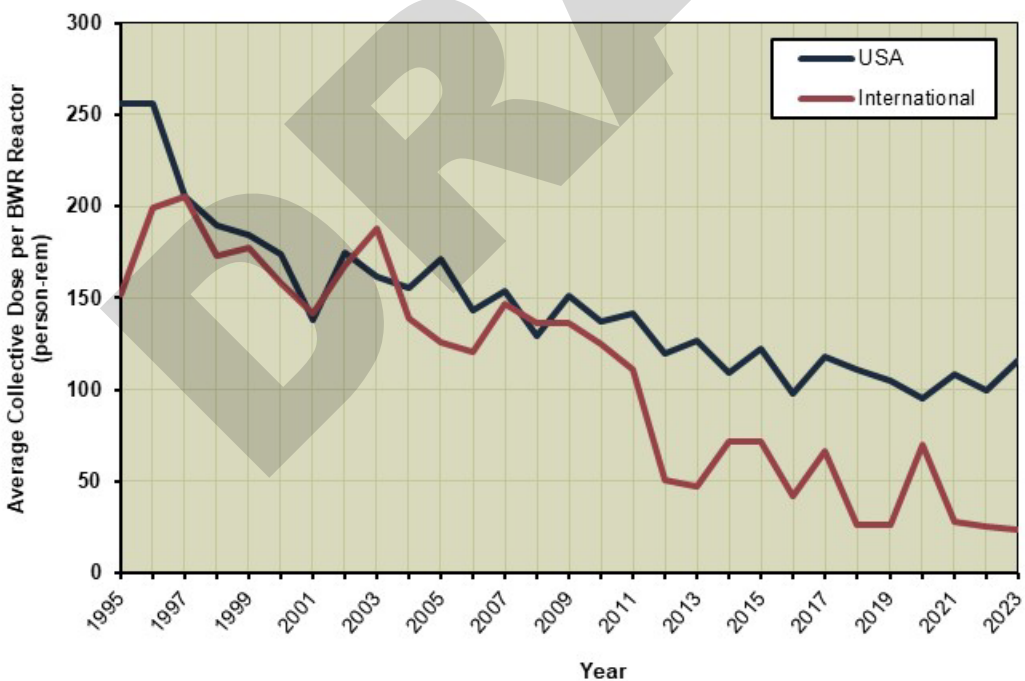


Figure 4-6 Average Collective Dose per BWR Reactor 1995–2023

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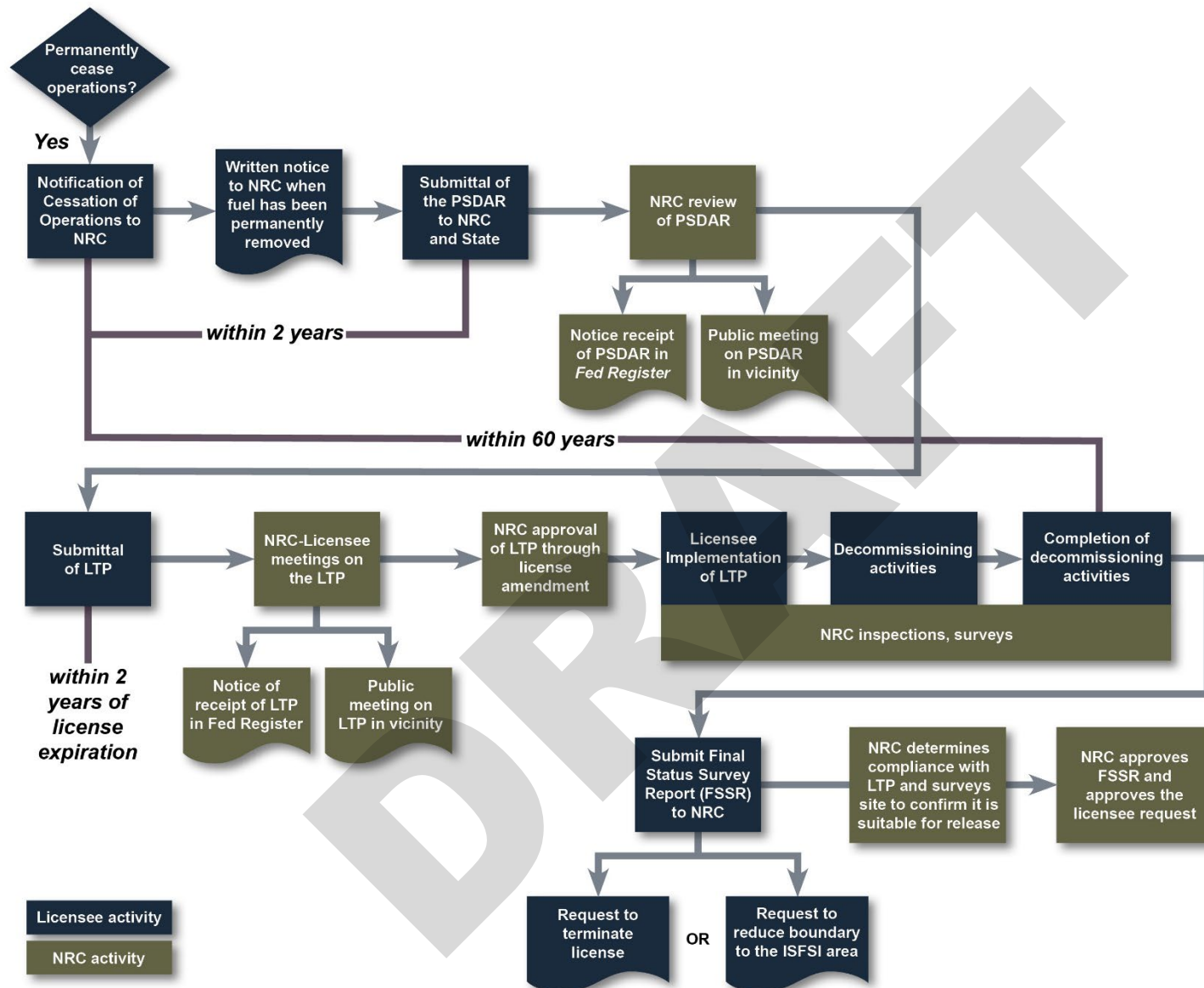


Figure 4-7 Commercial Nuclear Power Reactor Decommissioning Process Flowchart