



INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

General Distribution

June 2011

ISOE INFORMATION SHEET

North American Technical Center
Information System on Occupational Exposure

3-YEAR ROLLING AVERAGE ANNUAL DOSE COMPARISONS
Canada Reactors (CANDU)
2008-2010 Occupational Dose Benchmarking Charts

NATC ISOE Information Sheet No. 2011-15

NATC ISOE Information Sheet No. 2011-15 presents the Canadian reactor annual occupational exposure results for multiple years (2000-2010). The 3-Year Rolling Average Occupational Dose Comparisons provide a means to evaluate site occupational dose performance over multiple years. The data shows the higher outage doses during years of extensive maintenance/refurbishment work at Bruce A 1,2 & Pt. Lepreau performed to achieve future dose reduction due to installation of new plant components.

For this report, annual site doses were used for 2008, 2009 and 2010. Annual site doses were divided by the number of operating units per site. The 3-Year

Rolling Average results for this period are provided in the following table.

| Site Name | Three Year Rolling Average Person-Rem (Person-mSv) |
|---------------|--|
| Bruce A | 187 (1870) |
| Pickering | 122 (1220) |
| Darlington | 71 (710) |
| Point Lepreau | 382 (3820) |
| Bruce B | 128 (1280) |
| Gentilly | 86 (860) |

Table 1: Canadian Three-Year Rolling Average, 2008-2010.

Table 1: CANADIAN REACTORS: COLLECTIVE DOSE PER UNIT**THREE YEAR ROLLING AVERAGE***2008 – 2010 Actual Values*

| SITE NAME | No. of Units | CTY | Collective Radiation Exposure Per Site | | | | | | | | | | | Three Year Rolling Average |
|----------------------------------|--------------|-----|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------------------------|
| | | | (Person-Rem) | | | | | | | | | | | |
| | | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Per Unit |
| Darlington | 4 | Ca | 189.66 | 235.2 | 210 | 284.4 | 262.54 | 283.99 | 320 | 410 | 173.6 | 313.54 | 368.1 | 71 |
| Pickering | 8 | Ca | 285.51 | 520.8 | 509.2 | 434.68 | 807.6 | 1132 | 766.4 | 587.2 | 473.18 | 774 | 1678.9 | 122 |
| Bruce A | 4 | Ca | 33.23 | 43.6 | 243.49 | 218 | 147.56 | 234.17 | 335.53 | 468.42 | 744.4 | 733.9 | 766.5 | 187 |
| Bruce B | 4 | Ca | 507.47 | 419.34 | 491 | 424 | 270.28 | 634.11 | 380.41 | 421.16 | 665.08 | 510.81 | 361.3 | 128 |
| Point Lepreau | 1 | Ca | 87.32 | 72.4 | 135.35 | 114.6 | 91.9 | 157.69 | 90.08 | 66.43 | 599.75 | 408.22 | 137.5 | 382 |
| Gentilly | 1 | Ca | 118.85 | 118.89 | 151.86 | 287.27 | 30.52 | 149.86 | 138 | 53.1 | 115.2 | 67.66 | 74.6 | 86 |
| | 22 | | 1222.04 | 1410.22 | 1740.90 | 1762.95 | 1610.39 | 2591.81 | 2030.42 | 2006.31 | 2771.21 | 2808.12 | 3386.9 | |
| Total of Canadian Units Included | | | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | |
| Annual CANDU Average | | | 55.55 | 64.10 | 79.13 | 80.13 | 73.20 | 117.81 | 92.29 | 91.20 | 125.96 | 127.64 | 153.95 | |