

Figure: 25 TAC §289.201(m)(2)

**MEAN QUALITY FACTORS, Q, AND FLUENCE PER UNIT  
DOSE EQUIVALENT FOR MONOENERGETIC NEUTRONS**

|                        |                      | Fluence per Unit   | Fluence per Unit  |
|------------------------|----------------------|--|---|
| Neutron Energy (MeV)   | Quality Factor** (Q) | Dose Equivalent* (neutrons $\text{cm}^{-2}\text{rem}^{-1}$ ) | Dose Equivalent* (neutrons $\text{cm}^{-2}\text{Sv}^{-1}$ ) |
| (thermal)              |                      |  |   |
| 2.5 x 10 <sup>-8</sup> | 2                    | 980 x 10 <sup>6</sup>  | 980 x 10 <sup>8</sup>                                       |
| 1.0 x 10 <sup>-7</sup> | 2                    | 980 x 10 <sup>6</sup>  | 980 x 10 <sup>8</sup>                                       |
| 1.0 x 10 <sup>-6</sup> | 2                    | 810 x 10 <sup>6</sup>  | 810 x 10 <sup>8</sup>                                       |
| 1.0 x 10 <sup>-5</sup> | 2                    | 810 x 10 <sup>6</sup>  | 810 x 10 <sup>8</sup>                                       |
| 1.0 x 10 <sup>-4</sup> | 2                    | 840 x 10 <sup>6</sup>  | 840 x 10 <sup>8</sup>                                       |
| 1.0 x 10 <sup>-3</sup> | 2                    | 980 x 10 <sup>6</sup>  | 980 x 10 <sup>8</sup>                                       |
| 1.0 x 10 <sup>-2</sup> | 2.5                  | 1,010 x 10 <sup>6</sup>                                      | 1,010 x 10 <sup>8</sup>                                     |
| 1.0 x 10 <sup>-1</sup> | 7.5                  | 170 x 10 <sup>6</sup>  | 170 x 10 <sup>8</sup>                                       |
| 5.0 x 10 <sup>-1</sup> | 11                   | 39 x 10 <sup>6</sup>   | 39 x 10 <sup>8</sup>  |
| 1.0                    | 11                   | 27 x 10 <sup>6</sup>   | 27 x 10 <sup>8</sup>  |
| 2.5                    | 9                    | 29 x 10 <sup>6</sup>   | 29 x 10 <sup>8</sup>  |
| 5.0                    | 8                    | 23 x 10 <sup>6</sup>   | 23 x 10 <sup>8</sup>  |
| 7.0                    | 7                    | 24 x 10 <sup>6</sup>   | 24 x 10 <sup>8</sup>  |
| 10                     | 6.5                  | 24 x 10 <sup>6</sup>   | 24 x 10 <sup>8</sup>  |
| 14                     | 7.5                  | 17 x 10 <sup>6</sup>   | 17 x 10 <sup>8</sup>  |
| 20                     | 8                    | 16 x 10 <sup>6</sup>   | 16 x 10 <sup>8</sup>  |
| 40                     | 7                    | 14 x 10 <sup>6</sup>   | 14 x 10 <sup>8</sup>  |
| 60                     | 5.5                  | 16 x 10 <sup>6</sup>   | 16 x 10 <sup>8</sup>  |
| 1.0 x 10 <sup>2</sup>  | 4                    | 20 x 10 <sup>6</sup>   | 20 x 10 <sup>8</sup>  |
| 2.0 x 10 <sup>2</sup>  | 3.5                  | 19 x 10 <sup>6</sup>   | 19 x 10 <sup>8</sup>  |
| 3.0 x 10 <sup>2</sup>  | 3.5                  | 16 x 10 <sup>6</sup>   | 16 x 10 <sup>8</sup>  |
| 4.0 x 10 <sup>2</sup>  | 3.5                  | 14 x 10 <sup>6</sup>   | 14 x 10 <sup>8</sup>  |

\*Monoenergetic neutrons incident normally on a 30-centimeter diameter cylinder tissue-equivalent phantom.

\*\*Value of quality factor (Q) at the point where the dose equivalent is maximum in a 30-centimeter diameter cylinder tissue-equivalent phantom.

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