**WORK SHEET FOR SCREENING CALCULATIONS**
**TO DETERMINE IF A PART 380 PERMIT IS REQUIRED**
**FOR RADIOACTIVE EMISSIONS TO THE AIR**

**FACILITY** _____ **Emission Point #**_____

| | A | B | C | D | E | |
|---|---|---|---|---|---|---|
| 1. Radionuclide | _____ | _____ | _____ | _____ | _____ | |
| form | _____ | _____ | _____ | _____ | _____ | |
| 2. Yearly Discharge before treatment $A_{before}$ (µCi/yr) | _____ | _____ | _____ | _____ | _____ | µCi/yr |
| [Only consider discharges before effluent treatment] | | | | | | |
| 3. Flow Rate F (cfm) | _____ | _____ | _____ | _____ | _____ | cfm |
| 4. Yearly Air Flow Volume $V = F * 1.49\ E{+}10$ ml/yr | _____ | _____ | _____ | _____ | _____ | ml/yr |
| 5. Annual Average Concentration $C_{before} = A_{before}/V$ (µCi/ml) | _____ | _____ | _____ | _____ | _____ | µCi/ml |
| 6. Table II (T) Column 1 Concentrations from Section 380-11 | _____ | _____ | _____ | _____ | _____ | µCi/ml |
| 7. Ratio of Annual Avg Conc divided by Table II concentration $R = C_{before}/T$ | _____ | _____ | _____ | _____ | _____ | |

8. For Multiple Radionuclides: Sum-of-Ratios

$R_A + R_B + R_C + R_D + R_E$ = _____ + _____ + _____ + _____ + _____ = _____

9. Is #7 > 0.1? _____ yes _____ no
   Is #8 > 0.1? _____ yes _____ no

If the answer to #9 is "no" (<0.1), a Part 380 permit is not required.

If the answer to #9 is "yes" (> 0.1), then a Part 380 permit is required. Contact the Radiation Section at (518) 402- 9625 for information on how to apply for a Part 380 Radiation Control Permit.

- SAMPLE : PERMIT NEEDED -

**WORK SHEET FOR SCREENING CALCULATIONS TO DETERMINE IF A PART 380 PERMIT IS REQUIRED FOR RADIOACTIVE EMISSIONS TO THE AIR**

FACILITY Company XYZ Emission Point # 01

| | A | B | C | D | E | |
|---|---|---|---|---|---|---|
| 1. Radionuclide | H-3 | C-14 | I-125 | | | |
| form | water | dioxide | compounds | | | |
| 2. Yearly Discharge before treatment $A_{before}$ ($\mu$Ci/yr) | 500 | 2000 | 5000 | | | $\mu$Ci/yr |
| [Only consider discharges before effluent treatment] | | | | | | |
| 3. Flow Rate F (cfm) | 350 | 350 | 350 | | | cfm |
| 4. Yearly Air Flow Volume V = F * 1.49 E+10 ml/yr | 5.2E12 | 5.2E12 | 5.2E12 | | | ml/yr |
| 5. Annual Average Concentration $C_{before} = A_{before}/V$ ($\mu$Ci/ml) | 9.6E-11 | 3.8E-10 | 9.6E-10 | | | $\mu$Ci/ml |
| 6. Table II (T) Column 1 Concentrations from Section 380-11 | 1E-7 | 3E-7 | 3E-10 | | | $\mu$Ci/ml |
| 7. Ratio of Annual Avg Conc divided by Table II concentration $R = C_{before}/T$ | 9.6E-4 | 1.3E-3 | 3.2 | | | |

8. For Multiple Radionuclides: Sum-of-Ratios

$R_A + R_B + R_C + R_D + R_E$ = 9.6E-4 + 1.3E-3 + 3.2 + ____ + ____ = 3.2

9. Is #7 > 0.1? ✓ yes ____ no
Is #8 > 0.1? ✓ yes ____ no

If the answer to #9 is "no" (<0.1), a Part 380 permit is not required.

If the answer to #9 is "yes" (> 0.1), then a Part 380 permit is required. Contact the Radiation Section at (518) 457-2225 for information on how to apply for a Part 380 Radiation Control Permit.

FACILITY Company XYZ Emission Point # 02

| | A | B | C | D | E | |
|---|---|---|---|---|---|---|
| 1. Radionuclide | S-35 | C-14 | | | | |
| form | vapor | compounds | | | | |
| 2. Yearly Discharge before treatment. $A_{before}$ (μCi/yr) | 50 | 100 | | | | μCi/yr |
| [Only consider discharges before effluent treatment] | | | | | | |
| 3. Flow Rate F (cfm) | 300 | 300 | | | | cfm |
| 4. Yearly Air Flow Volume V = F * 1.49 E+10 ml/yr | 4.47E12 | 4.47E12 | | | | ml/yr |
| 5. Annual Average Concentration $C_{before} = A_{before}/V$ (μCi/ml) | 1.1E-11 | 2.2E-11 | | | | μCi/ml |
| 6. Table II (T) Column 1 Concentrations from Section 380-11 | 2E-8 | 3E-9 | | | | μCi/ml |
| 7. Ratio of Annual Avg Conc divided by Table II concentration $R = C_{before}/T$ | 5.5E-4 | 7.3E-3 | | | | |

8. For Multiple Radionuclides: Sum-of-Ratios

$R_A + R_B + R_C + R_D + R_E$ = 5.5E-4 + 7.3E-3 + ____ + ____ + ____ = 7.9E-3

9. Is #7 > 0.1? ____ yes ✓ no
Is #8 > 0.1? ____ yes ✓ no

If the answer to #9 is "no" (<0.1), a Part 380 permit is not required.

If the answer to #9 is "yes" (> 0.1), then a Part 380 permit is required. Contact the Radiation Section at (518) 457-2225 for information on how to apply for a Part 380 Radiation Control Permit.