

APPLICATION FOR LICENSE TO EXPORT NUCLEAR  
MATERIAL AND EQUIPMENT (See Instructions on Reverse)

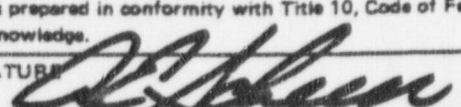
|                                                                                                                                                                                                                   |  |                                                                                                                                                |  |                                                                                                     |  |                                                                                                                                                                                                                                                                                                |  |                                                                 |  |                                                                                          |  |                            |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------|--|------------------------------------------------------------------------------------------|--|----------------------------|--|
| 1. APPLICANT'S USE                                                                                                                                                                                                |  | a. DATE OF APPLICATION<br>17 February 1989                                                                                                     |  | b. APPLICANT'S REFERENCE<br>Contract 7580                                                           |  | 2. NRC USE                                                                                                                                                                                                                                                                                     |  | a. DOCKET NO.<br>11004149                                       |  | b. LICENSE NO.<br>XSNM02436                                                              |  |                            |  |
| 3. APPLICANT'S NAME AND ADDRESS                                                                                                                                                                                   |  |                                                                                                                                                |  |                                                                                                     |  | 4. SUPPLIER'S NAME AND ADDRESS                                                                                                                                                                                                                                                                 |  |                                                                 |  |                                                                                          |  |                            |  |
| a. NAME<br>Combustion Engineering, Inc.                                                                                                                                                                           |  |                                                                                                                                                |  |                                                                                                     |  | (Complete if applicant is not supplier of material)                                                                                                                                                                                                                                            |  |                                                                 |  |                                                                                          |  |                            |  |
| b. STREET ADDRESS<br>1000 Prospect Hill Road                                                                                                                                                                      |  |                                                                                                                                                |  |                                                                                                     |  | a. NAME<br>Arkansas Power and Light Company                                                                                                                                                                                                                                                    |  |                                                                 |  |                                                                                          |  |                            |  |
| c. CITY<br>Windsor                                                                                                                                                                                                |  |                                                                                                                                                |  | STATE<br>CT                                                                                         |  | ZIP CODE<br>06095                                                                                                                                                                                                                                                                              |  | b. STREET ADDRESS<br>Arkansas Nuclear One - Unit 2              |  |                                                                                          |  |                            |  |
| d. TELEPHONE NUMBER (Area Code - Number - Extension)<br>(203) 285-5200 (Mr. A. E. Scherer)                                                                                                                        |  |                                                                                                                                                |  |                                                                                                     |  | c. CITY<br>Russellville                                                                                                                                                                                                                                                                        |  | STATE<br>AR                                                     |  | ZIP CODE<br>72801                                                                        |  |                            |  |
| 5. FIRST SHIPMENT SCHEDULED                                                                                                                                                                                       |  | 6. FINAL SHIPMENT SCHEDULED                                                                                                                    |  | 7. APPLICANT'S CONTRACTUAL DELIVERY DATE                                                            |  | 8. PROPOSED LICENSE EXPIRATION DATE                                                                                                                                                                                                                                                            |  | 9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (If Known)            |  |                                                                                          |  |                            |  |
| May, 1989                                                                                                                                                                                                         |  | N.A.                                                                                                                                           |  | N.A.                                                                                                |  | May, 1990                                                                                                                                                                                                                                                                                      |  |                                                                 |  |                                                                                          |  |                            |  |
| 10. ULTIMATE CONSIGNEE                                                                                                                                                                                            |  |                                                                                                                                                |  |                                                                                                     |  | 11. ULTIMATE END USE                                                                                                                                                                                                                                                                           |  |                                                                 |  |                                                                                          |  |                            |  |
| a. NAME<br>Atomic Energy of Canada, Limited (AECL)                                                                                                                                                                |  |                                                                                                                                                |  |                                                                                                     |  | (Include plant or facility name)                                                                                                                                                                                                                                                               |  |                                                                 |  |                                                                                          |  |                            |  |
| b. STREET ADDRESS<br>Chalk River Nuclear Laboratories                                                                                                                                                             |  |                                                                                                                                                |  |                                                                                                     |  | - Research and Development: Postirradiation Examinations<br>- 19 Rods to be disposed of at Chalk River Waste Management Facility<br>- Possibility of 1 Rod with 15 g of Pu and 6 g of U-235 to go to Sweden for use in ramp test program. Transfer to Sweden will be handled under MS-10 Form. |  |                                                                 |  |                                                                                          |  |                            |  |
| c. CITY - STATE - COUNTRY<br>Chalk River, Ontario, Canada                                                                                                                                                         |  |                                                                                                                                                |  |                                                                                                     |  | 11a. EST. DATE OF FIRST USE                                                                                                                                                                                                                                                                    |  |                                                                 |  |                                                                                          |  |                            |  |
| 12. INTERMEDIATE CONSIGNEE                                                                                                                                                                                        |  |                                                                                                                                                |  |                                                                                                     |  | 13. INTERMEDIATE END USE                                                                                                                                                                                                                                                                       |  |                                                                 |  |                                                                                          |  |                            |  |
| a. NAME<br>Nuclear Assurance Corporation                                                                                                                                                                          |  |                                                                                                                                                |  |                                                                                                     |  | Transportation Management<br>From: Arkansas Nuclear One-Unit 2,<br>Russellville, Arkansas, USA<br>To: Chalk River Nuclear Laboratories, Chalk River,<br>Ontario, Canada<br>Method of Transport: Motor Vehicle<br>IAEA Certificate of Compliance Package USA/9010/DI 1F                         |  |                                                                 |  |                                                                                          |  |                            |  |
| b. STREET ADDRESS<br>6251 Crooked Creek Road                                                                                                                                                                      |  |                                                                                                                                                |  |                                                                                                     |  | 13a. EST. DATE OF FIRST USE                                                                                                                                                                                                                                                                    |  |                                                                 |  |                                                                                          |  |                            |  |
| c. CITY - STATE - COUNTRY<br>Norcross, Georgia, USA                                                                                                                                                               |  |                                                                                                                                                |  |                                                                                                     |  | 15. INTERMEDIATE END USE                                                                                                                                                                                                                                                                       |  |                                                                 |  |                                                                                          |  |                            |  |
| 14. INTERMEDIATE CONSIGNEE                                                                                                                                                                                        |  |                                                                                                                                                |  |                                                                                                     |  | 15a. EST. DATE OF FIRST USE                                                                                                                                                                                                                                                                    |  |                                                                 |  |                                                                                          |  |                            |  |
| a. NAME                                                                                                                                                                                                           |  |                                                                                                                                                |  |                                                                                                     |  |                                                                                                                                                                                                                                                                                                |  |                                                                 |  |                                                                                          |  |                            |  |
| b. STREET ADDRESS                                                                                                                                                                                                 |  |                                                                                                                                                |  |                                                                                                     |  |                                                                                                                                                                                                                                                                                                |  |                                                                 |  |                                                                                          |  |                            |  |
| c. CITY - STATE - COUNTRY                                                                                                                                                                                         |  |                                                                                                                                                |  |                                                                                                     |  |                                                                                                                                                                                                                                                                                                |  |                                                                 |  |                                                                                          |  |                            |  |
| 16. NRC USE                                                                                                                                                                                                       |  | 17. DESCRIPTION<br>(Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)             |  |                                                                                                     |  | 18. MAX. ELEMENT WEIGHT                                                                                                                                                                                                                                                                        |  | 19. MAX. WT. %                                                  |  | 20. MAX ISOTOPE WT.                                                                      |  | 21. UNIT                   |  |
|                                                                                                                                                                                                                   |  | Special Nuclear Material:<br>20 Each Irradiated Fuel Elements<br>Sealed Rods, Containing Solid-Normal<br>Form of Uranium and Daughter Products |  |                                                                                                     |  | Total<br>Wts.<br>Uranium<br>32805 g<br>Plutonium<br>373 g                                                                                                                                                                                                                                      |  | 86.0 U/<br>Total<br>1.0 Pu/<br>Total                            |  | U-233 .00003<br>U-235 148.0<br>Pu-238 12.2<br>Pu-239 178.0<br>Pu-240 95.7<br>Pu-241 52.1 |  | g<br>g<br>g<br>g<br>g<br>g |  |
|                                                                                                                                                                                                                   |  | 8903080395 890301<br>PDR EXPORT<br>XSNM-2436 PDC                                                                                               |  |                                                                                                     |  |                                                                                                                                                                                                                                                                                                |  |                                                                 |  |                                                                                          |  |                            |  |
| 22. COUNTRY OF ORIGIN-SOURCE MATERIAL<br>USA                                                                                                                                                                      |  |                                                                                                                                                |  | 23. COUNTRY OF ORIGIN-SNM WHERE ENRICHED OR PRODUCED<br>USA                                         |  |                                                                                                                                                                                                                                                                                                |  | 24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known)<br>USA, Canada |  |                                                                                          |  |                            |  |
| 25. ADDITIONAL INFORMATION (Use separate sheet if necessary)<br>Detailed Heavy Metals Inventory, See Table 1<br>U.S. DOE will take title to fuel as material exits gate of Arkansas Nuclear One plant.            |  |                                                                                                                                                |  |                                                                                                     |  |                                                                                                                                                                                                                                                                                                |  |                                                                 |  |                                                                                          |  | Rec 2/23/89<br>IP          |  |
| 26. The applicant certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information in this application is correct to the best of his/her knowledge. |  |                                                                                                                                                |  |                                                                                                     |  |                                                                                                                                                                                                                                                                                                |  |                                                                 |  |                                                                                          |  |                            |  |
| 27. AUTHORIZED OFFICIAL                                                                                                                                                                                           |  |                                                                                                                                                |  | a. SIGNATURE<br> |  |                                                                                                                                                                                                                                                                                                |  | b. TITLE<br>Director, Nuclear Licensing                         |  |                                                                                          |  |                            |  |

Table 1  
SELECTED HEAVY METAL INVENTORY  
GRAMS OF ISOTOPE PER FUEL ELEMENT

| =====     |          |        |          |          |          |          |          |          |          |          |          |          |          |          |          |
|-----------|----------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| COMPONENT | I.D.#    | U-232  | U-233    | U-234    | U-235    | U-236    | U-238    | NP-237   | PU-238   | PU-239   | PU-240   | PU-241   | PU-242   | PU-244   |          |
| 1         | FUEL ROD | TS0001 | 2.03E-06 | 1.75E-06 | 1.21E-02 | 1.39E+01 | 7.96E+00 | 1.70E+03 | 9.24E-01 | 3.02E-01 | 9.14E+00 | 4.40E+00 | 1.95E+00 | 9.28E-01 | 5.37E-05 |
| 2         | FUEL ROD | TS0002 | 2.89E-06 | 1.21E-06 | 1.29E-02 | 4.72E+00 | 8.46E+00 | 1.67E+03 | 1.50E+00 | 7.90E-01 | 9.26E+00 | 5.20E+00 | 3.06E+00 | 2.16E+00 | 3.39E-04 |
| 3         | FUEL ROD | TS0003 | 2.03E-06 | 1.75E-06 | 1.21E-02 | 1.39E+01 | 7.96E+00 | 1.70E+03 | 9.24E-01 | 3.02E-01 | 9.14E+00 | 4.40E+00 | 1.95E+00 | 9.28E-01 | 5.37E-05 |
| 4         | FUEL ROD | TS0004 | 2.89E-06 | 1.21E-06 | 1.29E-02 | 4.72E+00 | 8.46E+00 | 1.67E+03 | 1.50E+00 | 7.90E-01 | 9.26E+00 | 5.20E+00 | 3.06E+00 | 2.16E+00 | 3.39E-04 |
| 5         | FUEL ROD | TS0014 | 2.27E-06 | 1.82E-06 | 1.34E-02 | 1.26E+01 | 8.04E+00 | 1.69E+03 | 9.77E-01 | 3.36E-01 | 9.14E+00 | 4.52E+00 | 2.04E+00 | 1.03E+00 | 6.61E-05 |
| 6         | FUEL ROD | TS0021 | 2.14E-06 | 1.72E-06 | 1.26E-02 | 1.21E+01 | 7.66E+00 | 1.61E+03 | 9.29E-01 | 3.17E-01 | 8.68E+00 | 4.29E+00 | 1.94E+00 | 9.72E-01 | 6.41E-05 |
| 7         | FUEL ROD | TS0022 | 2.89E-06 | 1.14E-06 | 1.26E-02 | 3.94E+00 | 7.94E+00 | 1.57E+03 | 1.46E+00 | 7.90E-01 | 8.72E+00 | 4.93E+00 | 2.93E+00 | 2.15E+00 | 3.80E-04 |
| 8         | FUEL ROD | TS0024 | 2.89E-06 | 1.14E-06 | 1.26E-02 | 3.94E+00 | 7.94E+00 | 1.57E+03 | 1.46E+00 | 7.90E-01 | 8.72E+00 | 4.93E+00 | 2.93E+00 | 2.15E+00 | 3.80E-04 |
| 9         | FUEL ROD | TS0034 | 2.12E-06 | 1.67E-06 | 1.24E-02 | 1.13E+01 | 7.39E+00 | 1.56E+03 | 9.10E-01 | 3.13E-01 | 8.44E+00 | 4.19E+00 | 1.90E+00 | 9.70E-01 | 6.72E-05 |
| 10        | FUEL ROD | TS0044 | 2.89E-06 | 1.21E-06 | 1.29E-02 | 4.72E+00 | 8.46E+00 | 1.67E+03 | 1.50E+00 | 7.90E-01 | 9.26E+00 | 5.20E+00 | 3.06E+00 | 2.16E+00 | 3.39E-04 |
| 11        | FUEL ROD | TS0051 | 2.03E-06 | 1.75E-06 | 1.21E-02 | 1.39E+01 | 7.96E+00 | 1.70E+03 | 9.24E-01 | 3.02E-01 | 9.14E+00 | 4.40E+00 | 1.95E+00 | 9.28E-01 | 5.37E-05 |
| 12        | FUEL ROD | TS0053 | 2.89E-06 | 1.21E-06 | 1.29E-02 | 4.72E+00 | 8.46E+00 | 1.67E+03 | 1.50E+00 | 7.90E-01 | 9.26E+00 | 5.20E+00 | 3.06E+00 | 2.16E+00 | 3.39E-04 |
| 13        | FUEL ROD | TS0061 | 2.89E-06 | 1.14E-06 | 1.26E-02 | 3.94E+00 | 7.94E+00 | 1.57E+03 | 1.46E+00 | 7.90E-01 | 8.72E+00 | 4.93E+00 | 2.93E+00 | 2.15E+00 | 3.80E-04 |
| 14        | FUEL ROD | TS0063 | 2.14E-06 | 1.72E-06 | 1.26E-02 | 1.21E+01 | 7.66E+00 | 1.61E+03 | 9.29E-01 | 3.17E-01 | 8.68E+00 | 4.29E+00 | 1.94E+00 | 9.72E-01 | 6.41E-05 |
| 15        | FUEL ROD | TS0064 | 2.89E-06 | 1.14E-06 | 1.26E-02 | 3.94E+00 | 7.94E+00 | 1.57E+03 | 1.46E+00 | 7.90E-01 | 8.72E+00 | 4.93E+00 | 2.93E+00 | 2.15E+00 | 3.80E-04 |
| 16        | FUEL ROD | TSL076 | 3.03E-06 | 1.22E-06 | 1.34E-02 | 4.25E+00 | 8.34E+00 | 1.66E+03 | 1.52E+00 | 8.23E-01 | 9.18E+00 | 5.18E+00 | 3.07E+00 | 2.24E+00 | 3.78E-04 |
| 17        | FUEL ROD | TSL095 | 3.03E-06 | 1.22E-06 | 1.34E-02 | 4.25E+00 | 8.34E+00 | 1.66E+03 | 1.52E+00 | 8.23E-01 | 9.18E+00 | 5.18E+00 | 3.07E+00 | 2.24E+00 | 3.78E-04 |
| 18        | FUEL ROD | TSL176 | 3.03E-06 | 1.22E-06 | 1.34E-02 | 4.25E+00 | 8.34E+00 | 1.66E+03 | 1.52E+00 | 8.23E-01 | 9.18E+00 | 5.18E+00 | 3.07E+00 | 2.24E+00 | 3.78E-04 |
| 19        | FUEL ROD | TSN176 | 2.89E-06 | 1.21E-06 | 1.29E-02 | 4.72E+00 | 8.46E+00 | 1.67E+03 | 1.50E+00 | 7.90E-01 | 9.26E+00 | 5.20E+00 | 3.06E+00 | 2.16E+00 | 3.39E-04 |
| 20        | FUEL ROD | TSQ103 | 1.47E-06 | 7.83E-07 | 6.61E-03 | 5.85E+00 | 6.67E+00 | 1.33E+03 | 1.02E+00 | 4.41E-01 | 7.39E+00 | 3.96E+00 | 2.25E+00 | 1.31E+00 | 1.62E-04 |
| TOTALS    |          |        | 5.13E-05 | 2.73E-05 | 2.49E-01 | 1.48E+02 | 1.60E+02 | 3.25E+04 | 2.54E+01 | 1.22E+01 | 1.78E+02 | 9.57E+01 | 5.21E+01 | 3.41E+01 | 4.93E-03 |
| -----     |          |        |          |          |          |          |          |          |          |          |          |          |          |          |          |