# MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and the applicable parts of Title 10, Code of Federal Regulations, Chapter I, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 39, 40, 51, 70, and 71, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

| Licensee | |
|---|---|
| 1. Honeywell International, Inc. | 3. License Number SUB-526, Amendment 5 |
| 2. P.O. Box 430<br>Metropolis, Illinois 62960 | 4. Expiration Date May 11, 2017 |
| | 5. Docket No. 40-3392<br>Reference No. |

| 6. Byproduct Source, and/or Special Nuclear Material | 7. Chemical and/or Physical Form | 8. Maximum amount that Licensee May Possess at Any One Time Under This License |
|---|---|---|
| A. Natural uranium | A. Yellow cake, $U_3O_8$, $UO_2$, $UO_3$, $UF_4$, $UF_6$ and chemical intermediates of these compounds | A. 68 million kg (150 million lbs) |
| B. Depleted Uranium | B. $U_3O_8$, $UO_2$, $UF_4$, and $UF_6$ | B. 68 kg (150 lbs) |
| C. Cs-137 | C. Sealed sources | C. 300 mCi |
| D. Cs-137 | D. Sealed source Ronan Engineering Company Model SA-1 Source Holder, Source Model CDC.700 | D. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State |
| E. Any licensed material between atomic numbers 1-100 | E. Sealed and unsealed radioactive sources | E. 2 mCi total |

9. Licensed material described in (7-D) above is to be used, for measurement level, in fixed gauging devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State, and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, possess, and use the devices.

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10. Licensed material as defined in LC-6, D, and E, shall be used by, or under the supervision of, individuals who have received the training described in the letter dated December 27, 2006. The licensee shall maintain records of individuals designated as users for three (3) years following the last use of licensed material by the individual.

11. The Health Physics Supervisor for this license shall carry out the duties and responsibilities with regards to fixed gauging devices described in Appendix F of NUREG-1556, Volume 4.

12.
    A. Sealed sources shall be tested for leakage and/or contamination except as specified in Paragraphs D and E below, and at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State.

    B. Notwithstanding Paragraph A of this condition, sealed sources designed to primarily emit alpha articles shall be tested for leakage and/or contamination at intervals not to exceed three (3) months.

    C. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.

    D. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is thirty (30) days or less; or they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material.

    E. Sealed sources need not be tested if they are in storage and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than ten (10) years without being tested for leakage and/or contamination.

    F. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within five (5) days of the date the leak test result is known with the appropriate U.S. Nuclear Regulatory Commission, Regional Office referenced in Appendix D of 10 CFR Part 20. The report shall specify the source involved, the test results, and corrective action taken.

G. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

H. Records of leak test results shall be kept in units of microcuries and shall be maintained for five (5) years.

13. Sealed sources containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized by license from NRC or an Agreement State.

14. The licensee shall conduct a physical inventory every six (6) months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for five (5) years from the date of each inventory and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.

A. Each gauge shall be tested for the proper operation of the on-off mechanism (shutter) and indicator, if any, at intervals not to exceed six (6) months or at such longer intervals as specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or the equivalent regulations of an Agreement State.

B. Gauges that are stored, not being used, and have the shutter lock mechanism in a locked position, are exempted from this periodic test. However, they shall be tested before use.

C. The following services shall not be performed by the licensee: installation, initial radiation surveys, relocation, removal from service, dismantling, alignment, replacement, or disposal of the sealed source and non-routine maintenance or repair of components related to the radiological safety of the gauge (i.e., the sealed source, the source holder, source drive mechanism, on-off mechanism (shutter), shutter control, shielding). These services shall be performed only by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

15. The licensee may initially mount a gauge if permitted by the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State and under the following conditions:

A. The gauge must be mounted in accordance with written instructions provided by the manufacturer;

B. The gauge must be mounted in a location compatible with the "Conditions of Normal Use," and "Limitations and/or Other Considerations of Use," in the certificate of registration issued by the Commission or an Agreement State;

C. The on-off mechanism (shutter) must be locked in the off position, if applicable, or the source must be otherwise fully shielded;

D. The gauge must be received in good condition (i.e., package was not damaged); and

E. The gauge must not require any modification to fit in the proposed location.

16. Mounting does not include electrical connection, activation or operation of the gauge. The source must remain fully shielded and the gauge may not be used until it is installed and made operational by a person specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such operations.

A. The licensee may maintain, repair, or replace device components that are not related to the radiological safety of the device containing byproduct material and that do not result in the potential for any portion of the body to come into contact with the primary beam or in increased radiation levels in accessible areas.

B. The licensee may not maintain, repair, or replace any of the following device components: the sealed source, the source holder, source drive mechanism, on-off mechanism (shutter), shutter control, or shielding, or any other component related to the radiological safety of the device, except as provided otherwise by specific condition of this license.

C. Prior to initial use and after installation, relocation, dismantling, alignment, or any other activity involving the source or removal of the shielding, the licensee shall assure that a radiological survey is performed to determine radiation levels in accessible areas around, above, and below the gauge with the shutter open. This survey shall be performed only by persons authorized to perform such services by the U.S. Nuclear Regulatory Commission or an Agreement State.

D. The licensee shall operate each device containing licensed material within the manufacturer's specified temperature and environmental limits such that the shielding and shutter mechanism of the source holder are not compromised.

E. The licensee shall assure that the shutter mechanism of each device is locked in the closed position during periods when a portion of an individual's body may be subject to the direct radiation beam. The licensee shall review and modify, as appropriate, its "lock-out" procedures whenever a new device is obtained to incorporate the device manufacturer's recommendations.

17. Authorized place of use: The licensee's existing facilities at Honeywell Metropolis Works, Highway 45 North, Metropolis, Illinois.

18. The licensee shall conduct authorized activities at the Honeywell Metropolis Works Facility in accordance with the statements, representations and conditions (or as revised by change and/or configuration management processes as described therein) in:

A. License Application dated May 12, 2006, as supplemented by a letters dated March 20, 2007, and May 12, 2008;

B. Safety Demonstration Report dated May 12, 2006;

C. Emergency Response Plan (ERP), dated May 27, 2005;

D. Integrated Safety Analysis Summary transmitted by letter dated September 30, 2008;

E. Site Reclamation Cost Estimate for Metropolis Plant dated January 10, 2007;

F. Amendment Request dated December 27, 2006, to possess and use sealed sources;

G. Exemption Request dated February 9, 2007, for relief from some of the Decommissioning Funding provisions of 10 CFR 40.64;

H. Amendment Request dated July 17, 2008, as supplemented by letters dated October 1, 2008, and December 3, 2008, regarding new process for filling small $UF_6$ cylinders; and

I. Amendment Request dated March 27, 2009, as supplemented by letters dated May 11 and July 21, 2009, regarding changes to the facility's surface contamination levels.

19. Within 180 days of the issuance of the renewed license, all Plant Features and Procedures, to be designated PFAP, shall be developed and implemented within the ISA. The implementation shall include the Configuration Management Program, and Facility Change Process.

20. For changes to the site, structures, processes, systems, components, computer programs, and activities of personnel within the identified plant features and procedures and safety control boundaries that do not require prior NRC approval, Honeywell shall prepare and submit to the NRC, within 30 days after the end of the calendar year in which the change was implemented, a brief summary of all such changes. For all changes that affect the MTW ISA, Honeywell shall submit to the NRC, within 30 days after the end of the calendar year in which the changes were implemented, either a revised ISA summary, or revised ISA summary pages, as appropriate.

21. Honeywell shall, within 10 days of receipt of source material, report to the NMMSS database, the shipper's values of the natural uranium. Shipper's values shall be reported (blocks 1 through 27s of DOE/NRC form 741) as required in Section 2.1.1 of NUREG/BR-0006. To ensure that the values reported are correctly posted, Honeywell shall compare, on a monthly basis, its weights of natural uranium it has received with weight values contained in the NMMSS database, and provide corrections as necessary. The final quantity determination, as agreed upon with the supplier, shall be reported to the NMMSS database within 10 days of the date on which the agreement is finalized.

22. The licensee is hereby granted an exemption from the requirements of 10 CFR 20.1902 (a) and 10 CFR 20.1904 (a), as described in Section 1.7.1 of its license renewal application.

23. The average concentration of uranium in calcium fluoride released to each commercial organization, for any consecutive 12-month period, shall not exceed 212 pCi/gram.

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24. The licensee shall maintain and execute the response measures in the Emergency Response Plan dated May 27, 2005. Any changes to the Emergency Response Plan are subject to the 10 CFR 40.35(f) requirements.

25. At intervals not to exceed 3 years, the licensee must submit for NRC review an updated cost estimate for decommissioning. After resolution of any NRC comments on the estimate, a signed original of the financial instrument reflecting an amount sufficient to cover the approved cost estimate must be provided to the NRC.

26. Honeywell shall submit to NRC, for review and approval, the results of the financial test and supporting documentation required by 10 CFR 30 Appendix C II.B(3) within 120 days of the close of each fiscal year.

27. Honeywell is granted an exemption to 10 CFR Part 30, Appendix C, Section II.A.1 (as made applicable by 10 CFR Part 40.36(e)(2)). Specifically, as described in a letter dated December 1, 2006, Honeywell may include goodwill assets in its calculation of tangible net worth to meet the 10 to 1 ratio of tangible net worth to decommissioning obligation to pass the financial test. All other applicable conditions within 10 CFR Part 30, Appendix C remain. This license condition is imposed until of the earlier occurrence of (1) May 11, 2009, or (2) the effective date of a final rule amending 10 CFR Part 30 consistent with the proposed rule published in the *Federal Register* on January 22, 2008.

FOR THE NUCLEAR REGULATORY COMMISSION

Date: August 06, 2009

By: **/RA/**
Marissa G. Bailey, Deputy Director
Special Projects and Technical
Support Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards