

N/A

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 1.01

Entry into a Material Definitive Agreement.

On December 23, 2011, International Isotopes Inc. (the Company) entered into an Isotope and Technical Services Order Form (the Service Agreement) with the U.S. Department of Energy (DOE), pursuant to which the DOE will provide certain cobalt target fabrication and irradiation services using the Advanced Test Reactor (ATR) at the Idaho National Laboratory (INL). The Service Agreement is effective on January 20, 2012 and expires on December 30, 2012.

Item 1.02

Termination of a Material Definitive Agreement.

On December 20, 2011, the Company received a letter from Battelle Energy Alliance, LLC (BEA), prime contractor at the INL, stating that pursuant to the written direction of the DOE it is giving notice of termination of the Work For Others Agreement No. 10811, entered into on July 31, 2010 between the Company and BEA (the BEA Agreement), effective at midnight on January 20, 2012. Pursuant to the BEA Agreement, BEA provides certain cobalt irradiation services using the ATR at the INL. The irradiation services are performed on a full cost recovery basis. The total cost to the Company was estimated to be \$1,500,000 and BEA did not have any obligation to perform services in excess of such estimated cost and was not permitted to exceed such estimated cost without the consent of the Company. The term of the BEA Agreement had been estimated to be thirty (30) months from the date of the BEA Agreement.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

International Isotopes Inc.

Date: December 23, 2011

By:

/s/ Steve T. Laflin
Steve T. Laflin

President and Chief Executive Officer