UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2016

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number: 000-22923

INTERNATIONAL ISOTOPES INC.

(Exact name of registrant as specified in its charter)

Texas	**74-2763837**
(State or other jurisdiction of incorporation or origination)	(IRS Employer Identification Number)
4137 Commerce Circle **Idaho Falls, Idaho**	**83401**
(Address of principal executive offices)	(Zip code)

(208) 524-5300
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None.

Securities registered pursuant to Section 12(g) of the Act:

COMMON STOCK, $.01 PAR VALUE
(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☐ NO ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES ☐ NO ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES ☒ NO ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☐	Smaller reporting company ☒
(Do not check if a smaller reporting company)	

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). YES ☐ NO ☒

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the average bid and asked price of such common equity at June 30, 2016, the last business day of our second fiscal quarter, was approximately $13.6 million. For purposes of this calculation, all directors and executive officers of the registrant and holders of 5% or more of the registrant's common stock are assumed to be affiliates. This determination of affiliate status is not necessarily conclusive for any other purpose.

As of March 28, 2017, the number of shares outstanding of the registrant's common stock, $.01 par value, was 406,955,724 shares.

Documents Incorporated by Reference

Certain information called for in Part III of this Annual Report on Form 10-K is incorporated by reference to the registrant's definitive proxy statement for the 2017 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission not later than 120 days after the registrant's fiscal year ended December 31, 2016.

INTERNATIONAL ISOTOPES INC.

FORM 10-K

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Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K (the "Annual Report") contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact, including statements regarding industry prospects and future results of operations or financial position, made in this Annual Report are forward-looking. Words such as: "anticipates," "believes," "should," "expects," "future" and "intends" and similar expressions identify forward-looking statements. In particular, statements regarding: the expected growth in business segment revenues, our expansion into new markets, the ability of our products to compete with several larger companies and products, the results of market studies used to support our business model, our anticipated improvement in economic conditions, the expected increased revenue by gaining approval of new generic drug products, our ability to continue cobalt-60 production and manage costs, the commercial opportunity of the proposed depleted uranium and fluorine extraction processing facility, and the sufficiency of our available cash and revenues from operations to meet our operating needs, are forward-looking. Forward-looking statements reflect management's current expectations, plans or projections and are inherently uncertain. Actual results could differ materially from management's expectations, plans or projections. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report. Certain risks and uncertainties that could cause actual results to differ significantly from management's expectations are described in the section entitled "Risk Factors" in this Annual Report. That section, along with other sections of this Annual Report, describes some, but not all, of the factors that could cause actual results to differ significantly from management's expectations. We do not intend to publicly release any revisions to these forward-looking statements that may be made to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Readers are urged, however, to review the risks and other factors set forth in the other reports that we file from time to time with the Securities and Exchange Commission (the "SEC").

PART I

Item 1. BUSINESS

General Business and Products Description

International Isotopes Inc. (the "Company", "we", "us" and "our") was formed as a Texas corporation in 1995. Our wholly-owned subsidiaries are International Isotopes Idaho Inc., a Texas corporation; International Isotopes Fluorine Products, Inc., an Idaho corporation; and International Isotopes Transportation Services, Inc., an Idaho corporation. Our core business consists of six reportable segments which include: Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation.

During 2016 we focused our efforts on achieving profitability in each of our core business segments and reached several significant goals. During 2016, we:

- Continued research into the expansion of radiochemical products and completed and submitted an abbreviated New Drug Application (aNDA) to the U.S. Food and Drug Administration for a new generic drug, sodium iodide I^3odine/MAX™;

- Improved nuclear medicine production methods and achieved a significant reduction in waste and scrapped material as a result of these efforts;

- Entered into an additional supply agreement with a customer for the purchase of cobalt-60 which includes on-going source manufacturing services;

- Identified an alternate source of cobalt-60 for customers that will stem the shortage in supply that has occurred in the past, and that will continue to occur until the first full cobalt irradiation services are complete in mid to late 2018;

- Were awarded radiological services jobs through the DOE's Orphan Source Recovery Program ("OSRP") in which we were able to use our mobile hot cell; and

- Continued to support the essential tasks related to our de-conversion project and continued to pursue opportunities to obtain additional contracts for depleted uranium de-conversion services.

In 2017, we plan to continue efforts to further expand and improve upon our operations in our core business segments. We intend to continue to invest in these segments and work to pursue product development, reduce production costs and expand sales in each of them. The following paragraphs provide a brief description of each of our business segments. Certain financial information with respect to each of our business segments, including revenues from external customers, a measure of profit or loss, and total assets, is set forth in Note 14 in the Notes to our Consolidated Financial Statements which begin on page F-6.

Nuclear Medicine Standards

This segment consists of the manufacture of sources and standards associated with Single Photon Emission Computed Tomography (SPECT) imaging, patient positioning, and calibration or operational testing of dose measuring equipment for the nuclear pharmacy industry. Our nuclear medicine standards products include flood sources, dose calibrators, rod sources, flexible and rigid rulers, spot markers, pen point markers, and a host of specialty design items. These products are manufactured through an exclusive manufacturing agreement with RadQual, LLC ("RadQual") of which we own a 24.5% interest. The manufacturing agreement provides that we will manufacture sources exclusively for RadQual and will not manufacture products that would directly compete with RadQual sources. The agreement also states that RadQual will only procure sources manufactured by us for distribution to RadQual customers. Should this agreement with RadQual terminate, we would be precluded from competing with RadQual in the nuclear medicine market for a period of two years. For this reason, we have worked to expand revenues from other segments to decrease our risk of dependency on RadQual. The initial term of the agreement with RadQual expired on December 31, 2008, but the agreement automatically renews each January 1st thereafter unless otherwise terminated by either party with 60 days' prior written notice, and continues in effect currently.

There are over 5,000 nuclear medicine centers in the United States ("U.S.") that require nuclear medicine products on a regular repeat basis. We have been manufacturing these products for RadQual since 2001. The majority of nuclear medicine product sales are to U.S. customers; however, in recent years we have seen an increase in foreign sales. All of these products contain radioactive isotopes that decay at a predictable rate. Therefore, customers are required to periodically replace most of these products when they reach the end of their useful lives. The useful life of these products varies depending on the isotope used in manufacture, but in most cases averages 18 months to two years. The isotopes used in manufacturing these nuclear medicine products are available from various sources world-wide and we are not dependent on a single supplier. In addition to the products themselves, we have developed a complete line of specialty packaging for the safe transportation and handling of these products.

RadQual has numerous distributors for direct sales of its products. Formerly, the largest distributor was Technology Imaging Services Inc. ("TIS"). In December 2010, we formed a 50/50 joint venture with RadQual to acquire the assets of TIS, and those assets were used to create TI Services, LLC ("TI Services"). This joint venture has provided sales opportunities in existing and future RadQual product lines both domestically and internationally as a marketer for RadQual products.

Cobalt Products

Our cobalt products segment includes the production of bulk cobalt (cobalt-60), fabrication of cobalt capsules for radiation therapy or various industrial applications, and recycling of expended cobalt sources.

Although historically bulk cobalt sales have accounted for a significant amount of the total revenue from this business segment, as further described below, during the past several years we have not had any bulk sales because of an interruption in cobalt production in the U.S. Department of Energy's ("DOE") Advanced Test Reactor ("ATR") located in Idaho. However, through continued work with the DOE, a new cobalt target was designed and in October 2014, we entered into a ten-year agreement with the DOE for the irradiation of the new target design which should increase our supply of cobalt material from the ATR beginning in mid to late 2018. Subsequent to completing the agreement with the DOE, we began putting commercial sales agreements in place with our customers. In accordance with those agreements, we began receiving pre-payments from customers on future cobalt shipments which we have recorded as unearned revenue. We expect to recognize significant sales of our cobalt-60 material beginning in mid to late 2018. In the meantime, we have identified a secondary supplier of cobalt-60 material to fulfill some customer needs. In addition, we will rely on obtaining recycled material for the manufacture of some sources.

The year-over-year demand for cobalt products has continued to remain strong as a result of the introduction of several new types of cobalt therapy units and we have continued to see robust growth in the demand for cobalt manufactured products for those devices. We continue to explore opportunities to further develop cobalt products sales through increased production of finished source products. The production, use, transport, and import/export of these products are all heavily regulated, but we have developed an experienced staff of technicians, drivers, and supervisors to comply with the regulations and support cost effective and timely delivery of these products. One reason we established our Transportation segment was to support the delivery of cobalt products.

We continue to own older cobalt targets that are stored at the ATR. We are currently working with the DOE on determining a feasible transfer and shipping method for these targets. The older targets continue to hold significant market value to us provided we are able to transport them to our facility for processing. At the present time we expect only a small amount of this material to be transferred for processing in 2017 because of transportation container limitations. We will reevaluate the remaining value of this older material at the end of 2017 and either make additional impairments to value or schedule shipments in 2018.

Radiochemical Products

This segment includes production and distribution of various isotopically pure radiochemicals for medical, industrial, and research applications. These products are either directly produced by us or are purchased in bulk from other producers and distributed by us in customized packages and chemical forms tailored to meet customer and market demands. Sodium Iodide (Iodine-131) radiochemical product accounts for the largest portion of sales within this segment. Our Iodine-131 is supplied to us through an agreement with NTP Radioisotopes (Pty) Ltd. ("NTP") in South Africa and is imported as a radiochemical intended for medical applications. Although there are other manufacturers of Iodine-131, in November 2016, we renewed our agreement with NTP for the supply of Iodine-131 that allows us to purchase iodine at a mutually agreeable pre-determined price through December 2017. Either party may terminate the agreement by giving three months' notice prior to the expiration of the term.

Perhaps the most significant business development for the Company during 2016 was our submittal of an abbreviated New Drug Application (aNDA) to the U.S. FDA for sodium iodide I-131. We have identified this product under our trademark name of I^3odine/MAX™. Generally, Iodine-131 is used in the treatment and diagnosis of various diseases of the thyroid gland such as Graves' disease, thyroid cancer and hyperthyroidism. This is the first generic application for a sodium iodide product in the U.S. and after FDA approval sales of the product in the U.S. are expected to have a significant and beneficial impact to overall Company revenue and profitability. Other less significant sales of radiochemical in this segment consist of sales of isotopes such as Cobalt-57 (Co-57), Cesium-137 (Cs-137), Sodium-22 (Na-22), and Barium-133 (Ba-133).

Radiological Services

This segment includes a wide variety of services such as decommissioning disused irradiation units, performing sealed source exchanges in irradiation and therapy units, and processing gemstones. In May 2004, we entered into an exclusive contract with Quali-Tech, Inc., for gemstone processing and, historically, this contract has accounted for the majority of sales in this segment. In May 2012, we modified and renewed the contract, which remains in effect until either party gives a minimum of six months' notice to the other that it does not intend to continue the contract. In November 2016, we made an additional modification to the contract to increase the gemstone processing charge on March 1st of each year thereafter beginning on March 1, 2018. The adjustment to the charge will be based on data provided by the U.S. Bureau of Labor Statistics Historical Consumer Price Index. All other provisions of the agreement remain unchanged. The contract provides that we will act as the exclusive processor of gemstones for Quali-Tech, Inc., for the term of the contract and two years beyond.

We are licensed through the Nuclear Regulatory commission ("NRC") to perform certain field service activities in connection with the DOE's Orphan Source Recovery Program ("OSRP"). These activities include services to support recovery of disused sources under the DOE's OSRP and installation or removal of certain cobalt therapy units. We designed and built a mobile hot cell unit to use in this field service work and during 2016 and 2015 used the unit to perform numerous OSRP field service jobs. The unique design of our mobile hot cell allows us to modify the hot cell's components to perform customized source removal. This type of field service work is expected to generate the majority of revenue within this business segment in the coming years and should also be expanded to include certain international contract opportunities through the International Atomic Energy Agency (IAEA). During the first quarter of 2017, we were awarded additional radiological service jobs and we expect to secure additional work in this area during the rest of 2017.

Transportation

We established this segment in 2006 through our subsidiary, International Isotopes Transportation Services ("IITS"), to provide transportation of our products (such as cobalt sources) and to offer "for hire" transportation services of hazardous and non-hazardous cargo materials. A major factor in our decision to establish this subsidiary and business segment was the high cost of third-party transportation services and high volume of regulations involving the security and tracking of shipments of cobalt. IITS provides us with considerable savings for the transportation of our own products and produces a small revenue stream through the transportation of products for other companies. We expect to expand transportation services to support expansion of field services work and to support delivery of other products in other business segments.

Fluorine Products and the Planned Uranium De-conversion Facility

In 2004, we began a major undertaking to construct the first commercial uranium de-conversion facility in the U.S. At that time, we believed that such an undertaking would provide an excellent commercial opportunity to us in the future.

We established the fluorine products business segment in 2004 to support production and sale of the gases produced using our Fluorine Extraction Process ("FEP") that we intended to use in conjunction with the operation of the proposed depleted uranium de-conversion facility in Lea County, New Mexico. The FEP is a process that produces ultra-high-purity fluoride gas products through a solid-to-solid reaction between depleted uranium tetrafluoride ("DUF4") and various solid metal oxides such as silicon. High-purity fluoride gases are in high demand for processes such as ion-implantation and chemical vapor deposition and also for the manufacture of organic complexes used in a host of industrial applications and manufacturing processes. The FEP products have very high purity, which makes them ideally suited to these specialty applications.

We acquired seven patents for the FEP in January 2004 and built a pilot production facility in Idaho that began operation in 2006. In 2010, we were granted an additional process patent on FEP based upon information gained through the operation of the pilot facility. Our pilot facility was not used for commercial gas production but instead focused upon production of high-purity products and examined methods of scaling up the size of the production operations in support of the proposed de-conversion facility in New Mexico. By the end of 2012, we had completed

our testing of individual components and analytical processes and in April 2013, we shut down the pilot facility and terminated our lease on that property.

DUF6 is the waste by-product of uranium enrichment and any uranium enrichment facility will create very large quantities of DUF6. Our intended plant design would process DUF6 into DUF4 and then use the DUF4 in the FEP process, thereby, creating a business model in which the Company is paid to process the DUF6 and then is able to sell the fluoride products produced from the DUF4.

We were able to put an agreement in place with URENCO in 2010 to process some of their DUF6 waste. In October 2012, we received the NRC construction and operating license for the planned de-conversion facility. This is a forty (40) year operating license and is the first commercial license of this type issued in the U.S. There are no other companies with a similar license application under review by the NRC and the license does not require us to begin construction of the project by any specific date. Therefore, the NRC license represents a significant competitive barrier and we believe that it provides us with a very valuable asset now and in the future when we are ready to resume formal design and engineering work on the plant.

Due to changes in the nuclear industry near the end of 2013, we placed further engineering work on the proposed uranium de-conversion facility on hold. The changes to market conditions were the result of changes in the outlook for growth in the nuclear industry. When we began pursuing this project, there were several companies planning for construction of new commercial uranium enrichment plants in the U.S. The de-conversion service agreement we had put in place with URENCO USA ("UUSA"), would have used approximately 50% of the installed processing capacity of our proposed de-conversion facility. Plans to obtain additional contracts with the other enrichment companies that would commit the remaining capacity of the planned facility were delayed due to the slowdown in nuclear industry growth. We determined that having contracts in place for 100% plant capacity was necessary in order to obtain financing for the project on terms reasonable to the Company. In addition, both the Fukushima, Japan disaster and low natural gas prices in the U.S. continue to negatively impact growth in the nuclear industry and there is no serious discussion of constructing additional nuclear capacity in the U.S. in the near term.

Further activity within this segment will be deferred until market and industry conditions change and justify resuming design and construction of the facility. In the meantime, we expect to continue to incur costs associated with the maintenance of licenses and other necessary project investment, and the Company expects to continue to keep certain agreements in place that will support resumption of project activities at the appropriate time. Meanwhile, however, the facility operated by UUSA continues to produce and stockpile depleted uranium tails and, therefore, we believe there is still an opportunity to provide commercial depleted uranium de-conversion services at some point in the future. We were also made aware in 2015 that the DOE may have a need for DUF4 material and we are continuing to monitor that additional opportunity. We expect that, either DOE needs for DUF4 material or commercial enrichment needs to process DUF6 waste, will eventually dictate the appropriate time to resume this project.

In connection with the proposed de-conversion facility, Lea County, New Mexico transferred property to the Company under the provisions of the New Mexico Local Economic Development Act, Project Participation Agreement ("PPA") as a location for construction of the facility. Under the original agreement, the Company was obligated to meet certain performance objectives. The Company did not meet these objectives, however, in July 2015, the Company executed an amendment to the PPA that extended the due date of the Phase I construction to December 31, 2016, and Phase I completion and hiring at least 75 employees to December 31, 2016. The Company did not meet the December 31, 2016 deadline and management is working with Lea County to execute an additional modification to the agreement to further extend these dates to at least 2020. If the Company does not succeed in extending the commitment dates or in reaching performance dates set forth in a modified agreement then it may either purchase or re-convey the property to Lea County, New Mexico. In addition, if Lea County does not agree to that modification and the Company does not retain title to the property, it could have a material adverse impact on our planned de-conversion and FEP project since another location would need to be selected and evaluated for environmental compliance.

Industry Overview, Target Markets, and Competition

The industries and markets that require or involve the use of radioactive material are diverse. Our current core business operations involve products that are used in a wide variety of applications and in various markets. The following provides an explanation of the markets and competitive factors affecting our current business segments.

Nuclear Medicine Standards

Calibration and reference standards are required for the daily operational checks and calibration of the measurement of SPECT imaging devices frequently used in nuclear medicine. Calibration and quality assurance testing is required as a routine part of the normal operations of this equipment to ensure its reliability and accuracy. We exclusively manufacture many of these reference standard products for one customer, RadQual, which in turn has several distributors who make direct sales around the U.S. and internationally. We directly ship these products to all 50 states and many overseas locations. There is only one other producer of these products in the world that directly competes with us for these products. Most of the products manufactured by our competitor are similar in design to our products because all must meet Original Equipment Manufacturer ("OEM") dimensional and performance standards. However, we attempt to differentiate our products from our competitor's products through increased levels of quality control and customer service. We received ISO-9001:2008 and ISO-13485-2003 quality program certifications in 2011 that have allowed us to start selling these products into several foreign countries that require this additional quality certification for manufacturers. We use a small number of suppliers for the isotopes and other materials used in manufacturing these nuclear medicine products, but if we were to lose any of these suppliers, others would be available.

Cobalt Products

Historically, we sold high-activity bulk cobalt to one customer that used it to fabricate several models of sealed sources for medical and industrial applications. In June 2012, a leak of a cobalt target at the ATR belonging to another commercial business resulted in the curtailment of all further cobalt handling and production activities at the ATR pending completion of several corrective actions. Due to this issue, we were forced to discontinue the irradiation of that cobalt targets target design. Aside from a few shipments in 2014 we have not been able to process this old material due to the lack of a suitable transportation container. Therefore, we have not recorded any bulk cobalt sales for the past several years. With some residual high activity cobalt material that we held at our facility and bulk cobalt purchased from another supplier, we were able to manufacture some sealed source products through 2016.

In 2014, we entered into a new 10-year agreement with the DOE utilizing a new cobalt target design. Because of the lengthy irradiation time required we anticipate that cobalt shipments to customers will resume in mid to late 2018. Our cobalt products are used in applications such as radiation therapy, security devices, radiography examination and in some commercial applications. While there are other technologies available to provide external radiation therapy, there are several new devices just gaining market approval that still depend on cobalt sources for their specialized applications. There are currently no other producers of high specific activity cobalt in the U.S., however, there is one producer of medium specific activity material and there are at least three significant producers of high specific activity material in Canada and other parts of the world. In addition to us, there is only one other company in the U.S. currently licensed to handle large quantities of cobalt.

We manufacture cobalt sources as well as recycle used cobalt sources by recovering the cobalt for re-use in the manufacture of new sealed sources for teletherapy devices, irradiators, and other source applications. We are the only company in the U.S. that provides this unique service. There has been a significant increase in regulation by the NRC in recent years that has created a significant barrier to new entrants to this market. We expect steady demand for cobalt sealed source products over the next five years, but are currently dependent upon our contract relationship with the DOE for access to its ATR in Idaho for the majority of our cobalt production activities. The interruption to cobalt production experienced in 2012 had a significant negative impact on our cobalt products business segment, and although we currently have a ten-year irradiation contract in place with the DOE, future interruptions in the operation of the ATR could have a negative impact on our cobalt products business segment. With our new cobalt production contract in place with the DOE we anticipate our market position in this business segment will grow in future years.

Radiochemical Products

We typically supply radiochemical products in bulk form. The markets for most radiochemicals are highly competitive. The target markets for these products are customers who (1) incorporate them into finished industrial or medical devices; (2) use radioisotope products in clinical trials for various medical applications; or (3) further process and include the radioisotope products into a pharmaceutical product FDA approved therapy or imaging. We are the only U.S. company that supplies Iodine-131 radiochemical directly to radiopharmacies for on-site compounding at the pharmacy There is one major foreign company that produces a similar product but it is distributed as an FDA approved pharmaceutical product. Many hospitals, pharmacies, and distributors have enacted policies to preferentially purchase FDA approved products even if use of our radiochemical is approved under state boards of pharmacy compounding guidelines. Therefore, we have taken steps to advance our radiochemical sales into the manufacture of generic drug products using these same basic radiochemicals.

We have received trademark approval for I^3odine/MAX™, our Iodine-131 oral solution, and we are seeking approval of this product as a generic drug through the submission of a New Drug Application (aNDA) to the U.S. Food and Drug Administration ("FDA"). The time required for FDA approval of the I^3odine/MAX™ product is unknown. Once approved, however, we anticipate significantly expanded sales of this product and a significant positive impact on our revenues. We are also considering other generic drug opportunities and plan to expand the range of products offered within this business segment in the coming years.

Fluorine Products and the Planned Depleted Uranium De-conversion Facility

Our Fluorine Products segment was developed in conjunction with uranium de-conversion in order to take advantage of the anticipated need for depleted uranium de-conversion services. Our FEP patents provide a unique opportunity to provide certain high-purity fluoride compounds while also offering a "for fee" de-conversion service to the uranium enrichment industry. Although during 2013 we curtailed the formal engineering work on the de-conversion facility, we believe that in the future there will be a resumption of nuclear growth, driven by recent interest in Small Modular Reactors ("SMR's"), that could positively impact the front end of the nuclear fuel cycle (i.e. uranium enrichment). Once that occurs the ground work we have completed on the depleted uranium de-conversion and fluorine extraction project should put us in an excellent position to take advantage of our position in the industry and should serve to justify the financial investment in this uranium de-conversion project in the future. We have also seen some interest by the DOE for a possible future supply of DUF4. We intend to continue to monitor these opportunities and maintain our licenses and other necessary project investments so that the project activities can be resumed when market conditions improve.

Radiological Services

Historically, most of our radiological services have been performed in support of gemstone processing for Quali-Tech, Inc. Gemstone processing has fluctuated in recent years but has recently gained traction and has remained a significant contributor to this segment's revenue.

In the past several years, we have seen increased opportunities for radiological field service activities involving installation or decommissioning of radiation devices in hospitals, research institutions, and various other commercial facilities. In 2012, we obtained our first amendment to our NRC license to permit certain field service activities and since that time radiological field service work has become a significant contributor to revenue within the segment. In both 2016 and 2015 we were awarded several contracts for field service activities in connection with the DOE's OSRP project. We designed and built a mobile hot cell unit for use in this field service work and in 2014 and 2015 we were granted additional amendments to our NRC license that have allowed us to expand the types of services we can provide. The design of our mobile hot cell allows us to adapt it to work in various source removal situations that would not otherwise be possible. We will continue to use the mobile hot cell to support these expanded services both domestically and internationally. While there are other companies that compete with us for field services work, we believe our mobile hot cell gives us a unique competitive advantage in some of these opportunities. In 2016, we worked to further increase these field service opportunities in the U.S. and abroad and expect that, in future years, field services will be the major source of revenue within this business segment.

Transportation

IITS was formed in order to support transportation of our own products and to provide "for hire" transportation services. IITS specializes in the transportation of hazardous, radioactive materials including large cobalt shipments. These types of shipments face a significant amount of increased regulation and enhanced security requirements and IITS is well suited to meeting these requirements while significantly reducing our transportation costs. IITS has specially trained drivers and specially equipped vehicles intended to meet the standards for transportation of large cobalt shipments. Therefore, IITS is capable of providing unique transportation services that we believe only one or two other commercial carriers in the U.S. can also provide. The transportation segment directly supports the sale and delivery of our cobalt products and the performance of field service projects and as such is a cost saving operation for us.

Government Regulation

Licensing

We currently operate under two NRC licenses, one for broad scope operations and another for exempt distribution. Our broad scope license covers calibration and reference standard manufacturing and distribution, radioisotope processing and distribution, large scale cobalt processing and recycle operations, radioactive gemstone processing, environmental sample analysis, certain field service activities, and research and development. The exempt distribution license permits the release and distribution of irradiated gemstones to unlicensed entities in the U.S. All of our existing licenses and permits are adequate to allow current business operations. We do not handle "special nuclear materials" (i.e. nuclear fuels and weapons grade uranium, thorium or plutonium); therefore, our facility is not designated as a "nuclear" facility that would require additional licensing.

As a condition of our NRC licenses in Idaho, we are required to provide financial assurance for decommissioning activities. We fulfill this license requirement with a surety bond which names the NRC as beneficiary and is supported by a restricted cash account in the amount of $450,631, held by Merrill Lynch. Similar financial assurances will be required to fund the decommissioning of the proposed de-conversion facility.

In October 2012, we were granted a 40-year construction and operating license by the NRC for our planned depleted uranium de-conversion and fluorine extraction processing facility (the "de-conversion facility"). The de-conversion facility, is planned to be located in Lea County, New Mexico, and is proposed to initially de-convert up to approximately 11 million pounds of depleted uranium hexafluoride ("DUF_6") annually into fluoride products and depleted uranium oxides ("DUO"). Further engineering work on the proposed de-conversion facility was placed on hold in 2013 until additional contracts for utilization could be obtained. There is no specific timeline required by the NRC for the start of construction on this project. The majority of the pre-construction design, licensing and state permitting has already been completed for the project and a ground water permit from the state of New Mexico remains to be obtained before the plant could begin operation.

Regulation of Radioisotope Production Waste

All of our manufacturing processes generate some radioactive waste. We must handle this waste pursuant to the Low Level Radioactive Waste ("LLRW") Policy Act ("LLRW Act"), which requires the safe disposal of mildly radioactive materials. The estimated costs for storage and disposal of these materials have been included in the manufacturing and sales price of our products. However, actual disposal costs are subject to change at the discretion of the disposal site and are ultimately applied at the time of disposal. We have obtained all necessary permits and approvals for the disposal of our waste materials and we do not anticipate any negative changes in capacity or regulatory conditions that would limit or restrict our waste disposal capabilities.

The planned de-conversion facility will produce large quantities of depleted uranium oxide waste. Disposal of depleted uranium waste will be the responsibility of the customers suppling DUF6 to the company for de-conversion. There are proposed changes to some of the regulations for low level radioactive waste disposal that could impact the rules surrounding disposal of large quantities of depleted uranium. The Company will continue to monitor any changes in the regulatory framework that could impact the de-conversion facility project.

Nuclear Regulatory Commission Oversight

We operate under two NRC licenses and are subject to NRC oversight and periodic inspections of our operations.

Other Regulations

We are registered as a medical device manufacturer through the FDA for several of our nuclear medicine reference and calibration standards. We are registered with the U.S. Department of Transportation for the shipment of radioactive materials. We also have an NRC license for the import and export of radioactive materials. Because of increasing security controls and regulations, it is likely that we may encounter additional regulations affecting transportation, storage, sale, and import/export of radioactive materials.

We are also subject to inspection by the FDA to be in compliance with cGMP for our sodium iodide product and are registered with the FDA as an Active Pharmaceutical Ingredient manufacturer and a manufacturing facility. In November 2016, we submitted an aNDA for our sodium iodide I^3odine/MAX™ product. In order to gain approval of this generic drug the FDA will be required to complete a pre-approval inspection. Once approved the facility with thereafter be subject to periodic and random inspections by the FDA for the continued manufacture of this drug product.

We are subject to government regulation and intervention both in the U.S. and in all foreign jurisdictions in which we conduct business. Compliance with applicable laws and regulations results in higher capital expenditures and operating costs and changes to current regulations with which we must comply can necessitate further capital expenditures and increases in operating costs to enable continued compliance.

Employees

As of December 31, 2016, we had 28 total employees including 26 full-time employees.

Distribution Methods for Products

We sell our products directly to our customers who, in some cases, are both end users and distributors. We use common commercial carriers and our own IITS subsidiary for delivery of our products. For smaller quantities of material, and overnight and next-day delivery, we utilize other commercial carriers. For our products that involve large quantities of radioactive material, most commonly cobalt-60, and that invoke certain special transportation requirements, we use our IITS transportation subsidiary.

Dependence on Customers

During 2016, one major customer, RadQual, accounted for 31% of our total gross revenue. This total includes both sales under an exclusive sales agreement with RadQual and its sales as a distributor of the products we manufacture for them and also includes sales reported by TI Services, our joint venture with RadQual.

Combined sales, on which we are dependent, to our three largest customers, accounted for 43% of our total gross revenues in 2016 and accounted for 40% of our total gross revenues in 2015. We are making efforts to reduce our dependency on a small number of customers by expanding sales in both domestic and foreign markets and through our establishment of the joint venture, TI Services, to expand distribution of products. We also have several agreements in place for the sale of cobalt products and services and anticipate additional opportunities for revenue from expanded radiological services.

Patents, Trademarks, Licenses and Royalty Agreements

In 2004, we obtained certain patents related to the FEP. In July 2010, we were granted a new patent on the FEP process which provides patent protection of this intellectual property through 2019. These patents will be important to the future operation and production capacity of the de-conversion facility. We believe these patents will provide a commercial opportunity once companies resume planning and construction of any new uranium enrichment facilities in the U.S. In 2009, patent applications were made in Brazil, Canada, China, Europe, Japan, Russia, and South Africa for other FEP related production techniques. In 2013, the FEP process patent was granted in Russia and in

2014 the FEP process patent was approved in South Africa. In 2015, the FEP process patents in China and Japan were abandoned. The applications in the other countries mentioned above are still in process.

In September 2015, we obtained approval from the U.S. Patent and Trademark office for the trademark registration of I^3odine/MAX™. The trademark is for Iodine-131 radiochemical product as solution or capsules for use in the treatment and diagnosis of diseases of the thyroid, thyroid cancer, and hyperthyroidism and for use in investigational and clinical trials for the treatment of breast, lung, prostate, and ovarian cancers. The aNDA for this product was submitted to the FDA in November 2016.

Research and Development

In 2016, we had research and development expenses totaling $511,283, compared with $821,453 in 2015. These expenses were primarily associated with current product development activities related to generic I^3odine/MAX™ Drug product.

Available Information

Our internet website address is http://www.internationalisotopes.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") are available free of charge through our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information on our website is not incorporated by reference into this report or other reports filed with the SEC.

Item 1A. RISK FACTORS

Readers should carefully consider the following factors that may affect our business, future operating results and financial condition, as well as other information included in this Annual Report. The risks and uncertainties described below are not the only ones the Company faces. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations. If any of the following risks actually occur, our business, financial condition and operating results could be materially adversely affected.

Risks Related To Our Company Generally

We have incurred, and may continue to incur, losses. We have incurred net losses for most fiscal periods since our inception. From inception through December 31, 2016, we have generated $97,228,090 in revenues and an accumulated deficit (including preferred stock dividends and returns) in the amount of $121,942,132. The negative cash flow we have sustained has materially reduced our working capital, which in turn could materially and negatively impact our ability to fund future operations and continue to operate as a going concern. Management has taken and continues to take actions to improve our results. The availability of necessary working capital, however, is subject to many factors beyond our control, including our ability to obtain favorable financing, economic cycles, market acceptance of our products, competitors' responses to our products, the intensity of competition in our markets, and the level of demand for our products.

We may need additional financing to continue operations. Because we may continue to experience negative cash flow, we may need to obtain additional financing to continue operations. Management will continue to plan and take actions to improve our financial results which could enhance our ability to obtain debt financing. However, obtaining additional financing is subject to many factors beyond our control and may not be available to us on acceptable terms or at all.

Our operations expose us to the risk of material environmental liabilities. We are subject to potential material liabilities related to the remediation of environmental hazards and to personal injuries or property damages that may be caused by hazardous substance releases and exposures. The materials used in our operations subject us to risks of environmental contamination that subject us to liability, including remediation obligations that could be very costly. In addition, the discovery of previously unknown contamination could require us to incur costs in the future that would have a negative effect on our financial condition or results of operations. We have a Surety Bond in place supported by funds in a restricted cash account to provide the financial assurance required by the NRC for our Idaho facility license for decommissioning and a similar mechanism will be required to fund the decommissioning of the proposed new depleted uranium facility. However, if a contamination event occurred within, or outside of, our facility we would be financially responsible to remediate such contamination and could have to borrow money or fund the remediation liability from our future revenue. We may not be able to borrow the funds, or have available revenue, sufficient to meet this potential liability, which could have a significant negative impact on our results of operations.

We are dependent upon key personnel. Our ongoing operations are dependent on Steve T. Laflin, President and Chief Executive Officer. The loss of Mr. Laflin could have a material adverse effect on our business. We have a $2 million key man life insurance policy on Mr. Laflin and an employment agreement that extends through February 28, 2022. However, there is no assurance that we will be able to retain Mr. Laflin or our existing personnel or attract additional qualified employees. The loss of any of our key personnel or an inability to attract additional qualified employees could result in a significant decline in revenue.

General economic conditions in markets in which we do business can impact the demand for our goods and services. Decreased demand for our products and services can have a negative impact on our financial performance and cash flow. Demand for our products and services, in part, depends on the general economic conditions affecting the countries and industries in which we do business. A downturn in economic conditions in the U.S. or industry that we serve may negatively impact demand for our products and services, in turn negatively impacting our operations and financial results. Further, changes in demand for our products and services can magnify the impact of economic cycles on our businesses. For instance, our topaz gemstone processing is affected by the demand for luxury items such as jewelry as well as by the instability of foreign markets which are key factors in the manufacture of products using irradiated gemstones.

Volatility in raw material and energy costs, interruption in ordinary sources of supply and an inability to recover unanticipated increases in energy and raw material costs from customers could result in lost sales or significantly increase the cost of doing business. Market and economic conditions affecting the costs of raw materials, utilities, energy costs, and infrastructure required for the delivery of our goods and services are beyond our control and any disruption or halt in supplies, or rapid escalations in costs could affect our ability to manufacture products or to competitively price our products in the marketplace. For instance, an interruption in the supply of isotopes such as cobalt-57, cobalt-60, or iodine-131 could result in lost sales of nuclear medicine and calibration standards sales, cobalt product sales and radiochemical products.

We are subject to extensive government regulation in jurisdictions around the globe in which we do business. Regulations address, among other things, environmental compliance, import/export restrictions, healthcare services, taxes and financial reporting, and can significantly increase the cost of doing business, which in turn can negatively impact our operations, financial results and cash flow. We are subject to government regulation and intervention both in the United States and in all foreign jurisdictions in which we conduct business. Compliance with applicable laws and regulations results in higher capital expenditures and operating costs and changes to current regulations with which we must comply can necessitate further capital expenditures and increases in operating costs to enable continued compliance. Additionally, from time to time, we may be involved in legal or administrative proceedings under certain of these laws and regulations. Significant areas of regulation and intervention include the following:

Radioactive Waste. All of our manufacturing processes generate some radioactive waste. For waste that cannot be decayed in storage we must handle this waste pursuant to the Low Level Radioactive Waste Policy Act, which requires the safe disposal of mildly radioactive materials. The estimated costs for storage and disposal of these materials have been included in the manufacturing and sales price of our products. However, actual disposal costs are subject to change at the discretion of the disposal site and are ultimately applied at the time of disposal. The NRC is revising its regulations on the disposal of depleted uranium waste at LLRW disposal facilities that accept substantial quantities of depleted uranium. If commercial LLRW disposal facilities are not readily available to us, we may not be able to provide the de-conversion services at the level assumed by our business model.

Health Compliance. Health regulations, dictated by the United States Occupational Safety and Health Administration and NRC are extensive in our business. There is no assurance that our activities will not at times result in liability under health regulations. Costs and expenses resulting from such liability may materially negatively impact our operations and financial condition. Overall, health laws and regulations will continue to affect our business worldwide.

NRC License Enforcement Actions. The NRC may take enforcement action in the event that the Company is found to be in violation of NRC regulations or in violation of any of our license requirements. Consequences of violations depend upon the severity of the violations as well as the adequacy and timeliness of corrective actions implemented by the licensee to investigate and correct the cause of the violation and to prevent reoccurrence. The NRC has discretionary authority in the action they choose to take against license violations but these actions can include civil penalties and restrictions upon licensee operations or license suspension.

Environmental Regulation. We are subject to various federal, state, local and foreign government requirements regulating the discharge of materials into the environment or otherwise relating to the protection of the environment. These laws and regulations include, but are not limited to the Comprehensive Environmental Response, Compensation, and Liability Act, the Resource Conservation and Recovery Act and state statutes such as the Idaho Hazardous Waste Management Act, the Low Level Radioactive Waste Policy Act, NRC regulations concerning various irradiated, radioactive, and depleted uranium materials, and United States Department of Transportation regulations concerning shipment of radioactive materials. Certain of these laws and regulations can impose substantial fines and criminal sanctions for violations, and require installation of costly equipment or operational changes to limit emissions and/or decrease the likelihood of accidental hazardous substance releases. We have incurred, and expect to continue to incur, capital and operating costs to comply with these laws and regulations. In addition, changes in laws, regulations and enforcement of policies, or the imposition of new clean-up requirements or remedial techniques, could require us to incur costs in the future that would have a negative effect on our financial condition or results of operations.

Import/Export Regulation. We are subject to significant regulatory oversight of our import and export operations due to the nature of our product offerings. Penalties for non-compliance can be significant and violations can result in adverse publicity. We also have an NRC license for the export of radioactive materials. Because of increasing security controls and regulations, it is likely that we may encounter additional regulations affecting transportation, storage, sale, and import/export of radioactive materials.

Taxes. We structure our operations to be tax efficient and to make use of tax credits and other incentives. Nevertheless, changes in tax laws, actual results of operations, final audit of tax returns by taxing authorities, and the timing and rate at which tax credits can be utilized can change the rate at which we are taxed, thereby affecting our financial results and cash flow.

Financial Accounting Standards. Our financial results can be impacted by new or modified financial accounting standards.

We may incur material losses and costs as a result of product liability claims that may be brought against us. We face an inherent business risk of exposure to product liability claims in the event that products supplied by us fail to perform as expected or such failures result, or are alleged to result, in bodily injury. Although we have purchased insurance with coverage and in amounts that we believe to be adequate and reasonable in light of our current and planned operations, including our planned uranium de-conversion and fluoride gas production business, if a successful product liability claim were brought against us in excess of our available insurance coverage or established reserves, it would have a material adverse effect on our business and financial results.

Our earnings, cash flow and financial position are exposed to financial market risks worldwide, including interest rates. Fluctuations in domestic and world markets could adversely affect interest rates and impact our ability to obtain credit or attract investors. Such market risk could have a negative impact on future business opportunities including our ability to raise additional capital for planned business expansion. We also purchase some of our radiochemical products from overseas suppliers and the price of those products could be adversely affected through changes in currency exchange rates.

Catastrophic events such as natural disasters, pandemics, war and acts of terrorism could disrupt our business or the business of our suppliers or customers, and any such disruptions could have a negative impact on our operations, financial results and cash flow. Our operations are at all times subject to the occurrence of catastrophic events outside our control, ranging from severe weather conditions such as hurricanes, floods, earthquakes and storms, to health epidemics and pandemics, to acts of war and terrorism. Any such event could cause a serious business disruption that could affect our ability to produce and distribute our products and possibly expose us to third-party liability claims. Additionally, such events could impact our suppliers, thereby causing energy and raw materials to become unavailable to us, and our customers, who may be unable to purchase or accept our products and services. Any such occurrence could have a negative impact on our operations and financial condition.

Our future growth is largely dependent upon our ability to develop new technologies and products that achieve market acceptance with acceptable margins. Our businesses operate in global markets that are characterized by rapidly changing technologies and evolving industry standards. Accordingly, our future growth rate depends upon a number of factors, including our ability to (i) identify emerging technological trends in our target end-markets, (ii) develop and maintain competitive products, (iii) enhance our products by adding innovative features that differentiate our products from those of our competitors, and (iv) develop, manufacture, and bring products to market quickly and cost-effectively. Our ability to develop new products based on technological innovation or U.S. Food and Drug Administration approval can affect our competitive position and requires the investment of significant resources. These development efforts divert resources from other potential investments in our businesses, and they may not lead to the development of new technologies or products on a timely basis or that meet the needs of our customers as fully as competitive offerings. In addition, the markets for our products may not develop or grow as we currently anticipate. The failure of our technologies or products to gain market acceptance due to more attractive offerings by our competitors could significantly reduce our revenues and adversely affect our competitive standing and prospects.

Risks Related To Our Current Business Operations

We are dependent on various third parties in connection with our business operations. The production of high-specific activity cobalt is dependent upon the DOE, and its prime-operating contractor, which controls the Idaho reactor. Current activity at the Idaho ATR may continue to affect the supply of cobalt material needed for the manufacture of cobalt sources. Loss of the ability to use, or cost-effectively use, these irradiation services would significantly impact our cobalt products business segment because there is not currently another reactor available in the United States that is capable of providing this type of service for us. Our nuclear medicine calibration and reference standard manufacturing is conducted under an exclusive contract with RadQual, which in turn has agreements in place with several distributors for marketing and sales. Our radiochemical iodine is supplied to us through two supply sources with a third source expected to become available during 2017. Unanticipated contract terminations by any of these suppliers and other third parties would have a material adverse impact on our operations, financial results, and cash flow.

We are dependent on a limited number of customers in connection with our current business operations. During 2015 and 2016, sales to RadQual represented 31% and 28%, respectively, of our total gross revenues. Combined sales to our three top customers accounted for 43% of our total gross revenues during 2016, and combined sales to our top three customers accounted for 40% of gross revenue in 2015. Although we are making efforts to reduce our dependency on a small number of customers, the loss of any one of these customers could have a significant impact on our future results of operations and financial condition. Unanticipated contract terminations by any of these current customers could have a material adverse impact on operations, financial results, and cash flow.

We are subject to competition from other companies. Each of our existing business areas has direct competition from other businesses. High-specific activity cobalt is supplied by other reactor facilities around the world. Nuclear medicine calibration and reference standards are being produced by one other major manufacturer in the United States. Most of our radiochemicals are also manufactured by several other companies in the world, and there are other providers of radiological field services. Most of our competitors have significantly greater financial resources that could give them a competitive advantage over us.

Risks Related To Our Common Stock

Trading in our common stock is limited and the price of our common stock may be subject to substantial volatility. Our common stock has historically been quoted on the Over The Counter Bulletin Board® ("OTCBB") under the ticker symbol "INIS.OB." In February 2015, we transferred the listing of our common stock to the OTCQB Marketplace under the U.S. trading symbol "INIS". The market for our securities is limited, the price of our stock is volatile, and the risk to investors in our common stock is greater than the risk associated with stock trading on other markets. These factors may reduce the potential market for our common stock by reducing the number of potential investors. This may make it more difficult for investors in our common stock to sell shares to third parties or to otherwise dispose of their shares. This could cause our stock price to decline.

We currently do not intend to pay dividends on our common stock. We do not plan to pay dividends on shares of our common stock in the near future. Consequently, an investor in our common stock can only achieve a return on its investment in us if the market price of our common stock appreciates.

We are contractually obligated to issue shares in the future, which will dilute your interest in us. As of December 31, 2016, there were approximately 23,316,667 shares of common stock issuable upon exercise of vested stock options outstanding, at a weighted-average exercise price of $.05 per share. An additional 24,363,178 shares were reserved for issuance under our equity plans as of December 31, 2016. Our outstanding preferred stock and certain of our outstanding debt is also convertible into shares of our common stock at the holders' option. In addition, we expect to issue additional options to purchase shares of our common stock to compensate employees, consultants and directors, and we may issue additional shares to raise capital to expand our manufacturing capability, develop additional products, or fund our planned uranium de-conversion plant. Any such issuances will have the effect of further diluting the interest of the holders of our securities. Also, outstanding as of December 31, 2016, were Series K Warrants for the issuance of 2,419,172 shares of common stock, and Series L Warrants for the issuance of 25,000,000 shares of common stock. The weighted average exercise price for all outstanding warrants as of December 31, 2016 was $0.08 per share.

Risks Related to Our Proposed De-Conversion and FEP Produced Fluoride Gas Business

We will need to raise additional funds to complete the construction of our de-conversion and FEP facility. We need to secure more customer contracts and raise approximately $125 million in additional funds to complete the design and construction of a de-conversion facility with a production-scale FEP operation. We may not be able to raise the additional capital required to complete the facility on acceptable terms, or at all. In addition, the total funds required to complete this project have been based upon early preliminary estimates and, while we believe these estimates are conservative, there can be no assurance that unforeseen expenses will not be incurred and additional funding will not be required to complete the project.

We do not have an operating history with respect to our strategy to combine de-conversion services and FEP-produced fluoride gas products and this business may not succeed. We have no operating results with respect to providing de-conversion services or producing high volumes of fluoride gas products using FEP to date and, therefore, we do not have an operating history upon which you can evaluate this business or our prospects. Our prospects must be considered in light of the risks and uncertainties encountered in entering a new line of business.

Some of these risks relate to our potential inability to:

- construct our planned de-conversion and FEP production plant, including the effective management of the cost of the design and construction of the facility, and obtain the additional financing necessary for such construction;
- maintain the necessary regulatory approvals for the facility and the ongoing operations of the facility;
- obtain the groundwater permit from the state of New Mexico;
- produce commercially economic volumes of high-purity fluoride products using FEP;
- effectively manage this new business and its operations;
- successfully establish and maintain our intended low-cost structure; and
- successfully address the other risks described throughout this Annual Report.

If we cannot successfully manage these risks, our business and results of operations and financial condition will suffer.

The market for our de-conversion services may be adversely affected if planned enrichment facilities that would create by-products suitable for our de-conversion services are not completed. When funding becomes available to us, we intend to build a de-conversion and FEP production plant, in part, to process the anticipated DUF_6 by-product from the URENCO USA (UUSA) enrichment plant in New Mexico or from the DOE depleted uranium stockpiles in either Portsmouth, OH or Paducah, KY. There had been several other enrichment facilities planned by companies, including USEC, AREVA, and GE-Hitachi Nuclear Energy's Global Laser Enrichment. However, all of those plans have been delayed and may never be constructed. We currently have a de-conversion service agreement in place with UUSA, however, all of our performance milestone dates have passed. When and if the Company resumes work on the construction of the facility we will seek to renegotiate the milestone dates in the agreement with UUSA. If none of the other anticipated enrichment facilities are completed or if UUSA decides not to process their depleted uranium stockpile we may not have sufficient demand for our de-conversion services to realize the expected economic benefit from building this facility.

We currently have only one contract to provide de-conversion services to an enrichment firm. We currently have only one de-conversion services agreement with UUSA but that agreement is effectively expired since all of the contract milestone dates have passed. The initial term of the agreement was to extend for a period sufficient to cover the first five years of de-conversion services once our planned uranium de-conversion facility is operational, based on operations that were to have started no later than January 1, 2014. UUSA has indicated they are willing to discuss possible modification of the agreement commitment dates once we establish firm dates for start of construction. If we cannot demonstrate certain production capacities in accordance with the agreement, UUSA has the option to terminate the agreement and we would have no opportunity to cure pursuant to the terms of the agreement.

There is no history of large-scale commercial fluoride gas production utilizing FEP. We have successfully demonstrated the feasibility of using FEP to produce some fluoride gases and Starmet Corporation ("Starmet"), which originally developed and patented the technology, also used FEP to produce a fluoride gas. However, FEP has not been used for large-scale commercial production of the size and magnitude envisioned in conjunction with the de-conversion process and there may be technical issues and process challenges related to the utilization of FEP for large-scale commercial production. Unforeseen issues associated with constructing and scaling up these new FEP operations could significantly impact our proposed schedule and our overall ability to produce high-purity fluoride gas in the quantities anticipated.

Prior to the start of operations of the facility, we must obtain a Ground Water Permit from the State of New Mexico, and we cannot guarantee the amount of time required to obtain this permit from the State of New Mexico for operation of these facilities. The operation of the planned depleted uranium de-conversion facility requires a ground water permit from the State of New Mexico. There is no assurance that the ground water permit will be issued to us by the State of New Mexico. We also have no control over the actual time required by the State of New Mexico to review and approve the application for the ground water permit. Failure to obtain the permit, or any delay in obtaining the permit, could delay the start of operations of our planned depleted uranium de-conversion facility, thereby delaying revenue-generating operations at the facility.

The DOE is obligated to take depleted uranium from enrichment companies. The DOE has constructed two depleted uranium de-conversion facilities. These facilities are obligated to process depleted uranium produced from United States commercial uranium enrichment facilities at a price determined by DOE. We believe our depleted uranium processing facility will offer the better value to enrichment companies but we cannot assure you that enrichment companies will not select the DOE as their de-conversion service provider. If UUSA terminates our agreement and other enrichment companies do not resume their enrichment facility construction plans, we may not be able to realize the expected economic benefit from our planned de-conversion and FEP production plant.

We may be handling large quantities of DUF_6 and fluoride gases, which are radioactive and hazardous materials, respectively, and are subject to intense regulation. The hazardous nature of DUF_6 and fluoride gases affects the actions we are required to take for licensing, air permitting, environmental review, emergency response, liability insurance, personnel training, and generally increases the level of concern by the general public with respect to our handling of these materials. All of these factors complicate the licensing and operations processes and involve a host of additional regulatory factors that could affect the timeline for completing our de-conversion and FEP facility. Additionally, the NRC is revising its regulations on the disposal of depleted uranium waste at Low Level Radioactive Waste ("LLRW") disposal facilities that accept large quantities of depleted uranium. Any changes to the current regulations may result in increased disposal costs that we intend to pass through to our customers, which, depending on the significance of the increased cost, may cause potential customers to continue to store their DUF_6 rather than pay for de-conversion and disposal services.

We will be subject to competition from the DOE and other companies. While there are no currently operating commercial DUF_6 de-conversion facilities in the United States, the DOE is operating two de-conversion plants intended to process DUF_6 from the DOE's existing 1.5 billion-pound stockpile. Additionally, AREVA currently operates a de-conversion plant in France, UUSA is constructing a facility in the U.K., and the State Atomic Energy Corporation ROSATOM has constructed a facility in Russia. We cannot assure you that the operators of the existing DUF_6 de-conversion facilities will not build additional facilities to expand their operations and compete with us in providing de-conversion services or that commercial enrichment companies will not choose to ship their depleted DUF_6 overseas for processing in France, the U.K., or Russia.

We currently hold conditional title to the property in Lea County, New Mexico where the proposed plant is to be constructed. The property location for our planned facility is located in Lea County, New Mexico. Lea County, New Mexico has transferred the property to us under the provisions of the New Mexico Local Economic Development Act, Project Participation Agreement. Under the original agreement, we were obligated to meet certain performance objectives; namely starting Phase I construction no later than December 31, 2014, completing Phase I and hiring at least 75 employees by December 31, 2015, in order to retain title to the property. We did not meet either of those deadlines. However, in July 2015, we executed an amendment to the PPA that extended the due date of the Phase I construction to December 31, 2016, and Phase I completion and hiring at least 75 employees to December 31, 2017. We did not meet the December 31, 2016 deadline and we are working with Lea County to

execute an additional modification to the agreement to further extend these dates to at least 2020. If we do not succeed in extending the commitment dates or in reaching performance dates set forth in a modified agreement then we may, at our sole option, either purchase or re-convey the property to Lea County, New Mexico. In addition, if Lea County does not agree to that modification and we do not retain title to the property, it could have a material adverse impact on our planned de-conversion and FEP project since another location would need to be selected and evaluated for environmental compliance.

Our business may be harmed if we fail to protect our proprietary FEP technology utilized in our planned de-conversion and FEP production facility. We rely on patents to protect our intellectual property rights to the FEP technology to be used in our planned de-conversion and FEP production plant. Although we have filed international Patent Cooperation Treaty ("PCT") applications to seek international protection for the FEP process in certain countries, we cannot be certain that our competitors will not be able to design around our patents and that the laws of some countries in which our FEP patents are or may be practiced will protect our products or intellectual property rights to the same extent as do the laws of the United States, increasing the possibility of piracy of our patents. Although we intend to vigorously defend our intellectual property rights, we may not be able to prevent misappropriation of our FEP technology. Our competitors may also independently develop technologies that are substantially equivalent or superior to our technology.

Item 1B. UNRESOLVED STAFF COMMENTS

We are a smaller reporting company, and therefore, are not required to provide the information required by this item.

Item 2. PROPERTIES

We lease one property which serves as or main corporate headquarters and houses all of our current manufacturing operations for our core business segments. We also hold the conditional title to 640 acres of land in Lea County, New Mexico for the proposed de-conversion facility. The following paragraphs provide a brief summary of these properties.

4137 Commerce Circle, Idaho Falls, Idaho – The facility located on this property houses our main corporate headquarters and all of our current manufacturing operations. We hold this property pursuant to a lease that extends through April 2021. The facility was new when leased in March 2001 and remains in excellent condition. We have a purchase option and a right of first refusal on this property that allows us to purchase this property at any time for a stated amount.

Land - Lea County, New Mexico – In August 2011, we received land from Lea County, New Mexico, pursuant to a PPA, whereby the land was deeded to us for no monetary consideration. In return, we committed to construct a uranium de-conversion and FEP facility on the land. In order to retain title to the property, we were to begin construction of the de-conversion facility no later than December 31, 2014, and complete Phase I of the project and have hired at least 75 persons to operate the facility no later than December 31, 2015, although commercial operations need not have begun by that date. We did not met the performance milestones set forth in the PPA and we executed a modification to the agreement extending these due dates to December 31, 2016 and 2017 respectively and are working again with Lea County to further extend the commitment dates. If we do not succeed in extending the commitment dates or in reaching performance dates set forth in a modified agreement then we may, at our sole option, either purchase or re-convey the property to Lea County, New Mexico. The purchase price of the property would be $776,078, plus interest at the annual rate of 5.25% from the date of the closing to the date of payment. We have not recorded the value of this property as an asset and will not do so until such time that sufficient progress on the project has been made to meet our obligations under the agreements for permanent transfer of the title.

Item 3. LEGAL PROCEEDINGS

On March 8, 2016, we delivered a Demand for Arbitration letter to Alpha Omega Services ("AOS") of Bellflower, California. The demand letter requested arbitration before the American Arbitration Association seeking the recovery of a cash deposit made to AOS for the purchase of a shipping container plus additional amounts for lost revenue as a result of not owning the container. The demand was for approximately $918,000 plus attorneys' fees and costs. AOS subsequently responded to the demand letter with a counter-demand. The counter-demand denied

our claims against AOS and requested reimbursement from us in the amount of $2,000,000, plus attorneys' fees and costs. We subsequently have requested additional damages in the amount of $863,806 bringing the total claim for refund and damages to $1,673,241. Both parties will proceed to an arbitration hearing which is expected to take place in March and April 2017. At this time, it is not possible to predict the outcome of this matter and there is no assurance that we will be successful in recovering damages from our claim or defending the counter claims.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

In February 2015, we transferred the listing of our common stock on the OTCQB under the trading symbol "INIS". Prior to February 2015, our common stock was quoted on the OTCBB under the trading symbol "INIS.OB." High asked prices and low bid prices reported by the OTCQB, and the OTCQB as applicable, during the periods indicated are shown below, which reflect inter-dealer prices, without retail mark-up, mark-down, or commission and may not reflect actual transactions:

Fiscal Year	Quarter	High	Low
2016	1st	$0.11	$0.08
2016	2nd	$0.11	$0.08
2016	3rd	$0.09	$0.06
2016	4th	$0.14	$0.06
2015	1st	$0.06	$0.03
2015	2nd	$0.11	$0.04
2015	3rd	$0.10	$0.06
2015	4th	$0.10	$0.06

As of March 28, 2017, there were 534 holders of record of our common stock. We have never paid any cash dividends on our common stock. In the future, and based upon our profit performance, our Board of Directors (the "Board") will evaluate and determine whether to issue dividends or retain funds for research and development and expansion of our business. We do not anticipate paying any dividends to shareholders of our common stock for the foreseeable future.

Item 6. SELECTED FINANCIAL DATA

We are a smaller reporting company, and therefore, are not required to provide the information required by this item.

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our results of operations and financial condition should be read in conjunction with the accompanying financial statements and related notes thereto included in Item 8, "Financial Statements and Supplementary Data," within this Annual Report.

Overview

We manufacture a full range of nuclear medicine calibration and reference standards, a wide range of products including cobalt teletherapy sources, and a varied selection of radioisotopes and radiochemicals for medical research, pharmacy compounding, and clinical applications. We also provide a host of transportation, recycling, and processing services on a contract basis for customers. A more detailed description of each of these product lines and

services along with a description of our business segments can be found in Item 1, "Business" within this Annual Report.

In 2016, we pursued research and development of new products and services in three of our business segments. We also continued to make investments in our facility to improve our manufacturing processes, and entered into new agreements that we believe will increase future revenues. The following are highlights of some of our significant accomplishments in 2016:

- Continued research into the expansion of radiochemical products through joint development agreements;
- In November 2016, we submitted an abbreviated New Drug Application to the U.S. Food and Drug Administration ("FDA") for our I^{3}odine/MAX™ sodium iodide (I-131) radiopharmaceutical product. This is the first generic application in the U.S. for this product;
- As a result of focusing on manufacturing practices and procedures in our nuclear medicine product manufacturing area, we reduced wasted and scrapped material in that segment by approximately 76% for 2016 as compared to 2015;
- We entered into an additional supply agreement with a customer for the purchase of cobalt-60 which includes on-going source manufacturing services;
- Were successful in identifying an alternate source of cobalt-60 for customers to stem the shortages in supply that have occurred in the past, and that will continue to occur until the first full cobalt irradiation services are completed in 2018;
- We were able to complete purchase agreements with the DOE for sufficient cobalt targets to fill all of the currently available positions for cobalt production in the Advanced Test reactor;
- Were awarded several radiological services jobs through the U.S. Department of Energy's ("DOE") Orphan Source Recovery Program ("OSRP") in which we were able to use our mobile hot cell;
- We continued to support the essential tasks related to our de-conversion project and continued to pursue opportunities to obtain contracts with other companies for depleted uranium de-conversion services; and,

In February 2017, we completed a private placement transaction with certain investors, including two of our directors, for the sale of an aggregate of 3,433 shares of our Series C Convertible Redeemable Preferred Stock (the "Series C Preferred Stock") and Class M warrants to purchase an aggregate of 17,165,000 shares of our common stock, for gross proceeds of approximately $3.4 million.

Business Strategy and Core Philosophies

Broadly defined, our business strategy is to continue to build our reputation as a leader in the cobalt, radiochemical, field services, and nuclear medicine product industries, as well as seek ways to improve our customer service and expand our market share, with the ultimate goal of providing greater return to our shareholders. Specifically, we are continuously working with our customers to improve and develop products to better serve the needs of the end user which, ultimately, we believe will boost product sales. A key part of our short-term and long-term business strategy is to develop and market additional generic drug products, like I^{3}odine/MAX™, in our core business segments that will offer customers a high quality and desirable product as well as increase our revenues and secure additional customer contracts. In addition, we will pursue financial support that will be structured in such a way so as to support further expansion of our products and services.

Our core philosophy is to strive to provide high quality products and services as a profitable and environmentally conscious business, while offering excellent customer service and providing a safe and high quality working environment for our employees. We operate in accordance with an ISO Quality Management System and in accordance with all current Good Manufacturing Practices under which we seek to maintain the highest level of quality and continuously improve our product manufacturing processes.

Results of Operations

Following is a summary of results of operations for 2016:

- Revenue in 2016 was approximately $6.6 million;
- Sales in both our Radiochemical Products and Transportation business segments were up slightly as compared to 2015;
- Sales in Nuclear Medicine products declined slightly as compared to 2015;
- Although we were awarded several OSRP jobs in 2016, sales in our Radiological Services segment declined by about 35% as compared to 2015 due to fewer contracts offered through the OSRP program in 2016;
- Our total gross profit rate increased from 38% in 2015 to 43% in 2016;
- Our operating costs for 2016 increased approximately 5% as compared to operating costs for 2015; and
- Net loss for 2016 increased by approximately 3% compared to 2015.

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

The following table presents comparative revenues for the years 2016 and 2015:

Revenues	For the year ended December 31, 2016	% of Total Revenues 2016	For the year ended December 31, 2015	% of Total Revenues 2014
Radiochemical Products	$ 1,708,120	26%	$ 1,698,475	24%
Cobalt Products	859,034	13%	929,970	13%
Nuclear Medicine Standards	3,093,295	47%	3,135,094	44%
Radiological Services	769,702	12%	1,181,957	17%
Fluorine Products	-	-	-	-
Transportation	121,998	2%	116,700	2%
Total Segments	$ 6,552,149	100%	$ 7,062,196	100%

Revenues

Total revenues in 2016 were $6,552,149, compared to $7,062,196 in 2015, which represents a decrease of $510,047, or approximately 7%. The details of each segment are discussed below.

Revenues	For the year ended December 31, 2016	For the year ended December 31, 2015	$ change	% change
Radiochemical Products	$ 1,708,120	$ 1,698,475	$ 9,645	1%
Cobalt Products	859,034	929,970	(70,936)	-8%
Nuclear Medicine Standards	3,093,295	3,135,094	(41,799)	-1%
Radiological Services	769,702	1,181,957	(412,255)	-35%
Fluorine Products	-	-	-	-
Transportation	121,998	116,700	5,298	5%
Total Segments	6,552,149	7,062,196	(510,047)	-7%
Corporate revenue	-	-	-	-
Total Consolidated	$ 6,552,149	$ 7,062,196	$ (510,047)	-7%

Radiochemical Products

Sales of radiochemical products accounted for approximately 26% of our total sales revenue in 2016 and approximately 24% of total sales revenue in 2015. Sales in this segment increased by $9,645, or approximately 1% to $1,708,120, as compared to $1,698,475 in 2015. This increase was driven largely by an 18% increase in sodium iodide sales in the fourth quarter of 2016 as compared to the fourth quarter of 2015. The large increase in fourth quarter revenue was caused primarily by having a major competitor for sodium iodide stop supplying that product in October 2016.

In September 2015, we obtained approval from the U.S. Patent and Trademark office for the trademark registration of I^3odine/MAX™. The trademark is for Iodine-131 radiochemical product, provided in solution or capsules, for use in the treatment and diagnosis of diseases of the thyroid, thyroid cancer, and hyperthyroidism and for use in investigational and clinical trials for the treatment of breast, lung, prostate, and ovarian cancers.

In November 2016, we submitted an abbreviated new drug application to the FDA for our I^3odine/MAX™ sodium iodide ("I-131") radiopharmaceutical product. This is the first of several potential generic drug products we plan to submit to the FDA in the coming years. We believe that, both product enhancements we have made and our submission of the abbreviated new drug application to the FDA will increase sales in this business segment. In addition, we are continuing to work on product enhancements and the introduction of new radiochemical and generic drug products in the coming years.

Cobalt Products

Cobalt products sales accounted for approximately 13% of our total sales revenue in both 2016 and 2015. Sales in this segment decreased by $70,936 in 2016 to $859,034, as compared to $929,970 in 2015. The decrease is the result of an interruption in cobalt supply from the DOE's ATR and our limited options of alternate cobalt suppliers. Our sealed source manufacturing generates the majority of our revenue within this segment and sealed source sales depend on our ability to produce or procure cobalt material.

In October 2014, we entered into a ten-year agreement with the DOE for the irradiation of cobalt targets. It takes approximately two to three years to irradiate the cobalt targets to the desired level of activity and we anticipate having high specific activity cobalt available for our customers in the 2018, and every year thereafter, through at least 2024. The agreement gives us the ability to purchase the current full capacity of the DOE's ATR throughout the ten-year period.

In 2015, we entered into cobalt supply agreements with several customers and during 2016, we entered into one additional cobalt-60 supply agreement with a customer. Pursuant to these contracts, we will supply bulk cobalt-60 and, in some cases, these agreements include source manufacturing and installation services. The terms of these cobalt contracts require quarterly progress payments from each customer. The funding received under these contracts has been recorded as unearned revenue under long-term liabilities in our consolidated financial statements. We will begin recognizing the revenue when actual sales begin in 2018.

Until we are able to ship the cobalt material currently under irradiation at the ATR, we will rely on obtaining recycled material and material procured in small quantities from other sources to fulfill some of our customer demand.

As of December 2016, we continued to hold many in-progress old design cobalt targets at the ATR. In 2016, in performing year-end analytical procedures, we concluded that the older design targets we hold at the ATR, and that we continue to report as inventory, hold significant but varying market values in excess of their current carrying values and we concluded that no impairment existed at that time. We will periodically continue to review the residual value of this cobalt material for potential impairment and make adjustments as deemed appropriate

Nuclear Medicine Standards

Sales of nuclear medicine standards accounted for approximately 47% and 44%, of our total sales revenue in 2016 and 2015, respectively. Sales in this segment decreased by $41,799, or approximately 1%, to $3,093,295 in 2016, as compared to $3,135,094 in 2015. This year-to-year comparison includes sales from TI Services, LLC ("TI Services"), a 50/50 joint venture that we formed with RadQual in December 2010, to distribute products and services for nuclear medicine, nuclear cardiology and Positron Emission Tomography imaging. The following table presents 2016 and 2015 sales for the nuclear medicine standards segment:

Nuclear Medicine Standards	For the year ended December 31, 2016	For the year ended December 31, 2015	$ change	% change
Sales to RadQual	$ 2,047,009	$ 1,953,876	$ 93,133	5%
TI Services LLC	1,046,286	1,181,218	(134,932)	-11%
	$ 3,093,295	$ 3,135,094	$ (41,799)	-1%

Sales of products to RadQual increased to $2,047,009 in 2016, from $1,953,876, in 2015. This is an increase of $93,133, or approximately 5%. TI Services sales for 2016 were $1,046,286 as compared to $1,181,218 for 2015, a decrease of $134,932, or approximately 11%. This decrease in TI Services sales is attributable to the continued decline in sales of paper products used in nuclear medicine imaging, which is the result of clinics shifting towards maintaining electronic records. TI Services also reported a decline in source sales during 2016 as compared to 2015, as a result of competitive pricing offered by other distributors of flood source products. In 2015, we conducted a planned maintenance outage during which we expanded our nuclear medicine production area and examined our nuclear medicine manufacturing practices and procedures. As a result of these efforts, during the year-ended December 31, 2016, we were able to increase our production capacity and significantly reduce waste in the manufacturing processes.

Radiological Services

The following table presents radiological services revenue for the two years ended December 31, 2016 and 2015:

Radiological Services	For the year ended December 31, 2016	For the year ended December 31, 2015	$ change	% change
Gemstone Processing	$ 365,990	$ 338,792	$ 27,198	8%
Radiological Field Services	403,712	843,165	-439,453	-52%
	$ 769,702	$ 1,181,957	$ (412,255)	-35%

Revenues from our Radiological Services segment accounted for approximately 12% of our total sales revenue in 2016, and approximately 17% in 2015. Sales in this segment decreased by $412,255, or approximately 35%, from $1,181,957 in 2015, to $769,702 in 2016. The decline in revenue was attributed to the reduction in opportunities for contract awards under the DOE OSRP program as explained below.

Gemstone processing accounted for approximately 48% of Radiological Services sales in 2016 and approximately 29% in 2015. Revenues from gemstone processing increased by $27,198, from $338,792 in 2015, to $365,990 in 2016. This is an increase of approximately 8% and was the result of an increase in the volume of material shipped to us for processing and the increased demand for gemstones used in the manufacture of luxury items such as jewelry.

Radiological Field Services accounted for approximately 52% of the Radiological Services segment sales in 2016 and approximately 71% in 2015. Radiological Field Services revenue decreased from $843,165 in 2015, to $403,712 in 2016 which is a decrease of approximately 52%. The decrease in field services revenue is largely the result of fewer services performed under the DOE's OSRP. During 2016, due to budget constraints, the OSRP offered fewer bidding opportunities on source recovery and disposal work, and consequently, our related radiological services revenue declined in 2016 as compared to 2015. These OSRP jobs are offered on a sporadic basis, and we will continue to see our field services revenue fluctuate because of this. Based on the number of orphan sources identified both in the U.S. and internationally that will need to be recovered and disposed of, we expect this source removal and installation work to increase during 2017. For example, during the first quarter of 2017, we secured contracts on several OSRP jobs and we expect that there will be more forthcoming during the year. Additionally, during 2016 we performed work under a support services agreement with one customer to perform field service work related to source design and installation and a second agreement to manufacture calibration sources. Some of the work on these contracts will continue into 2017.

Fluorine Products

There was no revenue to report from the Fluorine Products segment for 2016. We developed our fluorine products in conjunction with the uranium de-conversion project, in order to take advantage of the anticipated need for depleted uranium de-conversion services. We established the Fluorine Products segment in 2004 to support production and sale of the gases produced using our Fluorine Extraction Process ("FEP"). Our FEP patents offer a unique opportunity to provide certain high-purity fluoride compounds while also offering a "for fee" de-conversion service to the uranium enrichment industry. From 2004 to 2012, we used a pilot facility to develop production processes for various high-purity products and to test methods of scaling up the size of FEP production in support of a planned de-conversion facility in Lea County, New Mexico. In 2012, we completed our testing of individual components and analytical processes and late in 2013 we closed the pilot plant facility. Also, in 2013, we made the decision to place continued formal design work on the proposed de-conversion facility on hold until such time that we are able to secure additional de-conversion services contracts. Until such time that work resumes on the project we will limit our expenditures to essential items such as maintenance of the NRC license, land use agreements, communication with our prospective FEP product customers, and interface with the State of New Mexico and Lea County officials.

During 2016, we incurred $378,705 of planning and other expenses related to the de-conversion project, as compared to $356,492 in 2015. This increase of $22,213, or approximately 6%, was the result of costs allocated to this project for a one-time radiological waste disposal which was a legacy from the pilot testing program. We expect that our costs in the future will be further limited to essential items such as the NRC licensing and continued interactions with our customers, the state of New Mexico, and Lea County, New Mexico.

Transportation

Revenues from our Transportation segment accounted for approximately 2% of our total revenues in both 2016 and 2015. Sales in this segment increased by approximately 5% to $121,998 in 2016, as compared to $116,700 in 2015. The increase in revenue was attributable to opportunities for transportation of our cobalt products and transportation support for radiological services performed during the 12-month period. We primarily use our transportation services to support the jobs performed in these two business segments. There are numerous regulations that apply to, and agencies which monitor, the security and tracking of cobalt shipments and our Transportation segment specializes in the transport of hazardous, radioactive materials, including large cobalt shipments.

Cost of Revenues and Gross Profit

Cost of revenue for 2016 was $3,707,558, as compared to $4,359,234 in 2015, a decrease $651,676 or approximately 15%. Gross profit percentage increased to 43% for 2016, from 38% in 2015. The following table presents revenues and cost of revenues information:

	For the year ended December 31, 2016	% of Total Revenues 2016	For the year ended December 31, 2015	% of Total Revenues 2015
Total Revenues	$ 6,552,149		$ 7,062,196	
Cost of Revenues				
Radiochemical Products	$ 1,245,809	19%	$ 1,248,699	18%
Cobalt Products	200,337	3%	376,151	5%
Nuclear Medicine Standards	1,927,423	29%	2,136,902	30%
Radiological Services	307,315	5%	584,134	8%
Fluorine Products	-	-	-	-
Transportation	26,674	1%	13,348	0%
Total Segments	$ 3,707,558	57%	$ 4,359,234	62%
Gross Profit	$ 2,844,591		$ 2,702,962	
Gross Profit %	43%		38%	

During 2016, we continued to monitor and control direct costs. Raw materials used in both our radiochemical products and our nuclear medicine standards manufacturing represent the bulk of direct costs in each of these business segments and we have purchase agreements in place with suppliers to obtain optimum pricing. Periodically, the cost of these raw materials increases or we may also use alternate supply sources for our material which might not carry pricing as favorable as our contracted suppliers. During 2016, as a result of adjustments to production procedures in our nuclear medicine product manufacturing segment, we were able to significantly reduce our scrapped material from manufacturing. Scrapped material reported by this segment in 2016 was $30,652, as compared to $128,713 in 2015. This is a reduction of $98,061, or approximately 76%. During 2016, as part of our periodic review of raw material inventory, we recorded approximately $47,000 of impairment expense for raw material that no longer held economic value to us. The expense was recorded as cost of sales in our cobalt products segment. Additionally, during December 2015, we recorded a cobalt inventory impairment of approximately $103,000 due to the decline in market value as a result of the decay of some old design cobalt targets held by the ATR contractor. This impairment was recorded as cost of sales in our cobalt products segment for 2015. We did not record any cobalt inventory impairment expense in 2016. With the exception of the cost of cobalt material, we are not aware of any significant future price increases that may potentially affect our cost of revenues.

Operating Costs and Expenses

Total operating costs and expenses for 2016 were $4,347,575, as compared to $4,144,620 in 2015. This is an increase of $202,955, or approximately 5%.

The following table presents Operating Costs and Expenses for 2016 as compared to 2015:

	For the year ended December 31, 2016	For the year ended December 31, 2015	% change	$ change
Operating Costs and Expenses:				
Salaries and Contract Labor	$ 1,782,774	$ 1,675,020	6%	$ 107,754
General, Administrative and Consulting	2,053,518	1,648,147	25%	405,371
Research and Development	511,283	821,453	-38%	(310,170)
Total operating expenses	$ 4,347,575	$ 4,144,620	5%	$ 202,955

Salaries and contract labor increased from $1,675,020 in 2015 to $1,782,774 in 2016. This is an increase of $107,754, or approximately 6%, and is the result of annual salary and wage increases and performance awards for employees during 2016 as well as decreases in non-cash equity-based compensation recorded. Salaries and contract labor included approximately $65,000 in non-cash equity-based compensation in 2016 which was recorded as a result of stock options outstanding, and non-cash equity-based compensation recorded in 2015 was approximately $147,000. This is a decrease of approximately $82,000 and is the result of a decrease in equity compensation related to outstanding stock options.

General administrative and consulting expenses increased to $2,053,518 in 2016, as compared to $1,648,147 in 2015, an increase of $405,371, or approximately 25%. The majority of this significant increase is from increased waste disposal costs which totaled approximately $229,000 in 2016, as compared to approximately $750 in 2015. Legal expense also increased in 2016, to approximately $263,000, as compared to $190,000 in 2015.

Research and development expense was $511,283 for 2016 as compared to $821,453 for 2015. This is a decrease of $310,170, or approximately 38%. The majority of this decrease in research and development expense is the result of reduction in costs associated with development work being done in our radiochemical products business segment, specifically, reduced consulting costs pertaining to the submittal of the abbreviated new drug application to the FDA. During both 2016 and 2015 we limited further investment in the planned de-conversion facility and limited further spending on the project only for expenses necessary to maintain licensing and continued interactions with New Mexico and Lea County. We will continue to delay further engineering work on the de-conversion project until we are able to secure additional contracts for de-conversion services.

Other Income (Expense)

Other Income (Expense) in 2016 was ($392,559) compared to ($384,322) in 2015:

	For the year ended December 31, 2016	For the year ended December 31, 2015
Other income (expense)	$ 6,605	$ 23,955
Equity in net income of affiliate	73,957	89,279
Interest income	938	438
Interest expense	(474,059)	(497,994)
Total other (expense)	$ (392,559)	$ (384,322)

Other income was $6,605 for 2016 as compared to other income of $23,955 for 2015. The decrease of $17,350, or approximately 73%, is because during 2015 we reported approximately $17,000 in non-operating contract proceeds, whereas in 2016 we had no similar proceeds.

Equity in net income of affiliate reflects our 24.5% share of net income reported by RadQual. We report this percentage share of net income as an increase to our asset investment in RadQual and we report distributions from RadQual as decreases to this asset. Interest income in 2016 was $938 as compared to $438 in 2015. This increase of $500 was due to interest earned on increased cash balances held at banks and other institutions in interest-bearing accounts.

Interest expense decreased during 2016, from $497,994 in 2015, to $474,059 in 2016. This is a decrease of $23,935, or approximately 5%. During 2015, we recorded approximately $21,000 of interest expense on convertible debt that matured in February 2015 whereas we had no interest expense on this debt during 2016. The majority of interest expense recorded in both 2016 and 2015 is related to convertible debentures issued in July 2012, at which time we entered into a securities purchase agreement with certain institutional and private investors to sell convertible debentures for proceeds of $3,069,900. These debentures bear interest at 8% per year and mature in July 2017. During 2016 and 2015, we recorded approximately $246,000 of interest expense for cash interest payments made to holders of these notes and approximately $78,000 of non-cash interest expense resulting from debt discount recorded at the time the notes were issued.

In December 2013, we borrowed $500,000 from our chairman of the Board and one of our major shareholders. The note bears interest at 6% and was originally due June 30, 2014. This note was re-negotiated in June 2014 and the maturity date was extended to December 31, 2017. At the beginning of 2017, this note was further extended to December 31, 2022. In connection with this note payable, we recorded $30,000 of interest expense for 2016 and 2015, and approximately $117,000 of non-cash interest expense related to a debt discount feature on the note for both 2015 and 2016.

In September 2016, we borrowed an aggregate of $360,000 from our Chairman of the Board of Directors and one of our directors. The $360,000 note bears interest at 6%, which is payable upon maturity of the note on March 31, 2017, and was secured by all unencumbered assets. Per the terms of the note, at any time, the lenders may settle any or all of the principal and accrued interest with shares of the Company's common stock, or other securities of the Company, based on the average closing price of the Company's common stock over a 20-day period. In February 2017, all principal plus accrued interest under this note was converted into shares of our Series C Preferred Stock and warrants that we offered through a private placement transaction, as described above.

Net Loss

Our net loss was $1,879,112 in 2016, compared to a net loss of $1,818,225 in 2015. This is an increase in loss of $60,887, or approximately 3%. Our increase in net loss is primarily the result of our decrease in revenue of approximately 7%, as well as our increased expenditures for operating costs.

Liquidity and Capital Resources

On December 31, 2016, we had cash and cash equivalents of $314,520 compared to $397,955 at December 31, 2015. Net cash used in operating activities was $324,176 in 2016, compared to net cash provided by operating activities of $339,604 in 2015. This represents a decrease in cash provided by operating activities of approximately $664,000 and is the combined result of the increase in net loss reported for 2016 as compared to 2015, as well as decreases in most non-cash expenses in the two-year comparison and increases in prepaid expenses and inventory.

Accounts receivable at December 31, 2016 were $774,275 as compared to $1,084,940 at December 31, 2015. Historically, we have not written off any accounts receivable, and there were no accounts written off during 2016.

Inventories at December 31, 2016 were $1,476,240 as compared to $1,111,570 at December 31, 2015. The majority of our inventory consists of irradiated material held at the site of the DOE's prime-operating contractor, which controls the ATR located outside of Idaho Falls, Idaho. For 2016, our target inventory accounted for approximately 85% of our work in process inventory, and includes cobalt targets of an older design as well as irradiated cobalt material under a new contract with the DOE. During 2015, our target inventory accounted for approximately 71% of our work in process inventory. During December 2015, we evaluated our older cobalt targets and concluded that, due to decay of activity, some had little or no market value. We wrote off approximately $103,000 of the target inventory at that time. We determined that no cobalt inventory impairment charge was needed at December 31, 2016. We believe that these older design targets have significant but varying degrees of market value depending on what additional costs we may have to incur to transport them to our facility for processing. We are currently in discussions with the DOE regarding shipping options for these targets and, at the end of 2017, we will reassess their market value and determine whether an additional impairment is justified.

Included in our raw material inventory are the various pellet holders and housings involved in target fabrication, raw cobalt, strontium and other raw elements, completed flood sources, irradiated cobalt and nuclear medicine-related materials and products. Raw material inventory is regularly reviewed for obsolescence, and as part of our year-end procedures, it was determined that some older material used in product fabrication was no longer of value to the Company. At that time, we wrote-off approximately $47,000 of raw material inventory.

We incurred a net loss of $1,879,112 for the year ended December 31, 2016, and have an accumulated deficit of $121,942,132 since inception. To date, our operations and plant and equipment expenditures have been funded principally from proceeds from public and private sales of debt and equity as well as through asset sales.

Net cash used in investing activities was $73,000 for 2016 and net cash used in investing activities for 2015 was $295,606. During 2015, as required by the NRC, we assessed our de-commissioning funding plan and determined that the funds dedicated to that plan should be increased. As a result, we increased the amount of funds in our restricted certificate of deposit by $225,315. We had no similar activity in 2016. During 2016, we used $93,603 to purchase property and equipment and intangible assets and we received member distributions from our investment in RadQual in the amount of $16,104. During 2015, we used $92,827 for the purchase of property, equipment and intangible assets, and received member distributions from RadQual in the amount of $22,536.

Financing activities provided cash of $313,741 for the year ended December 31, 2016. We received proceeds from the sale of stock in the amount of $3,993 during 2016 and made principal payments on loans in the amount of $50,252. During 2015, financing activities used cash of $204,584, and we received proceeds from the sale of stock in the amount of $3,743 and made principal payments on loans in the amount of $208,327.

On July 27, 2012, we entered into a securities purchase agreement with certain institutional and private investors pursuant to which we sold convertible debentures for an aggregate of $3,069,900. The debentures bear interest at 8%, mature in July 2017 and are unsecured. These debentures are convertible at any time into shares of our common stock at an initial conversion price of $0.225 per share, subject to adjustment in certain conditions. Additionally, under certain conditions, we may force the conversion of the debentures. We also held the right, prior to the second anniversary of the closing date, to redeem all or part of the debentures if we successfully consummated a financing of the proposed de-conversion facility in the amount of at least $25 million. This financing was not obtained and we did not redeem the debentures. In addition, from and after the second anniversary of the closing date, we have the right to redeem all or part of the debentures at any time prior to their maturity date. Any redemption of the debentures by us requires the payment of a redemption fee as set forth in the debentures. In this transaction, each investor also received a common stock purchase warrant to purchase such number of shares of our common stock equal to twenty-five percent (25%) of the number of shares of common stock that the note purchased by such investor was convertible into on the closing date. The total number of warrants issued was 4,502,520. The warrants are immediately exercisable at a price of $0.30 per share and have a term of five years.

In December 2013, we entered into a promissory note agreement with our chairman of the Board and one of our major shareholders pursuant to which we borrowed $500,000. The $500,000 note bears interest at 6% and was originally due June 30, 2014. At any time, the lenders may settle any or all of the principal and accrued interest with shares of the Company's common stock. In connection with the note, each of the two lenders was issued 5,000,000 warrants to purchase shares of the Company's common stock at a purchase price of $0.06 per share. In June 2014, we renegotiated the terms of this promissory note. Pursuant to the modification, the maturity date was extended to December 31, 2017, and each Lender was granted an additional 7,500,000 warrants to purchase shares of the Company's common stock at $0.06 per share. The warrants were immediately exercisable. In December 2016, the note was modified to extend the maturity date to December 31, 2022, with all remaining terms remaining unchanged.

As described above, in February 2017, we completed a private placement transaction with certain investors, including two of our directors, for the sale of an aggregate of 3,433 shares of our Series C Preferred Stock and Class M warrants to purchase an aggregate of 17,165,000 shares of our common stock, for gross proceeds of approximately $3.4 million. The Series C Preferred Stock accrues dividends at a rate of 6% per annum, payable annually on February 17 of each year, commencing on February 17, 2018. The Series C Preferred Stock are convertible at the option of the investors at any time into shares of our common stock at an initial conversion price equal to $0.10 per share, subject to certain adjustments. At any time after February 17, 2019, if the volume-weighted average closing price of our common stock over a period of 90 consecutive trading days is greater than $0.25 per share, we may redeem all or any portion of the outstanding Series C Preferred Stock at the original purchase price per share plus any accrued and unpaid dividends, payable in shares of common stock. All outstanding shares of Series C Preferred Stock will be redeemed by the Company on February 17, 2022 at the original purchase price per share, payable in cash or shares of common stock, at the option of the holder. The Class M Warrants are immediately exercisable at an exercise price of $0.12 per share, subject to adjustment as set forth in the warrant, and have a term of five years.

We expect that cash from operations, cash obtained through securities offerings, and our current cash balance will be sufficient to fund operations for the next twelve months. Although we may seek additional debt financing for our projects and operations in the future, there is no assurance that we will be able to secure additional debt financing on acceptable terms to us, or at all.

Off-Balance Sheet Arrangements

As of December 31, 2016 and 2015, we had no off-balance sheet arrangements or obligations.

Goals for 2017

Based upon the investments we have made in our facilities, projects, and products developed in 2016, we have the following goals for 2017:

- Pursue additional field service work through both the DOE's OSRP program and other domestic and international programs utilizing our mobile hot cell and highly experienced personnel;

- Continue to identify alternate sources of cobalt-60 material for customers to reduce shortages in supply occurring before 2018;

- Support the review and approval of our abbreviated new drug application by the U.S. Food and Drug Administration for our I^3odine/MAX™ sodium iodide product;

- Begin production development of one or more new generic drug products to further enhance revenue production within our Radiochemical segment and identify additional future generic product opportunities;

- Expand sales of our nuclear medicine products and increase cash flow by further reducing production costs, expanding international sales, and utilizing the marketing expertise of our joint venture, TI Services;

- Continue to expand our customer base, increase revenues, reduce production and operating costs, and attempt to achieve profitability in our core business segment operations; and

- Continue to support essential tasks related to our de-conversion project and continue to pursue any opportunities to obtain additional contracts for depleted uranium de-conversion.

Critical Accounting Policies

Revenue recognition - We recognize revenue when products are shipped or services are performed. We have contracted with several customers for the purchase of cobalt-60 material which is currently undergoing irradiation. We have collected advance payments from these customers for project management and up-front handling and irradiation charges and these prepayments have been recorded as unearned revenue. Our estimated future recognition of this unearned revenue is based on an irradiation completion and shipment schedule which has been provided to us by the DOE in an irradiation services contract.

Patents and other intangibles - We amortize our patents and intangibles using the straight-line method over their estimated useful lives. Patents and other intangibles are evaluated for impairment annually or when events or circumstances arise that indicate the existence of impairment. We evaluate the recoverability of intangible assets whenever events or changes in circumstances indicate that an intangible asset's carrying amount may not be recoverable. Such circumstances could include, but are not limited to (1) a significant decrease in the market value of an asset, (2) a significant adverse change in the extent or manner in which an asset is used, or (3) an accumulation of costs significantly in excess of the amount originally expected for the acquisition of an asset. If impairment indicators exist, we measure the carrying amount of the asset against the estimated undiscounted future cash flows associated with it. Should the sum of the expected future cash flows be less than the carrying value of the asset being evaluated, an impairment loss would be recognized. The impairment loss would be calculated as the amount by which the carrying value of the asset exceeds its fair value.

Impairment of long-lived assets - As part of our year-end procedures we test our long-lived assets for signs of impairment when indicators of impairment exist. If impairment indicators exist, we measure the carrying value of the asset against its estimated future cash flows. If the expected future value is less than the carrying value of the asset an impairment loss would be recognized.

Critical Accounting Estimates

Asset retirement obligation – The asset retirement obligation is based on the expected future cash flows of the decommissioning funding plan. The decommissioning funding plan is based on the estimated number of hours of specific personnel, estimated wages and disposal costs. Once the decommissioning funding plan has been developed, we use a discount rate to determine the estimated current value of the liability.

New Accounting Standards

In August 2014, the Financial Accounting Standards Board ("FASB") issued ASU 2014-15, "Presentation of Financial Statements-Going Concern". The guidance requires management to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about an entity's ability to continue as a going concern within one year after the date financial statements are issued. ASU 2014-15 is effective for the annual period ending after December 31, 2016, and for annual periods and interim periods thereafter, with early application permitted. We have implemented the new standard, and have determined that is has no impact on the accompanying financial statements.

In May 2014, the FASB issued Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606), which supersedes all existing revenue recognition requirements, including most industry specific guidance. The new standard requires a company to recognize revenue when it transfers goods or services to customers in an amount that reflects the consideration that the company expects to receive for those goods or services. The FASB has subsequently issued the following amendments to ASU 2014-09 which have the same effective date and transition date of January 1, 2018:

- In August 2015, the FASB issued ASU No. 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date, which delayed the effective date of the new standard from January 1, 2017 to January 1, 2018. The FASB also agreed to allow entities to choose to adopt the standard as of the original effective date.

- In March 2016, the FASB issued ASU No. 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations, which clarifies the implementation guidance on principal versus agent considerations.

- In April 2016, the FASB issued ASU No. 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing, which clarifies certain aspects of identifying performance obligations and licensing implementation guidance.

- In May 2016, the FASB issued ASU No. 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients related to disclosures of remaining performance obligations, as well as other amendments to guidance on collectability, non-cash consideration and the presentation of sales and other similar taxes collected from customers.

- In December 2016, the FASB issued ASU No. 2016-20, Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers, which amends certain narrow aspects of the guidance issued in ASU 2014-09 including guidance related to the disclosure of remaining performance obligations and prior-period performance obligations, as well as other amendments to the guidance on loan guarantee fees, contract costs, refund liabilities, advertising costs and the clarification of certain examples.

We are evaluating this guidance, but do not at this time expect this guidance to have a material impact on our consolidated financial statements.

In February 2015, the FASB issued ASU No. 2015-02, “Amendments to the Consolidation Analysis”. The guidance in “Consolidation” (Topic 810) responds to stakeholder concerns about the current accounting for consolidation of certain legal entities. We are evaluating the standard, but do not expect the standard to have a material impact on our consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11, “Inventory” which requires entities to measure inventory at the lower of cost and net realizable value with net realizable value being the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. ASU 2015-11 is effective for fiscal years beginning after December 15, 2016 including interim periods within those fiscal years. We are evaluating the new standard, but do not at this time, expect this standard to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, “Leases” which was issued to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The amendments in ASU 2016-02 are effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are currently evaluating the impact the new standard will have on our financial statements.

In August 2016, the FASB issued ASU 2016-15, “Statement of Cash Flows” which was issued to improve uniformity in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The amendments in ASU 2016-15 are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company is currently evaluating the impact the new standard will have on its consolidated financial statements.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are a smaller reporting company, and therefore, are not required to provide the information required by this item.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following financial statements are included herewith and are hereby incorporated by reference:

Index to Consolidated Financial Statements

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

Item 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) that are designed to ensure information required to be disclosed in our reports that are filed or submitted under the Exchange Act, is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management, with the participation of our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2016. Based on that evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of December 31, 2016.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of our financial reporting for external purposes in accordance with accounting principles generally accepted in the U.S. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of our financial statements; providing reasonable assurance that receipts and expenditures are made in accordance with management authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of company assets that could have a material effect on our financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected.

Management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework and criteria established in *Internal Control — Integrated Framework (2013)*, issued by the Committee of Sponsoring Organizations of the Treadway Commission. This evaluation included review of the documentation of controls, evaluation of the design effectiveness of controls, testing of the operating effectiveness of controls and a conclusion on this evaluation. Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2016.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2016, that have materially affected, or are reasonable likely to materially affect, our internal control over financial reporting.

Item 9B. OTHER INFORMATION

None.

PART III.

Item 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

We have adopted a Code of Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer and controller, or persons performing similar functions. Our Code of Ethics is posted on our website and can be accessed, free of charge, at http://www.internationalisotopes.com. If we waive, or implicitly waive, any material provision of the Code of Ethics that apply to our executive officers, or substantively amend the Code of Ethics, in each case that is required to be disclosed, we will disclose that fact on our website.

The other information required by this item is incorporated by reference in our definitive proxy statement for our 2017 annual meeting of shareholders, which will be filed with the SEC within 120 days after December 31, 2016.

Item 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference to our definitive proxy statement for our 2017 annual meeting of shareholders, which will be filed with the SEC within 120 days after December 31, 2016.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated by reference to our definitive proxy statement for our 2017 annual meeting of shareholders, which will be filed with the SEC within 120 days after December 31, 2016.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated by reference to our definitive proxy statement for our 2017 annual meeting of shareholders, which will be filed with the SEC within 120 days after December 31, 2016.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item is incorporated by reference to our definitive proxy statement for our 2017 annual meeting of shareholders, which will be filed with the SEC within 120 days after December 31, 2016.

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(*a)(1) and (a)(2) Financial Statements*

See the index to and the financial statements beginning on page 29, which financial statements are incorporated herein by reference.

(a)(3) Exhibits

The following documents are filed or incorporated herein by reference as exhibits to this report:

2.1 Securities Purchase Agreement, dated July 27, 2012, among the Company, the purchasers named therein and Euro Pacific Capital, Inc. (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on August 2, 2012).

3.1 Restated Certificate of Formation of the Company, as amended (incorporated by reference to Exhibit 3.1 of the Company's Quarterly Report on Form 10-Q for quarter ended June 30, 2010).

3.2 Statement of Designation of the Series C Convertible Redeemable Preferred Stock of the Company (incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K filed on February 24, 2017).

3.3	Bylaws of the Company (incorporated by reference to Exhibit 3.2 of the Company's Registration Statement on Form SB-2 filed on May 1, 1997 (Registration No. 333-26269).
4.1	Form of 8% Convertible Note (incorporated by reference to Exhibit 99.2 of the Company's Current Report on Form 8-K filed on August 2, 2012).
4.2	Form of Class K Warrant (incorporated by reference to Exhibit 99.3 of the Company's Current Report on Form 8-K filed on August 2, 2012).
4.3	Form of Class L Warrant (incorporated by reference to Exhibit 4.10 of the Company's Annual Report on Form 10-K for the year ended December 31, 2013).
10.1†	International Isotopes Inc. 2002 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2002).
10.2†	International Isotopes Inc. Employee Stock Purchase Plan (incorporated by reference to Appendix B to the Company's definitive proxy statement on Schedule 14A, as amended, filed on May 6, 2005).
10.3†	International Isotopes Inc. 2015 Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed on July 16, 2015).
10.4	Lease Agreement (4137 Commerce Circle), dated May 1, 2011, between the Company and Adrian Rand Robison and Dorothy Robison (incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2011).
10.5	Option to Purchase and Right of First Refusal (4137 Commerce Circle), dated May 2, 2003 between the Company and Adrian Rand Robison and Dorothy Robison (incorporated by reference to Exhibit 10.7 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).
10.6†	Form of Director and Officer Indemnification Agreement (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on September 17, 2008).
10.7	Memorandum of Agreement, dated October 22, 2009, between the Company and the New Mexico Environment Department (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on October 27, 2009).
10.8	Gemstone Processing Agreement between the Company and Quali-Tech, Inc. (incorporated by reference to Exhibit 10.1 of Amendment No. 1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 filed on September 24, 2009).
10.9+	Modification #1 to the Agreement, dated November 28, 2016, between the Company and QualiTech, Inc.
10.10	Manufacturing Agreement, dated January 30, 2006, between the Company and RadQual, LLC (incorporated by reference to Exhibit 10.2 of Amendment No. 1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 filed on September 24, 2009).
10.11	Sales Agreement, effective August 1, 2010, between International Isotopes Idaho, Inc. and NTP Radioisotopes (Pty) Ltd. (incorporated by reference to Exhibit 10.3 of the Company's Quarterly Report on Form 10-Q for period ended June 30, 2010).** Modification made in 2016.
10.12	Registration Rights Agreement, dated October 29, 2010, among the Company and certain investors party thereto (incorporated by reference to Exhibit 99.2 of the Company's Current Report on Form 8-K filed on November 1, 2010).
10.13	Registration Rights Agreement, dated July 27, 2012, among the Company and the purchasers named therein (incorporated by reference to Exhibit 99.4 of the Company's Current Report on Form 8-K filed on August 2, 2012).

10.14†	Amended and Restated Employment Agreement, dated May 16, 2012, between the Company and Stephen Laflin (incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012).
10.15†+	Modification #1 to the Amended and Restated Employment Agreement, dated October 12, 2016, between the Company and Stephen Laflin.
10.16	Promissory Note Agreement, dated December 23, 2013, among the Company, Ralph Richart and John McCormack (incorporated by reference to Exhibit 10.19 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014).
10.17	Modification #1 to the Promissory Note Agreement, dated June 30, 2014, among the Company, Ralph M. Richart and John M. McCormack (incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014).
10.18+	Modification #2 to the Promissory Note Agreement, dated February 3, 2017, among the Company, Ralph M. Richart and John M. McCormack.
10.19	Isotope and Technical Service Order Form, dated October 2, 2014, between the Company and the U.S. Department of Energy (incorporated by reference to Exhibit 10.18 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014)**
10.20	Cobalt-60 Pellet Supply Agreement, dated April 7, 2015, between Nordion (Canada) Inc., as general partner of and on behalf of Nordion Sterilization LP, and International Isotopes Inc. (incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015).**
21.1	Subsidiaries (incorporated by reference to Exhibit 21 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2005).
23.1+	Consent of Eide Bailly LLP.
31.1+	Certification of Chief Executive Officer under Section 302 of the Sarbanes-Oxley Act of 2002.
31.2+	Certification of Chief Financial Officer under Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer furnished under Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Chief Financial Officer furnished under Section 906 of the Sarbanes-Oxley Act of 2002.
101+	The following financial statements, formatted in XBRL: (i) Consolidated Balance Sheets as of December 31, 2016 and 2015, (ii) Consolidated Statements of Operations for the years ended December 31, 2016 and 2015, (iii) Consolidated Statement of Shareholders' Equity for the years ended December 31, 2016 and 2015, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2016 and 2015 and (v) Notes to Consolidated Financial Statements.

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† This exhibit constitutes a management contract or compensatory plan or arrangement.

** Confidential treatment has been granted as to certain portions, which portions were omitted and filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

+ Filed herewith.

* Furnished herewith.

Item 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

International Isotopes Inc.

By: /s/ Steve T. Laflin
Steve T. Laflin
President, Chief Executive Officer, and Director

Date: March 31, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

March 31, 2017

By: /s/ Steve T. Laflin
Steve T. Laflin
President, Chief Executive Officer, and Director

March 31, 2017

By: /s/ Laurie McKenzie-Carter
Laurie McKenzie Carter
Chief Financial Officer, Secretary

March 31, 2017

By: /s/ Christopher Grosso
Christopher Grosso
Director

March 31, 2017

By: /s/ Ralph Richart
Ralph Richart
Chairman of the Board of Directors

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Shareholders of International Isotopes, Inc.

We have audited the accompanying consolidated balance sheets of International Isotopes, Inc. and Subsidiaries (collectively the Company) as of December 31, 2016 and 2015 and the related consolidated statements of operations, stockholders' equity, and cash flows for the years then ended. The Company's management is responsible for these financial statements. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatements. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidences supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of International Isotopes, Inc. as of December 31, 2016 and 2015 and the consolidated results of its operations, and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Eide Bailly LLP

Salt Lake City, Utah
March 31, 2017

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

Consolidated Balance Sheets

	December 31,	
Assets	**2016**	**2015**
Current assets		
Cash and cash equivalents	$ 314,520	$ 397,955
Accounts receivable	774,275	1,084,940
Inventories (Note 4)	1,476,240	1,111,570
Prepaids and other current assets	736,447	543,093
Total current assets	3,301,482	3,137,558
Long-term assets		
Restricted money market account	450,631	450,630
Property, plant and equipment, net (Note 5)	1,948,076	1,932,263
Investment (Note 3)	1,492,781	1,434,928
Patents and other intangibles, net (Note 6)	4,186,295	4,287,848
Total long-term assets	8,077,783	8,105,669
Total assets	$ 11,379,265	$ 11,243,227
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 941,659	$ 1,043,989
Accrued liabilities	568,714	488,657
Current portion of unearned revenue	2,608,328	907,680
Convertible debt, net of debt discount (Note 7)	3,025,165	-
Current installments of notes payable, net of debt discount (Note 7)	366,953	45,871
Total current liabilities	7,510,819	2,486,197
Long-term liabilities		
Convertible debt, net of debt discount (Note 7)	-	2,946,683
Notes payable, net of current portion (Note 7)	428,891	275,670
Unearned revenue net of current portion	364,440	642,060
Obligation for lease disposal costs (Note 12)	468,974	459,711
Mandatorily redeemable convertible preferred stock (Note 9)	850,000	850,000
Total long-term liabilities	2,112,305	5,174,124
Total liabilities	9,623,124	7,660,321
Stockholders' equity (Note 9)		
Common stock, $0.01 par value; 750,000,000 shares authorized; 404,999,758 and 402,242,994 shares issued and outstanding respectively	4,049,998	4,022,430
Additional paid-in capital	119,598,106	119,554,325
Accumulated deficit	(121,942,132)	(120,060,449)
Equity attributable to International Isotopes Inc. stockholders	1,705,972	3,516,306
Equity attributable to noncontrolling interest	50,169	66,600
Total equity	1,756,141	3,582,906
Total liabilities and stockholders' equity	$ 11,379,265	$ 11,243,227

See accompanying notes to consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Consolidated Statements of Operations

	Years ended December 31,	
	2016	**2015**
Sale of product	$ 6,552,149	$ 7,062,196
Cost of product	3,707,558	4,359,234
Gross profit	2,844,591	2,702,962
Operating costs and expenses:		
Salaries and contract labor	1,782,774	1,675,020
General, administrative and consulting	2,053,518	1,648,147
Research and development	511,283	821,453
Total operating expenses	4,347,575	4,144,620
Operating loss	(1,502,984)	(1,441,658)
Other income (expense):		
Other income	6,605	23,955
Equity in net income of affiliate	73,957	89,279
Interest income	938	438
Interest expense	(474,059)	(497,994)
Total other (expense)	(392,559)	(384,322)
Net loss	(1,895,543)	(1,825,980)
Loss attributable to noncontrolling interest	(16,431)	(7,755)
Net loss attributable to International Isotopes Inc.	$ (1,879,112)	$ (1,818,225)
Net loss per common share - basic and diluted	$ (0.00)	$ (0.00)
Weighted average common shares outstanding -basic and diluted	403,302,425	398,055,278

See accompanying notes to consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Consolidated Statement of Stockholders' Equity
Years ended December 31, 2016 and 2015

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit	Equity Attributable to Internat'l Isotopes Shareholders	Equity Attributable to Noncontrolling Interest	Total Equity
Balance December 31, 2014	369,895,032	$ 3,698,950	$ 118,444,070	$ (118,242,224)	$ 3,900,796	$ 74,355	$ 3,975,151
Shares issued under employee stock purchase plan	115,102	1,151	2,592	-	3,743	-	3,743
Conversion of convertible debentures	32,065,000	320,650	961,950	-	1,282,600	-	1,282,600
Stock grant	167,860	1,679	(1,679)	-	-	-	-
Stock based compensation	-	-	147,392	-	147,392	-	147,392
Net loss	-	-	-	(1,818,225)	(1,818,225)	(7,755)	(1,825,980)
Balance December 31, 2015	402,242,994	4,022,430	119,554,325	(120,060,449)	3,516,306	66,600	3,582,906
Shares issued under employee stock purchase plan	57,654	577	3,416	-	3,993	-	3,993
Shares issued for exercise of employee stock options	2,531,250	25,312	(25,312)	-	-	-	-
Stock grant	167,860	1,679	(1,679)	-	-	-	-
Stock based compensation	-	-	64,785	-	64,785		64,785
Net loss	-	-	-	(1,879,112)	(1,879,112)	(16,431)	(1,895,543)
Balance December 31, 2016	404,999,758	$ 4,049,998	$ 119,595,535	$ (121,939,561)	$ 1,705,972	$ 50,169	$ 1,756,141

See accompanying notes to consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows

	Years ended December 31,	
	2016	**2015**
Cash flows from operating activities:		
Net loss	$ (1,895,543)	$ (1,825,980)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Net income in equity method investment	(73,957)	(89,279)
Depreciation and amortization	226,856	211,174
Gain on disposal of property, plant and equipment	(4,500)	20,575
Inventory impairment	-	102,857
Accretion of obligation for lease disposal costs	9,263	9,081
Accretion of beneficial conversion feature	9,657	15,066
Equity based compensation	64,785	147,392
Noncash interest expense	185,867	185,866
Changes in operating assets and liabilities:		
Accounts receivable	310,665	(301,003)
Prepaids and other current assets	(193,354)	62,927
Inventories	(364,670)	(165,321)
Unearned revenues	1,423,028	1,549,740
Accounts payable and accrued liabilities	(22,273)	416,509
Net cash (used in) provided by operating activities	(324,176)	339,604
Cash flows from investing activities:		
Restricted certificate of deposit	(1)	(225,315)
Proceeds from sale of property, plant, and equipment	4,500	-
Dividends received from equity method investment	16,104	22,536
Purchase of property, plant and equipment and intangibles	(93,603)	(92,827)
Net cash used in investing activities	(73,000)	(295,606)
Cash flows from financing activities:		
Proceeds from sale of stock	3,993	3,743
Proceeds from issuance of debt	360,000	-
Principal payments on notes payable	(50,252)	(208,327)
Net cash provided by (used in) financing activities	313,741	(204,584)
Net change in cash and cash equivalents	(83,435)	(160,586)
Cash and cash equivalents at beginning of year	397,955	558,541
Cash and cash equivalents at end of year	$ 314,520	$ 397,955
Supplemental disclosure of cash flow activities:		
Cash paid for interest	$ 242,721	$ 260,405
Supplemental disclosure of noncash financing and investing transactions:		
Dealer financing for the purchase of a new vehicle	$ 47,513	$ -
Increase in equity and decrease in debt for conversion of debentures	$ -	$ 1,060,000
Increase in equity and decrease in accrued interest for conversion of debentures	$ -	$ 222,600
Increase in other assets and decrease in property, plant and equipment for cancellation of purchase contract	$ -	$ 255,000

See accompanying notes to consolidated financial statements.

NOTE 1 – DESCRIPTION OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business – International Isotopes Inc. (the "Company" or "INIS") was incorporated in Texas in November 1995. The accompanying consolidated financial statements are presented in conformity with accounting principles generally accepted in the United States of America ("GAAP") and include all operations and balances of the Company and its wholly-owned subsidiaries, International Isotopes Idaho Inc., International Isotopes Fluorine Products, Inc., and International Isotopes Transportation Services, Inc. The consolidated financial statements also include the accounts of the Company's 50% owned joint venture, TI Services, LLC, ("TI Services") which is headquartered in Youngstown, Ohio. The Company also owns a 24.5% interest in RadQual, LLC ("RadQual"), a global supplier of molecular imaging quality control devices, which is headquartered in Weare, New Hampshire. TI Services was formed with RadQual in December 2010 to distribute products and services for nuclear medicine, nuclear cardiology and Positron Emission Tomography (PET) imaging.

Nature of Operations – INIS and its subsidiaries and joint venture (collectively, the "Company," "we," "our" or "us") manufacture a full range of nuclear medicine calibration and reference standards, cobalt teletherapy sources and other sealed sources. The Company also distributes a varied selection of radioisotopes and radiochemicals for medical and clinical research, and pharmacy compounding. The Company provides a host of transportation, recycling, and radiological field services on a contract basis for clients, and holds several patents for a fluorine extraction process that it plans to use in conjunction with a proposed commercial depleted uranium de-conversion facility planned to be located in Lea County, New Mexico (the "De-Conversion Facility"). The Company's business consists of six major business segments: Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation. The Company's headquarters and all operations, with the exception of TI Services, are located in Idaho Falls, Idaho.

With the exception of certain unique products, the Company's normal operating cycle is considered to be one year. Due to the time required to produce some cobalt products, the Company's operating cycle for those products is considered to be two to three years. Accordingly, preliminary payments received on cobalt contracts, where shipment will not take place for greater than the operating cycle, have been recorded as unearned revenue and classified under current or long-term liabilities, depending upon estimated ship dates, on the Company's consolidated balance sheets. These unearned revenues will be recognized as revenue in the future period during which the cobalt shipments begin. All assets expected to be realized in cash or sold during the normal operating cycle of the business are classified as current assets.

Principles of Consolidation – The consolidated financial statements include the accounts of the Company, its wholly owned subsidiaries and its 50% owned joint venture, TI Services. Because the Company controls a greater than 50% direct and indirect ownership interest in TI Services, the operating results and financial conditions of TI Services, are consolidated with those of the Company. In addition, RadQual's interest in TI Services, is included in the Company's consolidated financial statements as a non-controlling interest. All significant intercompany accounts and transactions have been eliminated in consolidation.

Significant Accounting Policies

a) Financial instruments and cash equivalents

The carrying value of notes payable approximates fair value because they bear interest at rates which approximate market rates.

Cash and cash equivalents, totaling $314,520 and $397,955 at December 31, 2016 and 2015, respectively, consist of operating accounts and money market accounts. For purposes of the consolidated statements of cash flows, the Company considers all highly-liquid financial instruments with original maturities of three months or less at date of purchase to be cash equivalents.

At December 31, 2016, the Company had pledged cash on deposit in a money market account valued at $450,631 as security for a surety bond. At December 31, 2015, the Company had pledged certificates of deposit valued at $450,630 as security on letters of credit. The surety bond and letters of credit are required as part of the operating license agreement with the Nuclear Regulatory Commission ("NRC").

The Company maintains its cash accounts in various deposit accounts, the balances of which are periodically in excess of federally insured limits.

b) Accounts receivable

The Company sells products mainly to recurring customers, wherein the customer's ability to pay has previously been evaluated. The Company generally does not require collateral. The Company periodically reviews accounts receivable for amounts considered uncollectible and allowances are provided for uncollectible accounts when deemed necessary. At December 31, 2016 and 2015, the Company recorded no allowance for uncollectible accounts.

c) Inventories

Inventories are carried at the lower of cost or market. Cost is determined using the first in, first out method. Work in progress inventory contains product that is undergoing irradiation. This irradiation process can take up to three years to reach high specific activity (HSA) levels. When indicators of inventory impairment exist, the Company measures the carrying value of the inventory against its market value, and if the carrying value exceeds the market value, the inventory value is adjusted down accordingly. For the year ended December 31, 2016, no cobalt inventory impairment was recorded. As discussed in Note 4, during the year ended December 31, 2015, it was determined that several cobalt targets held in inventory had fallen below market value and $102,857 was recorded as impairment expense at that time. During 2016, approximately $47,000 of raw material inventory was determined to have no future value to the Company, and was recorded as expense.

d) Property, plant and equipment

Depreciation on property, plant and equipment is computed using the straight-line method over the estimated useful life of the asset.

Leasehold improvements are amortized over the shorter of the life of the lease or the service life of the improvements. Maintenance, repairs, and renewals that neither materially add to the value of the property nor appreciably prolong its life are charged to expense as incurred. Gains or losses on dispositions of property and equipment are included in the results of operations.

e) Patents and other intangibles

Patents and other intangibles are amortized using the straight-line method over their estimated useful lives and are evaluated for impairment at least annually or when events or circumstances arise that indicate the existence of impairment. The Company evaluates the recoverability of identifiable intangible assets whenever events or changes in circumstances indicate that an intangible asset's carrying amount may not be recoverable. Such circumstances could include, but are not limited to: (1) a significant decrease in the market value of an asset, (2) a significant adverse change in the extent or manner in which an asset is used, or (3) an accumulation of costs significantly in excess of the amount originally expected for the acquisition of an asset. When indicators of impairment exist, the Company measures the carrying amount of the asset against the estimated undiscounted future cash flows associated with it. Should the sum of the expected future cash flows be less than the carrying value of the asset being evaluated, an impairment loss would be recognized. The impairment loss would be calculated as the amount by which the carrying value of the asset exceeds its fair value. The evaluation of asset impairment requires the Company to make assumptions about future cash flows over the life of the asset being evaluated. These assumptions require significant

judgment and actual results may differ from assumed and estimated amounts. During the years ended December 31, 2016 and 2015, the Company had no impairment losses related to intangible assets.

f) Impairment of long-lived assets

Long-lived assets are reviewed for impairment annually, or when events or circumstances arise that indicate the existence of impairment, using the same evaluation process as described above for patents and other intangibles. There was no impairment recorded during the years ended December 31, 2016 and 2015.

g) Income taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry-forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rate is recognized in income in the period that includes the enactment date.

h) Use of estimates

Management of the Company has made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and reported amounts of revenues and expenses during the reporting period to prepare these consolidated financial statements in conformity with GAAP. Actual results could differ from those estimates.

i) Revenue recognition

Revenue is recognized when products are shipped. No warranty coverage or right of return provisions are provided to customers. Amounts received as prepayment on future products or services are recorded as unearned revenues and recognized as income when the product is shipped or service performed. During the fiscal year ending December 31, 2016 and 2015, the Company had sales to one entity of approximately 31% and 27%, respectively, of its revenues. At December 31, 2016 and 2015, 36% and 29%, respectively, of accounts receivable were from one customer due to their additional role as a distributor for the Company's nuclear medicine products. The loss of this customer may result in lower revenues and limit the cash available to grow the business and achieve profitability.

j) Research and development costs

Research and development costs are expensed as incurred and totaled $511,283 and $821,453 for the years ended December 31, 2016 and 2015, respectively. These research and development costs pertained to continued costs incurred to maintain our planned de-conversion facility licenses and to costs incurred in our radiochemical products segment.

k) Share-based compensation

The Company accounts for issuances of share-based compensation to employees in accordance with GAAP which requires the recognition of the cost of employee services received in exchange for an award of equity instruments in the financial statements and is measured based on the grant date fair value of the award. Compensation expense is recognized over the period during which an employee is required to provide service in exchange for the award (the vesting period).

For the years ended December 31, 2016 and 2015, the Company recognized share-based compensation expense of $64,785 and $147,392, respectively, related to stock options, warrants and stock grants. This expense is included as part of salaries and contract labor in the accompanying statements of operations.

l) Net loss per common share – basic and diluted

Basic loss per share is computed on the basis of the weighted-average number of common shares outstanding during the year. Diluted loss per share is computed on the basis of the weighted-average number of common shares plus all potentially dilutive issuable common shares outstanding during the year.

At December 31, 2016 and 2015, the Company had the following common stock equivalents outstanding that were not included in the computation of diluted net loss per common share as their effect would have been anti-dilutive, thereby decreasing the net loss per common share:

	December 31,	
	2016	**2015**
Stock options	23,316,667	27,950,000
Warrants	27,419,172	42,257,951
850 Shares of Series B redeemable convertible preferred stock	425,000	425,000
	51,160,839	70,632,951

m) Business segments and related information

GAAP establishes standards for the way public business enterprises are to report information about operating segments in annual financial statements and requires enterprises to report selected information about operating segments in interim financial reports issued to shareholders. It also establishes standards for related disclosure about products and services, geographic areas and major customers. The Company currently operates in six business segments.

n) Recent accounting standards

In August 2014, the Financial Accounting Standards Board ("FASB") issued ASU 2014-15, "Presentation of Financial Statements-Going Concern". The guidance requires management to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about an entity's ability to continue as a going concern within one year after the date financial statements are issued. ASU 2014-15 is effective for the annual period ending after December 31, 2017, and for annual periods and interim periods thereafter, with early application permitted. We have implemented the new standard, and have determined that is has no impact on the accompanying financial statements.

In May 2014, the FASB issued Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606), which supersedes all existing revenue recognition requirements, including most industry specific guidance. The new standard requires a company to recognize revenue when it transfers goods or services to customers in an amount that reflects the consideration that the company expects to receive for those goods or services. The FASB has subsequently issued the following amendments to ASU 2014-09 which have the same effective date and transition date of January 1, 2018:

- In August 2015, the FASB issued ASU No. 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date, which delayed the effective date of the new standard from January 1, 2017 to January 1, 2018. The FASB also agreed to allow entities to choose to adopt the standard as of the original effective date.

- In March 2016, the FASB issued ASU No. 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations, which clarifies the implementation guidance on principal versus agent considerations.

- In April 2016, the FASB issued ASU No. 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing, which clarifies certain aspects of identifying performance obligations and licensing implementation guidance.

- In May 2016, the FASB issued ASU No. 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients related to disclosures of remaining performance obligations, as well as other amendments to guidance on collectability, non-cash consideration and the presentation of sales and other similar taxes collected from customers.

- In December 2016, the FASB issued ASU No. 2016-20, Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers, which amends certain narrow aspects of the guidance issued in ASU 2014-09 including guidance related to the disclosure of remaining performance obligations and prior-period performance obligations, as well as other amendments to the guidance on loan guarantee fees, contract costs, refund liabilities, advertising costs and the clarification of certain examples.

We are evaluating this guidance, but do not at this time expect this guidance to have a material impact on our consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11, "Inventory" which requires entities to measure inventory at the lower of cost and net realizable value with net realizable value being the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. ASU 2015-11 is effective for fiscal years beginning after December 15, 2016 including interim periods within those fiscal years. We will implement this standard but do not expect it to have an impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, "Leases" which was issued to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The amendments in ASU 2016-02 are effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are in the process of completing our assessment and anticipate that ASU 2016-02 will have a material impact on our consolidated Balance Sheets, as we will record significant asset and liability balances in connection with our leased property. We are still evaluating the impact to our Consolidated Statements of Operations.

In August 2016, the FASB issued ASU 2016-15, "Statement of Cash Flows" which was issued to improve uniformity in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The amendments in ASU 2016-15 are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company is currently evaluating the impact the new standard will have on its consolidated financial statements.

NOTE 2 – BUSINESS CONDITION AND LIQUIDITY

The Company has a history of recurring losses with an accumulated deficit of $121,939,561 at December 31, 2016, and a net loss of $1,879,112 for the year then ended. The Company's working capital, which includes inventory that will not be sold for up to three years, has decreased by $4,193,078 from the prior year. The Company has used cash flows from operations of $324,176. During 2016, the Company sought to improve future cash flows from operating activities through execution of new sales agreements, improving operating cost control measures, making improvements in current manufacturing processes, pursuing new service contracts, and developing new products. The Company's net loss was $1,879,112 in 2016, compared to a net loss of $1,818,225 in 2015. This is an increase in net loss of $60,887.

During the year ended December 31, 2016, the Company continued to focus on its long-standing core business segments, which consist of its radiochemical products, cobalt products, nuclear medicine standards, and radiological services segments. Of particular note is the Company's pursuit of new business opportunities within the radiochemical segment, specifically the filing of an abbreviated new drug application ("aNDA") for sodium iodide.

In October 2014, the Company secured a ten-year cobalt production agreement with the United States Department of Energy ("DOE"). The agreement provides the Company with access to the currently available cobalt production positions in the DOE's Advanced Test Reactor ("ATR") located at the Idaho National Laboratory in Idaho Falls, Idaho. The ATR is the only DOE reactor in the United States ("U.S.") capable of producing large quantities of high specific activity cobalt.

In addition to the cobalt production agreement with the DOE, the Company entered into supply agreements in 2015 with several customers for the purchase of cobalt-60. Because it takes approximately two to three years to irradiate cobalt targets to the desired level of activity, the shipment of cobalt-60 product to these customers is anticipated to begin in mid to late 2018. Pursuant to these cobalt-60 supply agreements, the Company will not only supply cobalt-60 to the customers but, in some instances, will also provide on-going services with respect to manufacturing and selling cobalt sources. Each contract requires quarterly progress payments to be paid by most customers to the Company.

Due to changes in the nuclear industry over the past few years, the Company's plans for the design and construction of a large-scale uranium de-conversion and fluorine extraction facility were placed on hold. The Company expects that further activity on this project will remain on hold until the market and industry conditions change to justify resuming design and construction of the facility. The Company will continue to incur some costs associated with the maintenance of licenses and other necessary project investments for the proposed facility, and the Company expects to continue to keep certain agreements in place to support resumption of project activities at the appropriate time. In July 2015, the Company announced that it executed an amendment to its Project Participation Agreement (PPA) with the Lea County, New Mexico Board of Commissioners. The PPA granted to the Company direct and indirect assistance for locating its proposed depleted UF6 de-conversion facility in Hobbs, New Mexico. The principal component of assistance was the conveyance of approximately 640 acres of land for construction and operation of the proposed facility. The conveyance of the land was contingent upon the Company commencing construction on Phase 1 of the facility by December 31, 2014 and hiring a certain number of employees by December 31, 2015. Under the amendment to the PPA, the Lea County, New Mexico Board of Commissioners agreed to extend those dates to December 31, 2016 and December 31, 2017, respectively. The Company did not meet the deadlines set forth in the amended PPA, but is in discussions with the Lea County, New Mexico Board of Commissioners to further extend the milestone dates. If the Company does not succeed in extending the commitment dates or in reaching performance dates set forth in a modified agreement, then we may, at our sole option, either purchase or re-convey the property to Lea County, New Mexico. The purchase price of the property would be $776,078, plus interest at the annual rate of 5.25% from the date of the closing to the date of payment.

The Company holds a Nuclear Regulatory Commission ("NRC") construction and operating license for the depleted uranium facility as well as the property agreement with Lea County, New Mexico, where the plant is intended to be constructed. The NRC license for the de-conversion facility is a forty (40) year operating license and is the first commercial license of this type issued in the United States. There are no other companies with a similar license application under review by the NRC. Therefore, the NRC license represents a significant competitive barrier and the Company believes that it provides it with a very valuable asset. During the year ended December 31, 2016, the Company incurred costs of approximately $379,000 to maintain licenses and other necessary project investments. During the same period in 2015, the Company incurred costs of approximately $357,000 for planning and development activities on the project.

In February 2017, the Company completed a private placement transaction with certain investors, including two of its directors, for the sale of an aggregate of 3,433 shares of Series C Convertible Redeemable Preferred Stock (the "Series C Preferred Stock") and Class M warrants to purchase an aggregate of 17,165,000 shares of the Company's common stock, for gross proceeds of approximately $3.4 million. See Note 15 below for additional information on the private placement.

The Company expects that cash from operations and its current cash balance will be sufficient to fund operations for the next twelve months. Future liquidity and capital funding requirements will depend on numerous factors, including, contract manufacturing agreements, commercial relationships, technological developments, market factors, available credit, and voluntary warrant redemption by shareholders. There is no assurance that additional capital and financing will be available on acceptable terms to the Company or at all.

NOTE 3 – PURCHASED ASSET AND INVESTMENTS

Interest in RadQual, LLC

The Company owns a 24.5% interest in RadQual, LLC ("RadQual"), with which the Company has an exclusive manufacturing agreement for nuclear medicine products. The 24.5% ownership of RadQual has a balance of $1,492,781 and is reported as an asset at December 31, 2016. For the year ended December 31, 2016, member distributions from RadQual totaled $16,104 and were recorded as a reduction of the investment, and for the same period in 2015, member distributions totaled $22,536. For the years ended December 31, 2016 and 2015, earnings allocated to the Company from RadQual totaled $73,957 and $89,279, respectively. These allocated earnings were recorded as equity in net income of affiliate on the Company's consolidated statements of operations.

At December 31, 2016 and 2015, the Company had receivables from RadQual in the amount of $282,470 and $317,400, respectively, which are recorded as part of accounts receivable on the Company's consolidated balance sheets. For the years ended December 31, 2016 and 2015, the Company had revenues from RadQual in the amount of $2,028,944 and $1,932,992, respectively, which are recorded as sale of product on the Company's consolidated statements of operations. Sales to RadQual in 2016 and 2015 were solely for nuclear medicine products. At December 31, 2016 and 2015, TI Services had payables to RadQual in the amount of $87,000 and $113,000, respectively.

Summarized financial information for RadQual as of the years ended December 31 was as follows:

	2016	2015
Current assets	$ 501,000	$ 510,000
Noncurrent assets	12,000	14,000
Current liabilities	293,000	345,000
Noncurrent liabilities	-	-
Revenue	3,116,000	3,033,000
Gross profit	856,000	858,000
Net income	$ 318,000	$ 342,000

Acquisition of interest in TI Services, LLC

In December 2010, the Company together with RadQual, formed a 50% owned joint venture, TI Services, LLC ("TI Services"). TI Services is engaged in the distribution and selling of products related to the nuclear medicine industry. Because the Company controls more than a 50% direct and indirect ownership interest in TI Services, the assets and liabilities of TI Services are consolidated with those of the Company, and RadQual's non-controlling interest in TI Services is included in the Company's financial statements as a non-controlling interest.

NOTE 4 – INVENTORIES

Inventories consisted of the following for the years ended December 31:

	2016	2015
Raw materials	$ 44,455	$ 91,555
Work in process	1,425,056	943,234
Finished goods	6,729	14,317
	$ 1,476,240	$ 1,049,106

Included in raw material inventory are the various pellet holders and housings involved in target fabrication, raw cobalt, strontium and other raw elements, completed flood sources, irradiated cobalt and nuclear medicine-related materials and products. Raw material inventory is regularly reviewed for obsolescence, and as part of the Company's year-end procedures, it was determined that some older material used in product fabrication was no longer of value to the Company. At that time, the Company wrote-off approximately $47,000 of raw material inventory.

Work in process includes cobalt-60 targets that are located in the ATR located outside of Idaho Falls, Idaho. These targets are owned by the Company and contain cobalt-60 material at various stages of irradiation. The carrying value of the targets is based on accumulated irradiation and handling costs which have been allocated to each target based on the length of time the targets have been held and processed at the reactor. In 2015, it was determined that some of the older, lower activity level targets no longer held commercial value. The carrying value of these targets was expensed at that time and $102,857 was charged to cost of goods sold and the value of the cobalt target inventory was decreased accordingly. During the Company's year-end procedures at December 31, 2016, an analysis of this inventory was performed and it was determined that future market value of the target inventory exceeded its carrying value; therefore, no inventory write-down was made. At December 31, 2016, the remaining cobalt target inventory had a carrying value of $442,759, and at December 31, 2015, the inventory was valued at $458,852.

Work in process also includes costs to irradiate cobalt-60 material under a contract with the DOE. This material has been placed in the reactor exclusively for purchase by the Company, and at December 31, 2016, the amount of accumulated irradiation charges reported as inventory was $766,080. The Company has contracted with several customers for the purchase of this cobalt-60 material and has collected advance payments for project management, up-front handling and irradiation charges. These payments have been recorded as unearned revenue. The revenue and the costs associated with irradiation will be recognized as the targets are completed and shipped to the customer, which is expected to be in 2018.

NOTE 5 – PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are summarized as follows at December 31, 2016 and 2015:

	2016	2015	Estimated Useful Lives
Furniture and fixtures	$ 126,650	$ 126,194	3 - 5 years
Transportation equipment	122,874	117,726	5 - 10 years
Plant and improvements	463,754	463,754	5 years
Production equipment	3,497,112	3,417,695	5 - 10 years
	4,210,390	4,125,369	
Accumulated depreciation	(2,262,314)	(2,193,106)	
	$ 1,948,076	$ 1,932,263	

Included in fixed assets are assets purchased during the planning phase for the construction of a de-conversion facility in Hobbs, New Mexico. Although construction of the facility is currently on hold, the Company has determined that these assets continue to have future economic value based on what it considers a strong likelihood that construction of the facility will occur in the future.

Depreciation expense was $114,134 and $97,680 for the years ended December 31, 2016 and 2015, respectively.

NOTE 6 – PATENTS AND OTHER INTANGIBLE ASSETS

The Company owns certain patents and patents pending related to a fluorine extraction process and patents for various uses of some fluoride gases as fluorinating agents. These patents were developed in an effort to expand the possible markets for the high purity fluoride gases the Company will produce with its fluorine extraction process. In 2010, the Company was granted an additional process patent on the FEP process and during 2011 the Company started the process to file for international protections of this patent in South Africa, Japan, Russia, China, Canada, and the European Union. During 2012, the Company was granted additional process patents for the FEP process in the United States. In 2013, the FEP process patent was granted in Russia and in 2014 the FEP process patent was granted in South Africa. In 2015, the FEP process patents in China and Japan were abandoned. The applications in the other countries are still in process. At the present time, the final value of this patent technology or the feasibility of expanding the fluoride gas markets through the use of this newly patented technology is uncertain.

In September 2015, the Company obtained approval from the U.S. Patent and Trademark office for the trademark registration of I^3odine/MAX™. The trademark is for sodium iodide (I-131) radiochemical product as solution or capsules for use in the treatment and diagnosis of diseases of the thyroid, thyroid cancer, and hyperthyroidism and for use in investigational and clinical trials for the treatment of breast, lung, prostate, and ovarian cancers. In November 2016, the Company submitted an abbreviated New Drug Application ("aNDA") for I^3odine/MAX™ as a new generic drug product.

In October 2012, the NRC issued the Company a 40-year construction and operating license for the de-conversion facility. Capitalized costs associated with the licensing and planning process for this license are being amortized over the 40-year life of the license.

The following table summarizes the patent and intangible activity for the years ended December 31, 2016 and 2015:

	2016	2015
Beginning	$ 4,897,850	$ 4,901,698
Additions	11,169	22,734
Disposals	-	(26,582)
Ending	4,909,019	4,897,850
Accumulated amortization	(722,724)	(610,002)
	$ 4,186,295	$ 4,287,848

During the year ended December 31, 2016 the Company recognized $112,722 of amortization expense, and during the year ended December 31, 2015, the Company recognized $107,487 of amortization expense, net of accumulated amortization of $6,007, previously recorded for the abandoned patent process mentioned above.

Patent and other intangible asset amortization is based on the remaining life of the asset and estimated amortization expense is as follows:

Years ending December 31,	
2017	$ 112,016
2018	112,016
2019	112,016
2020	112,016
2021	112,016
Thereafter	3,626,215
	$ 4,186,295

NOTE 7 – CONVERTIBLE DEBENTURES AND NOTES PAYABLE

Convertible debentures

In July 2012, the Company entered into a securities purchase agreement with certain institutional and private investors pursuant to which it sold convertible debentures for an aggregate of $3,069,900. The debentures bear interest at 8% per annum payable semi-annually, mature July 2017 and are unsecured. These debentures are convertible at any time into shares of the Company's common stock at an initial conversion price of $0.225 per share, subject to adjustment under certain conditions. Each investor also received a common stock purchase warrant to purchase common stock equal to twenty-five percent (25%) of the shares issuable upon conversion of the debentures. The warrants are immediately exercisable at a price of $0.30 per share and have a term of five years.

In accordance with FASC 470-20, Accounting for Convertible Debt Instruments that may be settled in cash upon conversion, the Company allocated the proceeds to the debentures and warrants based on their relative fair value, which resulted in $2,703,144 being allocated to the debentures and $366,756 being allocated to the warrants. Subsequent to the allocation, the Company calculated a beneficial conversion feature of $25,656. The allocated warrant value and the beneficial conversion feature were recorded as debt discount and will be accreted to interest expense over the five-year life of the debentures. During the periods ended December 31, 2016 and 2015, $73,352 of the allocated fair value of the warrants was accreted to interest expense and $5,131 of the beneficial conversion feature was accreted to interest expense.

In connection with this offering, the Company paid a fee and issued to the placement agent a warrant to purchase 1,091,520 shares of the Company's common stock. The placement warrant had a fair value of $133,285. The value of the placement warrant and the fees are recorded as offering costs and are being amortized to expense over the life of the debentures.

As discussed in Note 15 below, in February 2017, pursuant to a private placement transaction with certain investors, the Company issued 3,433 shares of Series C Preferred Stock and warrants. In connection with the private placement, two investors holding convertible debentures exchanged aggregate principal totaling $205,000 of the convertible debentures for shares of the Series C Preferred Stock and warrants.

In February 2013, the Company entered into a securities purchase agreement with certain private investors pursuant to which it sold convertible debentures for an aggregate of $1,060,000. The debentures accrued interest at a rate of 10% per annum, compounded annually and matured February 2015. On February 20, 2015, according to the terms of the note, principal totaling $1,060,000, plus accrued interest of $222,600, was converted into shares of the Company's common stock. The conversion terms of the note stipulated that the number of shares issued would be based on the lessor of the stated conversion price of $0.14 per share or the average trading price of the Company's stock for the preceding 120 days prior to conversion. The average trading price for the preceding 120 days was $0.04 per share, and therefore 32,065,000 shares were issued to holders of the convertible debentures upon conversion on February 20, 2015. The fair market value of the Company's common stock was $0.15 per share on the date of the agreement. Consequently, the difference between the anticipated conversion price of $0.14 and the closing price of $0.15, multiplied by the number of issuable common shares upon conversion, was recorded as a beneficial conversion feature with an increase to equity and a debt discount in the amount of $75,715. This amount was accreted to interest expense through February 2015. During the year ended December 31, 2015, $5,408 of the beneficial conversion feature was amortized to interest expense.

Notes payable

During April 2013, the Company negotiated with the NRC to convert amounts owing as a trade payable into a long-term note. The Company converted a total of $596,816 to the note payable which is payable in monthly installments of $17,500 and accrues interest at a rate of 1% annually. The note matured February 15, 2016 and was paid in full at that time.

In December 2013, the Company borrowed $500,000 from the Company's Chairman of the Board of Directors (the "Board") and one of the Company's major shareholders. The $500,000 note bears interest at 6% and was originally due June 30, 2014. According to the terms of the note, at any time, the lenders may settle any or all of the principal and accrued interest with shares of the Company's common stock. In connection with the note, each of the two lenders was issued 5,000,000 warrants to purchase shares of the Company's common stock. In June 2014, the Company renegotiated the terms of this promissory note. Pursuant to the modification, the maturity date was extended to December 31, 2017, and each Lender was granted an additional 7,500,000 warrants to purchase shares of the Company's common stock at $0.06 per share. The warrants were immediately exercisable. The fair value of these warrants was $384,428 and was recorded as a debt discount and will be amortized to interest expense over the new life of the promissory note. The Company calculated a beneficial conversion feature of $15,464 which will be accreted to interest expense over the new life of the note. As a result, the Company recorded non-cash interest expense for both 2016 and 2015, in the amount of $117,042. In February 2017, the due date of the note was extended to December 31, 2020, with all other terms of the note remaining unchanged.

In September 2016, the Company borrowed an aggregate of $360,000 from the Company's Chairman of the Board of Directors and one of the Company's Directors. The $360,000 note bears interest at 6%, which is payable upon maturity of the note on March 31, 2017. Per the terms of the note, at any time, the lenders may settle any or all principal and accrued interest with shares of the Company's common stock or other securities of the Company based on the average closing price of the Company's common stock over a 20-day period. The note is secured by all unencumbered assets. In February 2017, in connection with the offering of series C Preferred Stock and warrants descried in Note 15 below, all outstanding principal and accrued interest was converted by the holders into share of the Series C Preferred Stock and warrants.

Notes payable as of December 31, 2016 and 2015 consist of the following:

	2016	2015
Note payable to related parties bearing interest at 6% all principal and interest due on March 31, 2017, secured	$ 360,000	$ -
Note payable to a financial institution bearing interest at Monthly installments of $805, secured	43,132	-
Note payable to the NRC bearing interest at 1% Monthly installments of $17,500, unsecured	-	45,871
Convertible notes payable, net of unamortized debt discount and debt issuance costs of $44,735 and $123,217 at December 31, 2016 and 2015, respectively, bearing interest at 8%, due July 27, 2017	3,025,165	2,946,683
Note payable to related parties net of unamortized debt discount of $107,288 and $224,330 at December 31, 2016 and 2015, respectively, bearing interest at 6% all principal and interest due on December 31, 2020, secured	392,712	275,670
Total notes payable	3,821,009	3,268,224
Less: current maturities	(3,392,118)	(45,871)
Notes payable, net of current installments and debt discount	$ 428,891	$ 3,222,353

Maturities of convertible debt and notes payable, excluding debt discount and debt issuance costs, at December 31, 2016, are as follows:

Years ending December 31,	
2017	$ 3,436,853
2018	7,236
2019	7,236
2020	507,236
2021	7,236
Thereafter	7,234
	$ 3,973,031

NOTE 8 – LEASE OBLIGATIONS

Operating leases

The Company currently leases office space under a ten-year operating lease that expires in 2021. Rental expense under the leases for the years ended December 31, 2016 and 2015 was $136,313 each year.

The following is a schedule by years of the currently held operating lease as of December 31, 2016:

Years ending December 31,	
2017	$ 136,313
2018	136,313
2019	136,313
2020	136,313
2021	45,318
Thereafter	-
	$ 590,570

NOTE 9 – SHAREHOLDERS' EQUITY, REDEEMABLE CONVERTIBLE PREFERRED STOCK, OPTIONS AND WARRANTS

Warrants

As disclosed in Note 7, on July 27, 2012, the Company entered into a securities purchase agreement with certain institutional and private investors. Each investor received a common stock purchase warrant to purchase such number of shares of the Company's common stock equal to twenty-five percent (25%) of the number of shares of common stock that the note purchased by such investor may be convertible into on the closing date. The total possible number of shares of common stock to be issued under the warrants is 4,502,520. The warrants are immediately exercisable at a price of $0.30 per share and have a term of five years.

In December 2013, we entered into a promissory note agreement with our chairman of the Board and one of our major shareholders pursuant to which we borrowed $500,000. The $500,000 note bears interest at 6% and was originally due June 30, 2014. At any time, the lenders may settle any or all of the principal and accrued interest with shares of the Company's common stock. In connection with the note, each of the two lenders was issued 5,000,000 warrants to purchase shares of the Company's common stock at a purchase price of $0.06 per share. In June 2014, we renegotiated the terms of this promissory note. Pursuant to the modification, the maturity date was extended to December 31, 2017, and each Lender was granted an additional 7,500,000 warrants to purchase shares of the Company's common stock at $0.06 per share. The warrants were immediately exercisable.

The following table summarizes warrant activity for the years ended December 31, 2016 and 2015:

Warrants	Outstanding Shares	Weighted Average Exercise Price
Outstanding at December 31, 2014	42,257,951	$ 0.18
Granted	-	-
Exercised	-	-
Forfeited	-	-
Outstanding at December 31, 2015	42,257,951	0.18
Granted	-	-
Exercised	-	-
Forfeited	(14,838,779)	0.38
Outstanding at December 31, 2016	27,419,172	$ 0.08

In July 2015, the Board determined that it was in the best interests of the Company to extend the expiration dates of all outstanding Class H and Class I Warrants to January 31, 2016. Therefore, 1,913,892 Class H warrants, which previously carried an expiration date of August 24, 2015, and 12,924,887 Class I warrants, which previously carried an expiration date of October 24, 2015, were amended to extend the expiration date to January 31, 2016. The Company recorded approximately $884 of additional stock-based compensation expense with respect to this extension. As of January 31, 2016, none of the Class H or Class I Warrants had been exercised and therefore expired.

Mandatorily Redeemable Convertible Preferred Stock

The Company is authorized to issue up to 5,000,000 shares of preferred stock, par value $0.01 per share. The Board is authorized to set the distinguishing characteristics of each series prior to issuance, including the granting of limited or full voting rights, rights to the payment of dividends and amounts payable in event of liquidation, dissolution or winding up of the Company.

At December 31, 2016, there were 850 shares of the Series B Convertible Redeemable Preferred Stock (the "Series B Preferred Stock") outstanding with a mandatory redemption date of May 2022 at $1,000 per share, or $850,000 in aggregate redemption value. The Series B Preferred Stock is convertible into common stock at a conversion price of $2.00 per share. These preferred shares carry no dividend preferences. Due to the mandatory redemption provision, the Series B Preferred Stock has been classified as a liability in the accompanying consolidated balance sheets.

As described in further detail in Note 15 below, on February 17, 2017, the Company issued 3,433 shares of Series C Preferred Stock. The Series C Preferred Stock has a mandatory redemption date of February 17, 2022 at $1,000 per share of Series C Preferred Stock. The Series C Preferred Stock is convertible into common stock at a conversion price of $0.10 per share. The Series C Preferred Stock pay dividends annually at a rate of 6%.

Employee Stock Purchase Plan

In September 2004, the Company's Board approved an employee stock purchase plan for an aggregate of up to 2,000,000 shares of the Company's common stock. The plan allows employees to deduct up to 15% of their salary or wages each pay period to be used for the purchase of common stock at a discounted rate. The common shares will be purchased at the end of each three-month offering period or other period as determined by the Board. The plan is intended to qualify as an "employee stock purchase plan" under Section 423 of the Internal Revenue Code.

During 2016 and 2015, the Company issued 57,654 and 115,102 shares of common stock to employees for proceeds of $3,993 and $3,743, respectively, in accordance with the employee stock purchase plan.

2015 Incentive Plan

In April 2015, the Board approved the International Isotopes Inc. 2015 Incentive Plan (the "2015 Plan",) which was subsequently approved by the Company's shareholders in July 2015. The 2015 Plan provides for the grant of incentive and non-qualified stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares and units, and other stock or cash-based awards. The 2015 Plan amends and restates the Company's Amended and Restated 2006 Equity Incentive Plan (the "2006 Plan").

The 2015 Plan authorizes the issuance of up to 60,000,000 shares of common stock, plus 11,089,967 shares authorized, but not issued under the 2006 Plan. Unless earlier terminated, the 2015 Plan will terminate on July 13, 2025. At December 31, 2016, there were 23,552,680 shares available for issuance under the 2015 Plan.

Non-Vested Stock Grants

Pursuant to an employment agreement with the Company's Chief Executive Officer, the Company issued 280,000 in fully vested shares of common stock in February 2016. The number of shares awarded was based on a $28,000 stock award using a price of $0.10 per share. The agreement states that the number of shares issued was based on the average closing price of common stock for the 20 trading days prior to the issue date but not less than $0.10 per share. Compensation expense recorded pursuant to this stock grant was $25,200, which was determined by multiplying the number of shares awarded by the closing price of common stock on February 29, 2016, which was $0.09 per share. The Company withheld 112,140 shares to satisfy the employee's payroll tax liabilities in connection with this issuance. The net shares issued on February 29, 2016 totaled 167,860 shares.

Pursuant to the employment agreement noted above, the Company issued 280,000 in fully vested shares of common stock in February 2015. The number of shares issued was based on a price of $0.10 per share. The Company withheld 112,140 shares to satisfy payroll tax liabilities in connection with this issuance. The net shares issued on February 27, 2015 totaled 167,860 shares.

Stock Options

A summary of the stock options issued under the Company's equity plans is as follows:

Options	Outstanding Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life	Intrinsic Value
Outstanding at December 31, 2014	27,950,000	$ 0.04		
Granted	-	-		
Exercised	-	-		
Forfeited	-	-		
Outstanding at December 31, 2015	27,950,000	0.04		
Granted	-	-		
Exercised	(4,500,000)	0.04		$ 202,500
Forfeited	(133,333)	0.04		
Outstanding at December 31, 2016	23,316,667	$ 0.06	5.4	$ 1,883,667
Exercisable at December 31, 2016	23,129,167	$ 0.05	5.4	$ 1,874,292

The total intrinsic value of stock options outstanding at December 31, 2016 was $1,883,667. The intrinsic value for stock options outstanding is calculated as the amount by which the quoted price of $0.12 of our common stock as of the end of 2016 exceeds the exercise price of the options.

The Company recognized $49,677 and $138,115 of compensation expense related to these options for the years ended December 31, 2016 and 2015, respectively. At December 31, 2016, the remaining compensation expense was $33 and will be recognized over .049 years.

In June 2016, 500,000 qualified stock options, with an intrinsic value of $22,500, were exercised under a cashless exercise. The Company withheld 218,750 shares to satisfy the exercise price and issued 281,250 shares of common stock.

In August 2016, 4,000,000 non-qualified stock options, with an intrinsic value of $180,000, were exercised under a cashless exercise. The Company withheld 1,750,000 shares to satisfy the exercise price and issued 2,250,000 shares of common stock.

All options exercised were issued under a qualified plan and accordingly, there is no income tax effect in the accompanying financial statements.

NOTE 10 – INCOME TAXES

The Company paid no federal or state income taxes during 2016 and 2015. Income tax benefit on losses differed from the amounts computed by applying the U.S. federal income tax rate of 34% to pretax losses as a result of the following:

	2016	2015
Income tax benefit	$ (618,284)	$ (618,196)
Nondeductible expenses	4,827	93,914
State taxes net of federal benefit	(83,650)	(83,638)
Change in valuation allowance	697,107	607,920
	$ -	$ -

The tax effects of temporary differences that give rise to significant portions of the Company's deferred tax assets (liabilities) as of December 31, 2016 and 2015 are presented below:

	2016	2015
Deferred income tax asset	$ -	$ -
Net operating loss carryforward	12,982,156	12,335,934
Valuation allowance	(12,859,228)	(12,134,860)
Total deferred income tax asset	122,928	201,074
Deferred income tax liability - depreciation	(122,928)	(201,074)
Deferred tax asset (liability)	$ -	$ -

At December 31, 2016, the Company had net operating losses of approximately $33,064,000 that will begin to expire in 2023. The valuation allowances for 2016 and 2015 have been applied to offset the deferred tax assets in recognition of the uncertainty that such benefits will be realized.

In accordance with GAAP, the Company has analyzed its filing positions in all jurisdictions where it is required to file income tax returns for the open tax years in such jurisdictions. The Company currently believes that all significant filing positions are highly certain and that all of its significant income tax filing positions and deductions would be sustained upon audit. Therefore, the Company has no significant reserves for uncertain tax positions, and no adjustment to such reserves was required by GAAP. No interest or penalties have been levied against the Company and none are anticipated, therefore no interest or penalty has been included in the provision for income taxes in the consolidated statements of operations.

The Internal Revenue Code contains provisions which reduce or limit the availability and utilization of net operating loss carry forwards in the event of a more than 50% change in ownership. If such an ownership change occurs with the Company, the use of these net operating losses could be limited.

NOTE 11 – COMMITMENTS AND CONTINGENCIES

Dependence on Third Parties

The production of HSA Cobalt is dependent upon the DOE, and its prime operating contractor, which controls the reactor and laboratory operations at the ATR located outside of Idaho Falls, Idaho. On October 2, 2014, the Company signed a ten-year contract with the DOE for the irradiation of cobalt targets for the production of cobalt-60. The Company will be able to purchase cobalt targets for a fixed price per target and with an annual 5% escalation in price. The contract term is October 1, 2014, through September 30, 2024. However, the DOE may end the contract if it determines termination is necessary for the national defense, security or environmental safety of the U.S. If this were to occur, all payments made by the Company would be refunded.

Nuclear Medicine Reference and Calibration Standard manufacturing is conducted under an exclusive contract with RadQual, which in turn has an agreement in place with several companies for distributing the product. The majority of the radiochemical product sold by the Company is provided through a supply agreement with a single entity. A loss of any of these customers or suppliers could adversely affect operating results by causing a delay in production or a possible loss of sales.

Contingencies

Because all the Company's business segments involve the handling or use of radioactive material, the Company is required to have an operating license from the NRC and specially trained staff to handle these materials. The Company has amended this operating license numerous times to increase the amount of material permitted within the Company's facility. Although this license does not currently restrict the volume of business operation performed or projected to be performed in the upcoming year, additional processing capabilities and license amendments could be implemented that would permit processing of other reactor-produced radioisotopes by the Company. The financial assurance required by the NRC to support this license has been provided for with a surety bond and a restricted money market account, in the amount of $450,631, held with North American Specialty Insurance Company and Merrill Lynch, respectively.

In August 2011, we received land from Lea County, New Mexico, pursuant to a PPA, whereby the land was deeded to us for no monetary consideration. In return, we committed to construct a uranium de-conversion and FEP facility on the land. In order to retain title to the property, we were to begin construction of the de-conversion facility no later than December 31, 2014, and complete Phase I of the project and have hired at least 75 persons to operate the facility no later than December 31, 2015, although commercial operations need not have begun by that date. In 2015 the Company negotiated a modification to the PPA agreement that extended the start of construction date to December 31, 2015, and the hiring milestone to December 31, 2016. Those dates were not met and the Company is currently in the process of renegotiating a second modification to the agreement to further extend those dates. If we do not succeed in reaching an amendment to extend the performance dates in the agreement then we may, at our sole option, either purchase or re-convey the property to Lea County, New Mexico. The purchase price of the property would be $776,078, plus interest at the annual rate of 5.25% from the date of the closing to the date of payment. We have not recorded the value of this property as an asset and will not do so until such time that sufficient progress on the project has been made to meet our obligations under the agreements for permanent transfer of the title.

On March 8, 2016, the Company delivered a Demand for Arbitration letter to Alpha Omega Services (AOS) of Bellflower, California. The demand letter requested arbitration before the American Arbitration Association seeking the recovery of a cash deposit made to AOS for the purchase of a shipping container plus additional amounts for lost revenue as a result of not owning the container. The demand was for approximately $918,000 plus attorneys' fees and costs. AOS subsequently responded to the demand letter with a counter-demand denying the Company's claims and requesting $2,000,000, plus attorney's fees. The Company has subsequently requested additional damages in the amount of $863,806 bringing the total claim for refund and damages to $1,673,241. Both parties will proceed to an arbitration hearing which is expected to take place in March and April 2017. At this time, it is not possible to predict the outcome of this matter and there is no assurance that the Company will be successful in recovering damages from its claim or defending the counter claims.

Defined Contribution Pension Plan

The Company has a 401(k) defined-contribution pension plan (the "401(k) Plan"). Employees are eligible to participate in the Plan after completing six months of full-time service. Participants, under provision of Internal Revenue Code § 401(k), may elect to contribute up to $18,000 of their compensation to the 401(k) Plan which includes both before-tax and Roth after-tax contribution options. Although the Company reserves the right to make discretionary matching contributions to participant accounts, there were no employer matching contributions made for either 2016 or 2015. All amounts withheld for employee contributions for 2016 were paid into the 401(k) Plan. The employer reserves the right to terminate the 401(k) Plan at any time.

NOTE 12 – ASSET RETIREMENT OBLIGATION

As part of the Company's NRC operating license and as part of the Company's facility lease agreements, the Company is responsible for decommissioning any facilities upon termination or relocation of operations. The Company has developed a decommissioning funding plan using guidelines provided by the NRC and has estimated the cost of decommissioning the facility in Idaho Falls. The decommissioning cost estimate is reviewed at least annually to validate the assumptions and is revised as necessary when changes in the facility processes or radiological characteristics would affect the cost of decommissioning.

In accordance with GAAP, the Company has recognized future estimated decommissioning costs as an asset retirement obligation and a related capitalized lease disposal cost. The Company has recognized period-to-period changes in the liability (accretion) in the statement of operations as amortization expense. Changes resulting from revisions to the original estimate are recorded as an increase or decrease to the capitalized lease disposal cost. Capitalized lease disposal cost is amortized on a straight-line basis over the remaining life of the facility operating lease agreement.

The following summarizes the activity of the asset retirement obligation for the years ended December 31, 2016 and 2015:

	Obligation for Lease Disposal Cost
Balance at December 31, 2014	$ 450,630
Increase in lease disposal costs	-
Accretion expense / amortization expense	9,081
Balance at December 31, 2015	459,711
Increase in lease disposal costs	-
Accretion expense / amortization expense	9,263
Balance at December 31, 2016	$ 468,974

NOTE 13 – FAIR VALUE MEASUREMENTS

At December 31, 2016 and 2015, the Company had no assets carried at fair value.

NOTE 14 – SEGMENT INFORMATION

Information related to the Company's reportable operating business segments is shown below. The Company's reportable segments are reported in a manner consistent with the way management evaluates the businesses. The Company identifies its reportable business segments based on differences in products and services. The accounting policies of the business segments are the same as those described in the summary of significant accounting policies. The Company has identified the following business segments:

- The Nuclear Medicine Standards segment consists of the manufacture of sources and standards associated with Single Photon Emission Computed Tomography imaging, patient positioning, and calibration or operational testing of dose measuring equipment for the nuclear pharmacy industry and includes consolidated reporting of TI Services, the Company's 50/50 joint venture with RadQual.

- The Cobalt Products segment includes management of a cobalt irradiation contract, fabrication of cobalt capsules for teletherapy or irradiation devices, and recycling of expended cobalt sources.

- The Radiochemical Products segment includes production and distribution of various isotopically pure radiochemicals for medical, industrial, or research applications. These products are either directly produced by the Company or are purchased in bulk from other producers and distributed by the Company in customized packages and chemical forms tailored to customer and market demands. Iodine-131 is the predominant radiochemical sold in this segment and an abbreviated new Drug Application (aNDA) has been submitted to the U.S. Food and Drug Administration to market this as a generic drug product upon approval.

- The Fluorine Products segment historically involved the production of small scale qualification samples of high purity fluoride gas for various industrial applications, as well as development of laboratory and analytical processes required to support the planned uranium de-conversion and fluorine extraction facility. During 2013, these testing activities were completed and the pilot plant facility was closed. The Company has developed or acquired all patent rights to these processes. Future work in this segment will involve license support and, as financing permits, further work related to the de-conversion facility.

- The Radiological Services segment concerns a wide array of miscellaneous services that consists of gemstone processing and field services that include source installation, removal, and radiation device decommissioning.

- The Transportation segment provides transportation services for the Company's products and offers "for hire" transportation services of hazardous and non-hazardous cargo materials.

The following presents certain segment information as of and for the years ended December 31, 2016 and 2015:

Sale of product	2016	2015
Radiochemical products	$ 1,708,120	$ 1,698,475
Cobalt products	859,034	929,970
Nuclear medicine standards	3,093,295	3,135,094
Radiological services	769,702	1,181,957
Fluorine products	-	-
Transportation	121,998	116,700
Total segments	6,552,149	7,062,196
Corporate revenue	-	-
Total consolidated	$ 6,552,149	$ 7,062,196

Depreciation and amortization	2016	2015
Radiochemical products	$ 6,995	$ 6,913
Cobalt products	43,802	41,617
Nuclear medicine standards	12,888	15,818
Radiological services	34,019	25,588
Fluorine products	112,053	110,692
Transportation	10,429	4,442
Total segments	220,186	205,070
Corporate depreciation and amortization	6,670	6,104
Total consolidated	$ 226,856	$ 211,174

Segment income (loss)	2016	2015
Radiochemical products	$ 355,448	$ 336,662
Cobalt products	472,890	344,073
Nuclear medicine standards	680,004	483,169
Radiological services	371,228	568,192
Fluorine products	(378,705)	(356,492)
Transportation	(34,374)	(26,773)
Total segments	1,466,491	1,348,831
Corporate loss	(3,345,603)	(3,167,056)
Total consolidated	$ (1,879,112)	$ (1,818,225)

Expenditures for segment assets	2016	2015
Radiochemical products	$ -	$ 2,331
Cobalt products	-	4,578
Nuclear medicine standards	12,682	26,817
Radiological services	56,677	24,642
Fluorine products	11,170	20,403
Transportation	53,631	-
Total segments	134,160	78,771
Corporate purchases	6,956	14,056
Total consolidated	$ 141,116	$ 92,827

Segment assets	2016	2015
Radiochemical products	$ 267,920	$ 212,988
Cobalt products	1,414,240	934,781
Nuclear medicine standards	502,361	626,615
Radiological services	171,354	502,445
Fluorine products	5,801,627	5,904,150
Transportation	49,706	1,642
Total segments	8,207,208	8,182,621
Corporate assets	3,172,057	3,060,606
Total consolidated	$ 11,379,265	$ 11,243,227

NOTE 15 – SUBSEQUENT EVENTS

On February 17, 2017, the Company issued 3,433 shares of Series C Preferred Stock in a private placement transaction. The Series C Preferred Stock pays dividends at a rate of 6% per annum, payable annually on February 17 of each year, commencing on February 17, 2018. The Series C Preferred Stock are convertible at the option of the holders at any time into shares of the Company's common stock at an initial conversion price equal to $0.10 per share, subject to certain adjustments. At any time after February 17, 2019, if the volume-weighted average closing price of the Company's common stock over a period of 90 consecutive trading days is greater than $0.25 per share, the Company may redeem all or any portion of the outstanding Series C Preferred Stock at the original purchase price per share plus any accrued and unpaid dividends, payable in shares of common stock. All outstanding shares of Series C Preferred Stock will be redeemed by the Company on February 17, 2022 at the original purchase price per share, payable in cash or shares of common stock, at the option of the holder. Holders of the Series C Preferred Stock do not have any voting rights, except as required by law and in connection with certain events. Due to the mandatory redemption provision, the Series C Preferred Stock will be classified as a liability in the Company's balance sheets.

In connection with the issuance of the Series C Preferred Stock, each investor also received 5,000 common stock purchase warrants for every share of Series C Preferred Stock received in the private placement. A total of 17,165,000 Class M Warrants were issued and are immediately exercisable at a price of $0.12 per share and have a term of 5 years.

Pursuant to an employment agreement with the Company's Chief Executive Officer, the Company issued 350,000 shares of fully-vested Company stock in February 2017. The number of shares awarded was based on a $28,000 stock award using a price of $0.08 per share. The original agreement stated that the number of shares issued would be based on the average closing price of common stock for the 20 trading days prior to issue date but not less than $0.10 per share. In October 2016, the employment agreement was modified to state that the number of shares issued will be based on the average closing price of common stock for the 20 trading days prior to issue date but not less than $0.05 per share. Compensation expense recorded pursuant to this transaction was $28,000, which was determined by multiplying the number of shares awarded by the average closing price of the stock for the preceding 20 trading days, which was $0.08 per share. The Company withheld 140,175 shares to satisfy the employee's payroll tax liabilities in connection with this issuance. The net shares issued on February 28, 2017 totaled 209,825 shares.

On March 24, 2017, the Company entered into an Amendment to 8% Convertible Notes (the "Amendment") with Euro Pacific Capital, Inc., pursuant to which the 8% Convertible Notes issued by the Company in July 2012 (the "Notes") were amended to give noteholders certain additional rights.

Pursuant to the Amendment, the Notes were modified to provide each holder the right, at the holder's option and exercisable prior to May 12, 2017, to convert all or any portion of the principal amount of the Notes, plus accrued but unpaid interest, into shares of the Company's Series C Convertible Redeemable Preferred Stock (the "Series C Preferred Stock") at a conversion price of $1,000 per share of Series C Preferred Stock. Holders that elect to convert their Notes into Series C Preferred Stock will also receive a warrant to purchase up to 3,750 shares of the Company's common stock for each share of Series C Preferred Stock received upon conversion of the Notes, with each warrant having a 5-year term, a cashless exercise feature, and an exercise price of $0.10 per share of common stock.

In addition, the Notes were amended to give each holder of the Notes the right, at the holder's option, to have the Company redeem part or all of the outstanding Notes for cash in an amount equal to 100% of the principal amount of the Notes redeemed and all accrued but unpaid interest as of the redemption date.