INTERNATIONAL ISOTOPES INC
Form 10-K
March 31, 2011

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 20549

FORM 10-K

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE

SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2010

OR

o 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 of incorporation)

(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(g) of the Exchange 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 o NO x

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

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 x NO o

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 o NO o

Indicate by check mark if disclosure of delinquent filers in response to Item 405 of Regulation S-K 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. o

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 o

Accelerated filer o

Non-accelerated filer o

Smaller reporting company x

(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 Exchange Act).
YES o NO x

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to be the average bid and asked price of such common equity at June 30, 2010 was $52,342,657.

As of March 23, 2011 the number of shares outstanding of common stock, $.01 par value was 323,232,868 shares, which include 370,917 shares of unvested common stock grants.

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 definitive proxy statement for the annual meeting of shareholders of the Company, which will be filed with the Securities and Exchange Commission not later than 120 days after the registrant s fiscal year ended December 31, 2010.

INTERNATIONAL ISOTOPES INC.

FORM 10-K

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PART I

This Annual Report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. This Act provides a "safe harbor" for forward-looking statements to encourage companies to provide prospective information about themselves so long as they identify these statements as forward-looking and provide meaningful cautionary statements identifying important factors that could cause actual results to differ from the projected results. 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 commercial opportunity of the depleted uranium and fluorine extraction processing facility, the expected rate of capital expenditure on the depleted uranium project, the estimated capital required to support the planned timeline for the project, the planned start of uranium facility pre-licensing construction, NRC estimates of the schedule for license review and approval, the expected growth in various 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 and retail sales of gemstone, the anticipated availability of new transportation containers, 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 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. 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. The company does 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 factors set forth in reports that the company files from time to time with the Securities and Exchange Commission.

Item 1. BUSINESS

General Business and Products Description

International Isotopes Inc., was formed as a Texas corporation in 1995. Its 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 headquarters and all operations are located within two facilities in Idaho Falls, Idaho. Our core business consists of six reportable segments which include: Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation.

Beginning in 2004, we began a major undertaking to construct the first commercial uranium de-conversion facility in the U.S. There are three reasons for our belief that this will provide an excellent commercial opportunity for the Company. First, there is a significant effort underway by several companies to construct new domestic uranium enrichment facilities in the U.S., including AREVA Inc. (AREVA) and its planned Eagle Rock Facility in Idaho Falls, ID, URENCO USA (UUSA) (formerly known as Louisiana Energy Services or LES) and its Eunice New Mexico facility, United States Enrichment Corp. s (USEC) American Centrifuge project in Piketon, OH., and GE-Hitachi using a Silex laser separation technology in Wilmington, NC. We anticipate that the operation of these new commercial enrichment facilities will produce over 80 million pounds of depleted uranium hexafluoride (UF_6) annually by 2018 that must eventually be processed for disposal. Second, we have completed a contract with UUSA to provide de-conversion services to that Company which obligates UUSA to provide depleted uranium amounting to about 70% of our initial plant planned capacity. And third, we hold patents that give us exclusive rights for the Fluorine Extraction Process (FEP), a process that allows us to extract high value, high purity fluoride gasses in conjunction with the uranium de-conversion process.

In prior years we have made significant progress on the project and during 2010 we made additional significant accomplishments to continue to advance the project and business plan. During 2010 we have:

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Completed a de-conversion services agreement with UUSA that will require them to pay the company to de-convert material at a rate equaling approximately 70% of our initial plant capacity.

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We were granted a new patent on the FEP process that will provide broad patent protection of the FEP process and allow us to expand our protection of this intellectual property into several significant countries.

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Completed an agreement with the U.S. Department of Energy (DOE) to acquire approximately 4 million pounds of depleted uranium tetrafluoride (UF_4) material that could be used to supplement depleted uranium from de-conversion and provide an excess for fluorine extraction.

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Completed an agreement with the Rocky Mountain Waste Compact for import and export of depleted uranium into the region for processing without additional permitting or additional fees required.

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Completed parts 1 and 2 of a DOE loan request under the Renewable Energy Program that could support a large percentage of the financing of the project on a debt basis.

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Completed a more detailed design package for the project that has allowed us to solicit and make preliminary selection of the design and build contractor for the project.

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Made significant progress on the Nuclear Regulatory Commission (NRC) licensing for the project that included successfully conducting two public meetings and receiving formal requests for additional information from the NRC.

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Completed project participation agreement for the transfer of the property from the State of New Mexico to Lea County and then to our company. Also put in place a self funded $75 million dollar Industrial Revenue Bond for tax savings on certain construction items for the project.

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Completed environmental assessments on the proposed property including all soils and vegetation sampling and endangered species evaluations.

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Successfully converted the Idaho pilot scale Fluorine Extraction Processing (FEP) facility for production testing of boron trifluoride, the largest volume commercial fluoride product planned for the new facility.

While our progress in 2010 was significant, a substantial amount of work and additional capital will be required in order to complete this facility. The total estimated cost for the project is projected to be approximately $125 million. During 2010, we were able to raise more than $8.9 million through the sale of convertible securities and stock. During 2010 we spent approximately $5.6 million on the project. During 2011, we intend to control the rate of capital expenditure on the project and address our highest priority which is to compensate the NRC for its license review activities. We anticipate expanding the engineering efforts to begin more formal design and construction planning but will control the rate of growth in spending to be in line with the additional capital we raise for the project. It is possible that some limited pre-licensing construction can be started in 2011, pending NRC approval. However, the majority of facility construction cannot begin until after receipt of the NRC license and NRC s completion of an Environmental Impact Statement (EIS) on the project. The NRC estimates these license actions will be complete by January 2012. The construction of the facility is expected to take about a year, therefore, facility operation and revenue generation will not start until 2013 at the earliest.

While the commercial uranium de-conversion business presents a significant opportunity for us, that opportunity will not change our commitment to our current core business segments. Over the course of the past several years we have continued to invest in these segments and work to reduce production costs and expand sales in each of these segments. The following paragraphs provide a brief description of each of these 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 44 and is incorporated by reference herein.

Nuclear Medicine Standards

This segment consists of the manufacture of sources and standards associated with SPECT (Single Photon Emission Computed Tomography), patient positioning, and calibration or operational testing of dose measuring equipment for the nuclear pharmacy industry. These items include flood sources, dose calibrators, rod sources, flexible and rigid rulers, spot markers, pen point markers, and a host of specialty design items. We manufacture these products for RadQual LLC, through an exclusive manufacturing agreement. The agreement states 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 are precluded from competing with RadQual in the nuclear medicine market. For this reason, we have worked to expand revenues from other segments to decrease our risk of dependency on one specific customer. The initial term of the agreement with RadQual expired on December 31, 2008, but automatically renewed on January1, 2009 and will continue to automatically renew each January 1st thereafter unless otherwise terminated by either party. RadQual has numerous distributors for direct sales of its products.

There are over 5,000 nuclear medicine centers around the country that require these types of products on a regular repeat basis. We have been manufacturing these products for RadQual since 2001, and in 2007 and 2008, we acquired shares in RadQual totaling 24.5% of that company. The majority of these sales are to U.S. customers, however, recent years have seen an increase in foreign sales of many products. All of these products contain radioactive isotopes which 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. Useful life varies from isotope to isotope and product to product but in most cases averages 18 months to 2 years. The isotopes used in manufacturing these nuclear medicine products are available from various sources world-wide. In addition to the products themselves, we have developed a complete line of specialty packaging for the safe transport and handling of these products.

On December 15, 2010, we formed a 50/50 joint venture, TI Services LLC, with RadQual, and acquired the assets of Technology Imaging Services Inc. (TIS). TIS was a major distributor of products and services for nuclear medicine, nuclear cardiology, and PET imaging. We believe this joint venture will provide growth opportunities in existing and future product lines both domestically and internationally.

Cobalt Products

This segment includes the production of bulk cobalt (cobalt-60), fabrication of cobalt capsules for teletherapy or irradiation devices, and recycling of expended cobalt sources. We are the only production source in the U.S. for the

type of high activity cobalt used in most teletherapy sources. The sale of bulk cobalt has typically accounted for a large percentage of the total revenue from this business segment and because those sales run in a non-annual cycle there are large variations in revenues for this segment in financial period comparisons. We depend on the Department of Energy (DOE) and its prime-operating contractor to produce cobalt-60 for us and we anticipate that its irradiation services will continue to be readily available to us. We have a contract with our sole bulk cobalt customer which expires April 2014. The contract states a minimum purchase of material each year (yearly periods are each April 1 March 31), and any shortages in annual purchases will be invoiced to the customer. The year-over-year demand for bulk cobalt, and our ability to supply it, remains steady and we have continued to see a robust growth in the sales of other cobalt manufactured products such as sealed sources. We anticipate that Cobalt sales will be one of our strongest growth segments in the coming years primarily driven by increases in sales of cobalt sources for use as teletheraphy sources in Mexico and South American countries where such sources are still considered the technology of choice. 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. A major reason for our establishment of a Transportation Service segment was to support the delivery of these cobalt products.

Radiochemical Products

This segment includes production and distribution of various isotopically pure radiochemicals for medical, industrial, or 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 requirements. Iodine-131 radiochemical by far accounts for the largest portion of revenue within this segment. The iodine-131 is supplied 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, we have entered into a three-year agreement with NTP dated August 1, 2010 for the supply of iodine-131, that allows us to purchase iodine at a mutually agreeable pre-determined price. Either party may terminate the Agreement by giving three months notice prior to the expiration of the term.

After our receipt, the iodine-131 is measured and prepared per individual radiopharmacy specifications and packaged for customer use. The iodine-131 is used in the treatment and diagnosis of various diseases of the thyroid such as Graves disease, thyroid cancer, and hyperthyroidism. There are also several investigational and clinical trials underway to explore the use of iodine-131 for such things as the treatment of breast, lung, prostate, and ovarian cancers. Other less significant sales in this segment consist of bulk radioisotope sales of isotopes such as Cobalt-57 (Co-57), Cesium-137 (Cs-137), Sodium-22 (Na-22), and Barium-133 (Ba-133).

Fluorine Products

We established the fluorine products business segment in 2004 to support production and sale of the gases produced using our Fluorine Extraction Process (FEP). 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, boron, or germanium. We acquired seven patents for the Fluorine Extraction Process in January 2004. High purity fluoride gases are in ever-increasing 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. During 2010, our Idaho FEP facility was not used for commercial gas production but instead focused upon development of laboratory analytical processes required to support our planned uranium de-conversion facility. Additionally, in 2010, our Idaho FEP facility was converted from the production of germanium tetrafluoride to boron trifluoride gas. We expect that Boron trifluoride will be the principal fluoride gas produced, by volume, in our planned uranium de-conversion facility. We plan to use our Idaho pilot facility to carry out additional testing of key components required for the uranium de-conversion and FEP facility in New Mexico. No revenue is expected to be produced in the fluorine products segment during 2011.

Radiological Services

This segment includes a wide variety of miscellaneous services, the largest of which is processing gemstones that have undergone irradiation for color enhancement. We have an exclusive contract with one customer, Quali-Tech, Inc., for gemstone processing and this contract accounts for most of our sales in this segment. This contract is dated May 2004 and 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. The contract states that we shall act as the exclusive processor of gemstones for

Quali-Tech, Inc., for the term of the contract and two years beyond. Should we lose this customer, our sales in this segment would be negatively impacted. During 2007, we obtained an additional license from the Nuclear Regulatory Commission (NRC) for exempt distribution of gemstones and we are now one of only three companies in the U.S. licensed for this activity. Other services in this segment consist of radiological engineering consultant services, contract shipping services for large quantities of radioactive materials, research and development activities, and Type A package certification testing.

Transportation

This segment was established in 2006, through our subsidiary, International Isotopes Transportation Services (IITS). IITS was established to provide for 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 determination of the need to establish this subsidiary and business segment was the many 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 by providing transportation of products for other companies. It is anticipated that this segment will also provide some of the transportation services for our planned de-conversion facility.

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 some 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. This 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 products for RadQual LLC, which in turn has several distributors who make direct sales around the U.S. We directly ship these products to all 50 states and several 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. Historically, we have seen a relatively constant annual growth rate of approximately 5% to 10% in this business segment. However, during 2010, revenue in this business segment declined by approximately 2% and is believed to be the result of the nationwide recession, significant cuts in medical insurance reimbursement, and new laws affecting outpatient imaging. As a result, marginally profitable imaging clinics are closing, fewer new imaging clinics are opening, and customers are stretching the useful life of their sources beyond time intervals seen in the past. We do not expect these adverse economic impacts to continue into 2011 based on recent sales volume. We are also taking steps to implement an ISO-9000 quality program that will allow us to start selling these products into several foreign countries that require this additional quality certification for manufacturers. We have also formed TI Services LLC a new joint venture with RadQual LLC, that is expected to be a major distributor of products in the field of nuclear medicine and nuclear cardiology. By expanding into these new markets, we hope to be able to increase revenue within this business segment in 2011.

Cobalt Products

We sell high activity bulk cobalt to a customer that uses it to fabricate sealed sources for the Elekta Gamma Knife unit. The gamma knife is a device used for the precise radiation treatment of certain tumors and vascular deformities of the brain. There are over 100 treatment centers around the U.S. that are using the gamma knife and through 2010 it is estimated that approximately 225,000 patients have been successfully treated with this device. We also accept old gamma knife sources for recycling when they have decayed past their useful activity. This recycled cobalt can be combined with more bulk cobalt and incorporated into new sealed sources for teletherapy devices and irradiators. These teletherapy sources are used to provide external beam radiation therapy treatment for numerous types of cancers. While there are other technologies available in the U.S. to provide this external radiation therapy, cobalt teletherapy sources remains the predominant external radiation treatment method in Mexico and many South American countries. There are no other producers of cobalt in the U.S.; however, there are at least three significant producers in other parts of the world. There is only one other company in the U.S. currently licensed to handle large quantities of cobalt. Increased regulation by the NRC in recent years has created a significant barrier to any new entrants to this market. Current economic conditions in the world could cause a decline in the sales of sealed sources into third world countries on some continents such as South America. Nonetheless, we expect our growing market

share and the advent of a new transportation container in 2010, will compensate for these challenging economic conditions.

Radiochemical Products

We typically supply radioisotope 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 for FDA approved therapy or imaging. We are the only U.S. company supplying iodine-131 radiochemical directly to radiopharmacies. Our radiochemical sales compete directly against not only other radiochemical suppliers but also against pharmaceutical grade kits and products that are mass produced by Food and Drug Administration (FDA) approved pharmaceutical manufacturers. Continuation of business in this segment is highly dependent upon maintaining low cost. While the annual growth in sales of these products has been growing in the range of 20-25%, there was some indication near the end of 2009, and continuing into 2010, that economic conditions and other market factors were having an adverse impact on iodine-131 sales. We believe sales have declined because of some consolidation taking place within the pharmaceutical sector and delayed or canceled diagnostic procedures resulting from increased unemployment and general financial uneasiness. We expect the rebound in economic conditions and increased demand for this isotope in some new clinical applications will bolster sales in 2011.

Fluorine Products

We are developing our fluorine products segment 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. We believe the results of our marketing study and discussions with prospective customers support the business model we seek to pursue and adequately justify the financial investment in this uranium de-conversion project. During 2011, our existing Idaho FEP facility will likely be used for testing individual components and analytical processes required for the planned uranium de-conversion facility in New Mexico. Therefore, the fluorine products segment is not projected to generate any revenue until the full commercial facility comes on line in 2013.

Radiological Services

Most of our radiological services are performed in support of gemstone processing for Quali-Tech, Inc. There are very few companies in the U.S. that possess the mix of qualifications and licensing necessary to provide this type of service. In the U.S., for example, there is only a single reactor capable of providing irradiation services for gemstone processing. On a global scale, however, the gemstone industry is a highly competitive industry and there are several alternatives to irradiation treatment. There are also other reactors located outside the U.S. that offer irradiation service. In the current economic market, sales of luxury items such as jewelry, have declined significantly. As a result of these market factors, revenue from this segment fell far below historic levels. We expect that economic conditions will improve which should result in improved retail sales of gemstones in 2011 and we expect revenue in this segment to return to historic levels in 2011.

Transportation

Our transportation subsidiary, International Isotopes Transportation Services, Inc. (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 quantity cobalt shipments. These types of shipments are under a significant amount of increased new regulation and enhanced security requirements and IITS is well suited to meeting these requirements while significantly reducing the costs of transport to us. IITS has specially trained drivers and equipped vehicles intended to meet the new 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. We also continue to work with Alpha Omega Services (AOS) on its development of a new family of Type B shipping containers, which will be used to transport hazardous materials. We have contracted with AOS to act as its exclusive worldwide distributor for these containers that are intended to replace a significant number of containers that have lost their regulatory approval for use in the U.S. There are very few alternatives for other type B packages in the U.S. and we feel that the distributor arrangement should provide significant financial opportunities for additional revenues through sales and leases of these containers in the coming years. These containers have been undergoing development for several years and are not yet approved by the U.S. Nuclear Regulatory Commission. While NRC approval is expected during 2011, there can be no guarantee of their approval and commercial value.

Government Regulation

Licensing

We have obtained two broad scope materials licenses from the Nuclear Regulatory Commission (NRC) that permit use and possession of by-product material, as well as licenses that permit the exempt distribution of irradiated gemstones, import and export of certain radioactive materials, and our Type B shipments of radioactive materials. One broad scope material 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, and various research and development activities. The second broad scope materials license specifically covers FEP production and our subsidiary, International Isotopes Fluorine Products Inc. This license is specific to the handling of fairly large quantities of depleted uranium in various chemical forms. The exempt distribution license permits the direct release of irradiated gemstones into the U.S. without export. All of our existing licenses and permits are adequate to allow current business operations. 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 an actual cash reserve, in the form of a certificate of deposit and irrevocable letter of credit to the NRC, to support our estimated decommissioning and disposal costs for our facilities. We do not handle special nuclear materials (i.e. nuclear fuels and weapons grade uranium, thorium and plutonium). Therefore, our facility is not designated as a nuclear facility that would require additional licensing.

In December 2009, we submitted a license application to the NRC, including an Environmental Report and Integrated Safety Analysis Summary, to possess and use source and by-product material at the proposed depleted uranium de-conversion and FEP production facility to be operated by International Isotopes Fluorine Products, Inc. (IIFP) facility. The IIFP facility, which is to be located in Lea County, New Mexico, is proposed to de-convert approximately 8 million pounds of depleted uranium hexafluoride (DUF_6) annually into fluoride products and depleted uranium oxides (DUO). The NRC has completed an acceptance review of the application and has determined the application to be acceptable for formal review. During 2010, the NRC completed its technical review and has submitted its formal request for additional information to the Company. We are preparing formal responses to the NRC s requests for additional information and based upon the NRC s currently projected administrative and technical review schedules, the NRC anticipates completing the license review and issuing its Safety Evaluation Report and Environmental Impact Statement documents by approximately January of 2012; however, this date could change depending on NRC budget and resource constraints, additional findings of the NRC s technical review, or other factors. This license application does not require the NRC to conduct a mandatory hearing, but a notice of opportunity for stakeholders to request a hearing was published in the Federal Register and no member of the public requested such a hearing by the deadline request date. We may also submit an additional request to the NRC in 2011 for limited pre-license construction activities at the planned facility site location. If approved by the NRC, this pre-license construction would be limited to certain non-process items such as roads, warehouses, and administration buildings and could take place prior to the issuance of the main facility license. The timing of any pre-license construction request and activity is also subject to the Company s ability to raise capital for the project.

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 Policy Act of 1980, 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.

Other Regulations

We are registered as a medical device manufacturer through the Food and Drug Administration (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. Registration of any of our radiochemicals into a Drug Master File (DMF) could subject us to the additional regulations of the Food and Drug Administration (FDA).

Employees

As of December 31, 2010 we had 25 full-time employees and 1 part-time employee.

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 invoke certain special transportation requirements, we use our IITS transportation subsidiary. The creation of the IITS subsidiary has produced additional revenue in for-hire operations and decreased costs by transporting our own products more cost effectively than other commercial carriers.

Dependence on Customers

During 2010, one major customer accounted for 54% of our total gross revenue. This total includes both sales under an exclusive sales agreement with that customer and its sales as a distributor of our products. We do not consider the Company dependent upon the sales this customer makes as a distributor because we have the option of terminating the distributor relationship and assuming direct sales of the product. Sales under exclusive contract with this customer represent, 29%, 29%, and 33% of our total gross revenues for the years ended December 31, 2010, 2009 and 2008, respectively. Combined sales, on which we are dependent, to our three largest customers accounted for 52% of our total gross revenues in 2010. Comparative sales to our top three customers accounted for 51% of gross revenue in 2009 and 50% in 2008. 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.

Patents, Trademarks, Licenses, Royalty Agreements, etc.

During the year ended December 31, 2004, we obtained certain patents related to the Fluorine Extraction Process. In July 2010 the Company was granted a new patent on the fluorine extraction process and is in the process of seeking international protection on this intellectual property. These patents will be important to our future plans to build upon FEP production capacity including our planned construction of the first commercial depleted uranium de-conversion and fluorine extraction facility in the U.S. The Company believes this will provide a commercial opportunity because there are several companies constructing, or planning to construct, new uranium enrichment facilities in the U.S.

Research and Development

We had research and development expenses totaling $5,230,564 in 2010, compared with $2,609,834 in 2009. These expenses were primarily all associated with engineering, design, production testing, and licensing activities for our planned uranium processing and fluorine extraction processing facility.

In 2010, we expensed all costs related to the continued development of the uranium de-conversion facility project as Research and Development expenses. These expenses included all Idaho FEP facility operations as well as facility design, product market development, and NRC license application review costs. We expect to continue to expend significant resources on this project for several years as the project total cost is expected to be approximately $125 million over the course of the next several years.

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 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 Securities and Exchange Commission. Information on our website is not incorporated by reference into this report or other reports filed with the Securities and Exchange Commission.

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 Proposed De-Conversion and FEP Produced Fluoride Gas Business

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 and obtain the additional financing necessary for such construction;

obtain the necessary regulatory approvals;

secure additional agreements to provide de-conversion services, on acceptable terms, pursuant to which we would obtain the depleted UF_6 necessary for de-conversion and produce depleted UF_4 for FEP operations;

produce commercially economic volumes of high purity fluoride gas using FEP;

secure customers for our fluoride gas products, on acceptable terms;

effectively manage this new business and its operations;

successfully establish and maintain our intended low-cost structure;

successfully obtain disposal services for our depleted uranium waste stream; and

successfully address the other risks described throughout this annual report on Form 10-K.

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

We will need to raise additional funds to complete the construction of our de-conversion FEP facility. We need to raise approximately $125 million additional funds to complete the design, license and construction of a de-conversion facility with a production scale FEP operation. There is no guarantee that we will be able to raise the additional capital required to complete the facility on acceptable terms, or at all. The recent Japan nuclear crises may adversely impact our ability to raise such additional capital. 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 expense will not be incurred and additional funding required to complete the project.

Demand for nuclear power may be affected by the Japanese nuclear crises. On March 11, 2011, Japan experienced an 8.9 magnitude earthquake, followed by a related tsunami and other events. These events caused damage to nuclear power plants in Japan, leading to a nuclear crisis in the areas surrounding the affected power plants. Elevated safety concerns resulting from the nuclear crisis in Japan could lead to a reduced demand for new nuclear power plants throughout the world which could adversely impact investor interest in the nuclear industry and our ability to raise additional capital to complete our planned depleted uranium de-conversion FEP facility.

We may be unsuccessful in obtaining a loan from the DOE to complete construction of our de-conversion and FEP facility. We have submitted an application to the DOE Loan Guarantee Office for a loan for the construction of our de-conversion and FEP facility. The DOE loan program provides low cost loans for up to 80% of the capital cost of qualifying projects in the fields of energy and energy efficiency. There can be no guarantee that the DOE will determine our project to be a qualifying project or that the DOE will award us a loan. If the loan application is unsuccessful, we will have to raise the balance of the funds required for the planned facility through additional equity or debt financing. There can be no assurance that we will be able to secure additional equity or debt financing on acceptable terms, or at all, if the DOE loan is not available.

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. We plan to build a de-conversion and FEP production plant, in part, to process the anticipated UF_6 by-product from certain enrichment facilities being planned by several companies, including USEC, LES, AREVA and GE-Hitachi Nuclear Energy's Global Laser Enrichment. If these anticipated enrichment facilities are not completed, we may not have sufficient demand for our de-conversion services to realize the expected economic benefit from our planned de-conversion and FEP production plant.

We currently have only one contract to provide de-conversion services to an enrichment firm. We currently have only one effective de-conversion services agreement, such agreement being with LES. The agreement is conditional upon, among other things, each party obtaining necessary third party and government approvals, LES obtaining the approval of the NRC to the amendment of a provision in LES's materials license that prohibits shipments of depleted uranium to de-conversion facilities employing anhydrous hydrofluoric acid in the de-conversion process, and our meeting certain performance milestones in the construction and start-up of the planned facility. The initial term of the agreement extends for a period sufficient to cover five years of de-conversion services once our planned uranium de-conversion facility is operational, based on operations starting no later than January 1, 2014. If we cannot demonstrate certain production capacities in accordance with the agreement, LES has the option to terminate the agreement and we would have no opportunity to cure pursuant to the terms of the agreement.

We need to secure additional de-conversion services agreements in order to operate our Phase I de-conversion and FEP facility at its currently planned capacity; however, there can be no assurance that additional de-conversion services agreements will be secured. Failure to meet the conditions set forth in the agreement with LES, or a failure to obtain additional off take agreements or sufficient quantities of depleted UF_6 for de-conversion would have a significant and direct impact on our ability to complete the project and our ability to generate revenue from our de-conversion and FEP facility.

There is no history of large-scale commercial fluoride gas production utilizing FEP. We have successfully demonstrated the feasibility of using FEP to produce GeF_4 and BF_3. Starmet Corporation (Starmet), which was the original patent owner and developer of the FEP process, also used FEP to produce SiF_4. 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.

We cannot guarantee that we will secure customers for our fluoride gas products or that there will be a significant market for such products at the time we expect to begin our FEP operations. The successful and economical operation of the depleted UF_6 de-conversion and FEP facility will require that we reach agreement with one or more commercial companies for the sale of our fluoride products. At the present time, we do not have any contracts or other commitments from customers to purchase our fluoride gas. Failure to secure such sales agreements would have a significant and direct impact on our ability to ultimately complete the project and earn revenues from fluoride gas production.

Our beliefs with respect to market opportunities for fluoride gas, including information with respect to pricing, market size and growth, are based on information available to us. There can be no guarantee as to the accuracy of such information or that the information will be accurate as of the time that we have completed construction of our de-conversion and FEP facility. The size of the fluoride gas market, the price of various fluoride gases and the market acceptance of our fluoride gas products are subject to many factors beyond our control, including general economic conditions and demand for fluoride gases at the time we begin FEP operations. Furthermore, we may be unsuccessful in obtaining market share at acceptable prices.

The licensing and environmental permitting process with respect to the construction of our planned depleted UF_6 de-conversion and FEP facility is ongoing and we cannot guarantee the amount of time required to obtain approval from the NRC and the State of New Mexico for operation of these facilities, or that approval will be granted at all. The timeframe discussed above in Item 1. Business for obtaining NRC licensing is based upon out best estimated of the time required to complete NRC Review. We have no control over the actual time required by the NRC to complete its review and the environmental review process entails a series of public meetings that could delay or disrupt the license process. Furthermore, the NRC may decline to grant the required licenses, which would have a material adverse effect on our business plans.

Several federal, state and local environmental permits will be required to be issued, or authorizations obtained, prior to commencement of construction and/or operations. We are at various stages of evaluating required permits and preparing application materials for the various permits, including without limitation air quality, surface and ground water quality, and waste related permits. At this point, we cannot be certain that we will be able to obtain all required permits, that there will not be significant permitting related delays, or that permits will be obtained with favorable permit terms.

The DOE is obligated to take depleted uranium from enrichment companies. The DOE has constructed two depleted uranium de-conversion facilities. These facilities will be obligated to process depleted uranium produced from United States commercial uranium enrichment facilities. We cannot assure you that enrichment companies will not select the DOE as their de-conversion service provider. If we are unable to meet the milestones required by our de-conversion services agreement with LES and it terminates that agreement, and other enrichment companies select the DOE as their de-conversion services provider, we will not be able to realize the expected economic benefit from our planned de-conversion and FEP production plant

We will be handling large quantities of depleted UF_6 and fluoride gases, which are radioactive and hazardous materials respectively, and are subject to intense regulation. The hazardous nature of depleted UF_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 and cost estimates, and involve political pressures that could negatively influence operations. Additionally, the NRC is revising its regulations on the disposal of depleted uranium waste at Low Level Radioactive Waste (LLRW) disposal facilities that accept substantial 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 depleted UF_6 .

We will be subject to competition from the DOE and other companies. While there are no currently operating commercial depleted UF_6 de-conversion facilities in the United States, there are four UF_6 de-conversion facilities in the United States that de-convert enriched uranium for fuel fabrication and the DOE is currently building two de-conversion plants intending to process depleted UF_6 , including the 1.5 billion pounds of depleted UF_6 stored by the DOE. Additionally, AREVA currently operates a de-conversion plant in France, URENCO a facility in the U.K. and Rosatom has constructed a facility in Russia. There can be no guarantee that the existing UF_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 UF_6 overseas for processing in France, the U.K. or Russia.

We currently do not hold title to the property in Lea County, New Mexico where the plant is to be constructed. The property location for our planned facility is contained in Lea County, New Mexico. Lea County has agreed to transfer the property to us under the provisions of the New Mexico Local Economic Development Act; however, the transfer will require a title insurer to evaluate and agree with the legal soundness of the transfer process. We anticipate that title to this property will be transferred to us pursuant to the New Mexico Local Economic Development Act. Until the land transfer process is completed, there can be no guarantee that the transfer will be completed.

We may incur significant additional costs if the equipment we plan to re-use from the Sequoyah de-conversion facility to build our de-conversion and FEP production facility is not suitable for use in the planned de-conversion and FEP production facility. We plan to dismantle and re-use the Sequoyah de-conversion facility to construct our de-conversion and FEP production facility. The Sequoyah facility was used to de-convert depleted UF to depleted UF_4. It has remained idle since 1993. The Sequoyah facility may contain unanticipated defects, age-related wear or other issues that make it unsuitable for re-use in our de-conversion and FEP production facility. We could incur significant additional costs and delays if we have to construct or otherwise secure components of the de-conversion and FEP production facility that we had planned to re-used from the Sequoyah facility.

After completing Phase I of our planned de-conversion and FEP production facility, we may not have sufficient earnings to complete additional planned phases of the facility. We plan to integrate the de-conversion of depleted UF_6 with FEP in multiple phases. After funding Phase I, we plan to fund additional phases through earnings. If we do not realize the earnings necessary to fund these additional phases, we may need to find other sources of capital. There is no guarantee that we will be able to raise the additional capital required to complete these phases on acceptable

terms, or at all. In addition, the total funds required to complete these phases have been based upon early preliminary estimates and there can be no assurance that unforeseen expenses will not be incurred and additional funding required to complete these phases will be obtained.

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 a corresponding international Patent Cooperation Treaty (PCT) application to seek international protection for the FEP process, we currently have no international protection for our FEP process. We cannot be certain that the FEP-related patents will be issued in all countries where our patents can be practiced. Further, our competitors may also be able to design around our patents. The laws of some countries in which our FEP patents are or may be practiced may not 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.

We may need to engage in legal actions to enforce our intellectual property rights to the FEP technology, which could require the spending of a significant amount of resources and the attention and efforts of our management and technical personnel. Accordingly, we may initiate claims or litigation against third parties for infringement of our proprietary rights to FEP technology or to establish the validity of our proprietary rights. Our involvement in any patent dispute or other intellectual property dispute could have a material adverse effect on our business. Adverse determinations in any litigation could subject us to significant liabilities to third parties, require us to seek licenses from third parties and prevent us from manufacturing and selling our products. Any of these situations could have a material adverse effect on our business.

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. Loss of the ability to 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 gemstone production is tied to an exclusive agreement with Quali-Tech, Inc., and future gemstone irradiation services are dependent upon the continuation of that agreement. Should this agreement terminate, sales in our radiological services would be negatively impacted because the agreement prohibits us from processing gemstones for other customers for two years after the agreement terminates. Our nuclear medicine calibration and reference standard manufacturing is conducted under an exclusive contract with RadQual, LLC, which in turn has agreements in place with several companies for marketing and sales.

One of our main core business segments, cobalt products, is dependent on continued access to the Idaho research reactor and our continued ability to carry out work under the DOE's Federal Work for Others non-government sponsor programs. Our radiochemical iodine is supplied through a contract with a single supply source. Unanticipated contract terminations by any of these suppliers and other third parties can have a material adverse impact on operations, financial results, and cash flow.

We are dependent on a limited number of customers in connection with our current business operations. During 2010, sales to one major customer accounted for 54% of our total gross revenue. Sales under exclusive contract with this customer represented 29%, 29%, and 33% of our total gross revenues for the years ended December 31, 2010, 2009, and 2008, respectively. Combined sales to our three largest customers accounted for 52% of our total gross revenues during 2010. Combined sales to these three customers accounted for 51% of gross revenue in 2009 and 50% in 2008. Although we are making efforts to reduce our dependency on a small number of customers, the loss of any one of these significant 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 suppliers of high-purity fluoride products. Each of our competitors has significantly greater financial resources that could give them competitive advantage over us.

Risks Related To Our Company Generally

We have incurred and may continue to incur losses. With the exception of 2002, we have incurred net losses for most fiscal periods since our inception. From inception through December 31, 2010, we have generated $52,143,789 in revenues and accumulated deficit (including preferred stock dividends and returns) in the amount of $106,044,054. 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 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.

Our operations expose us to the risk of material environmental liabilities. We are subject to potentially 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. An irrevocable, automatically renewable letter of credit against a certificate of deposit at Wells Fargo Bank N.A. has been used to provide the financial assurance required by the NRC for our Idaho facility license for decommissioning upon termination of operations and a similar mechanism will be required to fund the decommissioning of the new facility. However, if a contamination event from the spread of uranium occurs within, or outside, of our facility, we would be financially responsible to remediate such spills 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 April 30, 2011. 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 a country 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 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 to provide 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 or iodine -131 could result in lost sales of nuclear medicine and calibration standards 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. We must handle this waste pursuant to the Low Level Radioactive Waste Policy Act of 1980, 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.

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 of 1980, 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 incur, 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.

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 new uranium de-conversion and fluoride gas production business, if a successful product liability claim if 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.

We will need additional financing to continue operations. Because we may continue to experience negative cash flow, we will 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 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. The recent Japan nuclear crises could negatively affect our ability to obtain credit and attract investors in the future. 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, in which event energy and raw materials may be 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 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 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.

Protecting our intellectual property is critical to our innovation efforts. We currently own a number of United States patents; however, our intellectual property rights may be challenged, invalidated, unenforceable, infringed upon by third parties, or otherwise compromised, including validity challenges through reexamination before the United States Patent Office and/or litigation based upon alleged disclosures in the prior art of our patented concepts or a challenge that one or more of our patents is obvious in view of the prior art. Additionally, we may be unable to maintain, renew or enter into new licenses of third party proprietary intellectual property as necessary on commercially reasonable terms. Moreover, under current United States patent law, United States patents, and the associated rights, expire 20 years after the earliest priority date. Some of our earliest patents related to FEP are set to expire in 2018. In some non-United States countries, laws affecting intellectual property are uncertain in their application, which can affect the scope or enforceability of our patents and other intellectual property rights. Any of these events or factors could diminish or cause us to lose the competitive advantages associated with our intellectual property, subject us to judgments, penalties and significant litigation costs, and/or temporarily or permanently disrupt our sales and marketing of the affected products or services.

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 OTC Bulletin Board® under the ticker symbol INIS.OB. . 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.

Additionally, the price of our common stock may be volatile as a result of a number of factors, including, but not limited to, the following:

our ability to complete the planned de-conversion facility on the planned schedule or at all;

our ability to successfully conceive and develop new products and services to enhance the performance characteristics and methods of manufacture of existing products;

our ability to successfully execute our business plan;

our ability to retain existing customers and customers' continued demand for our products and services;

the timing of our research and development expenditures and of new product introductions;

the timing and level of acceptance of new products or enhanced versions of our existing products; and

price and volume fluctuations in the stock market at large which do not relate to our operating performance.

We currently do not intend to pay dividends on our common stock. We currently 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, 2010, there were approximately 20,035,000 shares of common stock issuable upon exercise of vested stock options outstanding, at a weighted average exercise price of $0.10 per share. An additional 8,758,514 shares are reserved for issuance under our 2006 Equity Incentive and our Employee Stock Purchase Plan as of December 31, 2010. We expect to issue additional options to purchase shares of our common stock to compensate employees, consultants and directors, and may issue additional shares to raise capital to fund design, licensing and construction of a 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, 2010, are Series E warrants for the issuance of an additional 13,333,331 shares of common stock, Series F warrants for the issuance of 8,200,000 shares of common stock, Series G warrants for the issuance of 4,407,306 of common stock and warrants for the issuance of 30,612,333 shares of common stock.

Additionally, we have issued convertible debentures with an aggregate principal balance of $3,075,000, which accrued a fixed sum of interest equal to 6% of the principal amount automatically upon issuance. These debentures are convertible at the option of the holders into shares of our common stock at an initial conversion price equal to $0.35, subject to certain adjustments. Upon maturity on August 24, 2011, the outstanding principal amount of the debentures and all accrued but unpaid interest will be converted into common stock at a conversion price equal to the lesser of $0.35 and the average closing price of our common stock for the 120 consecutive trading days up to, but not including, the maturity date, subject to adjustment as set forth in the debentures. To the extent any of the debentures are outstanding as of the maturity date and are automatically converted pursuant to the terms of the debentures, then investors holding such debentures will receive warrants to purchase the number of shares of common stock equal to one half of the number of shares of common stock issued upon automatic conversion of the debenture.

Item 2. PROPERTIES

We lease two properties in Idaho Falls, Idaho, and we are preparing to enter into a land exchange agreement, for no monetary consideration, in New Mexico. The following paragraphs provide a brief summary of these properties.

4137 Commerce Circle The facility located on this property houses our main corporate headquarters and all of our manufacturing operations except our FEP operations. We hold this property pursuant to a lease that extends through April 2011. The facility was new when leased in March 2001 and remains in excellent condition. Our lease includes an option for us to extend the lease for a five year term at the expiration of the current term. Lease payments are adjusted annually based upon the Consumer Price Index. We also 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.

1359 Commerce Way The facility located on this property houses our FEP pilot production operations. The facility was first leased in February 2004 and is in excellent overall condition. We hold this property pursuant to a lease that extends through April 2011. Our lease includes an option for us to extend the lease for a five year term at the expiration of the current term. Lease payments are adjusted annually based upon changes in the Consumer Price Index. We also 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 Exchange: Lea County New Mexico We have entered into a Project Participation Agreement whereby Lea County, New Mexico, will deed property to the Company, for no monetary consideration, in return for our promise to construct a uranium de-conversion and fluorine extraction processing facility. As of December 31, 2010 this process was not fully complete and title for the property resides with Lea County, New Mexico.

In order to retain title to the property, once transferred, we must begin construction of the uranium processing facility no later than December 31, 2014, complete the project no later than December 31, 2015, and have hired at least 75 persons to operate the facility by that time, although commercial operations need not have begun by that time. If we do not timely perform the construction and hiring by those dates then we may, at our sole option, either purchase or re-convey the property to the County. The purchase price is considered to be the present market value of $776,078, plus interest at the annual rate of 5.25% from the date of the closing to the date of payment. If we timely perform the project commencement requirements the County shall execute a full and complete release of the Mortgage.

Item 3. LEGAL PROCEEDINGS

None.

Item 4. (REMOVED AND RESERVED)

PART II

Item 5.

MARKET FOR REGISTRANTS COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is reported on the Over the Counter Bulletin Board (OTCBB) under the trading symbol INIS.OB High asked prices and low bid prices reported by the OTCBB during the periods indicated are shown below, which reflect inter-dealer prices, without retail markup, mark-down, or commission and may not reflect actual transactions:

Fiscal Year

Quarter

High

Low

2010

1st

$0.59

$0.38

2010

2nd

$0.53

$0.35

2010

3rd

$0.45

$0.28

2010

4th

$0.34

$0.24

2009

1st

$0.40

$0.17

2009

2nd

$0.39

$0.25

2009

3rd

	$0.73
	$0.24
2009	
4th	
	$0.70
	$0.44

On March 18, 2011, there were 514 holders of record of our common stock. On this date, the closing price of our common stock was $0.44 per share as reported on the OTCBB. We have never paid any cash dividends on our common stock. In the future, and based upon our profit performance, our Board of Directors will evaluate and determine whether to issue dividends or retain funds for research and development and expansion of our business. It is unlikely that we will pay any dividends to shareholders for the foreseeable future.

Item 6. SELECTED FINANCIAL DATA

The Company is a smaller reporting company, as defined by Item 10(f)(1) of Regulation S-K, and is, therefore, 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 the results of the company's 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 report.

Our belief is that transparency and clarity are key goals of responsible financial reporting. We are committed to these goals which we believe will provide our shareholders with informative financial disclosures and present an accurate overview of our financial position and operating results.

Management s Discussion and Analysis of Financial Condition and Results of Operations is intended to provide readers of our financial statements with a clear explanation, from the perspective of our management, of our financial condition, results of operations, liquidity, and certain other factors that may affect our future results. The following is presented in six sections:

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Overview

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Business Strategy and Core Philosophies

.

Results of Operations

.

Liquidity and Capital Resources

.

New Accounting Standards

.

Outlook for 2011

Overview

International Isotopes Inc. manufactures 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, and clinical devices. We hold several patents for a fluorine extraction process that we are planning to use in conjunction with a new planned commercial depleted uranium de-conversion facility, and provide a host of transportation, recycling, and processing services on a contract basis for clients. A more detailed description of each of these product lines and services can be found in Item 1, under General Business and Products Description, within this report.

In 2010, we continued to build our various business segments, make investments into facilities and infrastructure, launch new products, and enter into new agreements that we believe will increase our future revenues. Although a

detailed description of segment performance can be found in the Results of Operations section of this report, the following list highlights some of our more significant accomplishments in 2010:

.

On February 24, 2010, we entered into a securities purchase agreement with certain institutional and private investors pursuant to which we sold convertible debentures for an aggregate of $3,075,000, and at December 31, 2010 the amount outstanding of such debt was $2,782,137 (net of conversion feature of $292,863).

.

In April of 2010, we entered into a de-conversion services agreement with UUSA a wholly owned subsidiary of URENCO, to provide depleted uranium de-conversion services for its enrichment facility located in Eunice, New Mexico.

.

On July 20, 2010, at our Annual Meeting of Shareholders, an amendment to the Company s Restated Articles of Incorporation was approved. The amendment increased the number of authorized shares of common stock, having a par value of $0.01 per share, from 500,000,000 to 750,000,000.

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In September 2010, the NRC license governing the operations of our core business in Idaho was renewed for a period of ten years.

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On October 29, 2010, we completed a private placement of common stock and warrants for total proceeds of $5,815,000.

.

On December 13, 2010, we formed a joint venture business with RadQual LLC, acquiring the assets of Technology Imaging Services Inc. (TIS) to form TI Services LLC.

.

During 2010, we continued to make progress in the licensing, design and construction planning of the planned de-conversion and fluorine extraction facility in New Mexico.

.

We continued to develop and implement an ISO Quality Management System program that will not only serve to enhance our overall manufacturing performance but, upon certification, will significantly broaden our market base in some of our key product lines.

Business Strategy and Core Philosophies

Broadly defined, our business strategy is to continue to build our reputation as a leader in the nuclear medicine and nuclear products industries, as well as seek ways to improve our customer service, and expand our market share with the ultimate goal of providing greater returns 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, will boost product sales. A key part of our near and long range business strategy is to continue work on building the nation s first commercial depleted uranium de-conversion and fluorine extraction process facility.

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 the highest quality working environment for our employees. We are currently developing and implementing an ISO Quality Management System that will serve to improve our product manufacturing processes as well as promote a high quality and safe work environment for our employees.

Results of Operations

Summary for 2010:

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Revenue in 2010 was slightly over $6.1 million.

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Net loss for 2010 increased by approximately 49%. This significant increase was driven by our expenses related to the consulting and licensing activities for the proposed uranium de-conversion and fluorine extraction facility.

.

Our gross profit rate increased from 33% in 2009 to 41% in 2010. This increase was due primarily to a write-down in cobalt inventory in 2009. A period-to-period comparison is discussed in the Cost of Revenue and Gross Profit section below.

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Our operating costs, exclusive of research and development expense, decreased approximately 11% in 2010 as a result of measures taken in overall operational management of our core business segments. Including research and development expense in total operating expense, overall operating costs increased by approximately 33%, which is a direct result of our expenditures in pursuing the uranium de-conversion and fluorine extraction project.

Year ended December 31, 2010 compared to year ended December 31, 2009

The following table presents comparative Sale of Product for the years 2010 and 2009:

	For the year Ended December 31,	**For the year Ended December 31,**
Sale of Product	**2010**	**2009**
Radiochemical Products	$ 1,746,735	$ 1,714,529

Cobalt Products	2,250,049
	2,180,445
Nuclear Medicine Standards	1,757,564
	1,800,935
Radiological Services	195,917
	239,722
Flourine Products	

-

878

Transportation

157,016

186,335

Total Segments

6,107,281

6,122,844

Corporate revenue

-

-

	Total Consolidated
	$ 6,107,281
	$ 6,122,844

Revenues

Total revenues in 2010 were $6,107,281, compared to $6,122,844 in 2009, which represents a decrease of $15,563 or less than 1%. The small decrease in revenue was the result of decreases in sales in three business segments: Nuclear Medicine Standards, Radiological Services, and Transportation. For 2010, Cobalt Products sales (which includes bulk cobalt sales) account for approximately 37% of total revenue, as compared to 36% in 2009. Bulk cobalt sales account for approximately 48% of total Cobalt Products sales. Fluctuations in bulk cobalt sales can create large variations in period to period comparisons. The following table presents a year-to-year comparison of total revenue by segment as well as a year-to-year comparison of total revenue by segment excluding bulk cobalt sales. We believe that the total revenue excluding bulk cobalt sales provides meaningful information to investors because of the large period-to-period fluctuations in bulk cobalt sales. However, this information has limitations as an analytical tool and you should not consider it in isolation or as a substitute for total revenue including bulk cobalt sales.

For the year

Ended

December 31,

% of

Total Sales

	For the year Ended December 31,			
		% of Total Sales		
Sale of Product	2010		2010	
			2009	
	2009			
Radiochemical Products	$ 1,746,735	29%	$ 1,714,529	

28%

Cobalt Products **(including bulk cobalt sales)**

2,250,049

37%

2,180,445

36%

Nuclear Medicine Standards

1,757,564

29%

1,800,935

29%

Radiological Services

195,917

3%

239,722

4%

Flourine Products

-

0%

878

0%

Transportation

157,016

2%

186,335

3%

Corporate revenue

-

0%

-

0%

Total Segments

$

6,107,281

100%

$

6,122,844

100%

Radiochemical Products

$

1,746,735

35%

$

1,714,529

						33%	
Cobalt Products **(excluding bulk cobalt sales)**							
				1,169,881			
						23%	
				1,215,580			
						24%	
Nuclear Medicine Standards							
				1,757,564			
						35%	
				1,800,935			

35%

Radiological Services

195,917

4%

239,722

5%

Flourine Products

-

0%

878

0%

Transportation

	157,016	3%
	186,335	3%
Corporate revenue	-	0%
	-	0%
Total Segments	$ 5,027,113	

100%

$

5,157,979

100%

22

Radiochemical Products

Sales of radiochemical products accounted for approximately 29% of our total sales revenue in 2010 and increased by $32,206, or approximately 2% to $1,746,735 in 2010, as compared to $1,714,529 in 2009. Sales performance in this segment was largely driven by the increase in our sales of iodine-131. In this business segment, sales of iodine-131 in 2010 totaled $1,737,306, or approximately 99% of total radiochemical sales, while the remaining $9,430, or approximately 1% of radiochemical sales, consisted of miscellaneous radiochemical isotopes sales.

Of our total iodine-131 sales for 2010, approximately 90% represents sales to one customer, RadQual, LLC, of which we own a 24.5% share. Should RadQual, LLC discontinue sales of iodine-131, we have the option to market and sell this product directly to RadQual s customers. In 2010, we continued to pursue a new quality certification for iodine-131 that will allow us to sell this product as an Active Pharmaceutical Ingredient (API) instead of as a radiochemical. If we obtain this certification, we estimate that this improved status of the product will enhance our pharmacy customers abilities to compete with several larger chain pharmaceutical companies and pharmaceutical iodine-131 products.

Cobalt Products

Total cobalt products sales accounted for approximately 37% of our total sales revenue in 2010, while sales of cobalt products excluding bulk cobalt sales accounted for approximately 23% of total sales revenue for the same period. Please refer to the previous table which presents this comparative data.

The following table presents sales of each of our cobalt products for 2010 as compared to 2009:

For the year

ended

December 31,

For the year

ended

December 31,

Cobalt Products	2010	2009	% change
HSA Cobalt Sales (bulk cobalt)	$ 1,080,168	$ 964,865	12%
Cobalt Recycle	185,230	253,670	

			-27%
Sealed Source Manufacturing		984,651	
		961,910	
			2%
Total	$	2,250,049	
	$	2,180,445	
			3%

Sales of total cobalt products increased by 3% to $2,250,049 in 2010, as compared to $2,180,445 in 2009. Bulk cobalt sales increased by $115,303, or 12%, from 2009 to 2010. Sales of cobalt products excluding bulk cobalt sales decreased by 4% to $1,169,881, as compared to $1,215,580 in 2009. Cobalt recycle decreased by 27% in 2010, as compared to 2009, which was in large part due to a reduction in gamma knife unit source replacements which is believed to be a result of current economic conditions and medical facilities continuing to defer gamma source exchanges as a cost saving measure.

Sales of sealed source products increased 2% in 2010, as compared to 2009, and can be attributed to increased sales of sealed sources in foreign markets, particularly South America. Although world economic conditions will potentially have a significant impact on foreign sales, we believe, with continued marketing efforts and the anticipated availability of our new transportation containers, that we will be able to sustain growth in this area

We contract with one customer, GE Hitachi, for 100% of our bulk cobalt sales. Our current contract with this customer was renewed in April 2010, and the new multi-year contract extends through March 31, 2014. The contract requires minimum annual purchases of material, and any shortages in annual purchases are to be invoiced to the customer. Under the contract, we expect to have a minimum of $2,656,000 in bulk cobalt sales to GE-Hitachi over the four-year period.

During 2009, we recorded a significant write-down in our cobalt inventory. The write-down totaled $740,719 and was incurred due to removing numerous targets from continued irradiation in the DOE reactor because of their size, their location in the reactor, and the level of activity to which they had decayed.

The production of HSA cobalt, which we use in both bulk cobalt sales and sealed source sales is dependent on the U.S. Department of Energy, and its prime-operating contractor, which manages the Idaho reactor. A loss of the ability to use this reactor would cause a significant negative impact on both our bulk cobalt sales and sealed source sales. Previously, our agreement with the prime-operating contractor had been on a reactor cycle-by-cycle contract basis, but in July 2010, we entered into a three-year Work For Others agreement with the DOE prime operating contractor to continue cobalt production and cask handling. However, continued access to the reactor for cobalt production remains subject to approval by the prime operating contractor of the reactor based upon the priorities of its experiments program.

Nuclear Medicine Standards

Sales of nuclear medicine standards accounted for approximately 29% of our total sales revenue in 2010.

The following table presents sales of our Nuclear Medicine Standards products for 2010, as compared to 2009:

	For the year ended December 31,	**For the year ended December 31,**
Nuclear Medicine Standards		

	2010	2009	% change
Flood Source Sales	$ 1,378,335	$ 1,499,961	-8%
Miscellaneous Source Sales	379,229	300,974	26%
Total			

	$		
		1,757,564	
	$		
		1,800,935	
			-2%

Sales in this segment decreased by approximately 2% to $1,757,564 in 2010, as compared to $1,800,935 in 2009. Flood source sales account for approximately 78% of all sales in this segment for 2010 and decreased approximately 8% to $1,378,335 in 2010, from $1,499,961 in 2009. This decrease is believed to be the result of on-going cuts in health care reimbursement and new laws affecting outpatient imaging, as well as economic trends in 2010. Marginally profitable imaging clinics are closing, fewer new imaging clinics are opening, and customers are stretching the useful life of their sources. In 2011, we expect to see some reversal of these trends as viable clinics move to replace old sources with new ones. Sales of Miscellaneous Sources, which are used in medical device and dose calibration, increased by 26% to $379,229 in 2010, as compared to $300,974 in 2009. In 2010, we continued to move forward with the implementation of an ISO-9000 quality program that will allow us to start selling our nuclear medicine products into Canada and the European Union in 2011.

Radiological Services

Revenues from our Radiological Services segment accounted for approximately 3% of our total sales revenue in 2010. The following table presents sales for each of our Radiological Service types for 2010, as compared to 2009:

	For the year ended December 31,	**For the year ended**

	December 31,		
Radiological Services	**2010**	**2009**	**% change**
Topaz	$ 166,203	$ 211,689	-21%
Miscellaneous Radiological Services	29,714		

	28,033	
	6%	
Total		
$	195,917	
$	239,722	
	-18%	

Sales in this segment decreased by approximately 18% to $195,917 in 2010, as compared to $239,722 in 2009. This decrease is due to the decline in topaz gemstone processing which accounts for approximately 85% of Radiological Services sales in 2010 and approximately 88% of Radiological Services sales in 2009. This decrease in topaz gemstone processing is due to weak sales of luxury items such as jewelry, and the continued instability of foreign markets, which are a key component in processing products which use irradiated gemstones. Sales in this segment for 2011are anticipated to remain similar to 2010 sales.

Miscellaneous Radiological Services revenue increased by approximately 6% in 2010, as compared to 2009. The subdued sales in this area are attributable to reductions in the amount of government sponsored field source recovery activities and it is not expected that there will be any significant increase in government spending in this area in 2011.

Fluorine Products

There were no revenues to report from the fluorine products segment for 2010. Revenues from the fluorine products segment for 2009 were $878 which was the sale of an initial qualification lot of material to a prospective customer during the first quarter of 2009. We are developing our fluorine products in conjunction with uranium de-conversion, in order to take advantage of the anticipated need for depleted uranium de-conversion services. Our Fluorine Extraction Process (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. During 2010, we incurred $5,625,345 of planning, licensing, and other project related expenses, as compared to $2,583,943 in 2009. This is an increase of $3,041,402, or approximately 118%. During 2011, and as funding permits, we will continue to use our existing FEP facility in Idaho for testing individual components and analytical processes required for the planned uranium de-conversion facility in New Mexico. We do not anticipate any revenue from the sale of fluoride products in 2011.

Transportation

Revenues from our Transportation segment accounted for approximately 3% of our total revenues in 2010. Sales in this segment decreased by approximately 16% to $157,016 in 2010, as compared to $186,335 in 2009. 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 quantity cobalt shipments. We believe that once the Type B shipping containers are approved by the NRC and become available, sales in this segment will markedly improve. Aside from revenue from for hire transportation service our transportation segment continues to provide significant cost savings for us over the cost of purchasing third party transportation services for our cobalt products.

Cost of Revenues and Gross Profit

Cost of revenue for 2010 was $3,619,759, as compared to $4,073,761 in 2009, a reported decrease of $454,002, or approximately 11%. Gross profit increased 22% overall to 41% in 2010, from 33% in 2009. However, in 2009 we reported a cobalt inventory write-down in the amount of $740,719 that was charged to cobalt products cost of sales. In order to provide a more accurate period-to-period comparison we have provided the tables below which present total sales, cost of sales and gross profit including and excluding this inventory write-down:

The following table presents Total Sales, Cost of Sales by segment and Gross Profit for 2010 as compared to 2009 including the 2009 inventory write-down:

	For the year ended December 31,	% of Total Sales	For the year ended December 31,	% of Total Sales
	2010		2010	
	2009		2009	
Total Sales	$ 6,107,281			

$	6,122,844
Cost of Sales	
Radiochemical Products	
$	1,469,472
	24%

$ 1,364,769	22%	
Cobalt Products (including 2009 write-down cost)	1,112,920	18%
	1,665,668	27%
Nuclear Medicine Standards	903,761	15%

	923,366	15%		
Radiological Services	80,302	1%	66,437	1%
Flourine Products	-	-	-	

	-			
Transportation	53,304	1%	53,521	1%
Total Segments	$ 3,619,759	59%	$ 4,073,761	67%

Gross Profit		
	$	2,487,522
	$	2,049,083
Gross Profit %		
		41%

33%

25

The following table presents Total Sales, Cost of Sales by segment and Gross Profit for 2010 as compared to 2009 excluding the 2009 inventory write-down:

	For the year ended December 31,	% of Total Sales	For the year ended December 31,	% of Total Sales
	2010		2010	
			2009	

2009

Total Sales

$

6,107,281

$

6,122,844

Cost of Sales

Radiochemical
Products

	$ 1,469,472	24%
	$ 1,364,769	22%
Cobalt Products (excluding 2009 write-down cost)	1,112,920	18%
	924,949	15%
Nuclear Medicine Standards		

903,761

15%

923,366

15%

Radiological Services

80,302

1%

66,437

1%

Flourine Products

-

-

-

-

Transportation

53,304

1%

53,521

1%

Total
Segments

$

3,619,759

59%

$

3,333,042

54%

Gross Profit

$

2,487,522

$

2,789,802

Gross Profit %

41%

46%

Taking into account the 2009 inventory write-down, gross profit percentage for 2010 decreased to 41% from 46% in 2009. The overall decrease in gross profit was largely the result of increased shipping costs in the iodine segment as well as increased cost to transport cobalt products. We intend to continue to take steps to recover increases in freight and shipping costs by making sales price adjustments and by pursuing alternate shipping methods. We recently negotiated a change in shipping terms with one of our major shipping vendors to include increased shipping discounts for several of our products. With these new terms, we hope to see a significant decrease in overall shipping expense in 2011.

Operating Costs and Expenses

Total operating costs and expenses for 2010 were $8,821,498, as compared to $6,626,059 in 2009, an increase of $2,195,439 or 33%.

The following table presents Operating Costs and Expenses for 2010 as compared to 2009:

For the year

	ended December 31,	For the year ended December 31,	
	2010	2009	% change
Operating Costs and Expenses:			

Salaries and Contract Labor	$ 1,847,242	$ 2,061,931	-10%
General, Administrative and Consulting	1,743,692	1,954,294	-11%
Research and Development	5,230,564		

			2,609,834	
			100%	
Total operating expenses		$	8,821,498	$ 6,626,059
				33%

Salaries and Contract Labor decreased 10% in 2010, as compared to 2009, due to modest salary and wage adjustments and decreased contract labor costs. General, Administrative and Consulting expenses decreased 11% due to our continued aggressive efforts to economize in all areas of general and administrative costs.

The significant increase in Research and Development expense is a result of costs associated with the planned uranium de-conversion facility. In 2010, Research and Development costs increased by $2,620,730, to $5,230,564, as compared to $2,609,834 in 2009. The increase is almost entirely the result of increased expenses in the planning, design and licensing of the planned de-conversion facility. Research and Development with regard to the de-conversion facility totaled $5,215,351 in 2010, or approximately 99.7% of the all Research and Development expense. This level of Research and Development expense for 2010 was anticipated and was incurred as a result of efforts to support NRC license review and increased subcontractor support for the project. The costs were incurred only to the extent funding became available. We expect to continue to incur significant Research and Development expenses in 2011 based on our ability to raise additional funds for the uranium de-conversion project.

Other Income (Expense)

Other Income (Expense) in 2010 was ($468,038) compared to Other Income (Expense) of ($3,949) in 2009. Other Income/Expense for 2009 as previously reported was ($56,322). In 2010, with the formation of TI Services, LLC, a joint business venture with RadQual LLC, it was determined that it is now appropriate to account for our investment in RadQuall LLC, using the equity method versus the cost method of accounting. Accordingly, we have restated 2009 Other Income and Expense as presented in the following table:

	As Previously Reported for Year Ended 2009	**Prior Year Affiliate Equity**	**As Restated for Year Ended 2009**
Other income (expense)	$ 46,918		$

	(49,164)
$	
	(2,246)
Equity in net income of affiliate	
	-
	101,537
	101,537
Interest income	
	13,358
	-
	13,358
Interest expense	

(116,598)

-

(116,598)

$

(56,322)

$

52,373

$

(3,949)

Interest Income for 2010 was $3,449 as compared to $13,358 for 2009. This is a decrease of $9,909 and reflects generally low interest rates available for cash accounts. Interest Expense for 2010 was $496,777 as compared to $116,598 for 2009. The increase in Interest Expense of $380,179 was primarily due to recording the accretion of the beneficial conversion feature on the convertible debenture as interest expense. Exclusive of the restatement for the affiliate equity, Other Income (Expense) increased by $411,716 which was attributable to accretion.

Net Loss

Our Net Loss was $6,802,014 in 2010, compared to a Net Loss of $4,580,925 in 2009. The increase of $2,221,089, or approximately 49%, was primarily attributable to the research and development expense related to the NRC licensing review costs and expanded engineering work incurred on the planned de-conversion facility. The Net Loss for 2009 has been restated to include $52,373 of affiliate income, as presented in the table above.

Liquidity and Capital Resources

On December 31, 2010, we had cash and cash equivalents of $4,237,303, compared to $461,091 at December 31, 2009. The increase of $3,776,212 is the result of the issuance of convertible debentures in February 2010 to various institutional and private investors for proceeds of approximately $3,075,000, and the completion of a private placement of units on October 29, 2010, which provided us with approximately $5,800,000 in cash. The units consisted of (i) one share of our common stock and (ii) a common stock purchase warrant to purchase one share of our common stock at an exercise price of $0.40 per share. The warrants have a five year term. These funds were solicited to provide cash to enable the continuation of our work on the licensing and design of the planned de-conversion facility. Research and development costs associated with this project totaled $5,215,351 in 2010, as compared to $2,609,834 in 2009. The bulk of these costs pertained to consulting and licensing activities.

Accounts receivable at December 31, 2010 were $844,258 as compared to $481,702 at December 31, 2009. In December 2010, we formed a new entity, TI Services, LLC, with RadQual LLC with each company holding a 50% interest. For financial reporting purposes, TI Services LLC s assets and liabilities are consolidated with ours and therefore our reported accounts receivable includes $340,132 of TI Services accounts receivable.

Inventories at December 31, 2010 were $1,681,840 as compared to $1,835,345 at December 31, 2009. As described above, for financial reporting purposes, this includes $32,318 of TI Services LLC s inventory. The majority of our inventory consists of irradiated material held at the site of the U.S. Department of Energy s prime-operating contractor, which controls the Idaho test reactor. The typical operating cycle for the irradiation of this material is greater than one year and this inventory is expected to remain at similar levels in future years.

We incurred a loss of $6,802,014 for the year ended December 31, 2010, and have an accumulated deficit of $106,044,054 since inception. To date, our operations and plant and equipment expenditures have been funded principally from proceeds from public and private sales of equity as well as through asset sales.

Net cash used in investing activities was $404,615 for 2010, $9,931 of which was used to purchase property and equipment and intangible assets. Additionally, we used cash in the net amount of $182,450 for the acquisition of a 50% interest in TI Services LLC and used $87,500 to issue a short-term note payable at 6% interest, to RadQual LLC to facilitate its 50% investment interest in TI Services LLC. We also increased the amount of funding in a restricted certificate of deposit by $163,614 as part of our financial assurance obligations under our NRC license. 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 an actual cash reserve, in the form of a restricted certificate of deposit and irrevocable letter of credit to the NRC, to support our estimated decommissioning and disposal costs for our facilities.

Financing activities provided cash of $8,744,383 for the year ended December 31, 2010. We received proceeds from the issuance of convertible debentures in the amount of $3,075,000 and proceeds from the sale of stock and warrants in the amount of $5,836,389. We also made principal payment on notes payable in the amount of $167,006.

As of December 31, 2010, we had net term borrowings of $439,630 from two loans with Compass Bank. One of these loans, with an outstanding balance of $407,083 as of December 31, 2010, matures in April 2011. We are currently in the process of renewing this loan. The other, with a balance of $32,547 as of December 31, 2010, matures in September 2011 and will be paid in full at that time. Prior to maturity, the Company will continue to make scheduled loan payments in a timely manner using operating funds.

In September 2009, $340,753 of an unsecured note payable to our former Chairman of the Board was converted into equity leaving a principal balance of $500,000. Principal and interest payments on this note are paid annually based upon net profits (annual principal payment to equal 30% of net pre-tax profits). The note matures in April 2012.

During September 2009, we completed a private placement offering of 4,407,305 units priced at $0.30 per unit in exchange for cash proceeds of $940,000 and conversion of $340,753 of the note described above and accrued interest of $41,439. Each unit consisted of one share of common stock and one Class G Warrant to purchase a share of common stock at $0.40 per share. The Class G Warrants have a two year term, expire in 2011, and include a first anniversary price adjustment provision.

We have a $1,365,852 investment in RadQual, LLC, our sole Flood Source Products customer. This represents a 24.5% ownership of RadQual. In December 2010, with the formation of TI Services, LLC with RadQual LLC, our potential to influence business decisions of RadQual increased. As a result we changed our method of accounting for this investment from the cost method to the equity method. Under the equity method, we record a proportionate share of the earnings and losses of RadQual, LLC. The effect was to increase our 2010 net loss by $35,080. The financial

statements for 2009 have been restated for the change which resulted in a decrease in the 2009 net loss reported of $52,373. This is considered a non-liquid asset due to the limited marketability of the investment.

New Accounting Standards

In January 2010, the FASB issued guidance related to escrowed share arrangement and the presumption of compensation. This update provides clarification when escrowed shares are considered compensation or in substance an inducement made to facilitate certain transactions. This guidance was effective upon issuance. The Company has adopted this guidance which had no impact on the Company s operations, financial position, cash flow or disclosures.

In April 2010, the FASB issued guidance related to accounting for certain tax effects of the 2010 Health Care Reform Acts. This update clarifies questions surrounding the accounting implications of the different signing dates of the Health Care and Education Reconciliation Act (signed March 30, 2010) and the Patient Protection and Affordable Care Act (signed March 23, 2010). This guidance states that the FASB and the Office of the Chief Accountant at the SEC would not be opposed to view the two Acts together for accounting purposes. The Company is currently assessing the impact, if any, the adoption of this guidance will have on the Company s disclosures, operating results, financial position and cash flows.

Outlook for 2011

Based upon the investments we have made in our facilities, projects, and products developed in 2010, we have the following goals and objectives for 2011:

.

To continue the licensing and permitting activities for the planned uranium de-conversion and processing facility and work towards obtaining de-conversion service agreements with additional commercial uranium enrichment companies.

.

To continue advertising and promoting the use of International Isotopes Transportation Services and increase our revenues from Transportation Services to commercial customers.

.

To continue to expand our customer base, increase revenues in every business segment, continue to reduce production and operating costs, and attempt to achieve profitability in our core business segment operations.

.

Implement an ISO Quality certification program that will expand our product markets, including selling iodine-131 as an Active Pharmaceutical Ingredient (API) and permit sale of our nuclear medicine reference and calibration standards in Canada and the European Union.

.

Implement sales of the new Type B AOS transportation container.

.

Expand sales of our sealed cobalt sources though the use of the AOS and other newly approved transport containers.

.

Expand sales of our nuclear medicine products and increase cash flow by expanding the business and sales of our new joint venture, TI Services LLC.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company is a smaller reporting company, as defined by Item 10(f)(1) of Regulation S-K, and is, therefore, 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

Page No.

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

None

Item 9A. CONTROLS AND PROCEDURES

Conclusion regarding the Effectiveness of Disclosure Controls and Procedures

The Company maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the Exchange Act) that are designed to ensure that material information relating to the Company is made known to the officers who certify the Company s financial reports and to other members of senior management and the Board of Directors. These disclosure controls and procedures are designed to ensure that information required to be disclosed in the Company s reports that are filed or submitted under the Exchange Act, are 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 an issuer in the reports that it files or submits under the 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 the CEO and CFO, has evaluated the effectiveness, as of December 31, 2010, of the Company s disclosure controls and procedures. Based on that evaluation, the CEO and CFO have concluded that the Company s disclosure controls and procedures were effective as of December 31, 2010.

There were no changes in our internal control over financial reporting during the quarter and fiscal year ended December 31, 2010, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Management on Internal Control over Financial Reporting

The Company s 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 United States of America. 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*, 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 Company s internal control over financial reporting was effective as of December 31, 2010.

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 or 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.

The other information required by this item will be included in our Proxy Statement for our 2011 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2010, the close of our fiscal year.

Item 11. EXECUTIVE COMPENSATION

The information required by this item will be included in our Proxy Statement for our 2011 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2010, the close of our fiscal year.

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

Securities Authorized for Issuance under Equity Compensation Plans

We currently maintain three compensation plans that provide for the issuance of our Common Stock to officers and other employees, directors and consultants, the 2002 Long Term Incentive Plan, the International Isotopes Employee

Stock Purchase Plan and the 2006 Equity Incentive Plan, each of which have been approved by our shareholders. The following table sets forth information regarding outstanding options and shares reserved for future issuance under the foregoing plans as of December 31, 2010:

Equity Compensation Plan Information

December 31, 2010

(a)

(b)

(c)

	Number of securities	Weighted-average exercise price of	Number of remaining available for future issuance under
	to be issued upon exercise of outstanding		

equity compensation

outstanding options,

options,

plans (excluding

warrants,

warrants,

securities reflected in

Plan Category

and rights

and rights

column) (a)

Equity compensation plans approved by shareholders:	26,700,000	$	.16
	8,758,514(1)		
Equity compensation plans not approved by shareholders			

Total	26,700,000	$ .16	8,758,514(1)

(1) Includes 7,283,528 shares available for issuance under the 2006 Equity Incentive Plan and 1,474,986 shares available for issuance under the International Isotopes Employee Stock Purchase Plan. Up to 13,000,000 shares that are currently subject to outstanding options granted under the 2002 Long Term Incentive Plan may become available for issuance under the Company s 2006 Equity Incentive Plan in the future to the extent those shares are not issued (for example, if those options expire without being exercised). Shares available for issuance under the Company s 2006 Equity Incentive Plan may be granted in the form of stock options, stock awards, restricted stock awards, restricted stock units, stock appreciation rights or any other form of equity compensation approved by the Compensation Committee or the Board.

The other information required by this item will be included in our Proxy Statement for our 2011 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2010, the close of our fiscal year.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this item will be included in our Proxy Statement for our 2011 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2010, the close of our fiscal year.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item will be included in our Proxy Statement for our 2011 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2010, the close of our fiscal year.

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

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

See the index to and the financial statements and supplementary data beginning on page 27 and 48 which are incorporated by reference.

(a)(3) Exhibits

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

2.1

Securities Purchase Agreement dated March 21, 2007 (incorporated by reference to Exhibit 2.1 of the Company's Current Report of Form 8-K filed on March 22, 2007).

2.2

Unit Purchase Agreement effective as of May 23, 2008 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on June 2, 2008).

2.3

Asset Purchase Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on June 5, 2008).

2.4

First Amendment to the Asset Purchase Agreement, dated June 3, 2008 (incorporated by reference to Exhibit 99.2 of the Company s Current Report on Form 8-K filed on June 5, 2008).

2.5

Securities Purchase Agreement dated November 7, 2008 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on November 12, 2008).

2.6

Securities Purchase Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.1 of the Company s Current Report on Form 8-K filed on September 18, 2009).

2.7

Unsecured Note Conversion Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.2 of the Company s Current Report on Form 8-K filed on September 18, 2009).

2.8

Securities Purchase Agreement dated February 24, 2010 (incorporated by reference to Exhibit 2.1 of the Company s Current Report on Form 8-K filed on February 25, 2010).

2.9

Securities Purchase Agreement dated October 29, 2010 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on November 1, 2010).

3.1

Restated Articles of Incorporation as amended (incorporated by reference to Exhibit 3(i) of the Company s Quarterly Report on Form 10-Q for period ended June 30, 2010).

3.2

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)).

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4.1

Form of Class E Warrant (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on April 21, 2008).

4.2

Form of Class F Warrant (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on November 12, 2008).

4.3

Form of Class G Warrant (incorporated by reference to Exhibit 2.1 of the Company s Current Report on Form 8-K filed on September 18, 2009).

4.4

Form of Debenture (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on February 25, 2010).

4.5

Form of Class H Warrant (incorporated by reference to Exhibit 4.2 of the Company s Current Report on Form 8-K filed on February 25, 2010).

4.6

Form of Warrant (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on November 1, 2010).

4.7

Form of Class J Warrant.***

10.1

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

Form of Incentive Stock Option Agreement (incorporated by reference to Exhibit 10.2 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).*

10.3

International Isotopes 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).*

10.4

Lease Agreement 4137 Commerce Circle (incorporated by reference to Exhibit 10.6 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.5

Option to Purchase and Right of First Refusal for Property located at 4137 Commerce Circle (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

Lease Agreement 3159 Commerce Way (incorporated by reference to Exhibit 10.8 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.7

Option to Purchase and Right of First Refusal for Property located at 3159 Commerce Way (incorporated by reference to Exhibit 10.9 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.8

Promissory Note dated September 15, 2007 with Compass Bank (formerly with Texas State Bank) (incorporated by reference to Exhibit 10.9 of the Company's Annual Report on Form 10-K for the year ended December 31, 2009).

10.9

Unsecured Note to former Chairman of the Board, Dated April 1, 2002 (incorporated by reference to Exhibit 10.12 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.10

Form of Note Purchase Agreement and Form of Unsecured Convertible Promissory Notes (incorporated by reference to Exhibit 10.13 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.11

2006 Equity Incentive Plan (incorporated by reference to Annex A of the Company s definitive proxy statement on Schedule 14A filed on May 1, 2006).

10.12

Alpha Omega Services, Inc. Distributor Agreement dated August 14, 2007 (incorporated by reference to Exhibit 99.1 of the Company's Current Report of Form 8-K filed on August 22, 2007).

10.13

Letter Agreement dated December 21, 2007 between the Company and Firebird Global Master Fund II, Ltd., together with a schedule of substantially identical documents omitted from filing pursuant to Rule 12b-31 promulgated under the Exchange Act (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2008).

10.14

Technical Support Services Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.3 of the Company s Current Report on Form 8-K filed on June 5, 2008).

10.15

Form of Indemnification Agreement (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on September 17, 2008).

10.16

Letter Agreement dated April 9, 2008 (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on April 21, 2008).

10.17

Memorandum of Agreement dated October 22, 2009 between International Isotopes Inc. and 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).

10.18

Gemstone Processing Agreement between International Isotopes Inc. 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).

10.19

Manufacturing Agreement dated as of January 30, 2006 by and between International Isotopes Inc. 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).

10.20

Change in Terms Agreement dated April 20, 2009 with Compass Bank. (incorporated by reference to Exhibit 10.21 of the Company's Annual Report on Form 10-K for the year ended December 31, 2009).

10.21

Promissory Note with Texas State Bank for Commercial Loan (incorporated by reference to Exhibit 10.11 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2006).

10.22

De-Conversion Services Agreement dated April 13, 2010 by and between International Isotopes Fluorine Products, Inc. and Louisiana Energy Services, LLC. (incorporated by reference to Exhibit 10.1 to the Company s Quarterly Report on Form 10-Q for the quarter ended March 31, 2010 filed on May 17, 2010).**

10.23

Amended and Restated Employment Agreement, by and between International Isotopes Inc. and Stephen Laflin dated as of May 31, 2010 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on June 23, 2010).*

10.24

Work For Others Agreement by and between International Isotopes Inc. and Battelle Energy Alliance, LLC dated July 31, 2010 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on August 3, 2010).

10.25

Sales Agreement effective August 1, 2010 by and 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).**

10.26

Registration Rights Agreement by and between the Company and certain investors party thereto dated October 29, 2010 (incorporated by reference to Exhibit 99.2 of the Company s Current Report on Form 8-K filed on November 1, 2010).

10.27

Modification #1, dated as of December 22, 2010 to the Amended and Restated Employment Agreement entered into on June 23, 2010 by and between International Isotopes Inc. and Stephen Laflin.****

10.28

Modification #2, dated as of February 18, 2011 to the Amended and Restated Employment Agreement entered into on June 23, 2010 by and between International Isotopes Inc. and Stephen Laflin.****

21.1

Subsidiaries (incorporated by reference to the Company s Annual Report on Form 10 KSB for the year ended December 31, 2005).

23.1

Consent of Hansen, Barnett & Maxwell.***

31.1

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Executive Officer.

31.2

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Financial Officer.

32.1

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

32.2

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

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

**Contains material that has been omitted pursuant to a request for confidential treatment and such material has been filed separately with the Commission.

***Filed herewith.

****This exhibit constitutes a management contract or compensatory plan or arrangement and is filed herewith.

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,
Secretary, and Director

Date: March 31, 2011

Pursuant to the requirement 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, 2011

By: /s/ Steve T. Laflin

Steve T. Laflin

President, Chief Executive Officer,
Secretary, and Director

March 31, 2011

By: /s/ Laurie McKenzie-Carter

Laurie McKenzie Carter

Chief Financial Officer

March 31, 2011

By: /s/ Christopher Grosso

Christopher Grosso

Director, Audit Committee Chairman

March 31, 2011

By: /s/ Ralph Richart

Ralph Richart

Chairman of the Board of Directors

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS

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H

B

M

HANSEN,
BARNETT &
MAXWELL,
P.C.

Certified
Public
Accountants

To the Board of Directors and the Shareholders

We have audited the accompanying consolidated balance sheets of and subsidiaries as of , and the related consolidated statements of operations, stockholders equity, and cash flows for the years then ended. These financial statements are the responsibility of the Company s management. 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. 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, evidence 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of International Isotopes, Inc. and subsidiaries as of , and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

HANSEN, BARNETT & MAXWELL P.C.

Salt Lake City, Utah

March 30, 2011

Registered with the
Public Company

Accounting Oversight
Board

5 Triad Center, Suite
750, Salt Lake City,
Utah 84180-1128

Tel 801-532-2200
FAX
801-532-7944
www.hbmcpas.com

ADDING VALUE

NOT COMPLEXITY

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INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

Consolidated Balance Sheets

	December 31,	
	Assets	
	2010	**2009**
Current assets		

Cash and cash equivalents	$ 4,237,303	$ 461,091
Accounts receivable	844,258	481,702
Inventories (Note 4)	1,681,840	1,835,345
Due from related party (Note 3)	87,500	

-

Prepaids and other current assets	122,016
	126,316
Total current assets	6,972,917
	2,904,454
Long-term assets	

Restricted certificate of deposit	428,365
	264,751
Property, plant and equipment, net (Note 5)	2,090,781
	2,475,466
Capitalized lease disposal costs, net (Note 12)	140,934
	196,287
Investment (Note 3)	1,365,851

	1,400,931
Patents and other intangibles, net (Note 6)	
	228,745
	250,347
Total long-term assets	
	4,254,676
	4,587,782
Total assets	
$	11,227,593
$	7,492,236

Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 717,363	$ 569,076
Accrued liabilities	623,111	

	351,437
Convertible debentures, net of beneficial conversion feature of $292,863	
	2,782,137
	-
Current installments of notes payable (Note 7)	
	454,811
	126,480
Current installments of capital leases (Note 8)	
	9,930
	37,061
Total current liabilities	

	4,587,352
	1,084,054
Long-term liabilities	
Obligation for lease disposal costs (Note 12)	446,578
	412,569
Notes payable, excluding current installments (Note 7)	

	505,382
	963,657
Capital leases, excluding current installments (Note 8)	
	-
	9,930
Mandatorily redeemable convertible preferred stock (Note 9)	
	850,000
	850,000
Total long-term liabilities	
	1,801,960
	2,236,156
Total liabilities	

	6,389,312
	3,320,210
Stockholders' equity (Note 9)	
Common stock, $0.01 par value; 750,000,000 shares authorized; 323,032,866 and 293,677,806 shares issued and outstanding respectively	
	3,230,328

	2,936,777
Additional paid-in capital	
	107,462,007
	100,477,289
Accumulated deficit	
	(106,044,054)
	(99,242,040)
Equity attributable to International Isotopes Inc. stockholders	
	4,648,281
	4,172,026
Equity attributable to noncontrolling interest	
	190,000

-

Total equity	4,838,281
	4,172,026
Total liabilities and stockholders' equity	$ 11,227,593
	$ 7,492,236

See accompanying notes to consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

Consolidated Statements of Operations

	Years ended December 31,	
	2010	**2009**
Sale of product	$ 6,107,281	$ 6,122,844
Cost of product (includes zero and $740,719 of		

inventory impairment, respectively)		
	3,619,759	
	4,073,761	
Gross profit		
	2,487,522	
	2,049,083	
Operating costs and expenses:		

Salaries and contract labor	1,847,242	2,061,931	
General, administrative and consulting	1,743,692	1,954,294	
Research and development	5,230,564	2,609,834	
Total operating expenses	8,821,498		

	6,626,059
Operating loss	
	(6,333,976)
	(4,576,976)
Other income (expense):	

Other income (expense)	
	(14,359)
	(2,246)
Equity in net income of affiliate	
	39,649
	101,537
Interest income	
	3,449
	13,358
Interest expense	
	(496,777)
	(116,598)
Total other (expense)	

	(468,038)
	(3,949)
Net loss	(6,802,014)
	(4,580,925)
Income attributable to noncontrolling interest	-
	-
Net loss attributable to International Isotopes Inc.	

	$	(6,802,014)
	$	(4,580,925)
Net loss per common share basic and diluted:	$	(0.02)
	$	(0.02)
Weighted average common shares outstanding - basic		

and diluted	
	299,865,350
	290,060,471

See accompanying notes to consolidated financial statements.

INTERNATIONAL ISOTOPES INC AND SUBSIDIARIES

Consolidated Statement of Stockholders' Equity

Years ended December 31, 2010 and 2009

International Isotopes Inc. Stockholders' Equity

Additional

Equity

Attributable to

Equity

Attributable

Common Stock

Paid-in

Accumulated

Internat'l Isotopes

	Capital Deficit	to Noncontrolling Interest	Total Equity
Balance December 31, 2008	288,625,708	$ 2,886,257	$

	98,188,924
$	
	(94,661,115)
$	
	6,414,066
$	
	-
$	
	6,414,066

Shares issued under private placement	
	4,407,305
	44,073
	1,278,119
	-
	1,322,192
	-

	1,322,192
Shares issued under employee stock purchase plan	143,839

1,438

25,727

-

27,165

-

27,165

Issuance of employee stock grant	
	171,621
	1,716
	(1,716)
	-
	-

-

-

	Shares issued for exercise of employee stock options
	329,333
	3,293
	(3,293)
	-
	-
	-
	-

Amortization of share based compensation		
	-	
	-	
	989,528	

-

989,528

-

989,528

Net loss						
	-					
		-				
			-			
				(4,580,925)		
					(4,580,925)	
						-
						(4,580,925)
Balance December 31, 2009						

293,677,806

2,936,777

100,477,289

(99,242,040)

4,172,026

-

4,172,026

Shares issued under private placement	
	29,075,000
	290,750
	5,524,250
	-

	5,815,000
	-
	5,815,000

	Shares issued under employee stock purchase plan
	61,057
	611
	20,778
	-
	21,389
	-
	21,389

Issuance of employee stock grant	
	219,003
	2,191
	(2,191)

-

-

-

-

Convertible debentures beneficial conversion feature	-
	-
	702,857
	-
	702,857
	-

	702,857
Amortization of stock based compensation	-

-

739,024

-

739,024

-

739,024

Acquisition of TI Services, LLC by noncontrolling interest	-
	-
	-
	-
	-

190,000

190,000

Net loss	
	-
	-
	-
	(6,802,014)
	(6,802,014)
	-
	(6,802,014)
Balance December 31, 2010	
	323,032,866
$	
	3,230,328

$	107,462,007
$	(106,044,054)
$	4,648,281
$	190,000
$	4,838,281

See accompanying notes to consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

Consolidated Statements of Cash Flows

	Years ended December 31,	
	2010	**2009**
Cash flows from operating activities:		
Net loss		

$ (6,802,014)	$ (4,580,925)
Adjustments to reconcile net loss to net cash used in operating activities	
Depreciation and amortization	453,136
	439,435
Accretion of obligation for lease disposal costs	34,009
	21,573

Loss on disposal of property, plant and equipment	14,635
	2,756
Loss on inventory write-down	-
	740,719
Accretion of beneficial conversion feature	409,994
	-
Equity based compensation	739,024

	989,528
Changes in operating assets and liabilities:	
Accounts receivable	(22,424)
	40,206
Prepaids and other current assets	4,300
	(8,695)
Inventories	185,823
	(57,809)

Deferred revenue	-	
	(102,814)	
Accounts payable and accrued liabilities	419,961	
	183,066	
Net cash used in operating activities	(4,563,556)	
	(2,332,960)	

Cash flows from investing activities:	
Restricted certificate of deposit	(163,614)
	(4,234)
Due from related party	(87,500)
	-
Acquisition of interest in TI Services LLC, net of $7,550 cash acquired	(182,450)

-	
Net decrease (increase) in investment in RadQual	35,080
	(52,373)
Proceeds from sale of property, plant and equipment	3,800
	5,400
Purchase of property, plant and equipment	(9,931)
	(157,737)
Net cash used in investing activites	(404,615)

	(208,944)
Cash flows from financing activities:	
Proceeds from issuance of convertible debentures	3,075,000
	-
Proceeds from issuance of debt	

-

	26,769
Proceeds from sale of stock and warrants	
	5,836,389
	967,166
Principal payments on notes payable and capital leases	
	(167,006)
	(140,280)
Net cash provided by financing activities	
	8,744,383
	853,655

Net change in cash and cash equivalents	3,776,212	(1,688,249)
Cash and cash equivalents at beginning of year	461,091	2,149,340
Cash and cash equivalents at end of year	$ 4,237,303	$ 461,091

Supplemental disclosure of cash flow activities:		
Cash paid for interest	$ 71,479	$ 123,334

Supplemental disclosure of noncash financing and investing transactions:		
Increase in lease disposal costs	$ -	$ 129,275
Increase in equity for the beneficial conversion feature associated with the convertible debentures	$	702,857

$	-	
Conversion of $340,753 principal and accrued interest of $41,439 to common stock		
$	-	
$	382,192	

See accompanying notes to consolidated financial statements

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEARS ENDED DECEMBER 31, 2010 AND 2009

NOTE 1 - DESCRIPTION OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business

International Isotopes Inc. (the Company) 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 and include all operations and balances of the Company and its wholly owned subsidiaries, International Isotopes Idaho Inc., a Texas corporation, International Isotopes Fluorine Products, Inc., an Idaho corporation and International Isotopes Transportation Services, Inc., an Idaho corporation. The consolidated financial statements also include the accounts of its majority owned subsidiary, TI Services, LLC. Intercompany balances and transactions have been eliminated in consolidation. The Company s headquarters and all operations are located in Idaho Falls, Idaho.

Nature of Operations The Company s business consists of six major business segments which include: Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation.

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 three years. All assets expected to be realized in cash or sold during the normal operating cycle of business are classified as current assets.

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 $4,237,303 and $461,091 at December 31, 2010 and 2009, respectively, consist of operating accounts, money market accounts, and certificates of deposit. 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, 2010, the Company had pledged a certificate of deposit valued at $428,365 as security on a letter of credit. The letter of credit is required as part of the licensing agreement with the Nuclear Regulatory Commission (NRC). Among other requirements, the licensing agreement calls for a letter of credit to provide a level of financial assurance to maintain licensing with the NRC. Accordingly, withdrawal of the certificate is restricted over the remaining life of the license.

(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. Allowances are provided for uncollectible accounts when deemed necessary. At December 31, 2010 and 2009, 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. In 2009 it was determined that irradiated cobalt material had declined in marketability due to a decrease in activity level and accordingly, the Company recorded an impairment charge of $740,719.

(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. 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, 2010 and 2009, the Company had no impairment losses related to an intangible asset.

(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. Based on the evaluation, no impairment was considered necessary during the years ended December 31, 2010 or 2009, respectively.

(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 accounting principles generally accepted in the United States of America. 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.

During the fiscal year ending December 31, 2010, the Company had sales to two different entities each of which represented more than 10% of its revenues. These sales are reported in the Radiochemical Products, Nuclear Medicine and Cobalt Products business segments. These two customers accounted for approximately 72% of total revenues. At December 31, 2010, 85% of accounts receivable were from one of these customers due to their additional role as a distributor for the Company s radiochemical and nuclear medicine products. This customer accounted for 55% of total sales in 2010 and 54% of total sales in 2009. The loss of either customer may result in lower revenues and limit the cash available to grow the business and achieve profitability.

(j)

Research and Development Costs

The Company had research and development expenses totaling $5,230,564 in 2010, and $2,609,834 in 2009. Approximately $5,215,000 of the research and development expense in 2010, and $2,584,000 in 2009, was associated with the planning, site selection, licensing, and design of the planned depleted uranium de-conversion and fluorine extraction processing facility. Only a small amount of research and development expense, $15,217 in 2010, and $25,891 in 2009, was for research and development in the other core business segments and was associated primarily with developing new products for the nuclear medicine reference and calibration business.

(k)

Share Based Compensation

The Company accounts for issuances of share based compensation to employees in accordance with U.S. Generally Accepted Accounting Principles 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 year ended December 31, 2010, and December 31, 2009, the Company recognized equity based compensation expense of $739,024 and $989,528 respectively, related to stock options and unvested stock grants. This expense is included as part of salaries and contract labor on 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 dilutive potentially issuable common shares outstanding during the year.

At December 31, 2010, and 2009, 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,	
	2010	2009
Stock options	26,700,000	26,700,000
Warrants	56,552,970	25,940,637
Unvested stock awards issued under the 2006 Equity Incentive		

Plan	
	556,374
	876,014
850 shares of Series B redeemable convertible preferred stock	
	425,000
	425,000
	84,234,344
	53,941,651

(m)

Business Segments and Related Information

Generally accepted accounting principles 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)

Reclassifications

Certain 2009 amounts have been reclassified to conform to the 2010 presentation and a change in accounting for the investment in RadQual LLC. See Note 3 for the effects of this reclassification.

(o)

Recent Accounting Pronouncements

In January 2010, the FASB issued guidance related to escrowed share arrangement and the presumption of compensation. This update provides clarification when escrowed shares are considered compensation or in substance an inducement made to facilitate certain transactions. This guidance was effective upon issuance. The Company has adopted this guidance which had no impact on the Company s operations, financial position, cash flow or disclosures.

In April 2010, the FASB issued guidance related to accounting for certain tax effects of the 2010 Health Care Reform Acts. This update clarifies questions surrounding the accounting implications of the different signing dates of the Health Care and Education Reconciliation Act (signed March 30, 2010) and the Patient Protection and Affordable Care Act (signed March 23, 2010). This guidance states that the FASB and the Office of the Chief Accountant at the SEC would not be opposed to view the two Acts together for accounting purposes. The Company is currently assessing the impact, if any, the adoption of this guidance will have on the Company s disclosures, operating results, financial position and cash flows.

NOTE 2 - BUSINESS CONDITION AND LIQUIDITY

Business Condition The Company has a history of recurring losses with an accumulated deficit of $106,044,054 at December 31, 2010, and a net loss of $6,802,014 for the year then ended. The Company s working capital has increased by $565,165 from the prior year. Working capital includes inventory which will not be sold for up to three years, and the Company has used cash flows from operations of $4,563,556. During 2010, the Company sought to improve future cash flows from operating activities through improving operating cost control measures, pursuing a new quality certification status, and raising capital. The Company s Net Loss was $6,802,014 in 2010, compared to a Net Loss of $4,580,925 in 2009. The increase of $2,221,089, or approximately 49%, was primarily attributable to the research and development expense related to the NRC licensing review costs and expanded engineering work incurred on the planned de-conversion facility.

In 2004, the Company acquired seven patents for the Fluorine Extraction Process (FEP) and began the design and construction of an FEP pilot plant intended to produce germanium tetrafluoride. The plant was completed to the extent required to conduct some initial production testing in early 2006. During the remainder of 2006, and 2007, the Company expanded the scale of production testing in order to define the operational parameters for regular commercial production and completed installation of additional ancillary equipment and systems. In 2008, the Company produced qualification samples of fluoride gas to provide to their prospective customer. This pilot plant has successfully demonstrated the technical viability of FEP and its ability to produce high purity germanium tetrafluoride, but, because of changing market conditions is not producing germanium tetrafluoride on a commercial scale. Instead, the pilot plant is being used for the development of various fluoride gas analytical processes and will be used to test certain key components for the planned uranium de-conversion and fluorine extraction processing facility.

Beginning in 2008, the Company started a major undertaking to construct the first commercial uranium de-conversion facility in the U.S. The Company believes this will provide an excellent commercial opportunity because there are several companies constructing new uranium enrichment facilities in the U.S., and these facilities will produce a large amount of depleted uranium hexafluoride (UF6) that must be de-converted for disposal. In the process of de-conversion the Company plans to use the FEP process to produce high value high purity fluoride gases.

It will require significant capital and time to design, license, and construct such a uranium de-conversion facility. Nonetheless, the Company believes that the commercial opportunity will justify this investment and it has taken several actions in 2009 and 2010, to put this plan in place. In February 2010, the Company issued convertible debentures with an aggregate principal balance of $3,075,000 and in October 2010 completed a private offering generating proceeds of approximately $5,800,000. These funds were raised to provide continuing support for the costs associated with the construction and licensing of the de-conversion facility, and it is planned, as funds become available, that significant costs will continue to be incurred. During the years ended December 31, 2010 and 2009, the Company incurred approximately $5,215,000 and $2,584,000, respectively, of research and development expense associated with the de-conversion facility.

NOTE 3 PURCHASED ASSETS AND INVESTMENTS

Acquisition of Interest in RadQual, LLC

In April 2007, the Company purchased a 6% interest in RadQual, LLC. In May 2008, the Company acquired an additional 18.5% interest in RadQual, LLC, by issuing 1,370,753 shares of common stock valued at $960,000 or $0.70 per share. This acquisition increased the Company s total ownership in RadQual, LLC, to 24.5%.

F-10

The remaining 75.5% ownership of RadQual, LLC, is concentrated among a very small group of investors and due to this concentration the Company was unable to exert significant control or influence over the operations and policies of RadQual, LLC. In December 2010, with the formation of TI Services, LLC, as discussed below, the Company s ability to exercise significant control or influence on RadQual increased. As a result, the Company changed its method of accounting for this investment from the cost method to the equity method. Under the equity method, the Company records its proportionate share of the earnings and losses of RadQual, LLC. In accordance with generally accepted accounting principles, the investment in RadQual, results of operations (current and prior periods presented), and retained earnings have been adjusted retroactively on a step-by-step basis as if the equity method had been in effect during previous periods in which the investment was held. The effect of this adjustment is as follows:

	As Previously Reported	**As Restated**
Investment in RadQual LLC	$ 1,290,000	$ 1,400,931
Accumulated deficit	(99,352,971)	(99,242,040)

Other income (loss)	46,918
	(2,246)
Equity in net income of affiliate	-
	101,537
Net loss	(4,633,298)
	(4,580,925)
New cash used in operating activities	(2,385,333)

	(2,332,960)
Net cash used in investing activities	
	(156,571)
	(208,944)

Acquisition of Interest in TI Services, LLC

During December 2010, the Company together with RadQual LLC, formed a 50% owned joint venture called TI Services, LLC. TI Services was formed to acquire the assets of Technology Imaging Services Inc. which were held by a bank as collateral under a defaulted loan. TI Services, LLC is engaged in the distribution and selling of products related to the nuclear medicine industry. TI Services, LLC was initially capitalized with $190,000 from the Company and $190,000 from RadQual and purchased certain trade receivables valued at $340,132, inventory of $32,318 and cash of $7,550. Because the Company controls more than a 50% direct and indirect ownership interest in TI Services, LLC, the assets and liabilities of TI Services, LLC are consolidated with those of the Company, and RadQual s noncontrolling interest in TI Services, LLC is included in the Company s financial statements as a noncontrolling interest.

As part of the transaction, the Company made a loan to RadQual in the amount of $87,500 to facilitate RadQual s ability to be a 50% partner with the Company in TI Services, LLC. This loan is included in the Company s financial statement as due from a related party. This note is secured by an interest in all the assets of RadQual LLC, bears interest at 5.25% and is due in June 2011.

NOTE 4 - INVENTORIES

Inventories consisted of the following at December 31, 2010, and 2009:

	2010	2009
Raw materials	$ 260,972	$ 251,035
Work in progress	1,388,550	1,584,310
Finished goods	32,318	-
	$	

	1,681,840
$	
	1,835,345

Included in inventories are the various pellet holders and housings involved in target fabrication, raw cobalt, nickel and other raw elements, completed flood sources and irradiated cobalt and nuclear medicine related supplies and products.

Work in progress includes cobalt-60 isotopes that are located in the U.S. federal government s Advanced Test Reactor (ATR) located outside Idaho Falls, Idaho. These isotopes are at various stages of irradiation. Some isotopes are near completion and others may require up to three years to complete. At December 31, 2010 and 2009, these isotopes had a carrying value of $1,007,056 and $1,154,459, respectively. This value is based on accumulated costs which are allocated based on the length of time isotopes remain in the reactor. During 2009, it was determined that certain cobalt production targets had been removed from continued irradiation and had since decayed to an activity level, and value, that was significantly less than their accumulated costs. This material was written down, using the lower of cost or market method, from $1,895,177 to $1,154,459. The Company still plans to use the material in the future as part of their recycle program. This write-down does not reflect a reduction in future cobalt production activity.

NOTE 5 - PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are summarized as follows at December 31, 2010, and 2009:

	Estimated		
	2010		
	2009		
	Useful Lives		

Furniture and fixtures	$	120,907	
	$	120,907	
			3 - 5 years
Transportation equipment		124,579	
		149,634	
			5 - 10 years
Plant and improvements		155,162	
		155,162	
			5 years

Production equipment	
	3,867,847
	3,867,847
	5 - 10 years
	4,268,495
	4,293,550
Less accumulated depreciation	
	(2,177,714)
	(1,818,084)

	Property, plant and equipment, net
$	2,090,781
$	2,475,466

Depreciation expense was $366,250 and $388,033 for the years ended December 31, 2010 and 2009, respectively.

NOTE 6 - PATENTS AND OTHER INTANGIBLE ASSETS

During the year ended December 31, 2008, the Company obtained certain patents and patents pending related to a Fluorine Extraction Process and a container to transport radioactive materials. During 2009, the Company was granted four additional patents for various uses of germanium and silicon tetrafluoride 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. At the present time the value of this patent technology or the feasibility of expanding the fluoride gas markets through the use of this newly patented technology is unknown.

The following table summarizes the patent and intangible activity for the years ended December 31, 2010 and 2009:

	2010	**2009**
Beginning		
$		

352,723

$

318,616

Additions

9,931

34,107

Ending

362,654

352,723

Accumulated amortization

(133,909)

(102,376)

Net

$

228,745

	$
	250,347

During the year ended December 31, 2010, and 2009, the Company recognized $31,533 and $31,441 of amortization expense, respectively.

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:	
2011	157,257
2012	32,109
2013	31,270
2014	3,854
Thereafter	

4,255

$

228,745

NOTE 7 CONVERTIBLE DEBENTURES AND NOTES PAYABLE

Convertible Debentures

On February 24, 2010, 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 $3,075,000, which accrue a fixed sum of interest equal to 6% of the principal amount automatically upon issuance of the debenture. The conversion price in effect for these debentures, on any conversion date, is equal to $0.35 if conversion is at the election of the holder, or the lesser of $0.35 and the average closing price of the Company s common stock for the 120 consecutive trading days up to but not including the maturity date if automatically converted at the maturity date on August 24, 2011, or the per share subscription price of any other equity securities issued by the company for financing purposes subsequent to the original issue date of the debenture, in each case subject to certain adjustments. To the extent any of the debentures are outstanding as of the maturity date and are automatically converted pursuant to the terms of the debentures, then investors holding such debentures will receive warrants to purchase the number of shares of common stock equal to one half of the number of shares of common stock issued upon automatic conversion of the debenture. The Company can prepay all or part of the principal without penalty provided interest is paid proportionately with the principal being prepaid. The fair market value of the Company s common stock was $0.43 per share on the date of the agreement. Consequently, the difference between the anticipated conversion price of $0.35 and the closing price of $0.43, multiplied by the number of issuable common shares upon conversion, has been recorded as a beneficial conversion feature with an increase to equity and a debt discount in the amount of $702,857. This amount will be accreted to interest expense through August 24, 2011.

The securities purchase agreement provides the investors with certain registration rights should the debt be converted to stock. An investor may demand that the Company register the securities if it is unable to sell the securities at any time following the six-month holding period provided in Rule 144. The Company is to use all commercially reasonable efforts to file a shelf registration statement within 45 days of notice, cause the registration statement to be effective within 120 days of notice, and keep the registration statement continuously effective for five years after the effective date or until the underlying securities have been sold.

If the Company fails to timely file the registration statement or to maintain its effectiveness, the Company is required to pay a monthly penalty equal to the greater of 1% of the purchase price paid by the investor or 1% of the market value of the shares then outstanding. Demand for registration has not yet been made.

Notes Payable

In April 2009, the Company renewed a promissory note with Compass Bank. The new note bears interest at 7.25%, requires monthly installments of $9,090 and matures in April 2011. It is anticipated that the note will be renewed at that time.

In September 2009, $340,753 of principal and $41,439 of accrued interest from a Note Payable to the former Chairman of the Board was converted into equity. The conversion was deemed a partial prepayment of principal and accrued interest under the original note. The terms and conditions of the original note remain in full force and effect. The note conversion was pursuant to an Unsecured Note Conversion Agreement dated September 18, 2009, wherein the note was reduced by the conversion amount and 1,273,972 units were issued consisting of one share of Common Stock, par value $0.01 per share, and one Class G Warrant to purchase an underlying share of Common Stock for a purchase price equal to $0.40 per share.

Notes payable as of December 31, 2010 and 2009, consist of the following:

	2010	**2009**
Note payable to a finance company bearing interest at 8.9%; monthly installments of $674, secured by a vehicle.	$ 10,134	$ 16,979
Note payable to a bank, converted from a line of credit in		

September 2007, bears interest at 9.25%, monthly payment of $3,760, secured by equipment and accounts receivable, due September 2011.	
	32,547
	72,558
Promissory note to a bank, bearing interest at 7.25%; monthly installments of $9,090, secured by equipment, accounts receivable and inventory; due April 2011; it is anticipated that this note will be renewed.	
	407,083

483,181	Note payable to a finance company bearing interest at 9.4%; monthly installments of $697, secured by a vehicle, due March 2012.
10,429	
17,419	Note payable to the former chairman of the board, interest accrues at 7%; payable annually on April 1; principal payments are due annually on April 1 consisting of 30% of prior year net income, with remaining

balance due April 2012; unsecured.	
	500,000
	500,000
Total notes payable	
	960,193
	1,090,137
Less: current maturities	
	(454,811)

	(126,480)
Notes payable, excluding current installments	$ 505,382
	$ 963,657

Maturities of Notes Payable obligations at December 31, 2010 are as follows:

Years ending December 31,	
2011	$ 454,811
2012	505,382

$

960,193

NOTE 8 - LEASE OBLIGATIONS

Capital leases

The following table summarizes equipment and the related depreciation held under capital leases at December 31, 2010 and 2009:

	2010	**2009**
Production equipment	$ 202,910	$ 202,910
Less: accumulated depreciation	(172,474)	

	(131,892)
Net equipment under capital lease	
$	30,436
$	71,018

Operating leases

The Company leases office space, certain office equipment and production equipment under operating leases expiring at various dates through 2011. Rental expense under such leases for the years ended December 31, 2010 and 2009 was $189,451 and $195,802 respectively.

The following is a schedule by years of future minimum lease payments under capital and operating lease obligations together with the present value of the net minimum lease payments as of December 31, 2010:

Years ending December 31,	**Capital**	**Operating**
2011	$ 10,023	$ 63,045
Thereafter	-	-
Total minimum lease payments		

	10,023
	$
	63,045
Less amount representing interest	
	(93)
Present value of net minimum lease payments	
	9,930
Less current portion	

	(9,930)
Capital lease obligation - long term	
$	-

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

Authorized Shares Outstanding

On July 20, 2010, at the Company s Annual Meeting of Shareholders, an amendment to the Company s Restated Articles of Incorporation was approved. The amendment increased the number of authorized shares of common stock, having a par value of $0.01 per share, from 500,000,000 to 750,000,000. This increase in authorized shares has been reflected on the Consolidated Balance Sheet as of December 31, 2010 and 2009.

Private Placement

During September 2009, the Company completed a private placement offering of 4,407,306 units priced at $0.30 per unit in exchange for cash proceeds of $940,000 and conversion of certain debt of $340,753 and accrued interest of $41,439. Each unit consisted of one share of common stock and one Class G Warrant to purchase a share of common stock at $0.40 per share. The Class G Warrants have a two year term, expire in September 2011, and include a first

anniversary price adjustment provision based on the average stock price of the 20 days prior to the anniversary date. In accordance with generally accepted accounting principles, these warrants are considered a fixed-for-fixed equity instrument. The proceeds were allocated to the warrants based upon their value of $1,892,497 and resulted in $778,379 being allocated to the warrants and $543,813 allocated to the shares of common stock. The fair value of the warrants, determined using the Black-Scholes Option Pricing Model, was calculated using the following assumptions: risk free interest rate of 3%, expected dividend yield of 0%, expected volatility of 126.93% and an expected life of 2 years. In accordance with the Securities Purchase Agreement, the stock and warrants carry registration rights. A shareholder may demand that the Company Register the securities if they are unable to sell the securities any time following the six-month holding period provided in Rule 144. The Company is to use all commercially reasonable efforts to file a Shelf registration statement within 45 days of notice, cause the registration statement to be effective within 120 days of notice and keep the registration statement continuously effective for five years after the effective date or until the underlying securities have been sold or may be sold under Rule 144. If the Company fails to timely file the registration statement or maintain its effectiveness, the Company is required to pay a monthly penalty equal to the greater of 1% of the purchase price paid by the purchaser or 1% of the market value of the shares then outstanding. Demand for registration has not yet been made.

On October 29, 2010 the Company issued 29,075,000 units for $0.20 per unit, for total proceeds of $5,815,000. Each unit consists of one share of common stock and one Class I warrant to purchase one share of common stock for an exercise price of $0.40. The Class I warrants expire in five years and contain a call provision that permits the Company to call the warrants in the event that the Company's closing stock price is greater than $0.80 per share for any 20 consecutive trading days. In conjunction with this placement, the Company issued an additional 1,537,333 Class I warrants to the placement agent. The Company was required to file and is required to maintain an effective resale registration statement covering the shares of common stock issued pursuant to this offering, as well as the shares of common stock underlying the warrants. If the Company fails to maintain an effective resale registration statement it is required to pay a monthly amount equal to the 1% of the aggregate purchase price paid by the investor, not to exceed 10% in the aggregate. The proceeds were allocated to the warrants based upon their value of $5,640,301 (of which $283,253 is attributable to the warrants issued to the placement agent) and resulted in $2,863,159 allocated to the warrants and $2,591,841 allocated to the shares of common stock. The fair value of the warrants, determined using the Black-Scholes Option Pricing Model, was calculated using the following assumptions: risk free interest rate of 1.17%, expected dividend yield of 0%, expected volatility of 88.73% and an expected life of 5 years.

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 of Directors 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, 2010, there were 850 shares of the Series B Preferred Stock outstanding with a mandatory redemption date of May 2022 at $1,000 per share or $850,000. The shares are also 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 balance sheet.

Employee Stock Purchase Plan

In September 2004, the Company s Board of Directors 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 payroll 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 2010, and 2009, the Company issued 61,057 and 143,839 shares of common stock to employees for proceeds of $21,389 and $27,165, respectively, in accordance with the employee stock purchase plan.

In January 2011, the Company issued 14,545 shares of common stock to employees for proceeds of $3,462 in accordance with the Employee Stock Purchase Plan.

2006 Equity Incentive Plan

In April 2006, the Company adopted the International Isotopes 2006 Equity Incentive Plan (the 2006 Plan). The 2006 Plan obtained shareholder approval in July 2006. The 2006 Plan replaced the Company s 2002 Long-Term Incentive Plan (the Prior Plan).

The 2006 Plan permits the granting of any or all of the following types of awards: (1) incentive and nonqualified stock options, (2) stock appreciation rights, (3) stock awards restricted stock and stock units, (4) performance shares and performance units conditioned upon meeting performance criteria and (5) other stock or cash based awards.

The 2006 Plan authorizes the issuance of up to 20,000,000 shares of Common Stock, plus 1,350,000 shares issued but not subject to outstanding awards under the Prior Plan. There are also 13,000,000 shares granted and outstanding under the Prior Plan that could become available for issuance under the 2006 Plan. (For example, if they are forfeited or otherwise expire or terminate without the issuance of shares.) Unless earlier terminated the 2006 Plan will terminate on July 12, 2016. At December 31, 2010, there were 7,283,528 shares available for issuance under this plan.

Non-vested Stock Grants During January 2009, the Company granted 1,243,563 shares of stock to certain employees as part of their annual performance award and incentive under the 2006 Equity Incentive Plan. Each stock award was 20% vested on the date of grant and an additional 20% of the award will vest on each anniversary thereof until fully vested. The stock awards had a grant date fair value of $223,841. At the time of grant 20% of the shares of 248,713 shares, were vested. Simultaneously, at the request of employees, 77,092 shares were withheld to pay taxes on deemed employee compensation.

Non-vested stock awards outstanding at December 31, 2010 and 2009, and changes during the year ended December 31, 2010 and 2009, were as follows:

	Non-vested Stock Awards	
	2010	
	Weighted average grant date fair value	
	2009	
Balance at beginning of year		

876,014

$

0.18

-

Granted

-

-

1,243,563

Vested

(219,003)

$

0.18

(248,713)

Forfeited

(100,637)

$	
	0.18
	(118,836)
Non-vested shares at end of year	
	556,374
	876,014

The intrinsic value of stock awards vested during the years ended December 31, 2010 and 2009 was $61,321 and $0, respectively. Fair value of stock awards vested during the years ended December 31, 2010 and 2009 was $100,751 and $44,768, respectively. The value of non-vested stock under the 2006 Equity Incentive Plan at December 31, 2010 is $155,785 and is based on a December 31, 2010 value of $0.28 per share. The Company recognized $30,048 and $102,412 of compensation expense for the years ended December 31, 2010 and 2009, respectively. As of December 31, 2010, there was approximately $23,325 of unamortized deferred compensation that will be recognized over a weighted average period of approximately 1.6 years.

Stock Options - During May 2009, the Company issued 7,500,000 options to officers and directors under the 2006 Equity Incentive Plan. The options have an exercise price of $0.32 per share, vest 25% on the first anniversary of the grant date and 25% after each additional one-year period of continuous service and expire 10 years from the date of grant. These options had a fair value of $1,753,718, or $0.23 per share as estimated on the date of grant using the Black-Scholes option pricing model.

The fair value of each option grant was estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	2009
Expected dividend yield	-
Risk-free interest rate	2.4%
Expected volatility	84%
Expected life	6 years

The expected life of stock options represents the period of time that the stock options granted are expected to be outstanding based on historical exercise trends. The expected volatility is based on the historical price volatility of our common stock. The risk-free interest rate represents the U.S. Treasury bill rate for the expected life of the related stock options. The dividend yield represents our anticipated cash dividend over the expected life of the stock options.

During May 2009, the Company issued 800,000 non-employee options under the 2006 Equity Incentive Plan. The options were issued to individuals providing consulting services for the depleted uranium de-conversion facility. These options have an exercise price of $0.32 per share, vest 20% on the first and second anniversary of the grant date and 30% per year thereafter and expire in May 2019. The options had a grant date fair value of $182,202, or $0.23 per share as calculated using the Black-Scholes option pricing model.

A summary of the stock options issued under the Company s Plan is as follows:

Weighted

Average

	Weighted Average Exercise Price	Remaining Contractual Life	Aggregate Intrinsic Value
Outstanding at December			

		31, 2008	
		18,780,000	
		$	
		0.09	
	Exercised		
		(380,000)	
		0.08	
	Forfeited		
		-	
		-	

Granted	8,300,000	0.32
Outstanding at December 31, 2009	26,700,000	0.16
Exercised		

-

-

Forfeited

-

-

Granted

-

-

Outstanding at December 31, 2010				Exercisable at December 31, 2010
26,700,000	$	0.16	4.4	$ 4,104,000

	20,035,000
	$
	0.10
	3.1
	$
	4,104,000

The total intrinsic value of stock options exercised in 2010 and 2009 was $0.00 and $197,600, respectively.

The total intrinsic value of stock options outstanding at December 31 2010 was $4,104,000, all of which relates to options vested and exercisable. The intrinsic value for stock options outstanding is calculated as the amount by which the quoted price of $0.28 of our common stock as of the end of 2010 exceeds the exercise price of the options.

The total fair value of options vested in 2010 and 2009 was $653, 800 and $715.000, respectively. The Company recognized $708,976 and $887,116 of compensation expense for the years ended December 31, 2010 and 2009, respectively. As of December 31, 2010, there was a $606,209 of total unrecognized compensation expense related to nonvested stock options which is expected to be recognized over a weighted average period of 1.7 years.

The following table summarizes information about stock options under the Plan outstanding at December 31, 2010:

Weighted

Average

Weighted

				Remaining	
	Weighted				
	Exercise				
Number					
Average					
Contractual					
Number					
Average					
Price					
Outstanding					
Exercise Price					
Life					
Exercisable					

	Exercise Price
$0.02-0.03	
12,000,000	
$	
0.02	
1.4	
12,000,000	
$	
0.02	
$0.07-0.08	
5,000,000	
$	
0.08	
4.6	
5,000,000	

$

0.08

$0.32

8,300,000

$

0.32

8.3

2,035,000

$

0.29

$0.70

1,000,000

$

0.70

6.9

800,000

	$
	0.70
	$0.77
	400,000
	$
	0.77
	6.9
	200,000
	$
	0.77

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

Stock Warrants

The following summarizes warrant activity for the years ended December 31, 2010 and 2009:

Outstanding at December 31, 2008	21,533,331	$ 0.30
Granted	4,407,306	0.40
Outstanding at December 31, 2009	25,940,637	
		0.32
Granted	30,612,333	

	0.40	
Outstanding at December 31, 2010	56,552,970	$ 0.39

NOTE 10 - INCOME TAXES

The Company paid no federal or state income taxes during 2010 or 2009. 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:

	2010	**2009**
Income tax benefit	$ (2,312,684)	$ (1,575,321)
Nondeductible expenses		

	5,891
	9,580
State taxes net of federal benefit	
	(312,893)
	(213,132)
Change in valuation allowance	
	2,619,686
	1,778,873
Total income tax expense	
$	-
$	-

The tax effects of temporary differences that give rise to significant portions of the Company s deferred tax assets (liabilities) as of December 31, 2010 and 2009 are presented below:

	2010	2009
Deferred income tax asset		
Net operating loss carryforward	$ 7,845,058	$ 5,528,275
Valuation allowance	(7,745,004)	

	(5,411,061)
Total deferred income tax asset	
	100,054
	117,214
Deferred income tax liability - depreciation	
	(100,054)
	(117,214)
Deferred tax asset (liability)	
$	-
$	-

At December 31, 2010, the Company had net operating losses of approximately $20,012,000 that will begin to expire in 2023. The valuation allowances for 2010 and 2009 have been applied to offset the deferred tax assets in recognition of the uncertainty that such benefits will be realized.

In accordance with generally accepted accounting principles, 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 has identified its federal income tax return and its state income tax returns in Idaho as major tax jurisdictions. The Company s federal income tax returns for the years ended December 31, 2006 through 2010 remain subject to examination. The Company s income tax returns in state income tax jurisdictions remain subject to examination for years ended December 31, 2007 through 2010. 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 adjustments to such reserves were required by generally accepted accounting principles. 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 U.S. Department of Energy, and its prime operating contractor, which controls the reactor and laboratory operations. The revenue associated with the sale of HSA Cobalt is largely dependent on the Company s sole customer for this product. Nuclear Medicine Reference and Calibration Standard manufacturing is conducted under an exclusive contract with RadQual, LLC which in turn has an agreement in place with several companies for distributing the product. The majority of the radiochemical 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 of the Company s business segments involve radioactive materials the Company is required to have an operating license from the Nuclear Regulatory Commission (NRC) and specially trained staff to handle these materials. The Company has an NRC operating license and has amended this license several times to increase the amount of material permitted within the facility. Additional processing capabilities and license amendments could be implemented that would permit processing of other reactor produced radioisotopes by the Company but this license does not currently restrict the volume of business operation performed or projected to be performed in the coming year. An irrevocable, automatic renewable letter of credit against a Certificate of Deposit at Wells Fargo Bank has been used to provide the financial assurance required by the NRC for the Idaho facility license.

Defined Contribution Pension Plan

The Company has a 401(k) defined-contribution pension plan (the Plan) for which employees are eligible after completing six months of full time service. Participants, under provision of Internal Revenue Code §401(k), may elect to contribute up to $16,500 of their compensation to the 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 2010 or 2009. All amounts withheld for employee contributions were made during 2010, with the exception of the final payment being made in January 2011. This final payment was included in accrued liabilities at December 31, 2010. The employer reserves the right to terminate the 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 the facilities upon termination or relocation of operations. The Company has developed a decommissioning funding plan using guidance provided by the NRC and estimated a cost to decommission the facility. 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 Generally Accepted Accounting Principles, the Company has recognized the fair value of the decommissioning costs as an asset retirement obligation and a related capitalized lease disposal cost. The Company recognizes period-to-period changes in the liability resulting from the passage of time (accretion expense) and revisions to the original estimate resulting from changes in the facility processes or radiological characteristics. Changes resulting from the passage of time are recorded as interest expense in the statement of operations and changes resulting from revisions to the original estimate are recorded as an increase or decrease to the capitalized lease disposal cost. The capitalized lease disposal cost is amortized on a straight line basis over the remaining life of the facility operating lease agreement.

The following summarizes, for the years ended December 31, 2010 and 2009, the activity of the asset retirement obligation:

	Obligation for Lease Disposal Cost	Capitalized Lease Disposal Costs
Balance December 31, 2008	$ 261,721	$ 86,974
Increase in lease disposal costs		129,275
		129,275
Accretion expense/Amortization Expense		

	21,573
	(19,962)
Balance December 31, 2009	
	412,569
	196,287
Increase in lease disposal costs	
	-
	-
Accretion expense/Amortization Expense	
	34,009
	(55,353)

	Balance December 31, 2010
	$
	446,578
	$
	140,934

NOTE 13 FAIR VALUE MEASUREMENTS

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. To measure fair value, a hierarchy has been established which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs. This hierarchy uses three levels of inputs to measure the fair value of assets and liabilities as follows:

Level 1 Quoted prices in active markets for identical assets or liabilities.

Level 2 Observable inputs other than Level 1 including quoted prices for similar assets or liabilities, quoted prices in less active markets, or other observable inputs that can be corroborated by observable market data.

Level 3 Unobservable inputs supported by little or no market activity for financial instruments whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

The Company uses fair value to measure certain assets and liabilities on a recurring basis when fair value is the primary measure for accounting. Fair value is used on a nonrecurring basis to measure certain assets when applying lower of cost or market accounting or when adjusting carrying values. Fair value is also used when evaluating impairment on certain assets, including inventory, patents and intangibles, and long-lived assets.

Nonrecurring basis:

At December 31, 2009, the Company had one asset measured at fair value on a nonrecurring basis. The Company determined that irradiated cobalt material had declined in marketability due to a decrease in the activity level. The Company estimated the fair value of the irradiated cobalt material by taking the expected production cost per curie by the actual activity level of the cobalt. This analysis resulted in irradiated cobalt material with a carrying value of $820,000 being written down to approximately $79,000 resulting in an impairment charge of approximately $741,000 which was included in net loss for the period.

Description	**December 31, 2009**	**Fair Value Measurements at Reporting Date Using Level 1**	**Level 2**	**Level 3**
Work in process inventory	$ 79,000	$ -		

$	-
$	79,000
Total	
$	79,000
$	-
$	-
$	79,000

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:

.

Nuclear Medicine segment consists of the manufacturing of sources and standards associated with SPECT imaging, patient positioning, and calibration or operational testing of dose measuring equipment for nuclear pharmacy.

.

Cobalt Products segment includes the production of high and medium specific activity bulk cobalt, recycling expended cobalt sources, and fabrication of a wide array of cobalt teletherapy and experimental irradiator source capsules.

.

Radiochemical Products segment includes production 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.

.

Fluorine Products segment concerns the production of small scale qualification samples of high purity fluorine gas compounds (such as germanium tetrafluoride) for the electronics and silicon chip manufacturing industry, as well as development of laboratory and analytical processes required to support the planned uranium de-conversion and fluorine extraction facility. The Company has acquired all patent rights to these processes.

.

Radiological Services segment concerns a wide array of miscellaneous services such as processing of gemstone which has undergone irradiation for color enhancement, radiological engineering consultant services, Type A package certification testing, and waste packaging/recycle services.

.

Transportation segment includes transportation services the Company engages in for the commercial transfer of nuclear products for which the Company is licensed to transport.

The following presents certain segment information as of and for the years ended December 31, 2010 and 2009:

Sale of Product	**2010**	**2009**
Radiochemical Products	$ 1,746,735	$ 1,714,529
Cobalt Products	2,250,049	2,180,445
Nuclear Medicine Standards		

	1,757,564
	1,800,935
Radiological Services	
	195,917
	239,722
Flourine Products	
	-
	878
Transportation	
	157,016

	186,335	
Total Segments		
	6,107,281	
	6,122,844	
Corporate revenue		
	-	
	-	
Total Consolidated		
$	6,107,281	
$	6,122,844	

	Depreciation and Amortization	
	2010	**2009**
Radiochemical Products	$ 37,106	$ 39,148
Cobalt Products	110,059	122,687
Nuclear Medicine Standards	5,111	

4,191

Radiological
Services

10,399

10,730

Flourine
Products

257,611

224,379

Transportation

27,087

30,468

Total Segments	447,373
	431,603
Corporate depreciation and amortization	5,763
	7,832
Total Consolidated	$ 453,136
	$ 439,435
Segment Income (Loss)	

	2010	**2009**
Radiochemical Products	$ 140,416	$ 157,401
Cobalt Products	894,830	316,282
Nuclear Medicine Standards	736,160	

				752,445	
Radiological Services					
				74,189	
				32,584	
Flourine Products					
				(5,665,581)	
				(3,266,961)	
Transportation					
				(112,272)	
				(80,916)	
Total Segments					

(3,932,258)

(2,089,165)

Corporate loss

(2,869,756)

(2,491,760)

Net Loss

$

(6,802,014)

$

(4,580,925)

Expenditures for Segment Assets

2010

2009

Radiochemical Products

$

-

$

-

Cobalt Products

-

6,202

Nuclear Medicine Standards

-

25,556

Radiological Services

-

-

Flourine
Products

9,931

44,326

Transportation

-

81,653

Total
Segments

9,931

157,737

Corporate purchases

-

-

Total Consolidated

$

9,931

$

157,737

Segment Assets

2010

2009

Radiochemical Products

$

269,673

$

314,386

Cobalt
Products

1,931,262

2,150,012

Nuclear
Medicine
Standards

732,790

657,452

Radiological
Services

45,677

38,708

Flourine Products

1,691,917

1,884,243

Transportation

60,227

95,749

Total Segments

4,731,546

5,140,550

Corporate assets

6,496,047

2,351,686

Total
Consolidated

$

11,227,593

$

7,492,236

NOTE 15 - SUBSEQUENT EVENTS

On March 25, 2011, we issued Series J Warrants for the issuance of 13,333,331 shares of our common stock. The Warrants expire on September 25, 2011 and carry an exercise price of $0.43. During the time these warrants are outstanding, we will record approximately $105,000 of compensation expense.

EXHIBIT INDEX

Exhibit Number	**Description of Document**
2.1	Securities Purchase Agreement dated March 21, 2007 (incorporated by reference to Exhibit 2.1 of the Company's Current Report of Form 8-K filed on March 22, 2007).
2.2	Unit Purchase Agreement effective as of May 23, 2008 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on June 2, 2008).
2.3	Asset Purchase Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on June 5, 2008).
2.4	First Amendment to the Asset Purchase Agreement, dated June 3, 2008 (incorporated by reference to Exhibit 99.2 of the Company s Current Report on Form 8-K filed on June 5, 2008).
2.5	Securities Purchase Agreement dated November 7, 2008 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on November 12, 2008).
2.6	Securities Purchase Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.1 of the Company s Current Report on Form 8-K filed on September 18, 2009).
2.7	Unsecured Note Conversion Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.2 of the Company s Current Report on Form 8-K filed on September 18, 2009).
2.8	

Securities Purchase Agreement dated February 24, 2010 (incorporated by reference to Exhibit 2.1 of the Company s Current Report on Form 8-K filed on February 25, 2010).

2.9

Securities Purchase Agreement dated October 29, 2010 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on November 1, 2010).

3.1

Restated Articles of Incorporation as amended (incorporated by reference to Exhibit 3(i) of the Company s Quarterly Report on Form 10-Q for period ended June 30, 2010).

3.2

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 Class E Warrant (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on April 21, 2008).

4.2

Form of Class F Warrant (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on November 12, 2008).

4.3

Form of Class G Warrant (incorporated by reference to Exhibit 2.1 of the Company s Current Report on Form 8-K filed on September 18, 2009).

4.4

Form of Debenture (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on February 25, 2010).

4.5

Form of Class H Warrant (incorporated by reference to Exhibit 4.2 of the Company s Current Report on Form 8-K filed on February 25, 2010).

4.6

Form of Warrant (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on November 1, 2010).

4.7

Form of Class J Warrant.***

10.1

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

Form of Incentive Stock Option Agreement (incorporated by reference to Exhibit 10.2 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).*

10.3

International Isotopes 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).*

10.4

Lease Agreement 4137 Commerce Circle (incorporated by reference to Exhibit 10.6 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.5

Option to Purchase and Right of First Refusal for Property located at 4137 Commerce Circle (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

Lease Agreement 3159 Commerce Way (incorporated by reference to Exhibit 10.8 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.7

Option to Purchase and Right of First Refusal for Property located at 3159 Commerce Way (incorporated by reference to Exhibit 10.9 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.8

Promissory Note dated September 15, 2007 with Compass Bank (formerly with Texas State Bank) (incorporated by reference to Exhibit 10.9 of the Company's Annual Report on Form 10-K for the year ended December 31, 2009).

10.9

Unsecured Note to former Chairman of the Board, Dated April 1, 2002 (incorporated by reference to Exhibit 10.12 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.10

Form of Note Purchase Agreement and Form of Unsecured Convertible Promissory Notes (incorporated by reference to Exhibit 10.13 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.11

2006 Equity Incentive Plan (incorporated by reference to Annex A of the Company s definitive proxy statement on Schedule 14A filed on May 1, 2006).

10.12

Alpha Omega Services, Inc. Distributor Agreement dated August 14, 2007 (incorporated by reference to Exhibit 99.1 of the Company's Current Report of Form 8-K filed on August 22, 2007).

10.13

Letter Agreement dated December 21, 2007 between the Company and Firebird Global Master Fund II, Ltd., together with a schedule of substantially identical documents omitted from filing pursuant to Rule 12b-31 promulgated under the Exchange Act (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2008).

10.14

Technical Support Services Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.3 of the Company s Current Report on Form 8-K filed on June 5, 2008).

10.15

Form of Indemnification Agreement (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on September 17, 2008).

10.16

Letter Agreement dated April 9, 2008 (incorporated by reference to Exhibit 4.1 of the Company s Current Report on Form 8-K filed on April 21, 2008).

10.17

Memorandum of Agreement dated October 22, 2009 between International Isotopes Inc. and 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).

10.18

Gemstone Processing Agreement between International Isotopes Inc. 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).

10.19

Manufacturing Agreement dated as of January 30, 2006 by and between International Isotopes Inc. 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).

10.20

Change in Terms Agreement dated April 20, 2009 with Compass Bank. (incorporated by reference to Exhibit 10.21 of the Company's Annual Report on Form 10-K for the year ended December 31, 2009).

10.21

Promissory Note with Texas State Bank for Commercial Loan (incorporated by reference to Exhibit 10.11 of the Company s Annual Report on Form 10-KSB for the year ended December 31, 2006).

10.22

De-Conversion Services Agreement dated April 13, 2010 by and between International Isotopes Fluorine Products, Inc. and Louisiana Energy Services, LLC. (incorporated by reference to Exhibit 10.1 to the Company s Quarterly Report on Form 10-Q for the quarter ended March 31, 2010 filed on May 17, 2010).**

10.23

Amended and Restated Employment Agreement, by and between International Isotopes Inc. and Stephen Laflin dated as of May 31, 2010 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on June 23, 2010).*

10.24

Work For Others Agreement by and between International Isotopes Inc. and Battelle Energy Alliance, LLC dated July 31, 2010 (incorporated by reference to Exhibit 99.1 of the Company s Current Report on Form 8-K filed on August 3, 2010).

10.25

Sales Agreement effective August 1, 2010 by and 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).**

10.26

Registration Rights Agreement by and between the Company and certain investors party thereto dated October 29, 2010 (incorporated by reference to Exhibit 99.2 of the Company s Current Report on Form 8-K filed on November 1, 2010).

10.27

Modification #1, dated as of December 22, 2010 to the Amended and Restated Employment Agreement entered into on June 23, 2010 by and between International Isotopes Inc. and Stephen Laflin.****

10.28

Modification #2, dated as of February 18, 2011 to the Amended and Restated Employment Agreement entered into on June 23, 2010 by and between International Isotopes Inc. and Stephen Laflin.****

21.1

Subsidiaries (incorporated by reference to the Company s Annual Report on Form 10 KSB for the year ended December 31, 2005).

23.1

Consent of Hansen, Barnett & Maxwell.***

31.1

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Executive Officer.

31.2

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Financial Officer.

32.1

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

32.2

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

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

**Contains material that has been omitted pursuant to a request for confidential treatment and such material has been filed separately with the Commission.

***Filed herewith.

****This exhibit constitutes a management contract or compensatory plan or arrangement and is filed herewith.