

ELECTROMAGNETICALLY SEPARATED STABLE ISOTOPES QUESTIONS/RESPONSES

- 1) Does the DOE have a list of companies that have expressed interest in the production of stable isotopes? Will this list be available?

Answer - The list of presolicitation conference attendees is available on the web at http://www.oakridge.doe.gov/procurement/DE_RP05_00OR22763.htm

- 2) The proposal requires a 5-yr. inventory of isotopes based upon sales. Will the DOE supply a list of isotopes and the projected number of years of inventory presently available? This will be needed to project the effort that would be needed to fulfill this requirement.

Answer - Those companies whose Concept Papers meet DOE's objectives and with whom DOE continues the procurement process, will be provided an inventory listing. The DOE has in excess of a 5 year inventory of most isotopes. The DOE does not expect the company to maintain a 5 year inventory of the commercial isotopes such as strontium-88, thallium-203 and zinc-65. Reference page 3 of the Supplemental Information.

- 3) Can the DOE provide current year sales of the top ten EM stable isotopes?

Answer - The fiscal year 1999 sales to date for the EM stable isotopes are:

Calcium-42	\$ 2,335
Calcium-44	1,040
Calcium-48	29,128
Rubidium-87	468,797
Strontium-88	1,458
Thallium-203	8,809
Zinc-68	2,048
All other EM-stable	
Isotope Revenues	<u>1,310,354</u>
Total	\$1,823,969

- 4) One of the options is to include non-EM produced isotopes. Can the DOE supply a list of these along with the last 5 years of sales?

Answer - This information can be provided to those invited to continue the procurement process. The DOE currently has no helium and, as such, none can be provided. Sales for non-EM stable isotopes for the last three years are listed

below. It should be noted that in Fiscal Year 1996 and preceding years, non-EM stable isotopes were sold from Mound Facility in Miamisburg, Ohio. Also, the non-EM stable isotope sales do not include Helium-3 or Lithium-6 and 7 sales.

- 5) Can the DOE supply a list of long term contracts that they presently have for EM and non-EM isotopes?

Answer - The DOE has repeat customers, but no long-term contracts.

- 6) Materials Laboratory ? How many orders have been processed by this lab - last year? and in the last 5 years? What operations were performed?

Answer - Approximately 100 processes per year are performed that run the spectrum of the "available" equipment listed in page 4 of the Supplemental Information.

What was the income for these operations? Will the DOE supply the procedures used by this area?

Answer - Most of these operations are recorded as part of the isotopes sale price and are not easily separable. DOE will supply copies of the pertinent procedures to the successful offeror. Operations within the chemistry laboratory are primarily associated with running the calutrons.

What is the present staffing level of this area?

Answer - Records regarding numbers of operations performed have not been kept; however, approximately 3 FTEs are employed when the calutrons are operating.

- 7) Chemical Laboratory? Will the DOE supply the procedures to perform the purification done here? How many separations and purifications have been done last year? and in the last 5 years? Based on current sales, standing orders and current inventory - how many separations would be projected during the next year? 5 years? What is the present staffing level of this area?

Answer - DOE will supply copies of pertinent procedures to the successful offeror. Operations within the chemistry laboratory are primarily associated with running the calutrons. These operations comprise such activities as preparing "sources" and removing the isotopes from the collector pockets. Records regarding numbers of operations performed have not been kept, however, approximately 3 FTEs are employed when the calutrons are operating.

- 8) Can the DOE supply a list of employees that are skilled in the procedures of the Material and Chemical Laboratories that may be eligible for hire?

Answer - A list of employees that may be eligible for hire is not available at this time.

- 9) Does the DOE sub-contract any of the Material or Chemical Laboratory work? If they do will they supply a list of companies?

Answer - The DOE does not subcontract any of the material or chemical laboratory work. Support is provided from other DOE infrastructure to perform mass spectrometer analyses when needed.

- 10) Small Laboratory Isotope Separator ? What are the conditions and cost of using this instrument? where is it located ?. The contract calls for installing and operating a new enrichment unit or commercial separator ? who will own this unit?, any restrictions on sub-contracting this by the successful Offeror? What is the present staffing level of this area?

Answer - LANL's annual operating cost is about \$200,000. The details are contained in the Draft Report "The Future of Stable Isotope Production in the United States," by Abe Weitzberg. The new enrichment unit/separator will be co-owned by the DOE and the private partner proportional to the investment. There are no restrictions on sub-contracting as long as the spirit and objective of the privatization is met. Staffing levels will depend on enrichment technology used.

- 11) Marketing and Sales. - Both EM and non-EM stable isotopes are included in this write up. Does this mean that the successful Offeror will be responsible for both types of stable isotopes? Can you break down the number of shipments for EM and non-EM produced isotopes? The value of each group yearly? and for the last 5 years? What is the present staffing level of this area?

Answer - The offeror will be responsible for sales and distribution for both EM and non-EM stable isotopes. The offeror will be responsible for production and maintaining inventory for only research EM stable isotopes. The number of shipments for EM stable isotopes were 380, while non-EM stable isotopes were 20. The annual sales were as follows: \$7,640,717 for EM stable isotopes and \$4,785,807 for non-EM stable isotopes. The present staffing level of 2.5 covers both marketing and sales.

- 12) Isotope Separators - The request listed several different options for replacement of the calutrons. What are the most current - cost, labor, elapse time estimates for each of the small isotope separators?

Answer - This information is contained in the reference 1999 Draft Report entitled, "Future of Stable Isotope Production in the United States" by Abe Weitzberg.

Copies were provided during the pre-solicitation conference on October 5, 1999 or can be obtained by contacting Barbara Jackson [mailto:jacksonbj@oro.doe.gov]

- 13) Will the DOE set the selling price for the EM stable isotopes?

Answer - The DOE is concerned about the stability of pricing, particularly for the researchers. It also recognizes the practice of giving quantity discounts for large purchases. The DOE will work with the perspective offerors to develop a floor and ceiling for isotopes sold from the DOE's inventory.

- 14) Will the DOE help foster team arrangements as mentioned in the RP05-00OR22763? For example - Will the DOE identify local businesses that have expertise that is available, or companies that are specialist that could be potential partners with companies that lack that expertise?

Answer - The Supplemental Information did not state that DOE would help foster team arrangements. We encourage interested firms to enter into team arrangements in order to enable the companies involved to (1) complement each other's unique capabilities and (2) offer the Government the best combination of performance, cost, and delivery. The DOE encourages the offeror to work with local economic development offices such as CROET in East Tennessee.

- 15) What is the present staffing level of the Packaging and Distribution effort?

Answer - Currently there is one full-time employee.

- 16) Further to the sales summary, page 7, what are the unit mass sales, average selling price per unit, and the enrichment required, for each of the top 7 isotopes.

Answer - The average selling prices and enrichments are on the Isotope Programs catalog on the web at: <http://www.ornl.gov/isotopes/catalog.htm>. Based on the total sales dollars, one can derive the units sold.

- 17) Regarding the 3 smaller isotope separators that may be available for interim production, page 5 notes that the DOE has an SLIS available for use. Which one is it?

a) Have any production rates and costs been established for the current top 7 isotopes on these separators, as well as thallium-203 and cadmium-112.

b) Will more than one of these separators actually be available for use by the winner of this award? Are the operators under any obligation to work with the award winner?

c) Will these units be available for relocation?

Answer - Regarding this question and parts a through c, please reference pages 4 and 5 of the Supplemental Information. The use of the stable isotope separator at LANL is an interim step until production capability can be established. This separator could be relocated.

18) Were the above separators built by contractors, or in-house staff, of the respective institutions where they are located. Who were the outside contractors, if any?

Answer - The DOE understands that these facilities were built by in-house staff, although some subcontractors may have been used.

19) It is unlikely that development of an advanced isotope separation technology will be so viable commercially such that the winner of the award could justify internal funding of such a project. What is the anticipated mechanism for the award winner to seek government funding for further development of this technology? The information states a “cost sharing”, is there some indication of how this would work?

Answer - The cost sharing for Government funding will be developed during discussions with the successful offeror.

20) It is difficult to assess the costs, and commercial justification, of processing “pocket”’s without a list of what “pockets” await processing. Will such a list be available? Were any standard costs developed for typical pocket processing (for example, # hours, cost of supplies, yields).

Answer - A list of pockets will be made available to the successful offeror. Most of these pockets contain isotopes which have existing inventories already processed that are adequate for several years’ projected sales. Processing of these pockets would be on an as needed basis to meet future demands or when a new production capability is in place.

21) Regarding Criterion 4, page 15, what is the “weighting” factor for the benefit to the Oak Ridge, TN area? Will it be a consideration in the selection of a successful offeror. In developing the next technology it may be advantageous to work closely with the laboratories where the small isotope separators are located, namely at LANL, LLNL and UCLA. Presumably, further development at ORNL would be at the exclusion to the other areas. Is this the intended impact? In the interim, the use of other separators at other DOE Facilities are only an interim measure rather than a commercial establishment of a private capability. This capability could be located at Oak Ridge. Is there advanced isotope separation expertise at ORNL that would naturally lead to developing a facility in Eastern Tennessee? If that is

the case, could more information be made available about the ORNL expertise?

Answer - None of the evaluation criteria has a “weighting” factor. All of the criteria (Criteria 1, 2, 3, 4, and 5) will be considered when selecting the firms that will be invited to continue in the procurement process. DOE will select the Concept Paper(s) which best achieve DOE’s objectives. In addition, see the answer to Question #41.

- 22) Who is the ORNL ISO 9001 auditor and Notified Body? Have there been any observations or CARs about the stable isotope processing unit? Could these reports be made available? Will results of internal audits be made available?

Answer - The DOE is ISO 9002 Certified, and LMER is the Auditor and Underwriters Laboratory is the registration certifying body. There are no CARs or observations.

- 23) Will the written manufacturing and processing procedures be available for review before the award? In negotiations phase.

Answer - No. Refer to Questions 6 and 7.

- 24) What percentage of the current sales are outside the USA? Is there a country by country analysis?

Answer - On average, the DOE sales are between 25% to possibly 35% outside the U.S. However, details are difficult to provide because some bulk sales are made to firms who then redistribute.

- 25) Is He-3 intended to be offered to the awardee?

Answer - No. The inventory is depleted.

Are any of the inventoried isotopes stored as gases?

Answer - See the catalog at WEB site: <http://www.ornl.gov/isotopes/catalog.htm>.

- 26) Has ORNL any expertise in manufacturing zinc depleted in zn-64?

Answer - No. The isotope program at ORNL does not have any experience manufacturing depleted zinc-64.

- 27) Will the company strategies (considered as proprietary) presented in the Concept Papers be incorporated into the formal solicitation?

Answer - Information marked as “proprietary” will not be disclosed to other prospective offerors. Proprietary information will be protected in accordance with “Restriction on disclosure and use of data” as identified on page 11 of the Supplemental Information.

- 28) Page 2 of the supplemental information states that the proposal addresses interest in “participate” with the DOE in the development and establishment of replacement stable isotope enrichment”. Can the term “participate with” be better defined. Does the DOE have, or plan to have, funding earmarked to participate in this process? If so, knowing how much funding would or would not be available is important to development of a commercial business plan and in evaluating the commercial viability of this opportunity.

Answer - No specific funds are currently earmarked for this, and offerors are expected to submit proposals that they believe are reasonable for the amount of funding and the proposed split between the government and the offeror.

- 29) Page 2 of the supplemental information indicates there is available for sale an inventory of non-EM stable isotopes that will be available to the successful offeror. In order to prepare a business plan it will be necessary to have a description of this inventory, including chemical form/purity, market value, and net worth to the DOE.

Answer - Previously answered - see Question #4 above.

- 30) The supplemental information indicates that only ½ of the existing inventory will be considered for consignment sale. Why is this being limited to one-half? What are the DOE’s plans for the remaining half? Would more material be considered for consignment?

Answer - A critical part of this solicitation is placing an alternate isotope production facility into operation. The DOE intends to maintain an inventory of isotopes for research purposes and is making the existing inventory available only to meet interim needs while this alternate capability is brought on line. The remaining half will be held in reserve to assure continuing research need. However, some additional quantities may be made available at the DOE’s option and depending upon the specific circumstances.

- 31) Can some basis or explanation be provided to justify the requirement of the offeror to establish an Isotope Research Materials Laboratory. Is the DOE interested in contracting for the use of this facility if an equivalent is provided by the offeror? If so what planned amount has DOE budgeted to contract for this service?

Answer - In many instances, researchers require an isotope in a form different than

that currently in inventory (or different than the form that will be produced by the “alternate technology.”) A materials laboratory is essential in assuring the capability to meet these needs. No specific amount has been budgeted for this service, since it is dependent upon future and at present, unidentified needs. Having this equipment available has made it possible for the IPDP to make many isotope sales that would otherwise have not been made. Equipment listed as “now available,” on page 4 of the Supplemental Information is routinely used and should be considered as priority in setting up a “new” laboratory.

- 32) Several references are made to the supply of Government furnished equipment. Please explain under what terms this equipment is being provided. Would the offeror be required to purchase, maintain, inventory, or return this equipment?

Answer - All equipment would be leased for a nominal amount (a few dollars), and ownership retained by the government. The offer or would be required to maintain the equipment. However, an opportunity to purchase that equipment in the near future, depending on the success of the business, the Government would sell the equipment at a fair market value.

- 33) Page 5 of the Supplemental Information mentions a small laboratory isotope separator. Where is this located? Could this be transferred as part of the government furnished equipment described earlier? What are the production isotopes and capacity of this unit?

Answer: Depending on other DOE Program needs in FY 2000 and FY 2001, the small isotope separator may be available for transfer as Government furnished equipment.

- 34) Page 5 of the Supplemental Information indicates that “DOE may cost share in development and installation of an enrichment unit or commercial separator”. Can a better definition be provided to this cost sharing proposal, i.e. in what Fiscal Year is DOE budgeting to support this? What amount of funding would be provided? How would ownership of the machine or technology be determined?

Answer - The DOE is anticipating support of this initiative in fiscal year 2001. Ownership of the machine/production capacity as well as revenues therefrom are expected to be proportional to the investment made by the DOE versus the offer or. Process Development Technology will clearly remain the property of the offer or.

- 35) What is the DOE schedule for release of the formal solicitation?

Answer - The DOE anticipates issuing a solicitation(s) approximately 100-120 days after completing evaluation of the Concept Papers.

- 36) DOE's own market and panel of experts report all indicate the difficulty in estimating accurately the trends in nuclear therapy and imaging for more than 5 years. It is, therefore, unrealistic to request the offer or to provide a 10 year projection of sales. The request should be limited to a 5 year business plan.

Answer - Five years will be adequate. The Supplemental Information has been revised to reflect a 5 year business plan.

- 37) The mandatory 55% profit sharing on sales of inventory is impossible to quantify in the business plan without an idea of the inventory value. It is recommended that this figure be left out and the offertory simply requested to offer a profit share percentage based upon the feasibility of their overall business plan. The ultimate value to DOE will be realized through sales volumes and contract longevity as opposed to a fixed high percentage of return.

Answer - No. This minimum number is non-negotiable. However, to assist offertory in preparing a business plan, the current inventory is valued at approximately \$25 million at current selling prices and can sustain current sales for most research isotopes for more than 5 years.

- 38) Is the 55% profit sharing on sales of existing inventories effected (i. e. increased or reduced) by profit sharing proposal for other stable isotope sales?

Answer - No, however, profit sharing for new production would be negotiated based upon participation by the DOE in the development and/or procurement of the new enrichment equipment.

- 39) Under the terms described in the supplemental information it appears the DOE is requiring a percentage of gross sales from the offer or even if the offer or establishes their own commercial facility. Is this correct and what is the justification for this requirement?

Answer - Yes, if the DOE funds are used for development of the alternate production technology, then some percentage of future sales would flow back to the DOE Isotopes Program

- 40) Would the DOE consider implementing this commercialization in phases in which Phase I consists only of marketing and sales of the existing inventory at some lower percentage (25 - 45%) and then an optional Phase II and III within 2 years for stages of production commencement.

Answer - While the DOE realizes that there will be some time needed for transition, Concept Papers without New Production capabilities will not be considered

- 41) Would relocation of any of the laboratories or separations technology to another location be viewed as undesirable or as unallowable?

Answer - No, as long as it is within the contiguous 48 states. Separations technology is considered Export Controlled Information. See Question # 21.

- 42) Is the production of stable metal isotopes to be structured such that it meets commercial needs projected by current trends? Conversely, is the production to be structured to meet national interest only?

Answer - The intent is to assure a continuing supply of stable isotopes to meet national research needs. Offertory are encouraged to consider the commercial market in order to make the venture more appealing economically.

- 43) Who sets the price on current inventory stock available at ORNL? Is it set by the offer or by Oak Ridge? This will of course affect the percentage return expected by Oak Ridge, mentioned at 55% in the supplemental information.

Answer - Previously answered - see Question #13.

- 44) Is the 1999 sales information for the DOE going to be made available? First half sales figures should be made available for prospective offertory such that suitable projections can be made as requested.

Answer - Previously answered - see Question #3

- 45) Is ORNL/DOE willing to modify the current accounting system in place for isotopes to reflect Isotopic Mass as opposed to Elemental Atomic Weight?

Answer - The DOE will consider doing this.

- 46) We are interested in finding out more information regarding your non-EM Separated Stable Isotope Inventory. Can you provide us with a listing? If these products are a good fit with our existing product offerings, we may submit a concept proposal.

Answer - Previously answered - see Question #4

- 47) Will the identification of the inventories of the EM-inventory and non-EM inventory be quantified, and will they be made immediately available to the successful Offeror?

Answer - Previously answered - see Questions #2 and #4.

- 48) Will the non-EM isotope inventory be made available on consignment or straight purchase? If by consignment, then are the terms of the consignment the same as the EM-inventory?

Answer - Inventory may be either consigned or purchased. Maintaining a 5 year non-EM isotope inventory is not required.

- 49) What is the original capitalized value of the equipment in the Isotope Research Materials Laboratory?

Answer - Almost all of this equipment has been fully depreciated. However, they do have an intrinsic/fair market value. Lease of this equipment for a nominal amount will be considered as noted in Question #32.

- 50) What are the estimated costs to restore or complete restoration of the equipment listed on page 4 of the Solicitation?

Answer - The DOE does not have an estimate for this effort. However, the equipment has been maintained and is in working order.

- 51) Will there be any fees for use of the Small Laboratory Isotope Separator?

Answer - Yes, the annual operating cost by LANL for the small laboratory isotope separator is about \$200,000.

- 52) What is the cost basis for use of the other existing isotope facilities at DOE sites?

Answer - Cost estimates for the existing facilities are contained in the referenced Draft report. Reference DRAFT report "The Future of Stable Isotope Production in the United States" by Abe Weitzberg. Copies were provided during the pre-solicitation conference on October 5, 1999 or can be obtained by contacting Barbara Jackson [mailto:JacksonBJ@oro.doe.gov]

- 53) Recently the United States Enrichment Corporation abandoned its involvement to use the AVLIS for enrichment of uranium. Is the AVLIS still viewed by the DOE as a cost effective replacement to gas diffusion and centrifuge technology?

Answer - The choice of technology will be made by USEC, not the DOE.

- 54) Has the AVLIS, plasma separators, or small electromagnetic isotope separators been successfully used to separate any of the isotopes on the Solicitation list? If so, was it cost effective as compared to current electromagnetic separation?

Answer - Previously answered - see Question #12.

- 55) Would it be feasible to operate the calutron at lower cost in the offer or's facility?
If so, is the DOE willing to allow relocation of a calutron?

Answer - The feasibility exists for moving some of the calutrons, however, economically, there are many difficulties associated with such a concept.

- 56) Why did sales of stable isotopes in 1997 and 1998 drop so dramatically?

Answer - Historically the DOE's sales of stable isotopes vary from over \$2 million to over \$7 million. The sales are based on market conditions. For the short term it is projected that the DOE's sales will be about \$2 to \$3 million. However, the propensity to sell additional isotopes exists based on the marketing capabilities of the offeror, increasing demands for new products and new efficient production capabilities. For the future, it is projected that sales of stable isotope as feed material for short lived radioisotopes will increase as noted in the Expert Panel report which was referenced in the Supplemental Information.

- 57) Will preference be given to an offer or who proposes a location in the Oak Ridge area?

Answer - Previously answered - see Question #21.

- 58) Are the resumes of existing calutron personnel available to the offertory?

Answer - Previously answered - see Question #8.

- 59) Are flow sheets of the processes described in the "Chemical Laboratory" section available to offertory?

Answer - Previously answered - see Question #7.

- 60) Are MSDSs available for review for isotopes shipped. Is other DOT shipping paperwork available.

Answer - The DOE will make such information available to the successful offer or.

- 61) Are the FY98 and FY99 "books" that show the cost of production, marketing, selling, packaging, and shipping isotopes and the income from sales available for review?

Answer - The FY 1998 and 1999 books will not be available for review. An annual audit by a certified accounting firm is performed annually on the Isotope Programs. The FY 1997 and 1998 statements were provided at the presolicitation

conference. The FY 1999 audit process has begun. The annual costs of stable isotope operations are as follows:

Isotope Enrichment (calutrons in stand by) Facility	\$2,100,000
Chemical Lab with Analytical Charges	570,000
Research Lab and Other Services	600,000
Sales Office	375,000
Stable Isotope Shipping	175,000

- 62) Is the cost of operating the three presently available small separators in their current locations at LANL, UC, and LLNL available for review?

Answer - Reference DRAFT report "The Future of Stable Isotope Production in the United States" by Abe Weitzberg. Copies were provided during the pre-solicitation conference on October 5, 1999 or can be obtained by contacting Barbara Jackson [mailto:jacksonbj@oro.doe.gov]

- 63) Will any non-government advisors being used to assist in the evaluation of the concept papers? Will you identify their names and company or organizational affiliations? Will they be required to sign standard DOE procurement integrity agreements as well as non-disclosure agreements?

Answer - Yes - No - Yes

- 64) Are there Font and Margin requirements that apply to the 30 page document?

Answer - Yes, the Supplemental Information has been revised to include the font and margin requirements.

- 65) What type of contract does DOE anticipate?

Answer - The form of agreement will be based on the negotiated technical approach.

- 66) What is the schedule after review of the concept papers, will the RFP/Procurement process follow?

Answer - Previously answered - Question #35.

- 67) Are foreign owned companies allowed to participate in this procurement?

Answer - Yes, as defined in the Qualification Criteria of the Supplemental Information.

- 68) Assuming acceptable proposal when (best case) do you anticipate award?

Answer - It is difficult to project an award date. Such a date is dependent upon the complexities of the negotiation and the proposed agreement.

- 69) If no award, how can submission ideas be guaranteed not to be adopted by DOE?

Answer - The purpose of soliciting Concept Papers is to improve industry's understanding of the Government requirements, inform the Government of industry capabilities, and allow the industry to provide ideas on how the Government can best accomplish its requirements. These ideas will be used to develop a solicitation. "Submission ideas" that are defined as technical data and other data, including trade secrets and/or privileged or confidential commercial or financial information that the prospective offeror does not want disclosed to the public or used by the Government for any purpose other than for Concept Paper evaluation, must be marked in accordance with the instructions provided on page 11 of the Supplemental Information.

- 70) What is the current condition of the Plasma Separation equipment?

Answer - The large unit located at Oak Ridge is currently leased to Theragenics.

- 71) How many employees are assigned to the material laboratory? What are their educational degrees?

Answer - Two employees with technical degrees.

- 72) The inventory of some stable isotopes is low or non-existent. Which of these require immediate attention? Any priority?

Answer - The stable isotopes that require attention are rubidium-87, ruthenium-96, and mercury 202.

- 73) What is the software used for order entry, production control and billing? Are all customer records stored in the database? Is the customer mailing list on this database, if not, how is it kept?

Answer - Billing is performed through the LMER SAP Accounting System. Orders are tracked in a Visual Fox Pro based program which incorporates certain features from Form-flow and Excel. All records for the past several years are kept in this database. Yes - it contains our mailing list.

- 74) When will inventory list be available? Is inventory sufficient to meet sales needs for next 2 years?

Answer - The inventory list will be made available to the successful offer or at the conclusion of negotiations. Two years inventory of MOST isotopes is currently available.

- 75) What is current numbers of orders/day? What percentage require work by materials or chemical laboratory for processing?

Answer - Stable isotope shipments average approximately 400/year. Approximately 20-30% of these involve materials or chemical laboratory work.

- 76) What is overall maintenance cost per year for laboratory equipment? Which pieces continue to have parts support from the manufacturer? Which ones do not?

Answer - Records are not kept in that level of detail, however, as an order of magnitude, this is estimated at less than \$10,000. None have continuing manufacturer support.

- 77) What analytical methods are used to prevent cross-contamination during processing? Wipes, swabs of working areas? How are they analyzed?

Answer - All systems/equipment are thoroughly cleaned with wipes and/or swabs prior to each fabrication/process. No analysis is done. In the case of foils, they are pack-rolled in fresh stainless steel sandwiches for each isotope.

- 78) What is or per year costs of analytical services? Will the same price structure apply if lab is privatized?

Answer - In filling orders, if only the compound or chemical form of the isotope is being changed, no further analysis is performed since it was previously analyzed when placing into inventory (the customer pays for any further analyses they may require). When new material (processed from pockets) is placed into inventory, the analyses cost approximately \$2000-2500/batch.