William B. Yelon Ph.D.
1309 Overhill Ct.
Columbia MO 65203

Oct. 31, 2007

Division of Industrial and Medical Nuclear Safety
Office of Nuclear Materials Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C 20555-0001

Attn. Anthony Kirkwood

Dear Mr. Kirkwood,

Attached is a response to the question raised in your email of Oct. 30, 2007, regarding the calculation of specific activity in Ci from raw count data from our NaI system.

In addition, I attach copies of our response to your previous requests for additional information. I am personally responsible for fulfillment of the commitments made in those documents, vis-à-vis, for example, auditing of the procedures at the irradiation facility, access of the NRC to our office to audit our records, etc. I wish to remind you that some of the information included in the attachments has been accepted by your office as proprietary, and should not be released to the general public.

I look forward to receipt of the distribution license and to working with you in the future to assure that the market in blue topaz, in the U.S.,is conducted in a safe and efficient manner under NRC guidance and supervision.

Thank you,

William Yelon

William B. Yelon

6/7

Conversion of counts into specific activity

The conversion of raw counts in the NaI detector system into specific activity depends on the efficiency of the detector, E, (taken in the example below as 40%), and the photon yield of the emitting isotopes. For simplicity, in the sample calculation, we take the average gamma ray yield, Y, as 90%. We first measure the counts, C, in Bq

$C = C_o/E$ where C_o is the observed counts.

Activity, A, (Bq) is derived by dividing by the counting time T and by the gamma ray yield Y

$A = C/TY$

This is converted to specific activity (Bq/g) by dividing by the mass, m, of the sample

$A_s = A/m$.

Finally the specific activity in Bq/g can be converted to Curies (Ci/g) by dividing by their ratio 3.7×10^{10} Bq/Ci.

$A_s(Ci) = A_s/3.7x10^{10}$.

Taking a typical case, a 10 gm parcel of stones near the exempt limit might give 2000 cts in 30 sec. We calculate the specific activity for this measurement as follows

$C = 2000/0.4 = 5000$

$A = 5000/30x0.9 = 185.2$ Bq

$A_s = 185.2/10 = 18.5$ Bq/g

$A_s = 18.5/3.7x\ 10^{10} = 5 \times 10^{-10}$ Ci/g = 0.5 nCi/g

These results must be adjusted for the specific isotope distribution, the differing gamma ray yields, for each of those isotopes, and the energy dependent efficiency of the NaI detector. These factors have only a small effect on the results for the two principle isotopes ^{54}Mn and ^{182}Ta, but since the NaI detectors are being operated in a spectroscopy mode, this is automatically included in our data acquisition system.

dup

October 30, 2007

Dr. William Yelon
Ideal Source Quality Assurance, LLC.
409 Vandiver
Bldg. 4, Suite 201
Columbia, MO 65202

SUBJECT: REQUEST FOR WITHHOLDING INFORMATION FROM PUBLIC DISCLOSURE, IDEAL SOURCE INTERNATIONAL, LLC.

Dear Dr. Yelon,

Ideal Source International, LLC.(Ideal), submitted an application for the exempt distribution of irradiated gemstones by letters dated July 13, 2007, and October 11, 2007, and electronic mail dated September 18, 2007, and September 29, 2007. Pursuant to 10 CFR 2.390, Ideal Source International, LLC.,. submitted an affidavit dated October 11, 2007, requesting NRC to withhold from public the following information:

(a) Information marked proprietary in original submission sent July 13, 2007, and subsequent submissions so marked

(b) APPENDIX A in original submission sent July 13, 2007

Ideal stated that these drawings and the information marked should be considered exempt from mandatory public disclosure for the following reasons:

This information is maintained confidential as this directly relates to Ideal's ability to grow and maintain its business interests related to these products.

This information was provided and received by the USNRC in confidence in support of Ideal's application for exempt distribution of gemstones

The information is not available in any public sources.

The information, if disclosed publicly, is likely to cause substantial harm to the competitive position of Ideal.

We have reviewed Ideal's application, the drawings, and the documents marked as proprietary in accordance with the requirements of 10 CFR 2.390 and, on the basis of your statements, have determined that the submitted information sought to be withheld contains proprietary commercial information.

Therefore, the documents listed as proprietary, will be withheld from public disclosure pursuant to 10 CFR 2.390(b)(5) and Section 103(b) of the Atomic Energy Act of 1954, as amended. Withholding from public inspection shall not affect the right, if any, of persons properly and directly concerned to inspect the documents. If the need arises, we may

send copies of this information to our consultants working in this area. We will, of course, ensure that the consultants have signed the appropriate agreements for handling proprietary information.

If the basis for withholding this information from public inspection should change in the future such that the information could then be made available for public inspection, you should promptly notify the NRC. You also should understand that the NRC may have cause to review this determination in the future, for example, if the scope of a Freedom of Information Act request includes your information. In all review situations, if the NRC makes a determination adverse to the above, you will be notified in advance of any public disclosure.

Sincerely,

Anthony S. Kirkwood

Anthony S. Kirkwood
State Agreements and Industrial
Safety Branch
Division of Materials Safety and
State Agreements
Office of Federal and State Materials and
Environmental Management Programs

03037567

William B. Yelon Ph.D.
1309 Overhill Ct.
Columbia MO 65203

Oct. 18, 2007

Office of Nuclear Materials Safety and Safeguards,
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Attn. Anthony Kirkwood--

Dear Mr. Kirkwood,

Attached is a substitute cover form 313 for the e-license for Ideal Source Quality Assurance. You can expect a letter from Ideal Source International authorizing the application fee to be transferred to this substitute.

We will solve the business issues by making Ideal Source Q.A. a wholly owned subsidiary of Ideal Source Int'l., but that will take some time so, for now, Ideal Source Q.A. will stand alone as the licensee. We will keep you informed when that change takes place. Otherwise, nothing will change in the management of the material and my responsibilities with respect to safety, etc.

Thanks for your attention.

William B Yelon

William B. Yelon

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NRC FORM 313 (10-2005) 10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-4005

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*
   - [X] A. NEW LICENSE
   - [ ] B. AMENDMENT TO LICENSE NUMBER _____
   - [ ] C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include ZIP code)*
   William B Yelon,
   Ideal Source Quality Assurance LLC
   1309 Overhill Ct Columbia MO
   65203

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED
   409 Vandiver Rd.
   Bldg 4, Suite 201
   Columbia MO 65202

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION
   William B. Yelon
   TELEPHONE NUMBER
   (b)(6)

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION ... SE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
   a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT. Previously Submitted

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*
    FEE CATEGORY | AMOUNT ENCLOSED $

13. CERTIFICATION. *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
William B Yelon, President	William Yelon	10/18/07

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED $	CHECK NUMBER	COMMENTS
APPROVED BY				DATE	

NRC FORM 313 (10-2005) PRINTED ON RECYCLED PAPER

022637

Ideal Source International, LLC

55 West 39th Street
17th Floor
New York, NY 10018

Phone: 212-575-5800
Fax: 212-921-4260
E-mail: idealsourceint@aol.com

October 9, 2007

I, Anna Ostro, authorize William B. Yelon, President of Ideal Source Quality Assurance, LLC, on behalf of Ideal Source International to communicate with the NRC. William B. Yelon can handle all matters relating to responses and modifications that may be needed with regard to the license application.

Sincerely,

Anna Ostro
President
Ideal Source International, LLC

Response to e-mail request for additional information
From Anthony Kirkwood
Dated 9/27/07

William B. Yelon
Ideal Source Quality Assurance

1) Frequency and scope of audits of the irradiation facility in Poland

I will personally conduct an annual audit of the neutron irradiation facility in Poland. The scope of the work will include, but may not be limited to:

a. Verification that changes to the irradiation facility will not increase the concentration of by-product material in the gemstones or the ratios of activities of the respective isotopes. Any improvements (while unlikely, based on the extensive studies carried out to date) will be followed by re-evaluation of the estimated release dates based on the concentration and ratios of the isotopes present as by-product material.

b. Verification that irradiations continue to be conducted in such a manner that stones of a given size, shape and geological origin are irradiated in separate, well defined packets, so that the products are homogeneous to the extent of the homogeneity of the impurities for material from that particular origin.

c. Verification that the sorting of stones for outliers (those exceeding twice the exempt limits based on the sum-of ratios) is conducted in accordance with the procedures described in the application of the license. The methods will be tested by re-sorting, under my supervision, of one or more previously sorted packets, to confirm that no outliers are present. The packets to be tested will contain stones with masses in the range of 1-2 cts (0.2-0.4 gm) to be sure that the testing is done

on stones which are difficult to test using conventional, single stone counting at the time of release.

d. Verification that calibration of the NaI(Tl) system is carried out with the frequency described in the application for license, based on the records of calibration and observation of the daily system tests.

e. Verification that the stones are reliably measured using the high resolution Ge detector to determine the ratio of isotopes in the packet. The calibration of the Ge detector will be tested using the procedures described in the application, using unirradiated topaz and ^{152}Eu beads. Calibration of several packets with masses between 200 and 2000 gms will be conducted and the results compared with stored calibration files.

f. Verification that the stones are properly labeled and stored according to the estimated dates of release, and that the identity of the stones, with regard to size, shape, mass and irradiation history is maintained.

g. Verification of the completeness and accuracy of shipping records.

With regard to irradiations carried out at electron beam facilities:

I will conduct an annual audit to assure that previously neutron irradiated stones are handled in such a way that their unique identity is preserved and that on completion of irradiation the stones are returned to their original packages so that their unique histories are preserved. It is our intention to send stones to the electron facilities only after they have been sorted for outliers, but prior to their estimated release date. Material from the electron facility will be tested to assure that additional activity induced by the irradiation does not cause the sum-of-ratios to exceed 1 at the release date, or to adjust that date

accordingly. Experience has shown that, even in the worst case, the additional activity contributes only a minor part to the sum-of-ratios.

1a) Lot Tolerance Percent Defective

The tables for Lot Tolerance Percent Defective (LTPD) in title 10 appear to be based on a lot consisting of a large number of identical units. For large lots (more than 5,000 pieces) the sample to be tested is less than 5% of the total. For irradiated topaz, the lot (shipment) contains a variety of sizes, shapes, geological origins and irradiation histories. Thus, direct utilization of the data in LTPD 0.5 is problematic. The typical lot, however, will rarely, if ever, contain less than 20 Kg of irradiated material.

Assuming an average stone mass equal to 1 ct (0.2 g), such a shipment will contain 100,000 or more pieces. We have committed to testing 5% of the individual parcels in the lot (and have agreed to test a larger fraction of smaller lots, should they be prepared for shipment). (b)(4)

(b)(4)

Example 4

[redacted]

In addition, if the NRC requests, we are prepared to conduct single stone counting on one parcel containing large enough stones (> 5 ct) to allow a direct determination of the distribution of activities, and confirmation that the one in one thousand criterion is not violated. Inasmuch as the sorting in Poland does not utilize single stone counting, this constitutes a non-redundant testing of the procedures and results.

2) Definition of small, medium and large sizes for topaz gemstones.

The distinction between small topaz sizes and the remainder of the topaz material is based on the fact that "small" stones cannot be sorted for the one in one thousand test in a reasonable time, based both on the number of pieces to be tested in a typical 500 gm parcel, and the required counting time to identify outliers. Based on the re-analysis of the isotope distribution presented in the response to the earlier questions from A. Kirkwood, and the maximum plausible dose from an outlier in this group, we define "small" as stones having mass less than 1 ct (0.2 g). Medium stones are (arbitrarily) defined as having mass between 1 and 10 ct, while large stones exceed that mass.

3) Area of skin exposed in the dose calculations

The area of skin exposed for the minimal distance described in the dose calculations is equal to the area of the disk used to simulate a topaz with 5 g mass, and is 0.78 cm^2. For the 10 cm distance, the exposure is maximal directly below the stone (perpendicular to the disk surface) and is equal to the tabulated value. To first order, any point 10 cm from the disk receives this dose, while for points further away the dose drops off approximately as the ratio of the distance squared, i.e. $D_r = 100/r^2$, where r is the distance from the disk in cm. Thus, a point on the skin or inside the body (neglecting attenuation) 20 cm from the disk would receive approximately 25% of the calculated dose.

4) The sampling mass from 200 to 2000 g corresponds to the measurement system calibration.

I expect that there has been a misinterpretation of the information presented in the application, or lack of clarity on my part. The masses quoted above refer to the measurements of the full parcels using the high resolution Ge detection system for which self-shielding corrections are required. No parcels greater than 2000 g are permitted, and the correction for parcels lighter than 200 g is small and uses the values extrapolated from heavier masses. The calibration of the system is, therefore, adjusted according to the procedure described in the application. In this procedure unirradiated (and therefore non-radioactive) topaz is mixed with a known quantity of radioactive beads, each containing 30 Bq of ^{152}Eu. The measured activity provides an accurate assessment of the average attenuation of the ^{152}Eu gamma rays and thus, of the self shielding for radioactive topaz of the same mass. By making this measurement with the range of masses referenced, the self-shielding correction for any arbitrary mass in this range is established by interpolation or extrapolation.

5) Re: letter from Ideal Source International granting authority to William Yelon to make licensing decisions.

This letter will be drafted and sent to the NRC under separate cover during the week of Oct. 8, 2007.

With regard to my inquiry regarding the possibility of delivering to customers directly from the overseas location, after completion of tests on the selected samples, we agree to defer a request for such permission during the first six months of operation under the

Import and Distribution License. During that period we would like to discuss this matter further with your office, to establish the conditions that might permit this practice, and, if appropriate, would prepare an amendment to our license. At this time, however, we do not wish to delay issuance of the license while matters of NRC policy are uncertain.

Responses to e-mail request for additional information on application for new exempt distribution license
Email from Anthony Kirkwood, Sept. 12, 2007

William B. Yelon

1. Notification regarding possession license:

At this moment I believe that all questions have been answered. Kevin Null from Region III will be visiting the facility in Columbia, MO on Wed. Sept. 19. I hope the license will be issued shortly after his visit and will notify NRC H.Q. as soon as the license is received.

2-a. Methods to assure that no more than the specified concentration is introduced into the product.

Topaz is a natural mineral, subject to variability in the impurities, which affects the concentration of byproduct material introduced into the stones during a typical irradiation (which averages in the range of 10^{17} /cm^2 (fast neutrons). At the time of irradiation the principle isotope ^{54}Mn will have a concentration of 1-3 times the exempt concentration (depending on the origin and dose), while the ^{182}Ta concentration will range from 0.5 to 100 times the exempt concentration. This variability is the principle reason behind the need to sort topaz for outliers. Our method assures that at release no more than 1 stone per thousand exceeds twice the exempt limits based on the sum-of ratios (SOR).

Note that the concentration of isotopes can be affected strongly by the nature and thickness of shielding used to eliminate thermal and some of the epithermal neutrons, as well as the effects of re-moderation of fast neutrons in the irradiation space. We have invested a great deal of time and effort in attempting to optimize the shielding, including investigation of the effect of Ta screens, and Hf foils to eliminate epithermal neutrons. We believe that there is little room to further reduce the concentrations of by-product material, at the time of irradiation.

It should be further noted that the by-product material in topaz is unwanted and is the inadvertent result of the fast neutron irradiation used to create the color centers that make the treatment valuable. Other cases of exempt distribution involve the deliberate production of known concentrations of radioactive isotopes used for their radioactive properties (e.g. in tritium dial watches or in smoke detectors). Thus, the control over production that is required in those cases cannot be maintained in the case of topaz, and, thus, the control must be exercised after production and before release.

2-b. Dose estimates appear to be higher than in NUREG-1717.

The apparent discrepancies between the doses calculated in our application and those given in NUREG-1717 are due to a number of factors, which when properly taken into account, actually show good agreement between the two results.

With regard to the whole body gamma dose, our result shows, e.g. for ^{182}Ta, at a distance (d) of 4.0 cm, a dose of 2.3 mrem. The value in table 2.2.11 of NUREG-1717 is given as 0.1 mrem. However, the basis for that calculation is for a distance of 10.0 cm, and exposure 8 hours per day, versus the 24 hour exposure assumed in our application. The dose is proportional to $1/d^2$, leading to a factor of 1/6.25 in our reported doses for the 10 cm case, with an additional factor of 3 for the time, resulting in a net reduction by a factor of 18.75. This reduces our reported 2.3 mrem to 0.12 mrem, in complete agreement with the data of table 2.2.11. Likewise, by adjusting the ^{54}Mn gamma dose by the same factor, we arrive at a dose of 0.37 mrem, in complete agreement with the value in table 2.2.11 (0.4 mrem).

With regard to the beta dose, we report 185 mrem for ^{182}Ta, versus 30 mrem reported in table 2.2.11. Applying the same time correction (1/3) reduces our result to 60 mrem, within a factor of two of the 2.2.11 result. This is already within the error limits for calculating beta doses, but an additional factor actually brings these two results into better agreement. Our calculation uses a disk shaped reference stone, with a 1 cm diameter, whereas the data in table 2.2.11 is based on a spherical reference stone. It is obvious that the relative dose of the sphere will be lower than for a disk, as the area of the sphere in contact with the skin is small, while that for the disk is large. With this in mind, it is clear that our calculated doses are in good agreement with those tabulated in Table 2.2.11 of NUREG-1717.

Finally, we note that the application for license previous filed by Alnor/Studsvik (and issued) arrives at approximately the same results as we have found and reported in our application.

In summary, our results are in accord with NUREG1717!

3-a. Submit calculations that demonstrate that 0.2 gram stones that exceed twice the exempt concentration limit can be excluded from the one in one thousand screening criteria.

(submitted on a separate page-contains proprietary information)

3-b. Public dose limits will not be exceeded when the 0.2 gm irradiated gemstones are transferred to the public.

If one assumes that one stone per thousand is released at twice the exempt concentration, the dose received by an individual wearing that stone will still be 1/15 of the doses calculated for a 30 ct (6 gm) stone in NUREG-1717, resulting in a

negligible dose both to the whole body (photon) of less than 0.008 mrem, and to the skin (beta) of 2 mrem. The collective dose equivalent will be increased only by one part in 1/1000, from 1 mrem to 1.001 mrem. In both cases these represent no concern.

4. Certain portions of the application are marked as proprietary.
We will submit, under separate cover, the required affidavit. The proprietary information describes a method for identifying and eliminating outliers, which, to the best of our knowledge, has not previously been described or used. As such, it represents a significant improvement over others methods in use, and allows us to lower the cost of sorting and better insure that the one in one thousand criteria is met.

Pages 17 through 18 redacted for the following reasons:

(b)(4)