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December 29, 2004

Judith Joustra
United States Nuclear Regulatory Commission - Region I
475 Allendale Road
King of Prussia, PA 19406-1415

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RECEIVED REGION 1

Re: Application for Amendment of License No. STA-1455

Dear Ms. Joustra:

II-VI, Inc. (II-VI) manufactures infrared (IR) optics for laser and other systems, wherein finished optical products are coated with a thin film of thorium fluoride. As shown in Appendix 1 of the II-VI Radiation Protection Program Plan (RSP-001), attached by reference to License No. STA-1455 (Provision 19.A), coating operations take place in a permanent restricted area referred to as the "Coatings Operations Area". A drawing showing the location and footprint of this restricted area appears in Appendix 5 of RSP-001 (Rev. 3), "Radiation Protection Program Plan".

The purpose of this letter is to request amendment of License No. STA-1455 to show that the Coatings Operations Area has been reconfigured to accommodate an increased workload. The location and footprint of this restricted area captured in Provision 19.A of License No. STA-1455 has been changed. Attached is Rev. 5 of RSP-001 that incorporates a new drawing.

The remainder of the radiation safety and compliance program, as described in RSP-001 remains the same. The existing provisions for surveys, employee monitoring, exposure control, contamination control, and posting/labeling therein remain applicable to the reconfigured restricted area are identical to those in Rev. 3 of RSP-001. Furthermore, the operations being performed within the reconfigured area are identical to those described in Appendix 1 and Appendix 5 of Rev. 3 of RSP-001.

If you have any questions or if I can provide you with additional information on this amendment application, please do not hesitate to call me at (724) 352-4455. I look forward to timely receipt of our amended license.

Sincerely,

Jason M. Tennant

Jason M. Tennant,
Radiation Safety Officer

136238

NMSS/RGN1 MATERIALS-002

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1 PURPOSE

The goals of the II-VI Incorporated (II-VI) policy on radiological protection are to minimize the total risk of harm or injury incurred by employees, contractors, or visitors as a result of work-related activities at sites that are licensed to possess radioactive materials, and to demonstrate compliance with applicable laws and regulations on control of radioactive materials. This Radiation Protection Program Plan (Plan) has been developed to guide generation and implementation of II-VI Radiation Safety Procedures as they pertain to licensing and radiation protection issues.

2 SCOPE

This Plan applies to all facilities, equipment and operations at the Saxonburg, Pennsylvania site that are licensed by the USNRC to possess radioactive materials. Facilities, equipment and operations that do not require a license are exempt from the requirements of this Plan.

3 REFERENCES

3.1 Title 10, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports for Workers; Inspection and Investigations"

3.2 Title 10, Code of Federal Regulations, Part 20, "Standards for Protection Against Radiation".

3.3 Title 10, Code of Federal Regulations, Part 40, "Domestic Licensing of Source Material".

3.4 Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material".

3.5 Title 10, Code of Federal Regulations, Part 110, "Export and Import of Nuclear Equipment and Material".

3.6 Title 29, Code of Federal Regulations, Part 1910, "Occupational Safety and Health Standards".

3.7 Title 40, Code of Federal Regulations, Part 68, "Accidental Release Prevention Requirements".

3.8 ANSI N323 - American National Standard Institute, "Radiation Protection Instrumentation Test and Calibration," N323-1978m, 1977.

3.9 ANSI N13.30 - American National Standards Institute, "Draft Standard for Performance Criteria for Radiobioassay", N13.30, 1989.

3.10 U. S. Nuclear Regulatory Commission License Number STA-1455.

3.11 International Commission on Radiological Protection, ICRP Publication 71, "Age-dependent Doses to Members of the Public from Intake of Radionuclides: Part 4, Inhalation Dose Coefficients", Pergamon Press, 1995, Tables 5.26.4(b) and 5.26.4(c).

3.12 U. S. Nuclear Regulatory Commission, Regulatory Guide 8.9, "Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program", Revision 1, 1993.

4 DEFINITIONS

The definition of terms used in this RSP that may not be commonly understood shall be found in a written procedure entitled "Definitions".

5 PROCEDURE

5.1 Radiation Protection Organization and Administration

5.1.1 Chief Executive Officer

5.1.1.1 Overall control and authority for radiation protection shall rest with the Chief Executive Officer (CEO).

5.1.1.2 The CEO may designate the authority for implementing the radiation protection program described herein to the RSD.

5.1.1.3 The responsibility of the CEO includes, but is not limited to, the following:

5.1.1.3.1 Establish II-VI policy and prepare/amend this Plan accordingly;

5.1.1.3.2 Appoint and empower the II-VI Radiation Safety Committee (RSC); and

5.1.1.3.3 Assure that II-VI radiation protection services are sufficient to meet the requirements of this Plan and USNRC license requirements.

5.1.2 Radiation Safety Director (RSD)

5.1.2.1 The RSD or designee shall be responsible for recommending the type and quantity of staff and resources necessary for full implementation of the Plan.

5.1.2.2 The RSD shall have the responsibility and authority to terminate any work activities that do or may violate regulatory or II-VI requirements for radiological protection.

5.1.2.2.1 Specific work activities shall be permitted to proceed to a safe condition after issuance of the stop-work order.

5.1.2.2.2 Stop-work orders shall be lifted by unanimous concurrence of the RSC only after the initiating conditions have been alleviated.

5.1.2.3 Other duties and responsibilities of the RSD shall include the following:

5.1.2.3.1 Assessment of radiological hazards and ensuring the implementation of appropriate radiation safety precautions;

5.1.2.3.2 Ensuring that the use of licensed material is by or under the direct supervision of Authorized Users;

5.1.2.3.3 Ensuring that all users participate in the necessary internal and external exposure monitoring;

5.1.2.3.4 Ensuring licensed materials are secured against unauthorized removal at all times when not in use;

5.1.2.3.5 Performing routine audits of all restricted areas; and

5.1.2.3.6 Ensuring that the terms and conditions of License No. STA-1455 are met, and that all required records are maintained.

5.1.2.4 The minimum qualifications of the RSD shall include the following:

5.1.2.4.1 An Associate's degree (or equivalent)

5.1.2.4.2 Course work and/or experience with the following:

5.1.2.4.2.1 Principles and practices of radiation protection;

5.1.2.4.2.2 Radioactivity measurements, monitoring techniques, and the use of instruments;

5.1.2.4.2.3 Mathematics and calculations basic to the use and measurement of radioactivity;

5.1.2.4.2.4 Biological effects of radiation;

5.1.2.4.2.5 Safety practices applicable to protection from the radiation, chemical toxicity, and other properties of the radioactive materials in use at II-VI facilities;

5.1.2.4.2.6 Conducting radiological surveys and evaluating results;

5.1.2.4.2.7 Evaluating radioactive material processing facilities for proper operations from a radiological safety standpoint; and

5.1.2.4.2.8 Familiarity with applicable USNRC, USEPA, and OSHA regulations, as well as the terms and conditions of any licenses

and permits issued to II-VI by these agencies.

5.1.3 Alternate Radiation Safety Officer (ARSD)

5.1.3.1 In the absence or unavailability of the RSD (e.g., vacations, illness, attendance at off-site training, or work-related duties at locations other than the Saxonburg, PA facilities), the authority for implementing the radiation protection program described herein may be delegated to an ARSD.

5.1.3.2 The ARSD shall:

5.1.3.2.1 Have equivalent radiation safety qualifications as the RSD as specified in section 5.1.2.4; or

5.1.3.2.2 Operate only under the direct supervision of the RSD until such time as equivalent qualifications are achieved.

5.1.3.3 Once an ARSD is deemed qualified and given the authority to act on behalf of the RSD in his/her absence, the name and qualifications of the new ARSD shall be submitted to the USNRC in the form of a license amendment application.

5.1.3.4 The RSD shall remain responsible for ensuring the radiation protection program meets all applicable regulations and license provisions, during those periods when the ARSD assumes implementation authority in the absence of the RSD.

5.1.4 If the RSD is absent for more than 60 calendar days, a new RSD shall be named and notification of such, including the name, qualifications and authority of the new RSD, shall be submitted to the USNRC in the form of a license amendment.

5.1.5 Radiation Safety Committee (RSC)

5.1.5.1 The RSC shall provide oversight for the radiation protection program.

5.1.5.2 The RSC shall have the responsibility and authority to terminate any work activities that do or may violate regulatory or II-VI requirements for radiological protection.

5.1.5.2.1 Specific work activities shall be permitted to proceed to a safe condition after issuance of the stop-work order.

5.1.5.2.2 Stop-work orders shall be lifted by unanimous concurrence of the RSC only after the initiating conditions have been alleviated.

5.1.5.3 The members of the RSC shall include the RSD, the ARSD, and key operations personnel in areas using licensed materials.

5.1.5.4 Depending upon the topic(s) to be addressed, the composition of the RSC may be

expanded to include the CEO and Chairman, the Vice President and General Manager of Quality and Engineering, the Industrial Hazardous Waste Coordinator, the General Manager of Manufacturing Support, the President and Chief Operations Officer, the Human Resources Administrator, the Thin Film Coating Production Manager, radiation protection professionals, and/or others deemed appropriate by the CEO or the RSD.

5.1.5.5 The RSC shall be responsible for the review and approval of all elements of the radiation protection program and for assessing compliance with USNRC license requirements.

5.1.5.6 Other responsibilities of the RSC shall include the following:

5.1.5.6.1 Monitoring compliance with Radiation Safety Procedures;

5.1.5.6.2 Confirming that activities are performed safely and in a manner that will protect health and minimize hazards to life, property, and the environment;

5.1.5.6.3 Reviewing and approving RSPs for currency and adequacy, recommending revisions as appropriate;

Note: Concurrence on a procedure by the majority of the RSC is indicative of RSC approval. Any member of the RSC may affix an approval signature on the RSP after documentation of majority concurrence has been obtained.

5.1.5.6.4 Reviewing unusual incidents involving radioactive materials or radiation-producing machines and provide recommendations on how their recurrence shall be prevented;

5.1.5.6.5 Initiating safety evaluations of all proposed uses of radioactive material or radiation-producing machines; and

5.1.5.6.6 Reviewing and approving all license-related correspondence.

5.1.5.7 Members of the RSC shall receive training in the topics shown in Appendix 2.

5.1.5.8 The name of new RSC members and their position on the RSC shall be documented and maintained as a radiation protection record.

5.1.6 Authorized Users

5.1.6.1 The RSD or the RSC may designate authority for implementing certain aspects of the radiation protection program to Authorized Users.

5.1.6.2 Authorized Users shall have the following minimum qualifications:

5.1.6.2.1 Knowledge of work authorization and Radiation Work Permit (RWP) requirements;

5.1.6.2.2 An understanding of the type, form, and authorized uses of radioactive materials in the restricted areas at the Saxonburg plant;

5.1.6.2.3 An understanding of the provisions of this Plan; and

5.1.6.2.4 Training in the topics shown in Appendix 2.

5.1.6.3 The responsibilities and authority of Authorized Users may include the following:

5.1.6.3.1 Monitoring and maintaining equipment associated with the use, storage, and disposal of licensed radioactive material under their control;

5.1.6.3.2 Serving as custodian of sealed radiation sources;

5.1.6.3.3 Preparing products for shipment;

5.1.6.3.4 Performing product testing;

5.1.6.3.5 Performing research and development with licensed radioactive materials; and

5.1.6.3.6 Ensuring that personnel under their supervision comply with the requirements of this Plan.

5.1.6.4 Once an Authorized User is deemed qualified and given the authority to supervise the use of licensed materials, the name and qualifications of the new Authorized User shall be documented and maintained as a radiation protection record.

5.1.7 Health Physics Technicians

5.1.7.1 The RSD may designate authority for implementing certain aspects of the radiation protection program to Health Physics Technicians.

5.1.7.2 Health Physics Technicians shall have demonstrable course work and/or experience in the following:

5.1.7.2.1 Radiation fundamentals including science/math review; radioactivity; interactions, biological affects quantities and units;

5.1.7.2.2 Measurement methods including survey instruments, external and internal monitoring systems, environmental monitoring systems;

5.1.7.2.3 Operational aspects including protection principles, surveys and

inspections, waste management, contamination control, emergencies, protective clothing/equipment use; and

5.1.7.2.4 Regulations, standards, guidelines and industry-standard radiation safety procedures.

Note: Current (active) registration by the National Registry of Radiation Protection Technologists (NRRPT) may, at the discretion of the RSD, satisfy these requirements.

5.1.7.3 The responsibilities and authority of Health Physics Technicians may include the following:

5.1.7.3.1 Ascertain compliance with rules and regulations, license conditions, and the guidelines approved and specified by the RSC;

5.1.7.3.2 Provide technical support for all aspects of radiation protection, including field operations;

5.1.7.3.3 Monitor and maintain equipment associated with the use, storage, and disposal of radioactive material and radiation-producing machines;

5.1.7.3.4 Provide consultation on all aspects of radiation protection to personnel at all levels of responsibility;

5.1.7.3.5 Administer and coordinate the distribution of internal and external personnel monitoring devices and supplies on an as-needed basis;

5.1.7.3.6 Maintain personnel/area monitoring records, notify personnel and management of exposures approaching maximum permissible limits, recommend appropriate corrective action, and evaluate exposures reported by contract dosimetry services;

5.1.7.3.7 Test sealed sources of radiation for leakage or removable contamination;

5.1.7.3.8 Perform an investigation in cases of apparent overexposure to radiation or radioactive materials;

5.1.7.3.9 Coordinate or conduct training programs and instruction in the acceptable methods for the use of radioactive materials and radiation-producing machines;

5.1.7.3.10 Provide refresher training as appropriate (e.g., changes in procedures, equipment, regulation);

5.1.7.3.11 Monitor the storage of all radioactive materials;

5.1.7.3.12 Monitor the shipping and receiving of all radioactive materials;

5.1.7.3.13 Maintain a radioactive materials inventory to assure continued compliance with the possession limits specified in the USNRC license;

5.1.7.3.14 Coordinate and conduct emergency response activities; and

5.1.7.3.15 Perform other monitoring/surveillance tasks as directed by the RSD.

5.2 Facilities and Equipment.

5.2.1 Licensed radioactive materials shall be used/stored in the restricted areas listed in Appendix 1.

5.2.2 Temporary use/storage areas at the Saxonburg facility may be instituted by the RSD pursuant to a written procedure entitled "Control of Radiological Work".

5.2.3 Laboratory facilities, remote handling equipment, storage containers, shielding, fume hoods, ventilation systems, barriers, containment, access controls, administrative controls, remote handling tools, and other items may be used for controlling exposures from licensed radioactive materials.

5.2.4 In restricted areas, all pertinent general industry regulations in 29 CFR 1910, including those that pertain to chemical and fire safety, and all substantive requirements in 40 CFR 68 shall apply.

Note: Hazardous materials storage locations and practices in restricted areas should be subject to planned and periodic inspection by in-house safety personnel and by state/federal inspectors.

5.3 Training in Radiation Protection

5.3.1 All personnel permitted unescorted access to the controlled area shall receive initial training in radiation protection prior to unescorted access being granted, and refresher training annually thereafter.

5.3.2 Training may consist of Visitor Training, General Employee Training (GET), Radiation Worker Training, and/or special briefings, as determined by the RSD.

5.3.3 GET shall be required for employees with the potential to exceed 100 millirem CEDE per calendar year.

5.3.4 Radiation Worker Training shall be required for employees with the potential to exceed 500 millirem CEDE per calendar year.

5.3.5 Training programs shall:

5.3.5.1 Address the pertinent requirements of 10 CFR 19, 29 CFR 1910, and 40 CFR 68, as applicable.

5.3.5.2 Include, as a minimum, the topics shown in Appendix 2.

5.4 Radiation Exposure Control

5.4.1 Radiation Dose Limits and Goals

5.4.1.1 Internal and external dose limits for employees, visitors and contractors shall be equivalent to those established by the USNRC in 10 CFR 20.1201(a).

5.4.1.2 Administrative goals for monitored personnel shall be less than 2500 millirem TEDE.

5.4.1.3 The CEO shall ensure that sufficient trained personnel are available to perform each operation such that administrative exposure goals are not reached.

5.4.1.4 Exposure to persons under 18 years of age of shall not exceed 500 millirem per year.

5.4.1.5 Exposure of the unborn child shall not exceed 500 millirem for the entire gestation period.

5.4.1.5.1 Any employee, contractor or visitor that has the potential for occupational exposure shall be informed of the potential effects that may result to an embryo-fetus at low exposure levels.

5.4.1.5.2 Individuals shall be encouraged to notify the RSD regarding "declared" pregnancies.

5.4.1.5.3 An evaluation shall be performed by the RSD to determine the potential for an employee to exceed the regulatory exposure limit during the nine-month gestation period.

5.4.1.5.4 If the potential exists or if an employee's request for transfer is approved, the employee shall be transferred to a different job assignment.

5.4.1.5.5 Declared pregnant females with the potential to exceed 100 millirem CEDE during a calendar year shall be monitored for internal and/or external exposure.

5.4.2 All employees with the potential to exceed 10% of regulatory dose limit within the calendar year from external sources shall be assigned a TLD-based, film, optical, or other personnel dosimeter (either whole body or finger ring, as applicable) that has been accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

Note: In general, routine work in an ambient environment of greater than 250 microR per hour is indicative of the need to assign a personnel dosimeter. (This value is based upon a maximum

accumulated exposure of 500 millirem per year, with a nominal work year of 2,000 hours.) For non-routine work of one month duration or less, assuming no other monitored exposures for the year occur, a monitoring criterion of 3,000 microR per hour may be used. The RSD should be consulted for all other use conditions.

5.4.2.1 A formal investigation shall be performed by the RSD in the event that a personnel dosimeter shows an unexpected exposure or if a personnel dosimeter is lost.

5.4.2.2 A written report shall be submitted to the RSC within ten working days for review and approval of follow-up actions intended to prevent the exposure or loss from re-occurring.

5.4.2.3 Dosimeter deployment duration shall be selected, in conjunction with dosimeter detection capabilities to ensure identification of doses above the limits specified above.

Note: In general, quarterly (every three months) exchanges for TLD-based dosimeters are typical. However, actual deployment periods are dependent upon the nominal detection limits of the dosimeter. The technical basis for deployment periods that are greater or less than once every quarter should be documented.

5.4.3 All employees with the potential to exceed 500 millirem CEDE or 5,000 millirem CDE from internal sources within the calendar year shall participate in a routine internal radiation monitoring program.

Note: In general, the exposure potential for work with loose radioactive material in an open area (i.e., without containment, air handling equipment or other controls) in quantities that exceed 10% of the Annual Limit on Intake (ALI) for the radionuclide in question should be evaluated and the need for internal radiation monitoring documented. The RSD shall be consulted for other potential use conditions.

Note: One method of evaluating the exposure potential is to determine the inhalation and/or ingestion intake rates (e.g., pCi/hour, μCi/day) and the maximum likely stay-times (i.e., hours per year) for the work operation. These shall be used as input to the following equations:

$$E_{potential} = \frac{I \times T}{ALIs} \times 5{,}000 \text{ OR } E_{potential} = \frac{I \times T}{ALINS} \times 50{,}000$$

where I = ingestion or inhalation intake rate (pCi/day), t = the annual exposure duration (days/year), ALI = the Annual Limit on Intake (ingestion or inhalation) for the radionuclide of interest (pCi/year), S = stochastic, NS = non-stochastic, and $E_{potential}$ = the exposure potential (millirem CEDE if the stochastic ALI is used, or millirem CDE is the non-stochastic ALI is used).

5.4.4 The routine internal radiation monitoring program shall consist of:

5.4.4.1 Personal air monitoring (i.e., breathing zone sampling);

5.4.4.2 Indirect bioassay sampling at the beginning and end of employment and on a planned and periodic basis thereafter; or

5.4.4.3 A combination of air monitoring and bioassay.

5.4.5 Routine monitoring for intakes by inhalation by indirect bioassay shall be performed at a frequency that is appropriate for the methodology used, sufficiently sensitive to meet an applicable performance criterion, and as deemed appropriate by the RSD, with the technical basis for the program, including collection procedures, analytical methods, detection limits, action levels and requirement for compliance with ANSI N13.30, defined and documented prior to its implementation

5.4.6 Special bioassay monitoring may be performed whenever an administrative goal may have been exceeded, a nasal smear reveals the presence of detectable radioactivity, or whenever the RSD deems it appropriate.

5.4.7 Indirect bioassay results shall be converted into intake, CDE and CEDE by the methodologies recommended in Regulatory Guide 8.9.

~~5.4.8 Dose assessment from intakes of ^{232}Th shall be based upon the following:~~

~~5.4.8.1 The ALI for inhalation of nitrates or fluorides of ^{232}Th, and other W-class compounds, is 6.1e-3 microcuries.~~

~~5.4.8.2 The ALI for inhalation of oxides of ^{232}Th, and other Y-class compounds, is 4.7e-2 microcuries.~~

~~**Note: These values are substituted for those contained in Appendix B of 10 CFR 20 because they are based upon more realistic metabolic models for thorium compounds, and on improved dosimetry methods. They are derived from the dose conversion factors contained in ICRP Publication 71 for the most restrictive organ (e.g., the bone surfaces in each case). As such, they reflect non-stochastic limits. The stochastic ALIs for W- and Y-class compounds, derived from the same factors, are 3.0e-2 microcuries and 5.4e-2 microcuries, respectively.**~~

5.4.9 Personal air monitoring, if used for internal dose assessment, shall include provision for the following:

5.4.9.1 Samples taken in a work location occupied by a worker shall be drawn from a point or series of points within the breathing zone of that worker.

5.4.9.2 The sampling location shall be selected so as to be as close to the breathing zone as is practical without interfering with the work or the worker.

5.4.9.3 The sampling methodology shall not fractionate by particle size or in other ways distort the physical and chemical properties of the airborne radioactive constituents.

5.4.9.4 Airborne radioactivity shall be collected with an air pump connected to a filter cartridge.

5.4.9.5 Filters may be submitted to an analytical laboratory or counted in-house for determination of gross alpha activity.

5.4.9.6 A ^{232}Th-to-gross alpha ratio of 0.2 shall be used to determine the isotopic activity from the gross alpha activity.

Note: The basis for this value can be found in an October 22, 1997 letter from J. Labrecque and C. Johnson (II-VI) to the Regional Administrator (USNRC).

~~5.4.9.7 For W-class ^{232}Th compounds, the DAC shall be 2.54e-12 microcuries per milliliter; for Y-class compounds, the DAC shall be 1.96e-11 microcuries per milliliter.~~

~~**Note: The basis for these values are the dose conversion factors contained in ICRP Publication 71 for the bone surfaces (see Section 5.4.8, above).**~~

5.4.10 A formal investigation shall be performed by the RSD in the event that any monitoring result is unexpected.

5.4.11 A written report shall be submitted to the RSC within ten working days for review and approval of follow-up actions intended to prevent the exposure from re-occurring.

5.5 Control of Work

5.5.1 Routine working conditions at the Saxonburg facility that may subject an individual to exposures that are less than 100 millirem TEDE per calendar year shall require no specific controls.

5.5.2 Control of work that may subject an individual to exposures equal to or greater than 100 millirem TEDE per calendar year shall be accomplished by:

5.5.2.1 Establishing radiological standards and responsibilities;

5.5.2.2 Using operations line management and the RSD to monitor performance of radiological work;

5.5.2.3 Training workers in recognition of radiation hazards and their responsibility to prevent their occurrence; and

5.5.2.4 Providing personnel with Radiation Safety Procedures and/or RWPs that include the radiological protection measures and controls necessary for safe completion of the job.

5.5.3 Authorized Users shall not initiate work in areas that may subject members of the general population to exposures equal to or greater than 100 millirem per year TEDE.

5.5.4 An RWP shall be prepared for construction, demolition, maintenance, and repair activities, and all

non-routine operations in restricted areas.

5.5.5 Temporary Restricted Areas

5.5.5.1 An RWP shall be prepared for work in all temporary restricted areas.

5.5.5.2 A pre-operational survey of the area shall be performed and documented prior to the effective date of the RWP.

5.5.5.3 The RSD shall terminate (remove) the RWP and other restrictions from the area after:

5.5.5.3.1 Confirming that the work performed under the RWP is complete;

5.5.5.3.2 Confirming that all licensable radioactive materials and contaminated equipment/supplies have been removed; and

5.5.5.3.3 Performing and documenting an ambient exposure rate and contamination survey of equipment and surfaces that came in contact with the radioactive material to ensure residual radioactivity is indistinguishable from background radiation.

Note: If residual radioactivity is detectable above background radiation, documentation sufficient to demonstrate that the levels will not result in a TEDE to an average employee, visitor or contractor of more than 25 millirem per year, and that the levels of ALARA shall be maintained.

5.5.5.4 Once a temporary restricted area has been assigned or removed, the area name, area description, and planned/terminated operations in that area shall be documented and maintained as a radiation protection record.

5.5.6 Controlling radiological work in permanent and restricted areas shall be as described in a written procedure entitled "Control of Radiological work".

5.6 ALARA Program

5.6.1 While occupational radiation exposures incurred by employees or visitors of II-VI historically are low, all exposures shall be assumed to entail some risk to the employee.

5.6.2 Line management shall adopt the following three principles to govern all work activities with the potential for exposure to radiation or radioactive materials:

5.6.2.1 Activities and operations shall produce a positive net benefit;

5.6.2.2 All radiation exposures shall be kept as low as reasonable achievable (ALARA) in light of economic and societal costs; and

5.6.2.3 Radiation exposures received by individuals shall not exceed the radiation dose limits described above.

5.6.3 ALARA activities shall include the following:

5.6.3.1 A corporate program shall be established that integrates management philosophy and regulatory requirements, with specific goals and objectives for implementation included;

5.6.3.2 The RSC shall establish applicable and appropriate radiological goals to direct all levels of management and workers at II-VI toward improvement in radiological performance; and

5.6.3.3 ALARA goals shall be reviewed and approved at each routine meeting of the RSC.

5.7 Contamination Control

5.7.1 Loose and fixed radioactive contamination shall be maintained at concentrations that are as low as reasonably achievable (ALARA).

5.7.2 Equipment, components or surfaces where loose contamination in excess of 200 dpm (alpha) per 100 cm^2 shall be classified as contaminated

5.7.3 Equipment, components or surfaces where total (loose plus fixed) contamination in excess of 1,000 dpm (alpha) per 100 cm^2 shall be classified as contaminated.

5.7.4 Contaminated areas shall be clearly defined and posted.

5.7.5 Contamination limits referenced are for release of equipment, components and surfaces during licensed operations.

5.8 Instrumentation

5.8.1 Instrumentation used by the RSD, ARSD, Health Physics Technicians, Authorized Users, and other employees, visitors or contractors shall be:

5.8.1.1 Of sufficient sensitivity and accuracy to assess radiation exposure levels found at II-VI facilities.

Note: These instruments should provide a response in units of microR per hour, milliR per hour, microrem per hour, millirem per hour, or in other units of exposure rate.

5.8.1.2 Able to detect the presence of radioactivity on tools, equipment, clothing, and personnel at all levels typical of II-VI facilities.

Note: These instruments should provide a response in units of counts per minute,

counts per second, disintegrations per minute, disintegrations per second, or other units of radioactivity.

5.8.1.3 Of sufficient quantity to support on-going or planned operations.

5.8.2 Instrumentation shall be purchased, tested and calibrated by methods that are consistent with ANSI N323 recommendations.

5.8.3 Calibration frequencies for instruments in the active inventory shall be at least once per year, or more frequently if so recommended by the instrument manufacturer

5.8.4 Calibration and repair records shall be maintained.

5.9 Surveillance

5.9.1 Routine exposure rate surveys, contamination surveys, air monitoring, and other surveillance activities in all restricted areas and selected unrestricted areas, as applicable, shall be performed and documented at least once per calendar quarter.

5.9.2 Non-routine surveys may be performed at the discretion of the RSD or any time there is reason to suspect that radiation or contamination levels may exceed pre-determined action levels:

5.9.2.1 Ambient exposure rates in restricted areas that are 1.5 times the maximum measured exposure rate typical of that area.

5.9.2.2 Total (fixed plus removable) and removable contamination levels in restricted areas that are 2.5 times the maximum measured total or contamination levels typical of that area.

5.9.2.3 Ambient exposure rates in unrestricted areas that are in excess of two (2) times the background exposure rate in that area.

5.9.2.4 Total and removable contamination levels in unrestricted areas that exceed those levels listed in Section 5.7 of this RSP.

5.9.2.5 Airborne radionuclide concentrations in posted airborne radioactivity areas that are in excess of 1.5 times the maximum measured concentration.

5.9.2.6 Airborne radionuclide concentrations in unposted areas that are in excess of 2.5 times the maximum measured concentrations.

5.9.3 Actions to be taken if a predetermined action level is exceeded may include one or more of the following:

5.9.3.1 Performance and documentation of confirmatory and/or follow-up surveys and measurements.

5.9.3.2 Investigation into the cause of the unexpected condition.

5.9.3.3 Surveys of personnel in the area.

5.9.3.4 Area access restrictions.

5.9.3.5 Activation of administrative controls (e.g., stay time limits, distance requirements, shielding usage).

5.9.3.6 Unscheduled personnel dosimeter processing.

5.9.3.7 Assessment of internal and/or external exposures of personnel in the area.

5.9.3.8 Other actions as specified and directed by the RSD.

5.10 Posting

5.10.1 Posting Posting/labeling requirements shall be consistent with the applicable requirements contained within 10 CFR 19, 20 and 21.

5.11 Receipt and Control of Radioactive Material.

5.11.1 Incoming packages, known or suspected to contain radioactivity at levels significantly higher than background, shall be monitored for exposure rate and removable external contamination, pursuant to 10 CFR 20.1906.

5.11.2 Radioactive material shall be marked as such to ensure proper handling and storage.

Note: Markings may include tags or stickers indicating "Radioactive Materials".

5.11.3 Items identified as radioactive materials shall be maintained in a radioactive material storage area established for this purpose within a restricted area.

5.11.4 Source material received by II-VI shall be entered in a radioactive material inventory log.

5.11.4.1 The log shall be maintained to assure compliance with maximum possession limits established in the USNRC license.

5.11.4.2 The source material inventory shall be updated at least once per calendar quarter to reflect new acquisitions.

5.11.5 Sealed sources of by-product or accelerator-produced material received by II-VI shall be:

5.11.5.1 Entered in a sealed source log;

5.11.5.2 Assigned to a Sealed Source Custodian; and

5.11.5.3 Tested for leakage and/or removable contamination at the frequency shown in Appendix 3.

5.12 Packaging and Transportation of Radioactive Materials

5.12.1 Material deemed radioactive by the Department of Transportation (DOT) shipped from II-VI shall be packaged, surveyed, labeled, and shipped in accordance with 10 CFR 71.

Note: The DOT defines radioactive materials as those that contain a total of 2,000 pCi of radioactivity per gram. For natural thorium, this includes the amount of ^{232}Th, plus the amount of each of the radioactive progeny in the decay chain.

5.12.2 Prior to shipment of specifically-licensed materials, the RSD shall obtain confirmation that the receiver is licensed to receive the type, quantity and form of radioactive material present in the shipment.

Note: Securing a copy of the recipient's radioactive materials license is recommended.

5.12.3 Material shipments to non-domestic (foreign) locations shall be made in accordance with 10 CFR 110.

5.12.4 Source material shipped by II-VI shall be entered in a radioactive material inventory log.

5.12.4.1 The log shall be maintained to assure compliance with maximum possession limits established in the USNRC license.

5.12.4.2 The source material inventory shall be updated at least once per calendar quarter to reflect usage.

5.12.5 Sealed sources shall be inspected and tested for construction defects, leakage and removable contamination prior to shipment.

5.13 Control of Waste

5.13.1 Radioactive waste materials shall be controlled by the following:

5.13.1.1 Preventing materials from becoming unnecessarily and/or excessively contaminated;

5.13.1.2 Decontaminating and reusing radioactive materials such as tools and equipment;

5.13.1.3 Monitoring materials for radioactivity and removing non-radioactive materials prior to disposal; and

5.13.1.4 Using waste volume reduction techniques when practical.

5.13.2 Radioactive waste may be stored on site or disposed of by one of the following means:

5.13.2.1 Transfer to an authorized recipient as provided for in 10 CFR 20.2001;

5.13.2.2 Release into the sanitary sewer in conformance with USNRC 10 CFR 20.2003; or

5.13.3.3 Any other means specifically approved in advance by the USNRC.

5.13.3 Volumetric solids (i.e., filtercake, soil, etc.) that contain ^{232}Th may be disposed of as ordinary waste in an industrial landfill provided that:

5.13.3.4 The concentration of ^{232}Th, in picocuries per gram of solid material, at the time of disposal is less than 25 picocuries per gram.

5.13.3.5 Not more than two (2) effective packages (where an effective package contains a volume of approximately 24 cubic meters) may be disposed of at the industrial landfill in any 30-day period.

Note: These release criteria were authorized May 31, 2000 by the USNRC by letter and an amendment to STA-1455.

5.13.2 Manifests, Certificates of Disposal or other documentation to confirm transfer/disposal shall be maintained by the RSD.

5.14 Radiation Protection Records

5.14.1 The RSD shall maintain records sufficient to document implementation of this Plan and to demonstrate compliance with applicable USNRC license requirements.

5.14.2 The following records shall be preserved and maintained until license termination, at which time the records shall be transferred to the USNRC:

5.14.2.1 Individual employee records and analyses performed using employee exposure records;

5.14.2.2 Records of dose to members of the general public;

5.14.2.3 Records of waste disposal; and

5.14.2.4 Records of radiation safety training.

5.14.3 All other records shall be maintained pursuant to II-VI corporate policy.

5.15 Documentation

5.15.1 Radiation Safety Procedures (RSPs) shall be generated to guide the implementation of this Plan.

5.15.2 The preparation, distribution and use of RSPs shall be controlled.

5.15.3 All Radiation Safety Procedures shall be signed by the RSD after approval by the RSC prior to implementation.

5.15.4 Approval signatures shall signify the RSP is adequate for its intended use, that it meets the requirements of this Plan, and that all provisions of License No. STA-1455 are met.

5.15.5 RSPs shall be reviewed by the RSC for continued applicability, effectiveness and compliance with this Plan at least once per year.

5.16 Emergency Response and Notification

5.16.1 For emergencies where radioactive materials may be involved, consideration shall be given to exposure to radioactive materials and ionizing radiation in addition to the other hazards present.

5.16.2 If it is known or suspected that an internal or external dose limit has been exceeded or that contamination levels are not as expected:

5.16.2.1 The RSD shall be notified immediately.

5.16.2.2 The RSD shall evaluate the likelihood and magnitude of the exposure or contamination status, and shall implement appropriate follow-up actions as soon as possible after notification.

5.16.3 The RSD and the CEO shall notify the USNRC of events as required in 10 CFR 20 Subpart M and 10 CFR 40.60.

5.17 Quality Assurance in Radiological Protection

5.17.1 All activities conducted as part of this Plan shall be subject to quality assurance and review as required in 10 CFR 20.1101.

5.17.2 The objectives of the annual review shall include the following:

5.17.2.1 Compliance with all applicable regulatory and license requirements

5.17.2.2 Ability of the radiation protection program to identify and correct deficiencies

5.17.2.3 Management commitment to radiation safety

5.17.2.4 Program implementation

5.17.3 Limited-scope audits/assessments of the radiation protection program shall be conducted by the RSD (or designee) to determine compliance with applicable federal/state regulations, applicable license requirements, and this Plan.

5.17.4 The following programmatic elements shall be audited for compliance and continued applicability at a frequency of at least once per year:

5.17.4.1 Radiation safety training

5.17.4.2 Training of radiation protection personnel

5.17.4.3 Documentation and records

5.17.4.4 Exposure control

5.17.4.5 Instrumentation and surveillance

5.17.4.6 Sealed source and radioactive materials accountability

5.17.4.7 Control of work

5.17.4.8 Waste management/disposal

5.17.4.9 Contamination control

5.17.4.10 ALARA

5.17.4.11 Shipping/receiving radioactive material

5.17.5 Individuals performing the annual review:

5.17.5.1 Shall have training and experience equivalent to that of individuals who supervise the use of radioactive materials at II-VI Incorporated.

5.17.5.2 Shall not be selected from the staff of the operations or program areas to be audited, nor their management.

5.17.5.3 May be individuals from other II-VI Incorporated facilities, or from outside (i.e., independent) organizations.

5.17.6 The annual review procedure shall be generally consistent with the techniques described in NUREG/CR-1556, Volume 12, Section 8.10.1.

5.17.7 Corrective actions in the event of deficiencies:

5.17.7.1 The RSD may assign responsibilities for responding to deficiencies and tracking the status of responses and/or corrective actions to others.

5.17.7.2 The RSD shall secure an evaluation of the responses and/or corrective actions from the individual(s) that performed the annual review.

5.17.7.3 Once closure has been obtained, the RSD shall inform the RSC that all actions were completed and approved.

6 EXEMPTION PROVISIONS

6.1 Minor changes to this Plan that do not substantively affect the required actions or reduce the level of radiation safety currently herein shall be permitted pursuant to the written authorization of the RSD and the RSC.

Note: Typographical changes, formatting changes and changes that are unrelated to radiation safety are considered to be "minor changes".

6.2 Other variances and exceptions to the requirements of this Plan shall be permitted pursuant to the written authorization of the RSD, the RSC and the CEO, and after approval by the USNRC via the issue of an amendment to License No. STA-1455.

7 DOCUMENTATION

None

8 APPENDIXES

8.1 Appendix 1 - Locations Where Licensed Materials are Used/Stored at II-VI.

8.2 Appendix 2 - Training Topics

8.3 Appendix 3 - Sealed Source Leak Test Frequency

8.4 Appendix 4 – Radioactive Material (Type, form and use Use)

8.5 Appendix 5 - General Description of Facilities, Equipment and Other Resources at II-VI Incorporated's Saxonburg, Pennsylvania Site

APPENDIX 1
LOCATIONS WHERE LICENSED MATERIALS ARE USED/STORED AT II-VI

Building/Area	Purpose	Description
Warehouse Complex	Low-level waste storage	There is one overhead door, one internal access gate and windows in this area. When not in use, all entrances are secured. The overhead door is locked with a slide bolt and padlock from the inside. The interior slide gate is padlocked, and all windows are secured internally with expanded metal screens. Also in the area are a fire extinguisher, spill control supplies, and a chemical storage location.
Coating Operations Area	Product coating	Thorium fluoride is evaporated in vacuum chambers on optics. Trays and equipment (e.g., bell jars, crucibles) in the chambers are removable to facilitate cleaning. Feed material is also stored in this area.
Cleaning Line	Product preparation	This area is restricted primarily because it serves as an access point to the coating Operations. No licensed materials of significance are stored in this location.
Sand Blaster	Equipment cleaning	A sand blaster is used to clean equipment removed from the vacuum chambers in use in the Coating Operations Area.
TFM Lab	Material Preparation	Furnace operations involving the utilization and purification of Thorium compounds.
eV PRODUCTS Division 373 Saxonburg Blvd	Quantification of assemblies and instrumentation	To test products, eV utilizes a series of sealed sources of varying radiation types and energies. These sources are stored in locked boxes in the manufacturing and testing areas, and are tracked and inventoried on a regular basis.

APPENDIX 2
TRAINING TOPICS

General Employee Training

1. The type and form of radioactive material present at the facility.
2. The location of USNRC and II-VI radiation protection policies and procedures.
3. Employee, management and contractor responsibilities for radiation safety.
4. Identification of radiation postings, labels and barriers.
5. II-VI Emergency Preparedness Plan
6. How to contact the radiation safety staff.

Visitor Training and Hazard Communication Training

1. Identification of radiation postings and barriers.
2. How to contact members of the radiation safety staff.

Radiation Worker Training

1. Radioactivity and radioactive decay.
2. Characteristics of ionizing radiation.
3. Man-made radiation sources.
4. Acute effects of exposure to radiation.
5. Risks associated with occupational radiation exposures.
6. Special considerations in the exposure of women of reproductive age.
7. Dose-equivalent limits.
8. Modes of exposure - internal and external.
9. Dose-equivalent determinations.
10. Basic protective measures - time, distance, shielding.
11. Specific procedures for maintaining exposures as low as reasonably achievable.
12. Radiation survey instrumentation - calibration, use and limitations.
13. Radiation monitoring programs and procedures.
14. Contamination control, including protective clothing, equipment and work place design.
15. Personnel decontamination.
16. Emergency procedures.
17. Warning signs, labels, and alarms.
18. Responsibilities of employees and management.
19. How to contact the radiation safety staff.

Authorized User Training

1. Review of basic radiation protection principles
2. Licensing overview
3. Review of measurement instruments
4. Safe handling procedures, as applicable. Examples:
   a. Manufacturing Specification No. 81-01-001, "Proper Handling and Storage/Inventory of Radioactive Sources in the eV PRODUCTS area
   b. Written procedure for "Control of Radiological Work"
5. II-VI documentation and recordkeeping requirements

6. II-VI Emergency Preparedness Plan

Radiation Safety Committee Training

1. Radiation and radioactivity
2. Instrumentation
3. Radiation protection program management
4. Regulations and license requirements

APPENDIX 3
SEALED SOURCE LEAK TEST FREQUENCY

Source Type	Use	Activity	Minimum Leak Test Frequency
Beta/gamma-emitting	Active	Greater than 100 microcuries	6 months
Alpha-emitting	Active	Greater than 10 microcuries	3 months
Beta/gamma-emitting	Not in use	Any	Not required
Alpha-emitting	Not in use	Any	Not required
Beta/gamma-emitting	Active	Less than 100 microcuries	Not required
Alpha-emitting	Active	Less than 10 microcuries	Not required

APPENDIX 4

RADIOACTIVE MATERIAL (TYPE, FORM and USE)

Radionuclide	Chemical/Physical Form	Possession Limit	Single Source Limit	Intended Use	Place of Use
Thorium	Any form suitable for transport under DOT regulations	2000 kilograms	N/A	Shipping, receiving, possession, use, processing, research, development and storage incident to the plating of optical equipment other than eye pieces	375 Saxonburg Boulevard, Saxonburg, PA 16056
Iodine - 129	Sealed Source	1 mCi	500 µCi	Quality control testing of detection systems	373 Saxonburg Boulevard, Saxonburg, PA 16056
Barium – 133	↓	5 mCi	500 µCi	↓	↓
Cesium – 137		5 mCi	500 µCi		
Manganese - 54		1 mCi	500 µCi		
Cobalt - 60		600 µCi	600 µCi		
Technetium - 99		600 µCi	600 µCi		
Strontium - 90		500 µCi	500 µCi		
Krypton - 85		500 µCi	500 µCi		
Cadmium – 109		250 mCi	50 mCi		
Americium – 241		350 mCi	50 mCi		
Californium - 252		100 µCi	100 µCi		

APPENDIX 5

General Description of Facilities, Equipment and Other Resources at II-VI Incorporated's Saxonburg, Pennsylvania Site (Map Attached)

II-VI Incorporated (II-VI) manufactures infrared (IR) optics for laser and other systems. The zinc selenide finished optical products are coated with a thin film of thorium fluoride to ensure low absorption for high power lasers.

eV Products (a Division of II-VI) produces solid-state detectors. As part of the production process, sealed radiation sources are use for room temperature testing.

Operational Summary – II-VI Incorporated

II-VI purchases bulk thorium fluoride from a commercial vendor on an "as needed" basis. Materials are received and stored within a restricted area. From there, the material may be used in the Coating Operations Area where it is used to coat lenses, or in other laboratory areas for research, test, and evaluation. (Residue from the coating operation may be found in the Sand Blaster or in the Waste Storage Area.)

In the coating operation, ThF_4 is evaporated onto Laser Optics inside a Stainless Steel vacuum chamber. The ThF_4 material is place into a molybdenum crucible that is 1.5" OD and 1.75" tall and holds about 70-80 grams of material. The crucible is placed into the vacuum chamber with a wire heater coil placed just above the material in the crucible. All the air is then pumped out of the vacuum chamber. The power to the wire heater is turned on and the heat evaporates the ThF_4, the material then condenses onto the optics and the sides of the chamber. After the desired thickness is reached, the chamber is cooled and vented. The parts are removed and the crucibles removed and recharged for the next run.

Inside the vacuum chamber is lined with Stainless Steel (SS) shields and aluminum foil, after a number of cycles the shields are removed and the condensed material on the SS shield is removed by sandblasting. The aluminum foil is removed and disposed of as radioactive waste.

Proprietary operations utilizing thorium compounds are performed in the TFM Lab.

Research and development is also performed in support of the coating operation. These activities may be bench-scale, pilot scale, or full-scale operations that take place within restricted areas, or in locations of the facility where access is temporarily restricted for the purposes of radiation control. In temporary restricted areas, pre-operational surveys to document existing radiological conditions are performed and documented. Once the project is complete and all licensed radioactive materials removed, a final status survey is performed and documented prior to release of the area for unrestricted use.

Operational Summary – eV Products

The eV Products Division designs and manufactures a line of solid-state nuclear radiation detectors and support equipment. Markets and applications include industrial process control, medical diagnostics, non-destructive testing, environmental monitoring, and nuclear non-proliferation. The products are based on a II-VI compound semiconductor CdZnTe. eV Products grows this material, fabricates the detectors, and assembles them into products. To test the products, a series of sealed radiation sources that emit a variety of radiation types and energies are used. The sources are maintained in a

shielded and secured storage location. During use sources are removed from the storage shield, and then returned to the shielding when testing is complete. Sealed sources may also be distributed to General Licensees in devices that are approved by the USNRC under the Sealed Source Device Registry.

Summary of Available Resources for Radiation Protection

The coating shop is broken up in to three areas, cleaning, coating and sandblasting. The Cleaning Area is designated as a class 1000 clean room. The conditioned air is HEPA filtered before going into the room and the return air is filtered and recycled back into the room. About 15-20% make-up air is added to the room. Little ThF_4 is used in this area.

The Coating Area is also a clean room with the same HEPA type of air conditioning system. In both the areas the floor is raised to allow for utilities under the floor, the air is returned through perforated floor tiles that are spread around the room. The coating area is the located of the vacuum chambers and where the ThF_4 is being used. Because of the type of work in the coating area, the class of the room is less than the cleaning area, and is viewed as a class 10,000 area.

The Sandblasting Area is located next to the coating area. There are two glove box sandblasting units in this area. Each is connected to a dust collection unit that is exhausted into a final HEPA filtering system. The dust is collected into a 55-gallon drum for disposal as a radioactive waste. The room air is filtered with a second HEPA type filtering system (Diagram attached).

II-VI is equipped with various types of portable radiation detection and sampling instruments in its active instrumentation inventory. These include stationary air samplers, portable Geiger Mueller meters, alpha scintillation detectors, a G-M based smear counter, and a zinc sulfide smear counter. Additional instruments are available, as necessary, through rental agreements with commercial firms.

II-VI has developed a comprehensive plan for radiation protection whenever and wherever licensed radioactive material is used. The company's commitment to ensuring safety of personnel, equipment, facilities and the environment are contained in a Radiation Protection Program. Some of the procedures for implementing these commitments are contained in a series of Radiation Safety Procedures (RSPs). The II-VI Radiation Safety Committee prior to its implementation reviews each RSP for technical, operational, and regulatory adequacy. In addition, procedures are reviewed for continued adequacy and applicability on a planned and periodic basis.

To support the Radiation Protection Program, II-VI has entered into contract agreements wit ha variety of specialty firms. These firms provide analytical services, instrumentation, dosimetry services, field surveyors, Registered Radiation Protection Technologists, Certified Health Physicists, and a variety of other resources to II-VI on an "as needed" basis. All communications with contracted support are typically directed through and coordinated by the II-VI Radiation Safety Director.

RADIATION PROTECTION PROGRAM PLAN (RSP-001)

REVISION STATUS

REV	DATE	INITIATOR	DESCRIPTION OF CHANGE
000	2/2/98	JAL	Initial Release – Approved by USNRC
001	11/16/00	MJN	Juvenile exposure limits (5.4.1.4) revised to correspond with 10 CFR Part 20.1207 – Verbal USNRC approval from EXU. (Minor Change)
002	1/18/02	MJN	Update RPP for Renewal of USNRC License STA-1455 – Expiring 2/28/02.
003	10/4/02	MJN	Update RPP based upon USNRC issuance of renewed license.
004	10/30/04	JMT	Update RPP based upon usage of Cf-252
005	12/29//04	JMT	Coating Expansion (Proposed Amendment)

This is to acknowledge the receipt of your letter/application dated

12/29/2004, and to inform you that the initial processing which includes an administrative review has been performed.

☑ Amend. 5-74-1455
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

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A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 136238.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader

	:	(FOR LFMS USE)
	:	INFORMATION FROM LTS
BETWEEN:	:	----------
	:	
License Fee Management Branch, ARM	:	Program Code: 11300
and	:	Status Code: 0
Regional Licensing Sections	:	Fee Category: 2C 3P
	:	Exp. Date: 20121031
	:	Fee Comments: 3P ADDED 3/22/93
	:	Decom Fin Assur Reqd: Y
	::	

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
   Applicant/Licensee: II-VI INCORPORATED
   Received Date: 20050104
   Docket No: 4008868
   Control No.: 136238
   License No.: STA-1455
   Action Type: Amendment

2. FEE ATTACHED
   Amount: /
   Check No.: /

3. COMMENTS

Signed W. A. Parkins
Date 1/4/2005

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /__/)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:
   Amendment _____
   Renewal _____
   License _____

3. OTHER _____
   _____

Signed _____
Date _____