

## MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

301841

## Licensee

1. Sandusky, Limited

3. License Number 34-26755-01

2. 3130 West Monroe Street  
Sandusky, OH 44870

4. Expiration Date October 31, 2001

5. Docket or  
Reference No. 030-342436. Byproduct, Source, and/or  
Special Nuclear Material7. Chemical and/or Physical  
Form8. Maximum Amount that Licensee  
May Possess at Any One Time  
Under This License

A. Krypton-85

A. Sealed Source  
(Amersham Corp.  
Model KAC.D1)A. Two sources not  
to exceed 100  
millicuries each

B. Strontium-90

B. Sealed Source  
(Amersham Corp.  
Model SIF.D1)B. Four sources not  
to exceed 10  
millicuries each

9. Authorized Use:

A. and B. To be used in Betacontrol Model MK 1.0 source holder for thickness  
measurements.CONDITIONS10. Licensed material shall be used only at the licensee's facilities located at  
3130 West Monroe Street, Sandusky, OH.

11. The Radiation Safety Officer for this license is Emily Smola.

12. Licensed material shall be used by, or under the supervision of, Emily Smola, Ronald  
Abbott, Barbara Borda, Sandra Mullens, William Braddock, or Roger Franklin.13. A. Sealed sources and detector cells shall be tested for leakage and/or  
contamination at intervals not to exceed 6 months or at such other intervals as  
specified by the certificate of registration referred to in 10 CFR 32.210.B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit  
alpha particles shall be tested for leakage and/or contamination at intervals  
not to exceed 3 months.

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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number  
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030-34243

- C. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
- D. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Nuclear Materials Safety Branch, 801 Warrenville Road, Lisle, Illinois 60532-4351. The report shall specify the source involved, the test results, and corrective action taken.
- E. The licensee is authorized to collect leak test samples for analysis by Siemens Medical Systems. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
14. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
15. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.
16. Installation, initial radiation survey, relocation, removal from service, maintenance, and repair of devices containing sealed sources shall be performed by Betacontrol or by persons specifically licensed by the Commission or an Agreement State to perform such services. Installation, replacement, and disposal of sealed sources shall be performed only by persons specifically licensed by the Commission or an Agreement State to perform such services.
17. Prior to initial use and after installation, relocation, dismantling, alignment, or any other activity involving the source or removal of the shielding, the licensee shall assure that a radiological survey is performed to determine radiation levels in accessible areas around, above and below the gauge with the shutter open. This survey shall be performed only by persons authorized to perform such services by the Commission or an Agreement State.
18. The licensee shall operate each gauge within the manufacturer's specified temperature and/or environmental limits such that the shielding and shutter mechanism of the source holder are not compromised.

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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

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19. The licensee shall assure that the shutter mechanism is locked in the closed position during periods when a portion of an individual's body may be subject to the direct radiation beam. The licensee shall review and modify as appropriate its "lock-out" procedures whenever a new gauge is obtained to incorporate the device manufacturer's recommendations.
20. Each gauge shall be tested for the proper operation of the on-off mechanism and indicator, if any, at no longer than 6-month intervals or at such longer intervals as specified by the manufacturer and approved by NRC.
21. The licensee may not possess and use materials authorized in Items 6, 7, and 8 until:
- A. The licensee has constructed the facilities and obtained the equipment described in the application and supporting documentation; and
  - B. The U. S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Materials Licensing Branch, 801 Warrenton Road, Lisle, IL 60532-4351 has been notified that activities authorized by the license will be initiated.
22. Within 30 days of the date of a decision not to complete the facility, acquire equipment, or possess and use authorized material, the licensee must notify the Commission in writing, of the decision.
23. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated September 13, 1996; and
  - B. Letters dated September 18, 1996 and September 23, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

9/25/96

By

*Michael J. Webb*  
Materials Licensing Branch, Region III

COPY

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

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: Program Code:
: Status Code: 3-----
: Fee Category: -----
: Exp. Date: 0 -----
: Fee Comments:
: Decom Fin Assur Reqdt:

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Applicant/Licensee: SANDUSKY LIMITED  
Received Date: 960917  
Docket No: 3034243  
Control No.: 301841  
License No.:  
Action Type: New Licensee

Amount: 550  
Check No.: 723727

Signed D. Hershey  
Date 3-18-76

1. Fee Category and Amount: 3x \$550

Amendment  
Renewal  
License

Signed \_\_\_\_\_  
Date 9/24/96

SEP 30 1996

Log Apr 8 III  
Remitter \_\_\_\_\_  
Check No. 23927  
Amount \$550  
Fee Category 3P  
Type of Fee APP  
Date Check Rec'd 9/23/96  
Date Completed 9/24/96  
By: SC



## APPLICATION FOR MATERIAL LICENSE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 8 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. FORWARD COMMENTS REGARDING BURDEN, ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,  
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,  
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO  
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,  
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION II  
101 MARIETTA STREET, NW, SUITE 2900  
ATLANTA, GA 30323-0199

## IF YOU ARE LOCATED IN:

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

MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
801 WARRENVILLE RD.  
LISLE, IL 60532-4351

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 SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-8064

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)

- ☒ A. NEW LICENSE  
☐ B. AMENDMENT TO LICENSE NUMBER \_\_\_\_\_  
☐ C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

## 2. NAME AND MAILING ADDRESS OF APPLICANT (include Zip code)

Sandusky Limited  
3130 West Monroe Street  
Sandusky, Ohio 44870

## 3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

3130 West Monroe Street  
Sandusky, Ohio 44870

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Emily Smola

## TELEPHONE NUMBER

(419) 627-3269

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE 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.

## 10. RADIATION SAFETY PROGRAM.

## 11. WASTE MANAGEMENT.

## 12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 1

AMOUNT  
ENCLOSED \$ 550.00

## 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, 1962 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  
Ronald Abbott, VP of Engineering

SIGNATURE

*Ronald Abbott*

DATE

9/13/96

## FOR NRC USE ONLY

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

RECEIVED

SEP 17 1996

REGION II

PRINTED ON RECYCLED PAPER

SEP 17 1996

September 12, 1996

John Madera  
Section Chief Material Licensing Division  
United States Nuclear Regulatory Commission  
Region III  
801 Warrensville Road  
Lisle, Illinois 60532-4351

Dear Mr. Madera,

Our company purchased a new multi-million dollar cast coating line from Italy and we are in the process of installing the line. The line which utilized beta gauges for coating thickness measurement is scheduled for start-up in late October 1996. The supplier of the beta gauges for the coating line is Betacontrol, which is located in Germany but has a satellite office located in Towaco, New Jersey. Betacontrol was chosen by the manufacturer of the coating line as the supplier of the beta gauges. We approved their choice of suppliers based on the belief that they had a U.S. General License. Due to a language barrier between our coating line supplier (who was acting as a liaison between Betacontrol and Sandusky Vinyl) we found this was a misconception. We were incorrect regarding Betacontrol's licensing status. We ascertained that we needed to apply for a specific license. We immediately began compiling information for our NRC application. We were unable to proceed with the application because Betacontrol did not have a license for one of their sources (it was not registered).

On September 5, 1996, Ronald Abbott who is our Vice President of Engineering met with Steve Baggett the Section Chief of the Sealed Source Safety Section of the Nuclear Regulatory Commission (NRC) and Michelle Burgess. The discussion surrounded the urgency of our procuring a specific license from the NRC and recommendations from Mr. Baggett on how to proceed. Mr. Baggett was very helpful in outlining a plan for us to obtain our license in a timely manner.

During the meeting, Michelle Burgess stated Betacontrol will be authorized within this week to sell and distribute the model number source (it has been added to their license), which enables us to proceed with our license application. Please call her if you have any questions regarding the authorization.

It is financially imperative that we obtain a specific license to install and operate the beta gauges. We will greatly appreciate your assistance in expediting our license application.

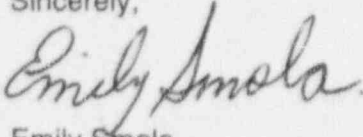
Our company name has recently been officially changed from Sandusky Vinyl Products to Sandusky, Limited. We will be applying for the license using the Sandusky, Limited name.

SEP 17 1996

Sandusky, Limited  
September 1996

If you have any questions regarding our application please call me at (419) 627-3269.

Sincerely,

A handwritten signature in cursive script that reads "Emily Smola". The signature is written in dark ink and is positioned above the printed name and title.

Emily Smola  
Safety and Environmental Supervisor

cc: Ronald Abbott, Kevin Givens, Jack Givens, Jim Pfeiffer

# APPLICATION FOR NRC RADIOACTIVE MATERIAL LICENSE

SANDUSKY, LIMITED  
3130 West Monroe Street  
Sandusky, OH 44870

## **5. Radioactive Material**

All radioactive material will be in the form of sealed sources.

Radionuclide	Description of Device and Sealed Source	Possession Limit
Strontium-90	Betacontrol Device Model MK 1.0 Sealed Source Model X.117	0.37 GBq (10 mCi) per source. Maximum of 4 sources.
Krypton-85	Betacontrol Device Model MK 1.0 Sealed Source Model KAC.D1	3.7 GBq (100 mCi) per source. Maximum of 2 sources.

1. Betacontrol NRC Material License Number: 29-23394-01
2. Address: Betacontrol  
P.O. 235  
435 Route 202  
Towaco, NJ 07082

The above sealed sources and respective devices are registered with the US Nuclear Regulatory Commission. Please see NRC registration certificate NR-122-D-101-S dated 29 January 1993 entitled, "Registry of Radioactive Sealed Sources and Devices - Safety Evaluation of Device".

## **6. Purpose for Which the Material Will be Used**

The Krypton 85 and the Strontium 90 sealed sources will be used in an industrial setting for the contactless measurement of the weight of plastisol coating on our cast coating line.

All services such as installation, initial radiation survey, gauge relocation, maintenance and initial leak testing will be conducted by the supplier of the nuclear gauges, Betacontrol of America, or other person specifically licensed by the NRC or an Agreement State to perform this service. Betacontrol has been specifically licensed to perform these services. Betacontrol holds NRC Material License Number 29-23394-01.



## **7. Persons Responsible for Radiation Safety Program**

The persons responsible for radiation safety program are Emily Smola, Safety and Environmental Affairs Supervisor, and Ronald Abbott, Vice President of Engineering. They will act as Radiation Safety Officers under the requested license.

### **Education and Experience:**

#### **Emily Smola - Safety & Environmental Affairs Supervisor**

Bachelor of Science: Environmental & Hazardous Materials Management emphasizing Industrial Hygiene: course work in Chemistry, Physics, Anatomy and Physiology, and Environmental courses.

Radiation Training - Emily Smola attended radiation safety training on 3-4 June 1996. The training, which was administered by Stan Huber Consultants in Chicago Illinois, lasted two (2) days and covered basic radioactivity, math review, new NRC regulations, licensing of radioactive materials, radiation safety programs (personnel training, record keeping, leak testing, radiation biology, DOT regulations, emergency response to radiation incidents, and termination or expansion of radioactive material programs). (See attached certification Appendix A)

Stan A. Huber Consultants, Inc.  
200 North Cedar Road  
New Lenox, IL 60451-1751

#### **Ronald Abbott - Vice President of Engineering**

Nuclear Gauge Experience - Ronald Abbott received nuclear gauge training from Chrysler Corporation Sandusky Vinyl Products, in 1980. The training consisted of recordkeeping requirements, safe handling of sealed sources, and leak testing. Mr. Abbott has approximately sixteen (16) years of radiation experience from his association with Chrysler Sandusky Vinyl Products and now Sandusky, Limited (Sandusky) radiation safety program. (From this point forward Sandusky, Limited will be referred to as Sandusky.)

In addition to Mr. Abbott and Ms. Smola, the following persons have experience working around nuclear gages, will use or supervise the use of the sealed sources and will receive additional training from the manufacturer prior to the operation of the gauges:

Barbara Borda (Production Supervisor)  
Sandra Mullens (Production Supervisor)  
William Braddock (Production Supervisor)  
Roger Franklin (Plant Superintendent)

All of the previously named four individuals will attend the initial radiation safety training provided by Betacontrol (see #8 below) before using the sealed sources. The sealed sources will be used by or under the supervision of the above named four individuals.

## **8. Training Provided to Other Users**

### **Initial Training:**

Betacontrol of America will be performing the initial radiation safety training for Sandusky personnel prior to the gauges being operated. The training will be conducted by Ray Santioanni, who is the Radiation Safety Officer for Betacontrol.

All relevant employees must attend the initial radiation training that will be conducted by the supplier of the beta gauges (Betacontrol).

Betacontrol will be showing Sandusky employees a radiation safety video called Radiation Safety & Common Sense, by Stan Huber Consultants, which is located at 200 North Cedar Road New Lenox, Illinois 60451, (Sandusky has recently purchased the same video and will use it for initial training of new employees.) The video explains the concepts of radiation safety to non-radiation workers without prior knowledge or experience. The topics that are covered are: Time, Distance, Shielding, Background Radiation, Techniques to Minimize Exposure, Irradiation and Contamination, Risks Associated with Typical Occupation Exposures. The Safety Video is (26) minutes in duration.

Betacontrol will provide Sandusky employees initial training based on the operating manual for the system. Training will include the radiation source, beta transmission measurement methods, description of source and source holder, protective measures, radiation dose rates, measuring principles, configuration of the Betacontrol sensor, operation instructions (sensor, removing the locking and protection device) and service instructions (replacing the cover film).

Emergency procedures, as described in section # 9, will be reviewed.

Sandusky will have a copy of the training material from Betacontrol and will utilize it for future training of Sandusky personnel.

Copies of materials used for training will be maintained along with the employee training records.

All services such as installation, initial radiation survey, gauge relocation, maintenance and initial leak testing will be conducted by the supplier of the nuclear gauges, Betacontrol of America, or an NRC or Agreement State licensee specifically licensed to perform these services. Betacontrol has been specifically licensed to perform these services.

Employees will be trained at the time of installation by Betacontrol of America's Radiation Safety Officer (Ray Santioanni) regarding the safe use and operation of the gauges. The gauges will not be operated until this employee training has been completed.

**New Employee Training Program:**

New employees who have not completed Betacontrol's initial training session will be trained as follows:

All new employees will receive radiation safety training prior to working with the radiation sources. This classroom training will be administered by **Emily Smola**.

New employees who work on or around the gauges will view the radiation safety training video called Radiation Safety and Common Sense by Stan Huber Consultants. The video explains the concepts of radiation safety to non-radiation workers without prior knowledge or experience. The topics that are covered are: time, distance, shielding, background radiation, techniques to minimize exposure, irradiation and contamination, and risks associated with typical occupation exposures. The Safety Video is (26) minutes in duration.

In addition, new employees will be given an information packet and training that will encompass Betacontrol's radiation protection training for Kr-85 and Sr-90 sources. The training covers beta transmission measurement methods, description of the source and source holder (2 minutes), protective measures to prevent personnel from exposures (10 minutes), measurement principles of Betacontrol's weight basis measurement system (4 minutes), and a description of the parts of the gauge system such as the detector and source unit (5 minutes). The training will be approximately (21) minutes with time for questions at the end of the training.

Emergency procedures, as described in section # 9, will be reviewed.

Total new employee training time: approximately one hour

**Annual Refresher Training:**

Once per year refresher training will be conducted for all persons working with or near the sealed sources. The refresher training will be conducted by Emily Smola and will consist of a review of the basic safe operation of the gauges, lock-out procedure familiarization, a viewing of the above mentioned training video or a similar training tape, review of emerging radiation safety issues, emergency procedures and questions and answers.

Total annual refresher training time: approximately one hour.

**Employee Training Records:**

Records of employee training will be kept on file for at least five (5) years.

Emily Smola - Responsible for maintaining all employee radiation training records for at least five (5) years. Ms. Smola will be responsible for training new employees and for insuring that semi-annual wipe tests are conducted and that the records are maintained.

Ronald Abbott - Responsible for overseeing the Radiation Program and insuring that all records are maintained.

**9. Facilities and Equipment**

A sketch of the equipment has been attached. (See Appendix B) The location of the initial three beta gauges are designated on the drawing. The gauge elevation is four (4) feet high, at each of the three heads of the cast coating line. The gauges will be located in the manufacturing area of building 2, which is connected to the main building. Building 2 is located at the same address as the main building (3130 W. Monroe Street Sandusky, Ohio 44870).

The Kr 85 source will be positioned at the first coating head of the cast coating line. One Sr 90 source will be positioned at the second head and one Sr 90 source will be positioned at the third head of the cast coating line.

**Temperatures:**

The gauges will be subjected to ambient temperatures only. The beta gauges will not be subjected to elevated temperatures, corrosive atmospheres or excessive vibrations. Cooling jackets are not required for normal measurements of coating material according to the Transmission Gauge Safety Evaluation dated January 29, 1996 pg. 2, document number NR-122-D-101-S, for Betacontrol.

**Gauge Maintenance:**

The Krypton 85 source is not required to be wipe tested because krypton is a gas. The Strontium 90 sources will be wipe tested every six (6) months. Sandusky Radiation Safety Officers will be responsible for wipe testing and for foil cover replacement. Foil covers will be replaced if it is determined necessary upon examination. The analysis of the wipe tests will be conducted by Siemens Medical Systems (additional information regarding wipe testing is addressed in question #10). Foil replacement is a user function and will be conducted by or under the supervision of Sandusky named responsible individuals according to the procedure supplied by Betacontrol.



**Labeling:**

The manufacturer (Betacontrol) claims that the devices are labeled in accordance with Section 20.203, 10 CFR Part 20. Two labels are attached to the device. One label identifies the model number, manufacturer, and year of construction. The other label identifies the isotope, activity, and date of construction. Both labels are made of stainless steel or aluminum and are permanently attached by rivets or screws to the device. The labels will be inspected by the Sandusky Radiation Safety Officer on a semi-annual basis at the same time as the wipe testing to insure that the labels are legible and visible.

**Emergency Procedures:**

The Betacontrol system has been designed to minimize the probability of leakage of radioactive material under normal use and under foreseeable abnormal conditions. The emergency procedures have been established in the event of a suspected overexposure from an open sensor, a ruptured source capsule, a damaged scanner head, fire involving or threatening radioactive material or a natural disaster. The following emergency procedures have been established for suspected over-exposure to Sandusky personnel and they are as follows:

**Suspected over-exposure to Sandusky Personnel:**

1. Notify the Radiation Safety Officer immediately if radiation overexposure to personnel is suspected.

Emily Smola - phone (419) 483-7853  
Ronald Abbott - phone (419) 625-0198

2. Evacuate the immediate area.
3. Identify all persons in the immediate area and record their presence.
4. The Radiation Safety Officer, or before his or her arrival, the supervisor in charge, shall designate a suitable holding area for personnel involved in the incident that is away from the source area until checked and released by the Radiation Safety Officer.
5. If the Radiation Safety Officer substantiates that an exposure or possible exposure has occurred the Nuclear Regulatory Commission and the gauge manufacturer will be immediately notified.

If Krypton 85 is involved, turn on all fans and blowers in the area to increase ventilation and fresh air exchange. Vent to the outdoors.



## SANDUSKY, LIMITED

### NRC License Application, September, 1996

If Strontium 90 is involved the following steps should be taken:

1. The source of the contamination should immediately be contained by placing it in a plastic bag or other sealable container.
2. Close all windows and shut off all fans and air makeup's in area if possible.
3. Define the area of contamination and contain its spread, but do NOT attempt to clean up the contamination.
4. The contaminated area, including the designated holding area shall be prohibited until the Radiation Safety Officer has assessed the accident, established the extent of the contamination and prepared a decontamination plan.
5. If contamination has been confirmed or suspected by the RSO, both the NRC and the manufacturer of the gauges will be notified.

#### Accidents involving fire:

In the event of a fire, fire fighting has precedence over contamination control. Fire is the primary hazard and should be fought accordingly. Because the shutter is held open by electric current supplied to a rotary solenoid, it will be returned to the closed position should the current be interrupted. This would occur if the cabling to the source housing was damaged. The source housing is constructed of a durable material that provides protection for the source as well as a "heat sink."

The Kr-85 source is tested to for a maximum temperature of 80 degrees Celsius for one hour and the Sr-90 for a maximum of 800 degrees C for one (1) hour.

In the event of a fire scanning should be set in the OFF SHEET at the earliest possible moment. The system should not be returned to service until it has been checked by a Betacontrol Technical Representative or other person specifically licensed by the NRC or an Agreement State to perform this service.

#### Natural Disasters:

In the event of a natural disaster the scanning heads should be sent off-sheet at the earliest possible moment. The head will provide the required protection for the radiation source. After such a disaster do not return the Betacontrol system to service until it has been checked by a Betacontrol Technical Representative or other person specifically licensed by the NRC or an Agreement State to perform this service.

## **10. Radiation Safety Program**

Sandusky takes full responsibility for conducting the radiation safety training and for all actions of our employees. The initial radiation safety training will be conducted by Betacontrol of America, but all radiation training henceforth will be the responsibility of Sandusky.

### **Services Provided by Others:**

Services such as installation, initial radiation survey, maintenance, initial leak testing, device relocation or removal will be conducted by the device supplier, which is Betacontrol of America or other person specifically licensed by the NRC or an Agreement State to perform this service. Betacontrol is located in Germany and has a United States satellite office located at the following address:

Betacontrol of America  
P.O. Box 235  
435 Route 202  
Towaco, NJ 07082

Betacontrol's NRC Material License Number: 29-23394-01

### **Personal Monitoring:**

Personal monitoring in the form of personal dosimeter badges is not required.

Although not required by regulatory guide "Guide for the Preparation of Applications for Licenses for the Use of Sealed Sources in Non-Portable Gauging Devices", Sandusky has available for use an operable, calibrated EON PSM760 meter with TGM N201 Geiger probe that can measure 0.1 through 50 milliroentgens per hour. The meter will be calibrated so that the readings are + or - 20% of the actual values over the range of the instrument. Sandusky will have a calibration chart or certificate that shows the date and result of the calibration and the due date of the next calibration. A calibration sticker will be mounted on the side of the survey meter indicating the calibration, date and the next calibration due date.

Radiation Survey Meter annual calibration is conducted by Test Equipment Distributors.

Test Equipment Distributors NRC License Number: 21-05472-01  
NRC License Held by: XRI Testing  
Address: 1961 Thunderbird  
Troy, MI 48084

**SANDUSKY, LIMITED**

**NRC License Application, September, 1996**

**Leak Testing:**

Leak testing will be conducted on a semi-annual basis (every 6 months) according to 10 CFR 30.53. Leak testing is necessary to determine if there is any leakage from the sealed sources in the devices.

Sandusky will be utilizing a commercial leak-test kit. The Radiation Safety Officers (specified in item #7) will be responsible for the semi-annual leak testing. The leak test kit will be obtained from Siemens Medical Systems or other NRC licensed testing facility.

Leak Test Kit Number: QT-1

Address: Siemens Medical Systems  
Dosimetry Service  
2501 Barrington Road  
Hoffman Estates, IL 60195

Siemens Medical Systems License Number: IL-01130-02

**Lockout Procedures:**

Sandusky will train employees to properly lock-out nuclear gauges, to insure that personnel will not be subjected to unnecessary exposure. The procedure specifies the means of preventing the employees from entering the radiation beam during maintenance, repairs, or other work in, on, or around the location on which the device is mounted. Lockout training will be provided to employees on an annual basis. Sandusky will post the procedure so that our employees can see it. The Radiation Safety Officers (specified in #7) will be responsible for ensuring that the lock-out procedures are followed.

**Performance of Service:**

All maintenance and gauge servicing will be conducted by Betacontrol of America or other person specifically licensed by the NRC or an Agreement State to perform this service.

Sandusky is authorized to perform semi-annual wipe testing and foil cover replacement only. Analysis of semi-annual wipe tests will be conducted by Siemens Medical Systems or other authorized testing lab.

**Package Surveys:**

Both types of sealed sources (Kr-85 and Sr-90) are below the limits for US DOT labeling during transportation as per US DOT regulation 49 CFR Part 173.423. That is, the sources are special form instruments which are less than 10<sup>-2</sup> A1, where the A1 values are found in 40 CFR Part 173.435. As such, incoming package surveys are not required under NRC regulation 10 CFR Part 20.1906.

Incoming packages will be inspected by the Sandusky Radiation Safety Officer for gross damage. Any visible damage which could potentially cause damage to

the source or device mechanism will be reported to the supplier. The accompanying packing slip will be examined to be sure the contents match the expected material in terms of radionuclide (i.e., Kr-85 and/or Sr-90) and quantity of radioactivity.

Incoming packages will be stored in a locked room or cabinet until a licensed installer arrives to install the source and/or device. The locked cabinet is located in building 1. The keys to the storage unit will be maintained by Ronald Abbott and Emily Smola.

## **11. Waste Management**

Disposal of the Sr-90 and the Kr-85 sources will be in accordance with Subpart K ("Waste Disposal") of 10 CFR Part 20.

Sandusky will transfer/dispose of the radioactive material by transferring it to a licensee specifically authorized to possess radioactive material, such as Betacontrol of America.

# CERTIFICATE

This is to certify that

*Emily Smola*

---

has participated in  
and successfully completed the

Radiation Safety &  
Management Course

and is awarded this

## CERTIFICATE OF RECOGNITION

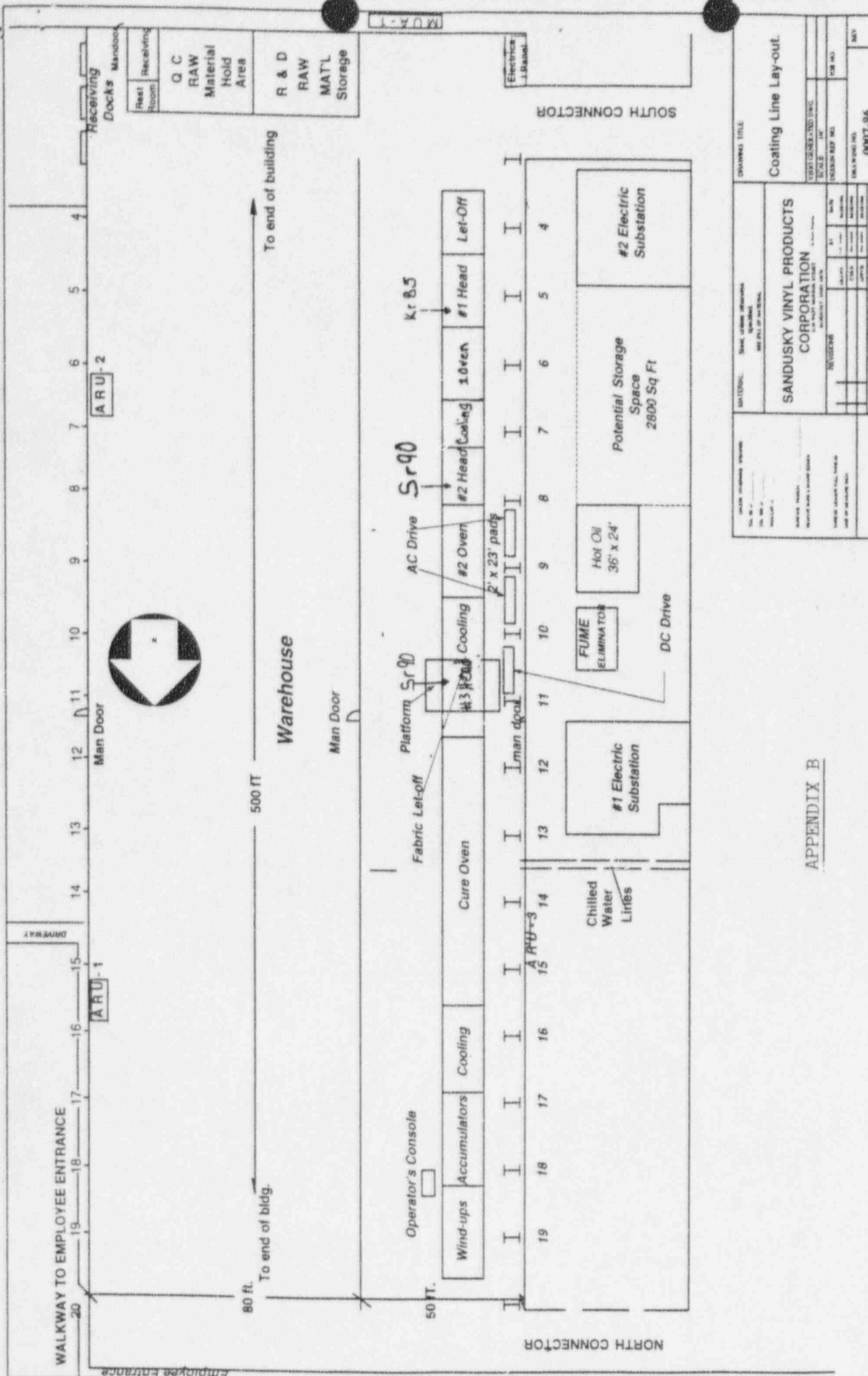
on this date of June 4, 1996

*Stan Huber*

---

Stan A. Huber, President  
Stan A. Huber Consultants, Inc.





# APPENDIX B

DRAWING TITLE <b>Coating Line Lay-out</b>	
SANDUSKY VINYL PRODUCTS CORPORATION 100 WEST MAIN STREET SANDUSKY, OHIO 44870	
DRAWING NO. 0007-96	DATE 06/07/96
ALL DIMENSIONS IN FEET AND INCHES	

SEP 27 1996

Emily Smola  
Radiation Safety Officer  
Sandusky, Limited  
3130 West Monroe Street  
Sandusky, OH 44870

Dear Ms. Smola:

Enclosed is your NRC Material License Number 34-26755-01 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Not possess and use materials authorized in Items 6, 7, and 8, on the license until:
  - a. You have constructed the facilities and obtained the equipment described in the license application and supporting documentation; and
  - b. You have notified the U.S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Nuclear Materials Licensing Branch, in writing, that activities authorized by the license will be initiated.
3. Notify NRC, in writing, within 30 days:
  - a. When the Radiation Safety Officer permanently discontinues performance of duties under the license or has a name change; or

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- b. When the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).
- 4. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
  - a. When you decide to terminate all activities involving materials authorized under the license; or
  - b. If you decide not to complete the facility, acquire equipment, or possess and use authorized material.
- 5. Request and obtain a license amendment before you:
  - a. Change Radiation Safety Officers;
  - b. Order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
  - c. Add or change the areas of use or address or addresses of use identified in the license application or on the license; or
  - d. Change ownership of your organization.
- 6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the General Policy and Procedures for NRC Enforcement Actions. Since serious consequences to employees and the public can result from failure to comply with NRC requirements,

E. Smola

-3-

prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Sincerely,

Original Signed By  
Michael F. Weber  
Nuclear Materials Licensing Branch

License No.: 34-26755-01

Docket No.: 030-34243

Enclosures: 1. License No. 34-26755-01  
2. Form NRC-3

DOCUMENT NAME: M:\03034243.CL6

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	DNMS/RIII	E							
NAME	MWEBER:jaw								
DATE	09/27/96								

OFFICIAL RECORD COPY

September 23, 1996

Mike Weber  
Materials License Reviewer  
United States Nuclear Regulatory Agency  
801 Warrensville Road  
Lisle, Illinois 60532-4351

Dear Mr. Weber,

Pursuant to our conversation, I am submitting Sandusky, Limited's responses to your questions regarding our license application and they are as follows:

1. Please change the Radiation Safety Officer from Ronald Abbott and Emily Smola to Emily Smola. Ms. Smola will oversee the radiation safety program in its entirety.
2. The lockout procedure is accomplished by means of a key switch that interrupts both the supply voltage and common circuits to the rotary solenoid that opens the shutter. The key is captive and cannot be removed from the lock when on and the switch is physically located in the source housing. Because the shutter operating solenoid has a spring return that is overcome (to open the shutter) when voltage is applied, any disruption of this voltage by powering down the entire system, turning off (allowing the key to be removed) the key switch, or any accident that interrupts the voltage will close the shutter.

Additionally, both the source frame and holder are constructed to prevent exposure to the radiation source. The area surrounding the source is very confined. The only source exposure imaginable would be to the fingers.

All authorized personnel (Radiation Safety Officer and Maintenance Personnel) will be instructed in this procedure and will receive "hands on" training from the gauge supplier, Betacontrol prior to operating the gauges. Any authorized person performing work on the system must receive permission from the Radiation Safety Officer. The area will be inspected for locks and tags on the system and duly recorded by the Radiation Safety Officer or duly authorized RSO representative.

3. Sandusky will post two (2) yellow signs printed in magenta and black "Caution Radiation Area" at both ends of the cast coating line. The signs posted at these locations will be highly visible to both plant personnel and Emergency Responders. The signs have the radiation symbol in addition to the caution

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Sandusky, Limited  
September 23, 1996

message. The signs are seven (7) inches high and ten (10) inches wide. The radiation signs will be posted prior to installation of the beta gauges. The signs size and location notifies all persons coming into the area that nuclear gauges are utilized on the cast coating line.

Additionally, Sandusky has already mounted three way radiation signs that are positioned at the point of operation (on each of the three (3) heads). These signs in addition to the caution signs that will be posted will advise Emergency Responders and other persons entering the area of the presence of beta gauges.

If you have additional questions please contact me at (419) 627-3269.

Sincerely,

A handwritten signature in cursive script that reads "Emily L. Smola". The signature is fluid and extends to the right with a long, sweeping underline.

Emily Smola  
Safety and Environmental Supervisor

Sandusky Vinyl Products Corporation  
3130 West Monroe Street  
Sandusky, Ohio 44870  
Telephone 419 627 3200  
Fax 419 627 3298

**Sandusky**  
An Eastar Company

September 18, 1996

John Madera  
Section Chief Material Licensing Division  
United States Nuclear Regulatory Commission  
Region III  
801 Warrensville Road  
Lisle, Illinois 60532-4351

Dear Mr. Madera,

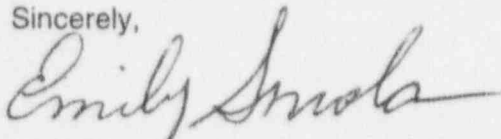
Enclosed is an amended form of our first page of our NRC application. The supplier of the beta gauges mis-informed Sandusky Vinyl Products of the Sr 90 model number. I have corrected the model number for the beta gauges for our application.

We apologize for any inconvenience this mistake may have caused. Please let me know if we need to resubmit our complete application.

We appreciate your assistance in expediting our license application.

If you or the license reviewer has any questions regarding our application please call me at (419)627-3269.

Sincerely,



Emily Smola  
Safety and Environmental Supervisor

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# APPLICATION FOR NRC RADIOACTIVE MATERIAL LICENSE

SANDUSKY, LIMITED  
3130 West Monroe Street  
Sandusky, OH 44870

## **5. Radioactive Material**

All radioactive material will be in the form of sealed sources.

Radionuclide	Description of Device and Sealed Source	Possession Limit
Strontium-90	Betacontrol Device Model MK 1.0 Sealed Source Model SIF.D1	0.37 GBq (10 mCi) per source. Maximum of 4 sources.
Krypton-85	Betacontrol Device Model MK 1.0 Sealed Source Model KAC.D1	3.7 GBq (100 mCi) per source. Maximum of 2 sources.

1. Betacontrol NRC Material License Number: 29-23394-01
2. Address: Betacontrol  
P.O. 235  
435 Route 202  
Towaco, NJ 07082

The above sealed sources and respective devices are registered with the US Nuclear Regulatory Commission. Please see NRC registration certificate NR-122-D-101-S dated 29 January 1993 entitled, "Registry of Radioactive Sealed Sources and Devices - Safety Evaluation of Device".

## **6. Purpose for Which the Material Will be Used**

The Krypton 85 and the Strontium 90 sealed sources will be used in an industrial setting for the contactless measurement of the weight of plastisol coating on our cast coating line.

All services such as installation, initial radiation survey, gauge relocation, maintenance and initial leak testing will be conducted by the supplier of the nuclear gauges, Betacontrol of America, or other person specifically licensed by the NRC or an Agreement State to perform this service. Betacontrol has been specifically licensed to perform these services. Betacontrol holds NRC Material License Number 29-23394-01.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION III  
801 WARRENVILLE ROAD  
LISLE, ILLINOIS 60532-4351

September 19, 1996

Emily Smola & Ronald Abbott  
Radiation Safety Officers  
Sandusky Limited  
3130 West Monroe Street  
Sandusky, OH 44870

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE  
(Letter & Application Dated 09/12/96)

Dear Licensee:

In response to your request, we have completed the initial processing, which is an administrative review of your application for a(n):

☒ New License                      ☐ Amendment                      ☐ Renewal  
☐ Termination                      ☐ Auth User (Amendment not required)  
☐ Other \_\_\_\_\_

No administrative deficiencies were identified during this initial review. However, it should be noted that a technical review may identify omissions in the submitted information.

It appears that your request is nonroutine and has been assigned to Michael Weber for an expedited review. If you should have any questions please contact Mr. Weber at (630) 829-9887.

1. New and amendment actions are normally processed within 90 days, unless we find major deficiencies, or policy issues requiring central program office assistance.
2. Renewal actions are normally processed within 180 days, however, under timely filing (before expiration), you may continue to operate under your existing license.
3. Termination actions are normally processed within 90 days, unless confirmatory surveys following decontamination/decommissioning activities are involved.

A copy of your correspondence has been forwarded to our Licensing Fee and Debt Collection Branch (301/415-6097) for approval of the fee category and amount, if required.

If you have a compelling safety or business-related reason for requesting expedited review, please contact the Materials Licensing Branch at (630) 829-9887. We will try to complete your request as soon as practicable. Any correspondence about this request should reference the control number.

Nuclear Materials Support Branch

Mail Control No. 301841  
License No. 34-26755-01