

March 25, 1985

U.S. Nuclear Regulatory Commission  
 Region III  
 Material Licensing Section  
 799 Roosevelt Road  
 Glen Ellyn, IL 60137

|                  |         |
|------------------|---------|
| RECEIVED BY LFMB |         |
| Date             | 4/25/85 |
| Log              | 4/18/85 |
| By               | CP      |
| Orig. To         | RTH     |
| Action Com       | CP      |

Gentlemen:

Jones & Laughlin Steel Corporation and Republic Steel Corporation have merged to form a new legal entity known as LTV Steel Company, Inc., with headquarters at 25 Prospect Avenue, N.W., Cleveland, Ohio 44115 and facilities throughout United States.

It is therefore requested that the following amendment be made to NRC Byproduct License No. 34-00811-03 due to the aforementioned change and changes in personnel.

DELETEADDLicensee (mailing address)

Republic Steel Corporation  
 Safety, Health & Medical  
 P.O. Box 6778, Room 214-R  
 Cleveland, Ohio 44101

LTV Steel Company, Inc.  
 Safety and Environmental Health  
 P.O. Box 6778, Room 218-L  
 Cleveland, Ohio 44101

Item 12 C - Radiation Protection Officer

M. Chain Robbins  
 Radiation Safety Officer

A. A. Mammarelli, Jr.  
 Radiation Protection Officer

Item 12 B - Authorized User - Plant Operations

M. Chain Robbins  
 C. Joseph Sabbatis  
 Joseph F. Perko

A. A. Mammarelli, Jr.  
 T. G. Siener

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 34-00811-03 PDR

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 78679  
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| RECEIVED            |                 |
| Applicant           | APR 25          |
| Check No.           | 2050339 460     |
| Amount              | 3198406 469     |
| Amount Fee Category | 3M/3P/115       |
| Amount Fee          | amal            |
| Date Check Rec'd    | 5/21/85 4/18/85 |
| Received By         | CP              |

MAR 29 1985

REGION III

MAR 29 1985

CONTROL NO. 78613

U.S. Nuclear Regulatory Commission  
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Training and Experience - Individuals Responsible  
For Radiation Safety Program

1. Andrew A. Mammarelli, Jr., Coordinator - Radiation Protection Program, is an American Industrial Hygiene Board certified Industrial Hygienist and Board certified Safety Professional.

Mr. Mammarelli has been assigned the responsibility of Radiation Protection Officer for the newly formed LTV Steel Company, Inc. since July, 1984 and has worked together with Mr. M. C. Robbins until his departure on December 31, 1984.

Having had similar responsibilities in Jones & Laughlin Steel Corporation, Mr. Mammarelli was generally familiar with Republic Steel Corporation's Radiation Safety Program because of joint activities with Mr. Robbins on the American Iron and Steel Institute's Subcommittee on Ionizing Radiation. Detailed radiation safety training and experience for Mr. Mammarelli is enclosed.

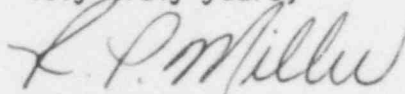
2. Thomas G. Siener - Administrator of Health, Central Alloy - Canton Bar Division.

Mr. Siener is an American Industrial Hygiene Board certified Industrial Hygienist (1982) with a B.S. degree in Biological Science (1971). Detailed radiation safety training and experience for Mr. Siener is enclosed.

If you should have any questions concerning this request for amendment, please do not hesitate to contact me (Area Code 216, 622-5227).

Enclosed is our check in the amount of \$60.00 as the required fee.

Very truly yours,



R. P. Miller  
Senior Director  
Safety and Environmental Health

RPM:ls  
Enclosures  
0713V

cc: Mr. T. G. Siener

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U.S. NRC  
MAR 26 1985

CONTROL NO. 78613

## CURRICULUM VITAE

Andrew A. Mammarelli, Jr., B.A., M.P.H., C.S.P., B.C.I.H.  
LTV Steel Company, Inc.  
LTV Steel Building  
P.O. Box, 6778, Room 218-L  
Cleveland, OH 44101  
Telephone: (216) 622-5239

Security: Top Secret Clearance, U.S. Navy (1953)

### Military:

U.S. Naval Reserve, Lt.J.G. (1953-1961)

U.S. Navy (1952-1956) - Active Duty

Duty Station - U.S. Naval Ammunition Ship (nuclear weapons)  
December, 1953 - February, 1956

Duties - Classified Materials Control Officer  
Communications Officer  
Security Officer  
Training Officer  
Legal Officer  
Assistant Damage Control Officer  
(including radiological defense)

### Education:

Universities - University of Pittsburgh  
B.A. degree (1952)  
Minor - Chemistry and Physics

University of Pittsburgh  
Graduate School of Public Health  
Master of Public Health degree (1963)  
Major - Occupational Health

Professional Affiliations:

- Chairman, American Iron & Steel Institute (AISI)  
Committee on Industrial Hygiene, 1982-1984
- Chairman, American Iron & Steel Institute (AISI)  
Subcommittee on Ionizing Radiation, 1975-1982
- Member, American Industrial Hygiene Association (AIHA)  
Ionizing Radiation Committee, 1975-1976
- President, Western Pennsylvania Chapter, Health Physics Society, 1972-1973
- President, Pittsburgh Section, American Industrial Hygiene Association,  
1972-1973
- Member, Health Physics Society, 1964-present
- Member, American Industrial Hygiene Association (AIHA), 1964-present
- Member, American Iron & Steel Institute (AISI)  
Industrial Hygiene Committee, 1971-present
- Member, American Iron & Steel Institute (AISI)  
Subcommittee on Ionizing Radiation, 1975-present
- Certified Safety Professional, 1972-present
- Diplomate of American Board of Industrial Hygiene,  
Comprehensive Practices, 1973-present

Training and Experience in Ionizing Radiation:

(See Attached)

LTV STEEL COMPANY  
LTV STEEL BUILDING  
P.O. BOX 6778  
CLEVELAND, OH 44101

TRAINING AND EXPERIENCE WITH IONIZING RADIATION OF PERSONNEL OF  
SAFETY & ENVIRONMENTAL HEALTH, EMPLOYEE RELATIONS DEPARTMENT

Name: A. A. Mammarelli, Jr., B.A., M.P.H., B.C.S.P., B.C.I.H.

Job Title: Coordinator, Radiation Protection Programs

Soc. Sec. No. 183-24-1837

Date:

| TYPES OF TRAINING  | WHERE TRAINED   | DURATION OF TRAINING |      |                  |                           |
|--|---|----------------------|------|------------------|---------------------------|
|  |   | ON JOB               | TIME | FORMAL<br>COURSE | TIME                      |
| 1. Principles & Practices of Radiation Protection  | Nuclear Source Handling Course, PA State Univ., Continuing Education Pittsburgh, PA             | ---                  | ---  | Yes              | 16 hrs.<br>(10/70)        |
| 2. Radioactivity (Radiation) Measurements, Standardization and Monitoring Techniques & Instrumentation | Basic Radiation Health Course, U.S.P.H.S., Div. of Occ. Health, Cincinnati, Ohio                | ---                  | ---  | Yes              | 2 weeks<br>1/6-17/64      |
| 3. Mathematics & Calculations Basic to Use & Measurement of Radioactivity (Radiation)                  | Intro. to Radiological Health, Univ. of Pgh. Grad. School of Public Health                      | ---                  | ---  | Yes              | 1 Semester<br>(1963)      |
| 4. Biological Effects of Radiation   | Emerg. Radiation Monitoring Course, PA Dept. of Health, Div. of Occ. Health, Harrisburg, PA     | ---                  | ---  | Yes              | 1 week<br>1/23-27<br>1961 |
|  | Theoretical & Practical Damage Control (Radiological Defense), U.S. N.R. School, Pittsburgh, PA | ---                  | ---  | Yes              | 4 hrs.<br>(10/59)         |
|  | Basic Radiation Protection Course, PA Dept. of Health, Div. of Occ. Health, Harrisburg, PA      | ---                  | ---  | Yes              | 1 week<br>(2/59)          |

CONTROL NO. 78613

| TYPES OF TRAINING   | WHERE TRAINED  | DURATION OF TRAINING |                    |                  |                  |
|---|--|----------------------|--------------------|------------------|------------------|
|   |  | ON JOB               | TIME               | FORMAL<br>COURSE | TIME             |
|   | Radiation Protection Course, U.S.P.H.S., Div. of Occ. Health, Harrisburg, PA                               | ---                  | ---                | Yes              | 4 hrs.<br>(9/58) |
|   | Intro. Radiation Protection Course, PA Dept. of Health, Div. of Occ. Health, Harrisburg, PA                | ---                  | ---                | Yes              | 3 hrs.<br>(6/58) |
| 5. In Actual Use of Ionizing Radiation - Describe Source:               | Nuclear Source Handling Course, PA State Univ. Continuing Education, Pittsburgh, PA                        | ---                  | ---                | Yes              | 8 hrs.           |
| A. X-Rays (15 KV-MEV)-<br>Medical, Dental,<br>Industrial,<br>Analytical |  |                      |                    |                  |                  |
| B. Byproduct Materials<br>Microcuries to curies                         | Basic Radiation Health, U.S.P.H.S., Div. of Occ. Health, Cincinnati, OH (Lab Counting & Tracer Techniques) | ---                  | ---                | Yes              | 6 hrs.<br>(1/64) |
| C. Natural Radioisotopes-<br>Microcuries to curies                      |  |                      |                    |                  |                  |
|   | Field Surveys, PA Dept. of Health  | Yes                  | 10 hrs<br>(7-8/58) |                  |                  |

IONIZING RADIATION EXPERIENCE

JONES & LAUGHLIN STEEL CORPORATION  
SAFETY AND ENVIRONMENTAL HEALTH

| TYPE OF<br>IONIZING RADIATION  | SIZE OR<br>RATING OR<br>MAXIMUM QUANTITY   | WHERE EXPERIENCE<br>WAS GAINED     | DURATION<br>OR<br>EXPERIENCE    | USE OF<br>IONIZING<br>RADIATION SOURCE  |
|--|--|------------------------------------|---------------------------------|---|
| 1. X-Rays -<br>Medical<br>Analytical<br>Industrial<br>(Portable & Fixed) | 200 KVP, 200 MA                            | Mgr.-Env. Health<br>Tech. Programs | 1982 to                         | a) In charge of<br>Radiation Program<br>activities for<br>corporation.<br><br>b) Prepared all NRC<br>License applications,<br>State licenses and<br>registrations for<br>corporation.<br><br>c) Prepared and<br>presented radiation<br>safety training to<br>all employees<br>involved with new<br>installation of any<br>source of ionizing<br>radiation.<br><br>d) Reviewed proposed<br>new applications of<br>ionizing radiation<br>(in detail) subject<br>to approval.<br><br>e) Recommended and<br>established Radia-<br>tion Protection<br>Programs for individ-<br>ual plants.<br><br>f) Evaluated all<br>complaints (Union)<br>concerning sources of<br>ionizing radiation. |
|  | 100 KVP, 50 MA                             |                                    | 7/84                            |   |
|  | 250 KVP, 5.0 MA<br>to<br>50 KVP, 0.5 MA    |                                    | Mgr.-Ind. Health<br>Engineering |   |
| 2. Field Radiographic<br>X-Rays & Isotopes<br>(Outside Contractors)      | 250 KVP, 10 MA<br>500 mCi to 100<br>curies | Sr. Industrial<br>Hygiene Engineer | 1969 to<br>1970                 |   |
| 3. Byproduct Materials<br>(Sealed Sources)                               | 10 mCi to 4.0<br>curies                    | Indus. Hygiene<br>Engineer         | 1964 to<br>1969                 |   |
| 4. Other Radioactive<br>Materials (Sealed<br>and Unsealed)               | Microcuries to<br>Millicuries              |                                    |                                 |   |
| 5. Electronic Product<br>Radiation                                       | Low Energy<br>X-rays                       |                                    |                                 |   |

IONIZING RADIATION EXPERIENCE

JONES & LAUGHLIN STEEL CORPORATION  
SAFETY AND ENVIRONMENTAL HEALTH

| TYPE OF<br>IONIZING RADIATION | SIZE OR<br>RATING OR<br>MAXIMUM QUANTITY | WHERE EXPERIENCE<br>WAS GAINED | DURATION<br>OR<br>EXPERIENCE | USE OF<br>IONIZING<br>RADIATION SOURCE  |
|-------------------------------|--|--------------------------------|------------------------------|---|
|                               |  |                                |                              | <p>g) Consulted with Engineering &amp; Research staffs concerning performance of applications of ionizing radiation.</p> <p>h) Continually reviewed all personnel dosimetry results throughout the corporation.</p> <p>i) Accompanied compliance inspectors on all inspections.</p> <p>j) Conducted radiation health inspections and surveys -- initial, routine and prior to acceptance from supplier.</p> <p>k) Provided emergency health assistance as necessary throughout corporation.</p> |

IONIZING RADIATION EXPERIENCE

PENNSYLVANIA DEPARTMENT OF HEALTH  
DIVISION OF OCCUPATIONAL HEALTH

| TYPE OF<br>IONIZING RADIATION  | SIZE OR<br>RATING OR<br>MAXIMUM QUANTITY          | WHERE EXPERIENCE<br>WAS GAINED   | DURATION<br>OR<br>EXPERIENCE | USE OF<br>IONIZING<br>RADIATION SOURCE   |
|--|---|--|------------------------------|--|
| 1. X-Rays -<br>Medical<br>Dental<br>Industrial<br>Analytical<br>Betatron         | 15 KVP - 3 MEV                                    | Industrial<br>Hygienist - PA<br>Dept. of Health.<br>In charge of<br>regional radi-<br>ation health<br>program (Pgh.<br>area) | June 1958<br>to<br>July 1964 | Independently con-<br>ducted routine Radi-<br>ological Health<br>inspections, surveys,<br>evaluations and made<br>recommendations to<br>correct hazards.<br>Carried out general<br>State Rad. Health<br>Program.   |
| 2. Field Radiographic<br>Units   | 250 KVP, 50 MA<br>0.5-100 curies                  |  |                              |  |
| 3. Various licensed<br>byproduct materials<br>- medical, research,<br>industrial | Millicuries to<br>Curies (sealed<br>and unsealed) | Member of Emerg.<br>Monitoring Team,<br>Pennsylvania   | 1961-63                      | Conducted investiga-<br>tions of:<br>- stolen medical<br>Radium 226 capsuls<br>- reactor incident<br>- exploded Alphasatron<br>instruments con-<br>taining Radium 226<br>sources<br>- contaminated<br>housing used for<br>processing radium<br>ores<br>- deliberate film<br>badge overexposures<br>to Medical Tele-<br>therapy Unit<br>(Cs137)<br>- overexposure to<br>airborne Sr 90 dust<br>- etc. |
| 4. Other state registered<br>radioactive materials                               | Microcuries to<br>Curies (sealed<br>and unsealed) | Accompanied AEC<br>compliance<br>inspectors -<br>Pgh, PA area<br>(six counties)  | 1958-64                      | Conducted joint PA<br>state inspections<br>with AEC inspections  |

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3/7/85

CONTROL NO. 7 8 6 113

# American Iron and Steel Institute

1000 16th Street, N.W., Washington, D.C. 20036

## BASIC RADIATION SAFETY IN THE STEEL INDUSTRY

### TRAINING COURSE

---

November 1, 2, 3, 1977  
Pittsburgh, PA

### FACULTY

Peter A. Hernandez  
Manager-Industrial Hygiene Lab (RSO)  
Interlake, Inc.

J. A. Janous  
Director-Industrial Health Services  
American Iron & Steel Institute

Ronald J. Koch, Ph.D.  
Senior Research Physicist (RSO)  
X-Ray and Spectrochemical Labs  
Armco, Inc.

Anthony LaMastra  
Senior Radiation Control Engineer (RSO)  
Bethlehem Steel Corporation

Andrew A. Mammarella, Jr.  
Manager-Industrial Health Engineering (RSO)  
Jones & Laughlin Steel Corporation

Thomas J. Radcliffe  
Radiation Control Officer (RSO)  
Republic Steel Corporation

Neil Wald, M.D., Ph.D.  
Radiation and Health Department  
University of Pittsburgh

Robert V. Wheeler  
Assistant General Manager  
R. S. Landauer, Jr. & Company

Leonard M. Zolkos  
Supervisor-Industrial Hygiene (RSO)  
Inland Steel Corporation

**AGENDA**  
**BASIC RADIATION SAFETY IN THE STEEL INDUSTRY**

November 1, 1977

0950 - 1000  
Introduction,  
Administration  
Mr. Janous

1000 - 1100  
Description of Ionizing  
Radiation Sources &  
Applications in the Steel  
Industry  
Mr. Mammarelli

1100 - 1230  
Physics of Radiation  
Dr. Koch

1230 - 1330  
Lunch

1330 - 1415  
Units Used in Radiation  
Protection  
Dr. Koch

1415 - 1500  
Methods of Detection, In-  
strumentation  
Mr. Radcliffe

1500 - 1515  
Coffee Break

1516 - 1600  
Methods of Detection,  
Instrumentation Cont'd

1600 - 1700  
Leak Testing and Contami-  
nation Levels  
Mr. Zolks

1700 - 1725  
Radioactivity in Water  
Mr. Hernandez

1725 - 1730  
Homework Assignment  
Dr. Koch

1730 - 1900  
Dinner

1900 - 2030  
Radiation Survey Techniques  
Mr. Mammarelli

November 2, 1977

0830 - 1000  
Basic Radiation Pro-  
tection Techniques  
Mr. LaMastra

1000 - 1015  
Coffee Break

1015 - 1215  
Personnel Dosimetry  
Mr. Wheeler

1215 - 1315  
Lunch

1315 - 1445  
Reports, Record-  
keeping, Regulations  
Mr. LaMastra

1445 - 1500  
Coffee Break

1500 - 1600  
Medical and Other X-  
ray Machine Protection  
Mr. LaMastra

1600 - 1700  
Biological Effects  
Dr. Wald

1700 - 1830  
Dinner

1830 - 2030  
Homework Assistance,  
Consultation, Special  
Problems, AEC Film -  
"Radiation in Perspec-  
tive"  
Committee

November 3, 1977

0800 - 0830  
Homework Review  
Dr. Koch

0830 - 1000  
License Applicatio,  
Mr. Mammarelli

1000 - 1015  
Coffee Break

1015 - 1145  
Model Radiation  
Protection Progra  
for the Steel In-  
dustry  
Committee Panel D  
cussion

1145 - 1300  
Lunch

1300 - 1345  
Written Examinati,

1345 - 1400  
Course Critique  
Mr. Janous

## LTV Steel Company

Plant Central Alloy - Canton Bar DivisionAddress 2633 - 8th Street, N.E., Canton, Ohio 44704(See Reverse Side for  
Instructions)TRAINING AND EXPERIENCE WITH IONIZING RADIATION OF PERSONNEL OF Safety and Environmental Health  
(Department)Name T. G. Siener BS, B.C.I.H. Job Title Admin. of Health Soc. Sec. No. 074-38-0980 Date 3/20/85

## IONIZING RADIATION TRAINING

| TYPE OF TRAINING  | WHERE TRAINED   | DURATION OF TRAINING |                      |               |                                    |
|---|---|----------------------|----------------------|---------------|------------------------------------|
|   |   | ON JOB               | TIME                 | FORMAL COURSE | TIME                               |
| 1. Principles and Practices of Radiation Protection.  |   | --                   | --                   | Yes           | AISI Radiation Safety              |
| 2. Radioactivity (Radiation) measurements, standardization, and monitoring techniques and instrumentation.                    |   | --                   | --                   | Yes           | Training Course 30 Hrs.<br>(11/77) |
| 3. Mathematics and calculations basic to use and measurement of radioactivity (radiation).                                    |   | --                   | --                   | Yes           | "                                  |
| 4. Biological effects of radiation.   |   | --                   | --                   | Yes           | "                                  |
| 5. In actual use of ionizing radiation<br>Describe source: <u>Am<sup>241</sup> - 1 Ci</u><br><u>Co<sup>60</sup> - 3.8 mCi</u> | Republic Steel Corporation<br>Buffalo, N.Y. Plant     | Yes                  | 16 Hrs.<br>(1978-80) | --            | --                                 |
|   | LTV Steel Company, Inc.<br>Canton Plant, Canton, Ohio | Yes                  | 8 Hrs<br>(1985)      |               |                                    |

## IONIZING RADIATION EXPERIENCE

| TYPE OF<br>IONIZING RADIATION | SIZE OR RATING<br>OR<br>MAX. QUANTITY | WHERE EXPERIENCE<br>WAS GAINED | DURATION<br>OF<br>EXPERIENCE | USE OF IONIZING RADIATION<br>SOURCE                     |
|-------------------------------|---------------------------------------|--------------------------------|------------------------------|---|
| X-Ray Bulk Spectrograph       | 55 KVP, 45 MA                         | Republic Steel<br>Corporation  | 3 yrs<br>(1978-81)           | x-ray fluoresence analysis of steel<br>samples          |
| X-Ray Spectrometer            | 45 KVP, 55 MA                         | Buffalo Plant<br>Buffalo, N.Y. |                              | x-ray Fluoresence analyses of metal<br>and slag samples |
| Americium 241                 | 1 curie                               |                                |                              | Ferro-alloy classifier over conveyor<br>belt            |
| CONTROL NO. 78613             |                                       |                                |                              |   |

## INSTRUCTIONS

1. DEPARTMENT Administrative Division of Plant or Facility under which personnel received supervision regarding use of ionizing radiation source.
2. IONIZING RADIATION Any device or material capable of producing ionizing radiation.
3. TRAINING:
  - A. TYPE OF TRAINING As categorized in the 5 listed groups.
  - B. WHERE TRAINED Organization under which training was received (i.e. university, civil defense, research laboratories, industrial plant, etc.)
  - C. DURATION OF
    - (1) On Job — training received while working with ionizing radiation source(s) under supervision of experienced personnel.  
  
Time — time spent in On Job training, days, weeks, months (i.e. 6 mos. - July 1954 - Dec. 1954).
    - (2) Formal — organized training session or course provided by, or under, supervision of a qualified person(s).  
Course  
  
Time — same as above.
4. EXPERIENCE
  - A. EXPERIENCE To include actual working with ionizing radiation sources (as defined above), other than training period(s).
  - B. TYPE OF IONIZING RADIATION To include ALL types of ionizing radiation source(s) as defined above.
  - C. SIZE OR RATING MAX. QUANTITY In terms of max. KVP and MA in the case of radiation producing equipment.  
In terms of amounts of radioactive materials (i.e.) millicuries of radioactive isotopes or pounds of natural radioactive materials.
  - D. WHERE EXPERIENCE GAINED Administrative organization under which individual received experience.
  - E. DURATION OF Total time of ACTUAL work with ionizing radiation source, exclusive of training.
  - F. USE OF Actual purpose or use of ionizing radiation source during time experience was gained.

# CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY THAT  
Tom G. Siener

HAS COMPLETED THE COURSE FOR

BASIC RADIATION SAFETY IN THE STEEL INDUSTRY

CONDUCTED BY THE

AMERICAN IRON AND STEEL INSTITUTE

AT PITTSBURGH, PENNSYLVANIA

NOVEMBER 1-3, 1977

*Ross J. Elson*  
Ross J. Elson  
Chairman  
Industrial Hygiene Committee

*A. A. Mammarella, Jr.*  
A. A. Mammarella, Jr.  
Chairman  
Subcommittee On Radiation