the second s					
NRC FORM 313 9-861 10 CFR 30, 32, 33, 34, 35 and 40 APPLICATION FOF	20, 32, 33, 34, 40 APPLICATION FOR MATERIAL LICENSE				
INSTRUCTIONS: SEE THE APPROTRIA LICENSE APPLICATION GUIDE FOR O OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED B	DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES ELOW.				
FEDERAL AGENCIES FILE APPLICATIONS WITH	IF YOU ARE LOCATED IN:				
U.S. NUCLEAR REGULATORY COMMISSION DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS WASHINGTON DC 20555	ILLINDIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:				
ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:	U.S. NUCLEAR REGULATORY COMMISSION, REGION III MATERIALS LILENSING SECTION 799 ROOSEVELT ROAD GLEN ELLYN IL 60137				
CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNEYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:	ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:				
U.S. NUCLEAR REGULATORY COMMISSION, REGION I NUCLEAR MATERIAL SECTION B E31 PARK AVENUE KING OF PRUSSIA, PA. 19406	U.S. NUCLEAR REGULATORY COMMISSION, REGION IV MATERIAL RADIATION PROTECTION SECTION 811 RYAN PLAZA DRIVE, SUITE 1000 ARLINGTON, TX 76011				
ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:	ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS				
U.S. NUCLEAR REGULATORY COMMISSION, REGION II MATERIAL RADIATION PROTOCTION SECTION 101 MARIETTA STREET, SUITE 2900 ATLANTA, GA 30323	U.S. NUCLEAR REGULATORY COMMISSION, REGION V MATERIAL RADIATION PROTECTION SECTION 1450 MARIA LANE, SUITE 210 WALNUT CREEK, CA. 94596				
PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAF IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.	I REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL				
1 THIS IS AN APPLICATION FOR (Check appropriate item)	2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)				
A NEW LICENSE	The Cleveland-Cliffs Iron Co.				
X C RENEWAL OF LICENSE NUMBER 21-03076-01	504 Spruce Street Islpeming, Michigan 49849				
4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION	TELEPHONE NUMBER				
Callo W. Maki	TON TO BE REQUIDED IS DESCRIBED IN THE LICENSE ADDI IDATION CLIDE				
<ol> <li>RADIOACTIVE MATERIAL</li> <li>Element and mass humber, u chemical and/or physical form, and c. maximum amount which will be possessed at any one time. See Supplementary Sheet</li> </ol>	2 6. PURPOSEISI FOR WHICH LICENSED MATERIAL WILL BEUSED. See Supplementary Sheet 3				
7. INDIVIDUALISI RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE See Supplementary Sheet 9	8 TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS. See 1982 Letters				
9 FACILITIES AND EQUIPMENT See 1982 Letters	10 RADIATION SAFETY PROGRAM See Supplementary Sheet 5				
11. WASTE MANAGEMENT. See 1982 Letters	FEE CATEGORY 170-31, 3P ENCLOSED \$ 120.00				
13. CERTIFICATION, Must be completed by applicant) THE APPLICANT UNDERSTANUE TH BINDING UPON THE APPLICANT. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS PAR IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF WARNING 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT 749 MAKES IT A TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WI SIGNATURE-CERTIFYING OFFICER TYPED/PRINTED NAME	AT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS ITS 30, 32, 39, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN. CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION THIN ITS JURISDICTION TITLE DATE				
1 - 10 1	Instrumentation Engineer				
last u mich Carlo W. Maki	IV ECONOMIC DATA				
Lasl w Mich Carlo W. Maki ANNUAL RECEIPTS ON NUMBER OF EMPLOYEES (Totel for SIM-3.5M SIM-3.5M SIM-3.	AV ECONOMIC DATA S WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Joliar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOL? INRC regulations permit it to protect confidencial commercial or financial-programation furnished to the agency in confidence				
ANNUAL RECEIPTS AANNUAL RECEIPTS <s250k S1M-35M S1M-3</s250k 	AV ECONOMIC DATA 8. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Joliar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? INRC regulations permit it to protect confidence/ The agency in confidence/ YES NO				
Land W Mich Carlo W. Maki AANNUAL RECEIPTS OF NUMBER OF EMPLOYEES (FORF for entire facility excluding multiple facility excluding multiple (5250K SIM-3 BM SIM-3 BM SIM-3 BM 2250X-50 BB0510027B BB0329 5250X-50 BB0510027B BB0329 550K-751 21-03076-01 PDR 5750K-1M 21-03076-01 PDR 5750K-1M FEE LOG FEE CATEODAY COMMENTS	AV ECONOMIC DATA S. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Joilar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? INRC regulations permit it to protect confidence! YES NO CUSE ONLY RECEIVE U APPROVED BY AUG 0.3.1097				

## PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

- 1. AUTHORITY: Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).
- PRINCIPAL PURPOSE(S): The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30, 32, 33, 34, 35 and 40 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.
- 3. ROUTINE USES: The information may be (a) provided to State health departments for their information and use; and (b) provided to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for an NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you.
- 4. WHETHER DISCLOSURS IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVID-ING INFORMATION: Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed. A request that information be held from public inspection must be in accordance with the provisions of 10 CFR 2.790. Withholding from public inspection shall not affect the right, if any, of persons properly and directly concerned need to inspect the document.

5. SYSTEM MANAGER(S) AND ADDRESS: U.S. Nuclear Regulatory Commission Director, Division of Fuel Cycle and Material Safety Office of Nuclear Material Safety and Safeguards Washington, D.C. 20555 Item 3: Street Address Where Licensed Material Will Be Used or Processed.

Empire Mining Partnership Empire Mine Palmer, Michigan 49871

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Tilden Mining Company Tilden Township Marquette County, Michigan

The Cleveland-Cliffs Iron Company Research Laboratory 550 East Division Street Ishpeming, Michigan 49849

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Item 5: Radioactive Material.

	4	В	С	D	Plant
1	00 92	Sealed Sources	Texas Nuclear Corp.	3 Sources of 2	Empire
	. 54 90		Model 696-696381	Microcuries ea.	
. 2.	. Cesium 137	Sealed Source	Industrial Mucleonics Model 8B-10087	1 Source of 20 Mci	Tilden
* 3.	. Cesium 137	Sealed Sources	Texas Nuclear Model 570-57157C	3 Sources of 20 Mci ea. 16 Sources of 200 Mci ea. 9 Sources of 500 Mci ea.	Empire Empire 7-Empire 2-Tilden
				5 Sources of 1 ci ea. 8 Sources of 2 ci ea.	Empire Empire
4	Cestum 137	Sealed Sources	Nuclear Chicago Models RR138, 833512, 850233, or U.S. Nuclear Type 373 or 378	15 Sources of 450 Mci ea.	Empire
5	. Cesium 137	Sealed Sources	New England Nuclear Model 570	25 Sources of 100 Mci ea.	Empire
→ 6	. Cesium 137	Sealed Sources	Texas Nuclear Model 5202	6 Sources of 200 Mci ea.	Empire
- 7	. Cesium 137	Sealed Sources	Ohmart Corporation Model A-2102	19 Sources of 50 Mci ea. 16 Sources of 100 Mci ea.	Tilden Tilden
8	. Cesium 137	Sealed Sources	General Radioisotopes Products Model 850233	18 Sources of 250 Mci ea. 1 Source of 500 Mci	Tilden Tilden
- 9	. Cesium 137	Sealed Sources	Kay Ray No's. 7101-H, 7102-H	2 Sources of 200 Mci ea.	Tilden
10	. Cesium 137	Sealed Source	New England Nuclear Model NER 570	1 Source of 100 Mci	Tilden
11	. Cesium 137	Sealed Sources	General Radioisotopes Products Model 6082	1 Source of 1.5 ci 12 Sources of 1.0 ci ea.	Tilden Tilden
* 12	. Nickel 63	Foil Source	Packard Instrument Co. Model 419-New England Nuclear No. 714	1 Source of 10 Mci	Research Lab

Item 6: Purpose for Which Licensed Material Will Be Used.

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- 1. 3 Texas Nuclear source holders, Model 886326, for single point detection unit calibration.
- 1 Industrial Nucleonics source holder, Model 5H-301, used for detector testing.
- a. 3 Texas Nuclear source holders, Model 5192, used for coal level control.
   b. 16 Texas Nuclear source holders, Model 5190, used for density measurement of iron ore slurry.
  - c. 9 Texas Nuclear source holders, 3 used as component part of an on-line actuation analyzer and 7 used for density measurement of iron ore slurry.
  - d. 5 Texas Nuclear source holders, Model 5191, used for density measurement of iron ore slurry.
  - e. 8 Texas Nuclear source holders, Model 5176, used for density measurement of iron ore slurry.
- 4. 15 Nuclear Chicago source holders, Model 506, used for density measurement of iron ore slurry.
- 5. 25 Kay Ray source holders, Model 7062BP, used for density measurement of iron ore slurry.
- 6. 5 Texas Nuclear source holders, Model 5202, used for density measurement of lime slurry.
- 35 Ohmart source holders, Model ED-2, 6, and 8, used for density measurement of iron ore slurry.
- 19 Kay Ray source holders, Model 7050 and 7051, used for density measurement of iron ore slurry.
- 9. 2 Kay Ray source holders, Model 7063P, used for density measurement of iron ore slurry.
- 10. 1 Kay Ray source holder, Model 7062P, used for density measurement of iron ore slurry.
- 11. 13 Kay Ray source holders, Model 7051, used for density measurement of iron ore slurry.
- 12. 1 Packard Instrument Co. foil source, Model 419, used for gas chromatograph.

and Experienc	e.	
Empire Mine	- Dennis Laituri - Allan Wood	- Senior Electrical Engineer - Electrical Engineer
Tilden Mine	- Paul Jestila - Louis Roncaglione - Paul Dalpra	- Electrical Engineer - Instrumentation Foreman - Safety Engineer
Research Laboratory	- Robert Railey	- Senior Chemical Engineer

Item 7: Individual Responsible for Radiation Safety Program and Their Training

The formal training for the individuals named above is listed below:

- 1. Dennis Laituri attended the Texas Nuclear radiation safety training course in 1969. He has been working with nuclear devices since 1967.
- 2. Allan Wood attended the Texas Nuclear radiation safety training course in 1978. He has worked with nuclear devices for the past 15 years.
- 3. Paul Jestila attended the Texas Nuclear radiation safety training course in 1987. He has worked with nuclear devices for the past 5 years.
- 4. Louis Roncaglione attended the Texas Nuclear radiation safety training course in 1978. He has worked with radiation devices for over 20 years.
- 5. Paul Dalpra has received in-plant training in the proper use of nuclear devices and is scheduled to attend the Texas Nuclear radiation safety training course later this year.
- 6. Robert Railey received training in the proper use and safety while using the chromatograph. He is not involved in the use of other nuclear devices in the plants.

The Texas Nuclear radiation safety course is a week long course which covers the fundamentals of radiation, units of dose, hazards of radiation exposure, detection devices, regulatory controls, industrial devices, and training on installation and leak testing.

Item 10: Radiation Safety Program.

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Each operating plant assigns two or more individuals trained in the fundamentals of radiation to directly supervise the use and placement of nuclear sealed sources.

Periodically, one of our manufacturers will conduct a three day training program at our plants, which includes general safety, effects of radiation, proper use and handling, leak testing, and federal regulations pertaining to nuclear devices.

Each sealed source is leak tested at intervals not exceeding three years, using the electrical tape method or cotton swab leak test kits. These tapes/kits are forwarded to Texas Nuclear or Kay Ray Inc. for contamination analysis.

Each sealed source is inventoried and checked for leakage with a survey meter at six month intervals.

The protection officer will coordinate the safe use of the sealed sources specified in the application, will control security, records, leak testing, and serve as a contact person in the case of an emergency.

Our master survey meter is calibrated annually by Warrington Inc., Industrial Park, 20702 F.M. 685, Pflugenville, Texas 78660.

CONTROL NO. 83936