



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PDR-016

DEC 07 1984

Steve Kohn, Esquire
Mr. Richard Condit
Government Accountability Project
1555 Connecticut Avenue, NW, Suite 202
Washington, DC 20036

IN RESPONSE REFER
TO FOIA-84-850
AND FOIA-84-860

Dear Mr. Kohn and Mr. Condit:

This is in response to your letters dated November 5, 1984, in which you requested, pursuant to the Freedom of Information Act (FOIA), documents regarding NRC Byproduct Material License No. 21-00265-06 issued to the Dow Chemical Company of Midland, Michigan, and any environmental impact statements, assessments, or analyses done by and/or for the NRC in connection with that license.

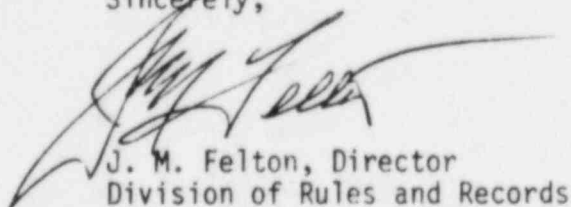
Listed in enclosed Appendices A and B are documents which have been determined to be subject to both requests. The documents listed in Appendices A and B are being placed in the NRC Public Document Room (PDR), 1717 H Street, NW, Washington, DC 20555. The documents will be filed in the PDR in folder FOIA-84-850 under your names.

Portions of documents in Appendix B have been deleted in order to withhold the home addresses of named individuals as well as names and personal information regarding them and their relatives. Because disclosure of this information would constitute a clearly unwarranted invasion of personal privacy, it is being withheld from public disclosure pursuant to Exemption (6) of the FOIA (5 U.S.C. 552(b)(6)) and 10 CFR 9.5(a)(6) of the Commission's regulations.

Pursuant to 10 CFR 9.9 of the NRC's regulations, it has been determined that the information withheld is exempt from production or disclosure and that its production or disclosure is contrary to the public interest. The persons responsible for this denial are the undersigned and Mr. James G. Keppler, Regional Administrator, NRC Region III.

This denial may be appealed to the NRC's Executive Director for Operations within 30 days from the receipt of this letter. As provided in 10 CFR 9.11, any such appeal must be in writing, addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and should clearly state on the envelope and in the letter that it is an "Appeal from an Initial FOIA Decision."

Sincerely,



J. M. Felton, Director
Division of Rules and Records
Office of Administration

8506050262 841207
PDR FOIA
KOHNB4-850 PDR

Enclosures: As stated

APPENDIX A

1.	10/7-8/68	Inspection Report with Health Physics Analysis	4 pages
2.	6/8/70	Ltr Grier to Silverstein regarding inspection	5 pages
3.	10/29/80	Ltr Rampy to Keppler regarding amendment to license	4 pages
4.	4/13/81	Ltr Parsons to Cooper regarding ltrs of opinion from Michigan Attorney General's Office	25 pages
5.	12/24/81	Inspection Report	14 pages
6.	6/1/82	Ltr McIntosh to Tomke regarding Permit to Install	5 pages
7.	9/10/82	Ltr Dircks to Riegle regarding incineration of waste concern	2 pages
8.	6/10/83	Ltr Keppler to Wilson regarding issuance of license with enclosure	6 pages
9.	6/13/83	Administrative Response to Citizens Petition	24 pages
10.	7/29/83	Ltr Lewis to Wilson regarding legal opinion from NRC on issuance of permit to incinerate	2 pages
11.	10/5/83	Pending license fee form	1 page
12.	10/11/83	Ltr Jackson to Dow regarding fees	1 page
13.	11/14/83	Ltr Materials Licensing to Dow regarding receipt of application	1 page
14.	No date	Summary of Supporting Data used in Setting Criteria for Incineration of Radioisotopes with attachments (ltr dtd 6/1/82)	4 pages
15.	2/29/84	Ltr Wilson to Mallett regarding status of license renewal	1 page
16.	4/5/84	Memo Smidth to Hind w/attachment: Ltr Felton to Wilson, FOIA response	4 pages
17.	4/26/84	Ltr Axelson to Wilson regarding status of license renewal	2 pages
18.	5/17/84	Entry Agreement	1 page
19.	6/7/84	Ltr McCann to Dow regarding renewal of license	8 pages
20.	6/26/84	Ltr Wilson to Sreniawski regarding Investigation of Groundwater Quality of Hemlock area	3 pages

APPENDIX A

(CONTINUED)

21. 7/30/84	Conversation record regarding response by McCann	1 Page
22. No date	Pending license action sheet	1 page
23. 10/31/84	Ltr Bruchmann to Lickus regarding 2 operating licenses	2 pages
24. 10/12/84	Ltr Axelson to Dow regarding inspection of August 9, 1984	17 pages

APPENDIX B

1. 9/28/84 Ltr Rampy to McCann regarding license application 137 pages
2. 9/27/84 Ltr Rampy to USHRC regarding license application 102 pages

UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE

-4 E11 des
-6 E01 4 Reg

INSPECTION FINDINGS AND LICENSEE ACKNOWLEDGMENT

<p>1. LICENSEE <i>The Dow Chemical Company</i> <i>Midland Michigan</i> <i>48640</i></p>	<p>2. REGIONAL OFFICE U. S. ATOMIC ENERGY COMMISSION REGION III, DIVISION OF COMPLIANCE 799 ROOSEVELT ROAD GLEN ELLYN, ILLINOIS 60137</p>
<p>3. LICENSE NUMBER(S) <i>21-265-4 21-265-6</i> ✓</p>	<p>4. DATE OF INSPECTION <i>October 7 & 8 1968</i></p>

5. INSPECTION FINDINGS

- ☒ A. No item of noncompliance was found.
- ☐ B. Rooms or areas were not properly posted to indicate the presence of a RADIATION AREA.
10 CFR 20.203(b) or 34.42
- ☐ C. Rooms or areas were not properly posted to indicate the presence of a HIGH RADIATION AREA.
10 CFR 20.203(c) (1) or 34.42
- ☐ D. Rooms or areas were not properly posted to indicate the presence of an AIRBORNE RADIOACTIVITY AREA.
10 CFR 20.203(d)
- ☐ E. Rooms or areas were not properly posted to indicate the presence of RADIOACTIVE MATERIAL.
10 CFR 20.203(e)
- ☐ F. Containers were not properly labeled to indicate the presence of RADIOACTIVE MATERIAL.
10 CFR 20.203(f) (1) or (f) (2)
- ☐ G. A current copy of 10 CFR 20, a copy of the license, or a copy of the operating procedures was not properly posted or made available. 10 CFR 20.206(b)
- ☐ H. Form AEC-3 was not properly posted. 10 CFR 20.206(c)
- ☐ I. Records of the radiation exposure of individuals were not properly maintained. 10 CFR 20.401(a) or 34.33(b)
- ☐ J. Records of surveys or disposals were not properly maintained. 10 CFR 20.401(b) or 34.43(d)
- ☐ K. Records of receipt, transfer, disposal, export or inventory of licensed material were not properly maintained.
10 CFR 30.51, 40.61 or 70.51
- ☐ L. Records of leak tests were not maintained as prescribed in your license, or 10 CFR 34.25(c)
- ☐ M. Records of inventories were not maintained. 10 CFR 34.26
- ☐ N. Utilization logs were not maintained. 10 CFR 34.27

Joseph J. Hutter

(AEC Compliance Inspector)

6. LICENSEE'S ACKNOWLEDGMENT

The AEC Compliance Inspector has explained and I understand the items of noncompliance listed above. The items of noncompliance will be corrected within the next 30 days.

(Date)

(Licensee Representative — Title or Position)

ORIGINAL: LICENSEE. COPIES ☐ TO REGION ☐ TO HEADQUARTERS ☐ TO ENFORCEMENT

Mailed 10-16-68

A1

HEALTH PHYSICS ANALYSIS

The licensee's byproduct material programs, which were inspected, are deemed to be well organized, supervised, and controlled. This includes both the radiography program and the broad license covering research and development, etc. During this inspection, both the personnel who are responsible for health physics aspects as well as individuals responsible for use of material within various laboratories were visited and interviewed and from these interviews, observation, and review of records, it was concluded that the program is well conducted and no items of noncompliance or safety hazards were found. The licensee has established a Radiation Hazards Committee which has formulated various procedures and techniques for controlling the receipt, possession, use, and disposal and transfer of radioactive materials at Dow Company facilities. These procedures provide for a determination of the qualification of prospective users, training of prospective users, adequacy of laboratories and equipment, provision for disposal of material periodically, tests of sealed sources as well as periodic review and training and spot^{check} of the various laboratories for adequate control of radiation levels and contamination.

A visit to several of the laboratories and discussion ~~of these~~ with responsible personnel within these laboratories revealed a thorough knowledge of the licensee's procedures, respect for radiation and procedures necessary to control the use of material in a safe manner. In all such cases, very good housekeeping was evident and use of plastic back absorbent paper on working surfaces and inside of hoods and use of gloves were evident. These responsible laboratory personnel also had available records pertaining to receipt and disposal of material and surveys conducted to determine radiation levels and any evidence of contamination within their own facilities.

Both filtered and nonfiltered hoods, glove boxes, shielded storage facilities, waste containers, etc., provided were necessary along with appropriate surveying and counting equipment. Bioassays have been taken where deemed necessary and revealed no evidence of significant injection or inhalation of radioactive materials. Based on discussion with licensee personnel, observations made of the licensee's facilities, equipment and procedures carried out by personnel, and a review of the licensee's records, it is concluded that the licensee is supervising, controlling, and conducting the programs with due regard for radiological safety.

LEAK TESTS

40. All sealed sources which the licensee currently possesses are leak tested at appropriate intervals. A review of the leak test records revealed that all sources tested revealed less than 0.005 microcuries of removable contamination since the last previous reinspection. The licensee also leak tests small sealed sources which are actually exempt due to the small quantities involved. The records also reveal that all leak tests have been conducted on a timely basis.

WASTE DISPOSAL

41. The licensee has in the past made use of several methods of waste disposal including incineration of byproduct material, dilution and discharge to the sanitary sewage system, burial on the licensee's own facilities, and transfer by shipment to an outside disposal agency. Since the last previous inspection, there have been no burials on the licensee's facilities (for low level waste only) and no transfer to a licensed outside disposal agency. Material has either remained in storage or been disposed of by incineration or through dilution and disposal to the sanitary sewage system. The RSO's approval must be obtained prior to disposal of any radioactive material other than second or third rinses of containers which are being cleaned.
42. The licensee incinerates low levels of byproduct material. The licensee has a 200 foot stack which has an air output of 50,000 cfm. This is not used for disposal of radioactive materials under inversion conditions. The licensee has calculated that if one curie of radioactive material was instantaneously released from the stack that the maximum concentration at ground level would be at a distance of 2,375 ft. downwind from the stack and that the maximum air concentration at this distance would be 6×10^{-7} microcuries per ml. Records reveal that thus far, 1968, byproduct materials have been disposed of on a total of five days and that the total quantities of material on these five days involved 54.3 millicuries of C^{14} , 15 millicuries of sulfur 35, $\frac{1}{2}$ millicurie of tritium, and 0.066 millicuries of calcium 45. If more than several millicuries are involved in an incineration event, then the

material is divided into lots not exceeding approximately 5 millicuries and incinerated at four hour intervals. Approximately 60 tons of solids are burned in the incinerator per day. Samples of ash have shown nothing above background levels.

43. The other method of disposal is through dilution and disposal through the sanitary sewer system. The licensee has their own water treatment system which handles the waste from their facility which involves 30,000 gallons per minute or 50,000,000 gallons per day. The latest disposal of material by way of the sanitary sewage system was in August of 1967, over a year prior to the inspection. This involved approximately 2.35 microcuries of americium 241 in liquid form and 3.75 microcuries of plutonium 239 which involved the disposal of the last of these two materials on hand by the licensee after the completion of the analytical chemistry tracer experiments authorized under Items D and E of the license. The licensee's calculations show that one minute's flow of water at the licensee's water treatment system was more than adequate to dilute these combined activities to well below the concentrations allowed for an unrestricted area release. The information also indicates that it took five minutes to empty all ^{of this} liquid waste into the stream before its entrance into the treatment plant. The use of this material ^{was} is closely planned and supervised with the aid of the RSO.
44. The only other method of "disposal" is the transfer on a rather infrequent basis of materials to an outside concern. In all such cases, the license number and/or copy of the license of the recipient was obtained prior to the transfer and ICC regulations were complied with pertaining to the shipment.
45. In addition to the sealed sources previously referred to, the licensee has tritium foils in the form of gas chromatography devices having 500 millicuries maximum per device with ~~switch~~ ^{control} control devices on such devices and a 2.5 curie sealed light source as a reference source and a 500 millicurie sealed light source. The licensee also has four millicuries of strontium 90 in non-sealed form all in the Radiochemistry lab but the material is in doubly closed containers and closely checked for any spread of contamination. The licensee also has 17.4 millicuries of polonium 210 total in the form of static eliminators. The 10 curie polonium 210 sealed neutron source authorized under Item F of the license is no longer used under the broad license but under the reactor license as this source is used in as neutron source in the Triga Reactor.

RECORDS

46. The licensee maintains detailed records showing all receipts of byproduct material. The records show the isotopes, date, amount, vendor, and compliance with possession limits. The licensee also maintains detailed records showing all transfers of byproduct material. The licensee maintains records showing the results of direct reading and smear type radiation surveys as well as special surveys. Records are maintained which show personnel exposure, results of leak tests, waste disposal information, and inventory records.
47. The licensee maintains all records which are required by 10 CFR 34 in conjunction with the industrial radiography program. These records include the results of calibration of radiation survey instruments, leak tests of the cobalt 60 sealed radiography source, a quarterly inventory to show the quantity of byproduct material on hand at quarterly intervals, a utilization log is maintained which contains all information required by 10 CFR 34.27. A record is maintained showing personnel exposure information for radiography personnel also. This includes a daily reading of the pocket dosimeters when the radiography source is used and film badge information which shows exposure received by radiography personnel. The licensee also maintains records showing the results of radiation surveys.

June 8, 1970

The Dow Chemical Company
Midland, Michigan 48640

Attention: L. G. Silverstein, RSO

Gentlemen:

This letter relates to the discussion Mr. W. H. Schultz of this office held with you at the conclusion of the recent inspection of your AEC licensed program.

You will recall that no items of noncompliance were noted with respect to License Nos. 21-265-4, STB-527, and SMB-111. Accordingly, Form AEC-591, INSPECTION FINDINGS AND LICENSEE ACKNOWLEDGMENT, is hereby issued for these licenses. It is not necessary that you sign, or acknowledge receipt of this form.

However, certain of your activities under License Nos. 21-265-2 and 21-265-6 appear to be in noncompliance with AEC requirements. The items and references to the pertinent AEC requirements are listed in paragraph 5 on the Form AEC-592's, attached.

The purpose of this letter is to give you an opportunity to advise us in writing of your position concerning these items and any corrective steps you have taken or plan to take with respect to each item listed on the attached forms. This should include the date all corrective action was or will be completed. Your reply should be sent to us within 20 days of the date of this letter to assure that it will receive proper attention in our further evaluation of this matter.

Should you have any questions concerning this matter, you may communicate directly with this office.

Sincerely yours,

Boyce H. Grier
Regional Director

Enclosures:

1. Form AEC-591
2. Form AEC-592 (2)

OFFICE	CO: III	CO: III	CO: III
SURNAME	Schultz, B.	Atan	Jay
DATE	6/8/70	6/8/70	6/8/70

UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE

EUA) II R 8

1. LICENSEE Low Chemical Company Midland, Michigan 48640	2. REGIONAL OFFICE U. S. Atomic Energy Commission Region III, Division of Compliance 799 Roosevelt Road Glen Ellyn, Illinois 60137
LICENSE NUMBER 21-265-6	4. DATE(S) OF INSPECTION May 19 and 20, 1970

5. The following activities under your license (identified in Item No. 3 above) appear to be in noncompliance with AEC regulations or license requirements, as indicated.

Contrary to License Condition No. 12, byproduct material has been used by and under the supervision of individuals who were not designated to do so by the Radiation Hazards Committee.

William H. Schultz

Supplementary page None attached.William H. Schultz
AEC Compliance Inspector6-8-70
Date

ORIGINAL: LICENSEE

COPIES: ☐ CO REGION ☐ CO HEADQUARTERS ☐ CO ENFORCEMENT

The Dow Chemical Company
License Nos. 21-265-2, -4,
-6, STB-527, and SMB-111
May 19 and 20, 1970

HEALTH PHYSICS ANALYSIS

The licensee conducts well organized byproduct and source material programs in facilities which are more than adequate for the scope of these licensed programs. During this inspection, the AEC representative met with licensee personnel who are directly connected with the procurement, use, and disposal of radioactive material, as well as the maintaining of the various records which are required. All licensee personnel interviewed during this inspection demonstrated by discussion a broad knowledge of radiological safety procedures, the licensee's radiation safety manual, and applicable AEC regulations. The licensee has facilities and equipment which are adequate for licensed programs of this scope and technically competent personnel to supervise these programs. Based on information given by the various personnel who were interviewed, a review of the licensee's records, and an inspection of the licensee's facilities, it is the opinion of the AEC representative that these byproduct and source material programs are being conducted with adequate regard for radiation safety.

records and observed that all leak tests are being made on a timely basis.

WASTE DISPOSAL

34. The licensee has several methods of waste disposal. These include the following: incineration, burial on Dow Chemical Company property, and transfer to a licensed waste disposal agency. The average incineration rate is three-four times per month with an average burn of less than 100 microcuries of radioactive material. A review of the licensee's incineration records for the past several years showed that the licensee's maximum quantity of material incinerated has been about 25 millicuries in a single day. This occurs about two times each year. Most of the radioactive material which is incinerated is carbon 14. The incinerator which is used for disposing of radioactive material consumes nonradioactive material at the rate 40,000 cubic feet per minute. Calculations made by the licensee show that all concentrations of effluent from the incinerator stack are well below the limits specified in 10 CFR Part 20. The licensee also disposes of radioactive waste material by burial on Dow Chemical Company property. These burials occur about once or twice each year. A review of the burial records showed the maximum amount of radioactive material buried at one time was 20 millicuries of hydrogen 3. This burial occurred on August 6, 1969. The previous burial on Dow Chemical Company property occurred on June 22, 1966. Another method of radioactive waste disposal is by transfer to a licensed waste disposal agency. The most recent such disposal occurred on December 9, 1968, and consisted of approximately 35 curies of hydrogen 3 in the form of targets from a neutron generator. This material was shipped to Nuclear Engineering Corporation.

35. The licensee no longer disposes of any radioactive waste to the sanitary sewage system. Mr. Charm stated all liquid radioactive waste is collected and is disposed of by one of the three methods described above. During the inspection, the AEC representative reviewed the licensee's disposal records and observed that these records were adequate to account for the various radioactive materials which have been disposed of by the methods described above.

RECORDS

36. During the inspection, the AEC representative reviewed samples of the various records which are maintained by the licensee. These records are maintained in adequate detail and show the receipt of radioactive material, transfer of radioactive material, results of smear type and direct reading radiation surveys, personnel exposure information (both film badge and dosimeter), leak test results, waste disposal information, instrument calibration information, a quarterly physical inventory of byproduct material which is procured under the provisions of License No. 21-265-4, and a utilization log which shows the use of the industrial radiography source which is used under the provisions of the -4 license. The AEC representative observed that all records are maintained in adequate detail to account for the various radioactive materials which are procured and used under these licenses.

LICENSE CONDITIONS

37. During this inspection, the AEC representative discussed the provisions of the license conditions with Mr. Charm. Based on statements made by Mr. Charm and other licensee personnel during this inspection, a review of the licensee's records, and an inspection of the licensee's facilities, the licensee is complying with all license conditions except License Condition No. 12 of License Nos. 21-265-2 and -6. License Condition No. 12 of these two licenses requires that the Radiation Hazards Committee



DOW CHEMICAL U.S.A.

1/14-205-

October 29, 1980

MIDLAND, MICHIGAN 48640

William Keppler, Director
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL

030-04783

Dear Director:

The Dow Chemical Company (Dow) wishes to amend its byproduct material license, 21-00265-06, to permit disposal of low level radioactive waste by incineration. Prior to 1978, Dow was authorized by the NRC to incinerate licensed material (see enclosure). However, during the renewal of our license in 1978, the specific incineration condition was inadvertently omitted from our application. Pending your approval of this amendment request, we plan to incinerate under the old license incineration condition unless you advise otherwise.

The Task Force on low level radioactive waste reporting to the US Radiation Policy Council has recently made several key recommendations regarding federal waste disposal policy. One of these recommendations encourages the NRC to provide priority review of licensee's requests for alternative disposal methods to existing shallow land burial. Dow believes this report to be timely and we request that the NRC expedite our amendment application.

The incinerator we will be using is located inside the fenced boundary of Dow's Midland, Michigan, site. Five warehouses are located from 300-450 feet east of the incinerator. Other than the administrative offices for these buildings, the nearest occupied building is approximately 600 feet to the southeast and is a single story structure. The Dow boundary fence line relative to the incinerator is 800 feet south, 1200 feet west, 4400 feet north and 4400 feet east. The Tittabawassee River traverses the boundary on the west and south sections of the Michigan Division. Prevailing winds are from the southwest.

¹Task Force on Low Level Radioactive Waste Report, US Radiation Policy Council, August, 1980.

LIC.FEE.MGMT.BRANCH
U.S.N.R.C.

80 DEC -9 P3:59

RECEIVED

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

Reported by.....
Classified by.....
Approved by.....
Reviewed by.....
Received by.....



Control No. 0411

NOV 17 1980

The incinerator is a rotary kiln design that discharges 27,000 to 32,000 cubic feet per minute of exhaust gases through a stack 200 feet in height with an inner diameter of 12 feet. The normal operation schedule is 24 hours per day, 7 days a week. Under normal conditions, it suspends operations only for breakdowns and scheduled shutdowns. Plant rubbish, industrial solid wastes and liquid organics are examples of typical nonradioactive wastes being incinerated.

Based on the following calculations and assumptions, Dow wishes to incinerate the radionuclides and activities as presented in Table I. The most conservative incinerator exit gas volume of 27,000 cubic feet per minute is alternately expressed as the following:

$$\begin{aligned} 27,000 \text{ ft}^3/\text{min} \times 28,316 \text{ mL}/\text{ft}^3 &= 7.65 \times 10^8 \text{ mL}/\text{min} \\ 7.65 \times 10^8 \text{ mL}/\text{min} \times 60 \text{ min}/\text{hr} &= 4.59 \times 10^{10} \text{ mL}/\text{hr} \\ 4.59 \times 10^{10} \text{ mL}/\text{hr} \times 24 \text{ hr}/\text{day} &= 1.10 \times 10^{12} \text{ mL}/\text{day} \\ 1.10 \times 10^{12} \text{ mL}/\text{day} \times 300 \text{ day}/\text{yr} &= 3.30 \times 10^{14} \text{ mL}/\text{yr}. \end{aligned}$$

In calculating the exit gas volumes on a yearly basis, it was conservatively assumed that the incinerator operates 300 days per year which accounts for breakdowns and planned shutdowns.

Based on this operation schedule, calculations were made to determine the average concentrations in effluents at the top of the stack. It was assumed that all the radioactivity would be released through the stack for the purpose of these calculations. Note that none exceed the most restrictive limits specified in 10 CFR 20, Appendix B, Table II.

All activities listed are for single radionuclide burns. If radionuclides are combined in a single burn, the maximum activity of each radionuclide to be burned would be calculated by the "sum of the ratios" method described in "Note to Appendix B" of 10 CFR 20.

Radioactive material is shipped to the incinerator from Dow's local waste generating laboratories with adherence to Department of Transportation regulations. Since these regulations require that all packages must be below the contamination limits specified in 49 CFR 173.397, no radionuclide contamination of the incinerator operators is expected. The packages are fed into the incinerator by a conveyor that may be loaded either manually or with a forklift truck.

Because of the near certainty that H-3 and C-14 will be released as gaseous products of combustion, ash from burns involving one or both of these radionuclides will be treated like the ash generated during incineration of nonradioactive waste and will be disposed of as a non-radioactive ash in a landfill. If a burn includes one or more of any other radionuclide, the ash will be treated as if it contained all of the radioactivity originally incinerated. If appropriate surveys verify that the concentrations (in terms of microcuries per gram) specified for water in Appendix B, Table II, 10 CFR 20 are not exceeded, these ash residues will be disposed of as nonradioactive ash. If ash residues are

October 29, 1980

found to exceed Appendix B, Table II, concentration limits due to the incineration of known radionuclides, the ash will be segregated and packaged for shipment to a federally licensed burial site.

Ash produced during combustion is automatically removed from the incinerator by a conveyor system that transports the ash to a dumpster for volume reduction and further disposal. Since the incineration operation is automated and the radionuclide levels are low, no special precautions, other than normal safety procedures (i.e. protective clothing, gloves, safety glasses, etc.), are required of incinerator operators.

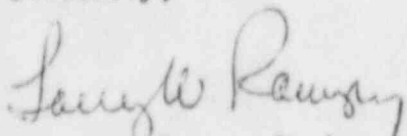
It is not possible to characterize the maximum number of burns of radioactive material to be performed on a weekly or yearly basis since incineration of nonradioactive rubbish is a continuous process. Regardless of the number of burns performed, the activity limits specified in Table 1 will be adhered to.

Dow intends to incinerate solid waste, animal carcasses, tissue, combustible liquids, liquid scintillation vials and fluids and any other combustible waste generated from the use of Dow's byproduct materials license. The Radiation Safety Officers of the Industrial Hygiene Laboratory will monitor the radionuclides and their activities to be incinerated so as not to exceed the limits specified in Table 1.

Dow's past incineration of radioactive materials has shown that our incinerator can be a valuable tool for waste disposal or volume reduction and we request that you review our license amendment application as soon as possible and direct any correspondence regarding this matter to Tracy W. Parsons, Industrial Hygiene Laboratory, 1803 Building, Midland, MI 48640, (517)636-3205.

Please find enclosed the necessary amendment fee of \$110. Thank you for your consideration of this amendment request.

Sincerely,



Larry W. Rampsy, Chairman
Radiation Safety Committee
Industrial Hygiene Laboratory
1803 Building
517/636-6260

bjd

Enclosure

Control no. 0 4 1 1 3

TABLE 1. SUMMARY OF INCINERATION CALCULATIONS

<u>Radionuclide</u>	<u>Maximum Activity Incinerated ($\mu\text{Ci/day}$)</u>	<u>Stack* Concentration ($\mu\text{Ci/mL}$)</u>	<u>Table II Concentration Limits ($\mu\text{Ci/mL}$)</u>
H-3	2.20×10^4	2×10^{-8}	2×10^{-7}
C-14	1.10×10^4	1×10^{-8}	1×10^{-7}
Any byproduct material licensed to Dow	**	**	See 10 CFR 20 Appendix B

*Based on daily exhaust volume (1.10×10^{12} mL/day)

**Activity incinerated per day will be based on the most restrictive air and ash concentrations from 10 CFR 20, Appendix B