

Reference Letters:

Historical Correspondence from FAA and MI DEQ to:
Beacon Instrument Service, Michigan Aviation Company, and Detroit Pilot Center

January 29, 2018

ADAMS Accession No. ML18019A179



U.S. Department
of Transportation
**Federal Aviation
Administration**

DETROIT FLIGHT STANDARDS DISTRICT OFFICE
Willow Run Airport - East Side
8800 Beck Road
Belleville, Michigan 48111

April 21, 1992

Mr. Thomas M. Dykstra
Health Physicist
Investigation and Compliance Section
Division of Radiological Health
Department of Public Health
1897 N. Perry Street
Pontiac, Michigan 48340

RECEIVED
Michigan Department of Public Health

APR 30 1992

BUREAU OF ENVIRONMENTAL &
OCCUPATIONAL HEALTH - DRH

Dear Mr. Dykstra:

In response to your April 9, 1992, letter, the following information is provided concerning the aircraft instrument repair stations in our area.

- | | |
|---|---|
| 1. Aerodata Aircraft Instrument
Services, Inc.
2669 N. I-94 Service Dr.
Ypsilanti, MI 48198
(313) 484-3880 | 5. Metro Aircraft
Instruments, Inc.
Oakland-Pontiac Airport
2135 Airport Road
Waterford, MI 48327
(313) 666-3670 |
| 2. Astro Instrument, Inc.
11496 Portlance
Detroit, MI 48205
(313) 839-9133 | 6. Sundog Electronics, Inc.
Willow Run Airport
Ypsilanti, MI 48198
(313) 483-6850 |
| 3. Beacon Instrument
Service, Inc.
Detroit City Airport, Bay 9
Detroit, MI 48213
(313) 526-6040 | 7. Superior Instrument
Service, Inc.
6544 Highland Road-ADI
Waterford, MI 48327
(313) 666-3450 |
| 4. NC Servo Technology
d/b/a Great Lakes Instrument
Service, Inc.
38424 Webb Drive
Westland, MI 48185
(313) 721-5666 | |

This is an up-to-date listing of instrument shops involved with the radium equipment you're concerned with.

2-10-92 50 Arch

- is for other parts of Mich.

Lee Turbett
Aero Services International, Inc.
Tri-City Airport
Freeland, MI. 48623

Telephone: 517-695-2555
Limited electronic instrument repair.

John Ledford
Air Security, Inc.
7249 S. Shore Dr.
Bear Lake, MI. 49614

Telephone: 616-864-3435
Instrument repair, has dials and pointers in his shop.

Mark W. Sawmiller
Eagle Flight Instruments
16598 Chandler Road
E. Lansing, MI. 48823

Telephone: 517-351-0224
Instrument repair

Dennis DeCook
General Aviation, Inc.
Capital City Airport
Lansing, MI. 48906

Telephone: 517-321-7000
Limited electronic instrument repair.

Virgil Cox
JET Electronics and Technology, Inc.
5353 52nd. Street SE
Grand Rapids, MI. 49508

Telephone: 616-949-6600
Instrument manufacturer and repair facility.

Robert Starback
Kal-Aero, Inc.
5605 Portage Rd.
Kalamazoo, MI. 49002

Telephone: 616-343-2548
Instrument repair.

Thomas D. Inman
Lansing Community College
Aviation Technology Center
3428 W. Hanger Drive
Lansing, MI. 48906

Telephone: 517-483-1406
No instrument repair. Avionics/instrument instructor.

Kenneth Malone
Mayday Avionics, Inc.
5500 44th. Street SE
Grand Rapids, MI. 49512

Telephone: 616-957-4920
Instrument repair.

Stephen F. Schultz
Mich. DOT Aeronautics Commission
Electronics Facilities Sec.
Capital City Airport
Lansing, MI. 48906

Telephone: 517-373-8847
Limited electronic instrument repair.

John Sersich
Superior Aviation, Inc.
105 Kent St.
Iron Mountain, MI. 49801

Telephone: 906-774-0400
Limited electronic instrument repair.

Dick Pierson
Simmons Airlines, Inc.
198A Airport Drive
Negaunee, MI. 49866

Telephone: 906-475-7821
Instrument repair.

STATE OF MICHIGAN



JOHN ENGLER, GOVERNOR
DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN/MARTIN L. KING JR., BLVD.
P.O. BOX 30195, LANSING, MICHIGAN 48909

Vernice Davis Anthony, Director

DIVISION OF RADIOLOGICAL HEALTH

June 8, 1992

Radiological Health Notice 92-1: POTENTIAL RADIUM CONTAMINATION FROM
AIRCRAFT INSTRUMENTS, INSTRUMENT FACES
(DIALS), AND INSTRUMENT POINTERS.

Addressees:

All aircraft instrument repair stations within Michigan.

Purpose:

This notice is to alert aircraft instrument repair stations of a potential health hazard from exposure to radium, a radioactive material. It is expected that facilities will evaluate their own situation, contact the Division of Radiological Health, and take appropriate action to reduce radiation exposure to personnel and prevent the spread of radioactive contamination.

Description of Circumstances:

In March 1992, it came to our attention that an aircraft instrument repair station in Michigan possessed large quantities of old instrument faces (dials) and pointers. This station had recently sent some of these items to a refinisher, but they were returned without being repainted. A notice from the refinisher indicated "Caution: Radioactive Material." This warning prompted an employee of the repair station to contact the Division of Radiological Health.

An on-site investigation was conducted by a health physicist from this division. Our investigation identified a large number of items, perhaps thousands, emitting radiation. General radiation levels within the facility were 3 times higher than normal background levels. Many of the radioactive items were stored together in drawers. The constant rubbing and bumping of the items against each other had caused a fine radioactive dust to form. Such radioactive dust can contaminate anything with which it comes in contact. Items which, at the time of manufacture, did not contain radium, but which were stored in the same drawers, were also found to be contaminated with radium dust. Decontamination can be a very difficult process. Porous or wooden objects, such as desk drawers, often cannot be sufficiently decontaminated and must be properly disposed of as radioactive waste.

Discussion:

Radium is a naturally occurring radioactive material. One use for radium was in fluorescent paint for luminous aircraft instruments. The use of radium for this purpose generally ended several decades ago.

Radium has a half-life of about 1600 years. This means that after 1600 years, half of the radium will have decayed into another material. Unfortunately, radium decays into other radioactive materials, one of which is radon, a radioactive gas. Radon is now considered by the U.S. Environmental Protection Agency (EPA) to be one of the major indoor air pollution problems. According to the EPA, radon is a major cause of lung cancer deaths in the United States. When radon decays, it becomes radioactive bismuth, lead, and polonium. All three of these are radioactive solids and become part of the dust in the facility. Radium and most other radioactive materials are particularly hazardous if ingested or inhaled as a dust.

Recommendations:

The Division of Radiological Health is now recommending that each aircraft instrument repair station do the following:

1. Evaluate its inventory of dials, pointers, and related parts to determine the extent of items potentially contaminated with radium.
2. If there appears to be a possibility that radium is in your possession in the form of old luminous dials, pointers and similar components, contact the Division of Radiological Health at 517/335-8220 before proceeding to the next steps.
3. With the assistance of the Division of Radiological Health or a qualified radiation consultant, try to isolate radium-containing items. Disposable gloves should be used when handling the items. Items should be placed into plastic bags to reduce the chance of further contamination. MINIMIZE CREATING ANY DUST. Containers which were used to store radium-containing items should be considered to be contaminated. Items intended for decontamination should be stored separately in their own plastic bags to minimize exposure to anyone who may try to decontaminate them at a later time.
4. Items containing radium or contaminated with radium should be stored, pending proper disposal, in a secure location away from personnel. Concrete blocks provide good shielding.
5. Personnel handling radium-bearing items should be encouraged to wash their hands often and especially thoroughly before eating. Ingestion pathways should be minimized. No food or beverages should be permitted within the premises until the facility is determined to be free of contamination.
6. Disposal of radioactive materials must be done in accordance with legal requirements. Disposal into sanitary landfills is not normally permitted.
7. Persons possessing radium must register the material with the Michigan Department of Public Health, Division of Radiological Health.

Additional Item for Consideration:

Currently, there is no low-level radioactive waste disposal site in Michigan. There are several disposal sites in the U.S. which can take radium, however, all but one is refusing to take any radioactive material from Michigan. Envirocare, in Clive, Utah, can and will accept the radium for a reasonable fee. There are several costs associated with the disposal. One cost is for packaging and transportation. Another potential cost which may be incurred is for a laboratory analysis of the waste to determine the amount of radium present and to assure that there are no other hazards in the waste. This could be expensive. A facility with radium may wish to consider merging its waste together with waste from other facilities and then splitting the cost of a single laboratory analysis rather than each facility paying for its own analysis. A list of several companies offering radium disposal services is attached for your convenience.

Response:

Within fifteen (15) days, each aircraft instrument repair station receiving this notice should contact the department and indicate whether:

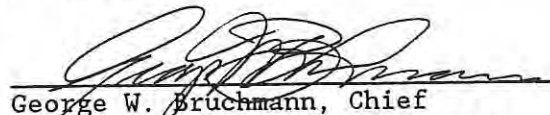
- 1) they have radium,
- 2) they might have radium and need assistance in making a determination,
or
- 3) they definitely do not have radium.

Contacts and questions regarding this matter should be addressed to:

Investigation and Compliance Section
Division of Radiological Health
Michigan Department of Public Health
3423 N. Logan/Martin Luther King, Jr., Blvd.
P.O. Box 30195
Lansing, MI 48909
517/335-8220

Attachment (list of radium disposal services)

APPROVED:


George W. Bruchmann, Chief
Division of Radiological Health

DATE: 6-8-92

MICHIGAN DEPARTMENT OF PUBLIC HEALTH
DIVISION OF RADIOLOGICAL HEALTH

COMPANIES PROVIDING RADIUM DISPOSAL SERVICES

ADCO SERVICES, INC.
17650 Duvan Drive
Tinley Park, Illinois 60477
(312) 429-1660

APPLIED HEALTH PHYSICS
Radwaste Division
2986 Industrial Blvd.
Bethel Park, Pennsylvania 15102
(412) 563-2242

NSSI/Recovery Services Inc.
P. O. Box 34042
Houston, Texas 77234
(713) 641-0391

RAMP INDUSTRIES, INC.
1127 West 46th Ave.
Denver, Colorado 80211
(303) 480-1509

SCIENTIFIC ECOLOGY GROUP, INC.
P. O. Box 2530
1560 Bearcreek Road
Oak Ridge, Tennessee 37830
(615) 481-0222

TN TECHNOLOGIES INC.
P. O. Box 800
2555 North I. H. 35
Round Rock, Texas 78664
(512) 388-9100

U. S. ECOLOGY, INC.
P. O. Box 7246
Louisville, Kentucky 40257-0246
(502) 426-7160

This list is not intended as an endorsement of these companies. It is provided upon request to Michigan citizens. Other companies may exist which do not appear on this list, and any information regarding them is welcome.

Information for Multiple Facilities



JOHN ENGLER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



RUSSELL J. HARDING
DIRECTOR

July 22, 2002

Mr. Jeffrey Jones
Senior Assistant Corporation Counsel
City of Detroit Law Department
1650 First National Building
Detroit, Michigan 48226

Dear Mr. Jones:

This letter is in response to your e-mail message of July 9, 2002. Enclosed are copies of the following correspondence regarding our investigations at the Detroit City Airport.

1. January 27, 1993 letter to Mr. Wendell Laurents
2. March 10, 1997 letter to Colonel Glen H. Lamont
3. May 28, 1997 letter to Colonel Glenn H. Lamont
4. June 27, 1997 letter to Colonel Glenn H. Lamont
5. July 24, 1997 letter to Colonel Glenn H. Lamont
6. September 12, 2000 letter to Mr. Jeff Tremper
7. September 27, 2000 letter to Mr. Wendell Laurents
8. December 8, 2000 letter to Mr. Mike Samsol
9. March 22, 2001 letter to Mr. Wendell Laurents

Staff from the U.S. Army arranged for a broker to dispose of the dials and gauges that had been collected. On June 25, 2001, the broker picked up these dials and gauges for disposal. Also enclosed are copies of the department's *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226* and a copy of Radiological Protection Notice 94-1: *Potential Radium Contamination From Aircraft Instruments, Instrument Faces (Dials), And Instrument Pointers*.

If you have any questions regarding these letters or if we can be of further assistance in radiological protection matters, please contact us.

Sincerely,

T. R. Wentworth II, Physicist
Radioactive Material and Standards Unit
Radiological Protection Section
Drinking Water and Radiological
Protection Division
517-241-1300

TRW:LAH
Enclosures

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

September 28, 2001

TO: Detroit City Airport File

FROM: Kenneth Coble ^{YCL}
Radiological Protection Section

SUBJECT: Site Visit Report

On June 13, 2001, I visited the Detroit City Airport (DCA) to meet with Mr. Barron Bradley, an employee of Duratek, Inc. of Barnwell, South Carolina. Duratek is a disposal contractor for the U.S. Army. By the time I arrived, Mr. Bradley had already taken custody of all of the unwanted radioactive items owned by Beacon Instruments, Michigan Aviation, and the Detroit Pilot Center shown on the attached list.

We discussed the applicable hazardous materials shipment regulations. I reviewed the shipping papers and performed a brief radiological survey of the transport vehicle. The maximum exposure rate measured at contact with the exterior was observed to be 1.8 milliroentgens per hour (background 0.01). It appeared to me that the shipment was in compliance with all applicable U.S. Department of Transportation rules.

Also attached are two digital pictures of the shipping drum containing the DCA waste.

Michigan Department of Environmental Quality

Drinking Water & Radiological Protection Division

Radiological Protection Section

Radioactive Material and Standards Unit

3423 Martin L. King, Jr., Blvd.

P.O. Box 30630

Lansing, Michigan 48909-8130

517/335-8204

Fax: 517/335-8706

FAX TRANSMISSION COVER SHEET

Date: *March 23, 2001*

To: *Mr. Mike Samsol, Airport Operations Manager
Detroit City Airport*

Fax: *313/852-4334*

Re: *Radioluminous aircraft instruments*

Sender: *Sara D. De Cair* 

*YOU SHOULD RECEIVE FOUR PAGES, INCLUDING THIS COVER SHEET. IF YOU DO
NOT RECEIVE ALL OF THE PAGES, PLEASE CALL 517/335-8204.*

*Remarks: For your information; no response is required. Should you have any questions,
please contact me at 517/335-8204. Thanks!*

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: CL-97-24, Beacon Instrument Service, #681-1
CL-97-25, Michigan Aviation Company, #681-2
CS-00-05, Detroit Pilot Center, #1601-1

FROM: Sara D. DeCair *sd*

SUBJECT: Inventory of radium instruments

DATE: February 20, 2001

On February 6, 2001, Russ Rotta and I visited Beacon Instrument, Michigan Aviation, and Detroit Pilot Center, all within the Detroit City Airport. This visit was made in order to record the part, serial, and any other identifying numbers on all the radium gauges we have isolated at the three facilities. Starting at Beacon, and using proper PPE, the information was recorded and the gauges repackaged for continued storage at each place.

A detailed inventory was created (copy attached) and faxed on February 20, 2001 to Derek Cornette of the U.S. Army, so he might be able to determine if most of the items are of military origin. Mr. Cornette confirmed quickly that most of the items are military, and he confirmed with his supervision that a pickup could be made.

He asked that the gauges and other items be collected to one location and I estimated a total volume of less than one 55-gallon drum. He said we could expect the pickup to occur in about six weeks.

Letters will be sent to all three facilities, indicating that a military pickup is likely to occur soon, and that no contamination or contaminated materials will be included in the pickup.

Michigan Department of Environmental Quality

Drinking Water & Radiological Protection Division

Radiological Protection Section

Radioactive Material and Standards Unit

3423 Martin L. King, Jr., Blvd.

P.O. Box 30630

Lansing, Michigan 48909-8130

517/335-8204

Fax: 517/335-8706

FAX TRANSMISSION COVER SHEET

Date: February 5, 2001

To: Mr. Mike Samsol, Airport Operations Manager
Detroit City Airport

Fax: 313/852-4334

Re: Radioluminous aircraft instruments

Sender: Sara D. De Cair *sd*

**YOU SHOULD RECEIVE ELEVEN PAGES, INCLUDING THIS COVER SHEET. IF YOU
DO NOT RECEIVE ALL OF THE PAGES, PLEASE CALL 517/335-8204.**

**Remarks: For your information; no response is required. Should you have any questions,
please contact me at 517/335-8204. Thanks!**

included: Dec. 8, 2000 letter to Mike Samsol
Sept. 27, 2000 letter to Wendell Laurentz
plus att. results table
Sept. 12, 2000 letter to Jeff Tremper
plus att. results table
copy of "Cleanup + Disposal Guidelines..."

sd

Aircraft Instrument Update
Region II

July 10, 1992

All facilities have had on-site visits and initial surveys.

This is a summary of the findings and discussions.

Aerodata Aircraft Instrument Services, Inc., Ypsilanti. Visited by Dykstra and Bilicki. Facility believed they had no radioactive instruments. Our survey found one altimeter face containing radium in a plastic box. Facility indicated they would dispose of entire contents of box. Normal trash.

Astro Instrument, Inc., Detroit. Visited by Dykstra and Ferris. Facility recognized that they had many radioactive instruments, many faces, and various pointers. Had already obtained a microR/hr meter for surveying. According to owner during a post-survey telephone conversation, a broker for surplus aircraft parts has been contacted and it is likely that radioactive gauges and parts will be sold and shipped overseas.

Beacon Instrument Service, Inc., Detroit City Airport. Visited by Dykstra and Ferris. Facility recognized that they had many radioactive instruments (completely assembled), many faces, and many pointers. He is sharing the microR/hr meter with Astro Instruments. We spend a couple of hours beginning the sorting process. Has several cardboard boxes and paper envelopes which are likely to be contaminated. The landlord (Butler Aviation) and the city have apparently indicated that all radioactive materials must be removed from the site. Beacon Instrument owner has a shed behind his house (he says he has a large open area, a field) in which he plans to store the gauges, faces, and pointers. They will be double bagged in plastic bags. He will need help in finding a means of disposal.

NC Servo Technology, Westland. Visited by Dykstra and Bilicki. Facility believed they had no radioactive items. Our survey found several gauges (less than 10), several of which belong to customers. This facility appears to have contamination: a closet which has higher than normal background and several work surfaces with easily detectable areas of contamination. Facility has been instructed to perform general housecleaning in the closet using rubber gloves and damp cloths to minimize dust. They are going to attempt to wipe clean the work surfaces. Assistance for follow-up survey of the work surfaces has been promised. May have to remove and dispose of parts of the work surfaces. The contaminated work surfaces are wood and may have radium paint spills from a previous owner. The contamination appears to be fairly localized. May need assistance in disposal of contaminated surfaces.

Metro Aircraft Instruments, Inc., Pontiac. Visited by Dykstra. Facility indicated that they knew of radium problem many years ago. They have had radiation detection equipment for years. No radioactive materials were found during our survey of the facility.

Sundog Electronics, Inc., Ypsilanti. Visited by Dykstra and Bilicki. 3 radioactive gauges found. They are functional and are being used in testing equipment. No action is anticipated for disposal of these gauges.

Superior Instrument Service, Inc., Pontiac. Visited by Dykstra (this is the initial facility). According to call from owner, sorting and bagging has been completed. Due to pressure from landlord, he needs to move materials off the airport property. He is building a small storage area in his garage at home made of solid concrete block. Storage area will be vented to outside with duct-work and fan. He will need assistance in disposal of his radioactive items.

Yankee Aircraft Museum, Ypsilanti. Visited by Dykstra and Bilicki. Although not on list of facilities, the two other facilities in Ypsilanti indicated we should visit this facility. They rebuild old wartime aircraft. We surveyed their inventory and found less than 10 radioactive gauges (6-8). Individuals were surprised and very cooperative. They indicated they will obtain a meter and will check all incoming donations. No further radioactive gauges will be accepted or installed. At this time, they are not planning to remove any radioactive gauges from aircraft (we did not check for any). They will dispose of current inventory of radioactive gauges in normal trash (one per week).

Beacon Instrument Service, Inc.



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

September 4, 2003

Mr. Wendell Laurents
Beacon Instrument Service, Inc.
Detroit City Airport, Bay 13
Detroit, Michigan 48213

Dear Mr. Laurents:

On July 28-29, 2003, we visited the above facility primarily to locate, sequester, and inventory all of the remaining radium paint dials/pointers/faces. We also re-surveyed and attempted to radiologically clean a few pieces of contaminated shop equipment that had recently been sold to Mr. Richard Tuscany. Our background alpha and beta-gamma rate readings at 39 inches above the shop floor were 0 counts per minute (cpm) and 84 counts in one minute respectively.

The following table shows final status, near contact readings of four of the items.

	alpha (cpm)	beta-gamma (cpm)
Scorsby table	0	150-2,200
toolbox	180-5,000	200-4,600
mounted vise	20-145	70-150
roller/bearing/tension tester	20-560	100-300

Enclosed is a copy of wipe test results for the last two items. The laboratory report indicates that these items still had removable contamination even after being cleaned with a surfactant, although at activities below regulatory standards.

Per your request, we allowed the transfer of the contaminated calibration and test equipment from your shop to Mr. Tuscany's with the restriction that they be used only for aircraft instrument repair and calibration. In addition, we expect that any workers who use the equipment be informed of the radium contamination hazard.

We understand that a disposal contractor for the U.S. Army removed all of the radium paint sources that had been sequestered by our staff on August 14, 2003.

If there are any questions about this report, please contact us.

Sincerely,

Kenneth Coble, Physicist
Radioactive material and Standards Unit
Hazardous Waste and Radiological
Protection Section
Waste and Hazardous Materials Division

Enclosure
cc: Mr. Richard Tuscany



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

July 17, 2003

Mr. Wendell Laurents
Beacon Instrument Service, Inc.
Detroit City Airport
Bay 13
Detroit, Michigan 48213

Dear Mr. Laurents:

On June 24, 2003, we visited the above facility to survey some test equipment and personal property that you requested be approved for release. We understand that you are planning to soon close your business and vacate the shop. We compared our survey data with the surface contamination limits in the enclosed publication entitled *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226 (EQC 1602)*.

Most of the portable tools and equipment that we spot checked for contamination were found to be acceptable for unrestricted release. However, the following items were contaminated above our guidelines and were not approved for free release: Scorsby table, mercury barometer, turn & bank test stand, mounted vice, and gyroscope fixture (wood bottom). These radium contaminated components will need to be cleaned and re-surveyed by our staff before we can consider approving them for release. Also enclosed is a copy of wipe test results for five of the items that were investigated.

We also discovered about ten unregistered radium paint gauges and toggle switches. These were sequestered and moved to controlled storage. We recommend keeping them in secure storage until a viable disposal option becomes available. Recently, we contacted staff of the U.S. Army's radioactive waste disposal program to inquire about a possible transfer of these radioactive sources to one of their contractors, but have not received notification of approval as of the above date.

Also please be advised that past investigations of the facility by our staff revealed that the fixed features such as the floors, walls, roof, and work stations have radium paint contamination problems at levels above our guidelines.

Should you have any questions about this report or if we can be of further assistance on radiation protection matters, please contact us.

Sincerely,

Mr. Kenneth Coble, Physicist
Radioactive Material and Standards Unit
Hazardous Waste and Radiological
Protection Section
Waste and Hazardous Materials Division

Enclosures

cc: Mr. Delbert Brown, Director, Detroit City Airport
Mr. Jesse Huddleston, General Manager, Signature Flight Support
Mr. Richard Tuscany, Astro Instruments
Mr. Jack Schinderle, DEQ
Mr. T.R. Wentworth, DEQ

STATE OF MICHIGAN



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

DRINKING WATER & RADIOLOGICAL
PROTECTION DIVISION
3423 N MARTIN L KING JR BLVD
PO BOX 30630
LANSING MI 48909-8130

March 22, 2001

Mr. Wendell Laurents
Beacon Instrument Service, Inc.
Detroit City Airport
Bay 13
Detroit, Michigan 48213

Dear Mr. Laurents:

On February 6, 2001, department staff conducted a detailed inventory of radium aircraft instruments that had been isolated for secure storage at your facility. We have forwarded the inventory to staff of the U.S. Army. They have reviewed the list and may arrange to pickup these items.

Please be aware that this pickup would only apply to discrete radium-bearing instruments and parts that have already been isolated by department staff. There still is surface contamination at your facility that exceeds the limits delineated in the department's *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226*.

As previously discussed, remediation of the radium contamination is not required until control of your facility is to be transferred to another person or legal entity. Please contact us should you plan to transfer control of the facility.

Should you have any questions regarding this information, or if we can be of further assistance on radiological protection matters, please contact us.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sara D. De Cair".

Sara D. De Cair, Physicist
Radioactive Material and Standards Unit
Radiological Protection Section
Drinking Water and Radiological
Protection Division
517-335-9243

SDD:MKT



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

DRINKING WATER & RADIOLOGICAL
PROTECTION DIVISION
3423 N MARTIN L KING JR BLVD
PO BOX 30630
LANSING MI 48909-8130

September 27, 2000

Mr. Wendell Laurents
Beacon Instrument Service, Inc.
Detroit City Airport
Bay 13
Detroit, Michigan 48213

Dear Mr. Laurents:

In January and February 1997, department staff conducted radiation surveys of the above facility for radioactive materials. Radium contamination was detected in excess of our surface contamination limits in the enclosed *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226*.

On August 24, 2000, Russell Rotta and I conducted a followup survey of your facility to evaluate the extent of contamination after the passage of about three years. Most measurements indicate there has been no change in the level of contamination, most likely due to the continued receipt and handling of radioluminous aircraft instruments.

A number of small spots were found to exceed the guideline limits in areas such as cracks in the workbenches and on tools used in contact with radioluminous instruments. A summary of measurements made during this survey is enclosed.

Numerous radium gauges and parts were discovered during the survey, so attention was focused on locating and segregating them for secure storage. The following items were bagged and moved to the rooftop storage area:

- 6 circuit breakers
- 19 gauges
- 1 box with 23 switch tips
- 12 gauge needles
- 2 directional gyroscope rings
- 12 gauge faces
- 1 vial with ~ 30 gauge needles

These items should be kept in secure storage until a viable disposal option becomes available. The above listed items contain radium-226 in quantities that are required to be registered pursuant to Rule 51(1) of Michigan's *Ionizing Radiation Rules*. Please sign and return the enclosed partially completed registration form, and a receipted copy will be sent to you for your records.

Mr. Wendell Laurents
Page 2
September 27, 2000

Continued receipt and handling of items containing radium dictates that Parts 2 and 5 of the *Rules* apply, with special emphasis on the following rules:

- Rule 123. Transfer of material.
- Rules 203 and 205. Exposure of individuals to radiation and Dose limits.
- Rules 221 and 245. Surveys and Records of surveys, radiation monitoring, disposal and tests.
- Rule 236. Storage of sources and procedures for receiving and opening of packages.
- Rule 238. Disposal of radioactive material.
- Rule 241. Use of safety equipment.
- Rules 246 and 247. Reports of theft or loss of sources of radiation and Notification of incidents.
- Rule 253. Vacating premises.

To avoid exposure to airborne radioactive material, we strongly advise against any abrasive work with radium-painted items. Respiratory protection would be required should airborne concentrations exceed levels addressed by Part 5 of the *Rules*. We also recommend avoiding direct contact with radium, and wearing protective gloves to avoid the spread of contamination.

Remediation of the radium contamination is not required until control of your facility is to be transferred to another person or legal entity. Please contact us should you plan to transfer control of the facility.

Should you have any questions regarding this information, or if we can be of further assistance on radiological protection matters, please contact us.

Sincerely,

Sara D. De Cair, Acting Chief
Radioactive Material and Standards Unit
Radiological Protection Section
Drinking Water and Radiological
Protection Division
517-335-9243

SDD:JK
Enclosures

Michigan Aviation Company

STATE OF MICHIGAN



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

DRINKING WATER & RADIOLOGICAL
PROTECTION DIVISION
3423 N MARTIN L KING JR BLVD
PO BOX 30630
LANSING MI 48909-8130

March 22, 2001

Mr. Jeff Tremper
Michigan Aviation Company
Detroit City Airport, Bay 9
Detroit, Michigan 48213

Dear Mr. Tremper:

On February 6, 2001, department staff conducted a detailed inventory of radium aircraft instruments that had been isolated for secure storage at your facility. We have forwarded the inventory to staff of the U.S. Army. They have reviewed the list and may arrange to pickup these items.

Please be aware that this pickup would only apply to discrete radium-bearing instruments and parts that have already been isolated by department staff. There still is surface contamination at your facility that exceeds the limits delineated in the department's *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226*.

As previously discussed, remediation of the radium contamination is not required until control of your facility is to be transferred to another person or legal entity. Please contact us should you plan to transfer control of the facility.

Should you have any questions regarding this information, or if we can be of further assistance on radiological protection matters, please contact us.

Sincerely,



Sara D. De Cair, Physicist
Radioactive Material and Standards Unit
Radiological Protection Section
Drinking Water and Radiological
Protection Division
517-335-9243

SDD:MKT

September 11, 2000

Mr. Jeff Tremper
Michigan Aviation Company
Detroit City Airport
Bay 9
Detroit, Michigan 48213

Dear Mr. Tremper:

On February 10 and 19, 1997, department staff conducted radiation surveys of the above facility for radioactive materials. Radium contamination was detected in excess of our surface contamination limits in the enclosed *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226*.

On August 24, 2000, Russell Rotta and I conducted a follow up survey of your facility to evaluate the extent of contamination after the passage of about three years. Most measurements indicate there has been a slight reduction in the level of contamination, most likely due to routine cleaning and wear. Please see the enclosed summary of measurements made during this survey.

A number of small spots were found to exceed the guideline limits in areas likely to remain contaminated, such as cracks in the workbenches and between floor tiles upstairs. Some removed countertop pieces were found in the second room upstairs that showed elevated readings at contact. During our visit, we put the contaminated end of the countertop pieces in a plastic bag with a "Caution, Radioactive Material" sign. Also, a box of four radium gauges is in storage in the second room.

Downstairs, the lathe bench has a small area of contamination that appears to be embedded in the wood. We also noted three radium toggle switches and one radium Temp Oil/Fuel gauge on equipment in use in the lathe room, which should not present a significant health risk unless their covers are broken.

According to our calculations, the contaminated countertop pieces do not meet the guideline criteria for disposal in a solid waste landfill. Please keep them in secure storage, along with the box of four radium gauges, until a viable disposal option becomes available. The three toggle switches and Temp Oil/Fuel gauge also should be stored for proper disposal once their useful life is over.

As we discussed during the site visit, a full remediation is not required until the facility control is being transferred to another person. There are some simple methods to reduce worker exposure to the radiation, including sealing the contaminated surfaces or doing a thorough decontamination of floors, countertops, and other surfaces to reduce the amount of contamination. Please contact us should you plan to transfer control of the facility.

The gauges and switches contain radium-226 in quantities that are required to be registered by Michigan's *Ionizing Radiation Rules*. Please sign and return the enclosed partially completed registration form and a receipted copy will be sent to you for your records.

Should you have any questions regarding this information, or if we can be of further assistance on radiological protection matters, please contact us.

Sincerely,

Sara D. De Cair, Acting Chief
Radioactive Material and Standards Unit
Radiological Protection Section
Drinking Water and Radiological
Protection Division
517-335-9243

Enclosures

August 24, 2000: Selected locations and readings:

Location	Alpha	Beta-Gamma	Exposure Rate
Background indoors	0 dpm/100 cm ²	66 counts/min.	20 uR/hr
Upstairs Room 1:			
Upstairs floor	0 dpm/100 cm ²	12,300 dpm/100 cm ²	
Crack in workbench	0	28,400	
Most of floor area	0	< 5,400	
1 meter ² countertop area	1,400	8,700	
Average at 1 meter height			25 uR/hr
Upstairs Room 2:			
Hot countertop pieces	average 6,000	average 16,400	100
Box of radium gauges	0		450
Downstairs Lathe Room:			
Lathe bench back right edge	0	56,000	
Three toggle switches: equipment	0		200
Temp Oil/Fuel gauge: equipment	0		320

dpm/100 cm² = disintegrations per minute per 100 square centimeters

counts/min. = counts per minute

uR/hr = microrentgens per hour

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RUSSELL J. HARDING, Director

REPLY TO:

DRINKING WATER & RADIOLOGICAL
PROTECTION DIVISION
3423 N MARTIN L KING JR BLVD
PO BOX 30630
LANSING MI 48909-8130

December 8, 2000

Mr. Mike Samsol
Airport Operations Manager
11499 Conner Avenue
Detroit, Michigan 48213

Dear Mr. Samsol:

On November 13-14, 2000, we visited Bay 10 of the Detroit City Airport to conduct a radiological survey of the Room 103 vicinity. We understand this room is a former location of the Michigan Aviation Company, which serviced various radioluminescent devices containing radioactive radium-226.

Gamma radiation levels up to 4,000 microrentgen per hour (μ R/hr) were found near contact with some devices. These levels are above the typical background levels of 5 to 10 μ R/hr found in Michigan.

We performed a partial survey of Room 103 and found surface contamination in excess of the limits found in the Department's *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226* (enclosed). The maximum alpha and beta-gamma contamination levels were 12,000 disintegration per minute (dpm) alpha per 100 cm² and 300,000 dpm beta-gamma per 100 cm² on the table that is now wrapped in plastic.

Access to this room should be restricted to prevent unnecessary radiation exposure and further spread of contamination. While we were there, we placed a "Caution Radioactive Material" sign on the roof and on the entrance to the room. These levels of radiation are not a significant health or safety concern unless radioactive material is inhaled or ingested.

The estimated activity of radium-226 sources is 0.2 millicuries. Complete and return the enclosed form EQP-1614 to register the radioactive material at your facility.

Mr. Mike Samsol
Page 2
December 8, 2000

We are looking into a disposal option for these devices and will contact you concerning developments.

Should you have any questions concerning this report or if you need additional assistance, please contact us.

Sincerely,

A handwritten signature in black ink that reads "Russell B. Rotta". The signature is written in a cursive style with a large initial 'R' and a distinct 'B'.

Russell B. Rotta, CHP, Acting Unit Chief
Radioactive Material and Standards Unit
Radiological Protection Section
Drinking Water and Radiological
Protection Division
517-335-9292

RBR:MKT
Enclosures
cc: Mr. Rick Farrel, Detroit Pilot Center ✓

Detroit Pilot Center

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

DATE: November 3, 2000

TO: CS-2000-005

FROM: Russell B. Rotta

SUBJECT: Site Investigation

On November 2, 2000, I visited Detroit Pilot Center, 12401 Conner St., Detroit, Michigan where I met with Rick Farrell. We went to Bay 10 of the Detroit City airport. The two rooms and hallway are on the second floor. Above the rooms was a storage area where various odds and ends, such as radium gauges, ceiling tiles, wood, electrical equipment and cardboard boxes. The roof above room #1 was the only area with an elevated radiation level (100 to 200 $\mu\text{R/hr}$), so most of the radium gauges are suspected to be stored in this area. The area above room #2 and the hallway have low radiation levels ($<20 \mu\text{R/hr}$) and so no radium gauges are suspected of being stored here. Room #2 and the hallway are also located in a separate bay, bay 9. Various readings were made to estimate the amount of radioactive material on the roof and on the table in room #1. They are as follows:

Reading No. and Description	Reading	Estimated Activity
1. Eberline PRM-7 scintillation meter at 1 meter off the roof with gauges and debris	Gross 100 $\mu\text{R/hr}$ Net 85 $\mu\text{R/hr}$	200 $\mu\text{Ci Ra-226}$
2. Bullet probe reading 1.5 meters under active roof	Gross 36 $\mu\text{R/hr}$ Net 21 $\mu\text{R/hr}$	GT 100 $\mu\text{Ci Ra-226}$
3. Table Maximum alpha reading Average counts over 150 cm by 59 cm area of table surface Average counts over 100 cm by 59 cm area of the table surface Maximum beta readings	12,000 dpm α 800 ct $\beta\gamma$ in 1.3 m (615 cpm $\beta\gamma$) 689 ct $\beta\gamma$ in 1.3 m (530 cpm $\beta\gamma$) 13,000 cpm $\beta\gamma$ max	0.2 $\mu\text{Ci Ra-226}$
4. Unpainted concrete threshold of entrance doorway 15 by 80 cm	137 cts $\beta\gamma$ in 1 m (net 57 cpm $\beta\gamma$) 473 dis α in 30 s (946 dpm α)	$1,300 \pm 350 \text{ dpm}\beta/100 \text{ cm}^2$

There was not enough time to find all the gauges on the roof, since they were buried in debris. In room #1, most of the radioactive contamination was on the table or the windowsill. The walls and floor also were contaminated on the Bay 11 side of the room #1. I informed Mr. Farrell that we would have to come back with additional help to survey out clean material and segregate the radioactive material.

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RUSSELL J. HARDING, Director

REPLY TO:

DRINKING WATER & RADIOLOGICAL
PROTECTION DIVISION
3423 N MARTIN L KING JR BLVD
PO BOX 30630
LANSING MI 48909-8130

March 22, 2001

Mr. Richard Farrell
Detroit Pilot Center
c/o 19630 Fitzpatrick Street
Detroit, Michigan 48228

Dear Mr. Farrell:

On February 6, 2001, department staff conducted a detailed inventory of radium aircraft instruments that had been isolated for secure storage at your facility. We have forwarded the inventory to staff of the U.S. Army. They have reviewed the list and may arrange to pickup these items.

Please be aware that this pickup would only apply to discrete radium-bearing instruments and parts that have already been isolated by department staff. There still is surface contamination at your facility that exceeds the limits delineated in the department's *Cleanup and Disposal Guidelines for Sites Contaminated with Radium-226*.

Remediation of the radium contamination is not required until control of your facility is to be transferred to another person or legal entity. Please contact us should you plan to transfer control of the facility.

Should you have any questions regarding this information, or if we can be of further assistance on radiological protection matters, please contact us.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sara D. De Cair".

Sara D. De Cair, Physicist
Radioactive Material and Standards Unit
Radiological Protection Section
Drinking Water and Radiological
Protection Division
517-335-9243

SDD:MKT

Summary of:

Historical Radiological Survey Data collected by MI DEQ at the Detroit City Airport

January 29, 2018							
Detroit City Airport (MI)-Historical Storage/Maintenance of Aircraft Instruments Containing Luminous Radium Materials, Summary of Radiological Survey Data from Michigan Department of Environmental Quality (MI DEQ)							
Detroit City Airport	Historical Ra Use	Rad Survey Details	Rad Survey Data	Removal Actions	Owner at Time of Rad Survey	Information Source	Comments
Hanger Bay # 9, Executive Terminal	Areas within Bay 9 were used for storage and repair of aircraft instrument gauges, dials, and toggles. Some of these gauges, dials, and toggles contained Ra luminous paint. Dates of aircraft instrument repair operations are unknown. Radiological surveys focused on work rooms, storage rooms within each bay.	MI DEQ initial survey in Feb 1997. MI DEQ follow-up survey in Aug 2000. Details from Aug 2000 survey. Upstairs Room 1: Surveyed floor, workbench, countertop. Upstairs Room 2: gauges, parts of gauges, countertop. Lathe room (downstairs): lathe bench, gauges, toggle switches. In August 2000, follow-up survey indicated slight reduction in contamination, likely due to routine cleaning and wear.	August 2000 survey results: Room 1: Average at 1 meter height above floor was 25 uR/hr. Background indoors; 20 uR/hr, α 0 dpm/100 cm ² , β - γ 66 cpm. Hotspots crack in floor (β - γ 12,300 cpm), workbench (β - γ 28,400 cpm), floor area (β - γ <5,400 cpm), and countertop (α 1,400 dpm/100 cm ² , β - γ 8,700 cpm). Room 2: 100-400 uR/hr near countertop and gauges. Lathe room: β - γ 56,000 cpm near lathe; 200-320 uR/hr near lathe bench and near toggle switches and gauges.	In Aug 2000 at time of survey, MI DEQ directed owner to secure storage of Ra gauges and toggle switches. MI DEQ directed owner to seal or decontaminate floors, countertops, and other surfaces. February 20, 2001 and March 22, 2001 letters mention that radium aircraft instruments had been isolated for secure storage and pickup by the Army. September 28, 2001 letter mentions that Duratek Inc. (removal contractor for the Army) removed all sequestered radioactive items in June 2001.	Jeff Temper, Michigan Aviation Co., Bay 9, DCA	Letters from MI DEQ to Jeff Temper dated September 11, 2000 and March 22, 2001. Letter from Sara DeCair to Beacon Instrument Service, Michigan Aviation Company, and Detroit Pilot Center dated February 20, 2001. Letter from Kenneth Coble (MI DEQ) to Detroit City Airport dated September 28, 2001.	A complete review of MI DEQ files on Detroit City Airport is recommended. ORNL only has access to partial files from MI DEQ.

January 29, 2018							
Detroit City Airport (MI)-Historical Storage/Maintenance of Aircraft Instruments Containing Luminous Radium Materials, Summary of Radiological Survey Data from Michigan Department of Environmental Quality (MI DEQ)							
Detroit City Airport	Historical Ra Use	Rad Survey Details	Rad Survey Data	Removal Actions	Owner at Time of Rad Survey	Information Source	Comments
Hanger Bay # 10, Executive Terminal	Areas within Bay 10 were used for storage and repair of aircraft instrument gauges, dials, and toggles. Some of these gauges, dials, and toggles contained Ra luminous paint. Dates of aircraft instrument repair operations are unknown. Radiological surveys focused on work rooms, storage rooms within each bay. Room 103 in Bay 10 was used by Michigan Aviation Co.	MI DEQ survey November 2000 found elevated radiation levels in the roof above room #1. Within the room, most of the radioactive contamination was found on the table or the windowsill. Also, the walls and floor on the Bay 11 side of room #1 were contaminated.	November 3, 2000 letter provided the following measurements in room #1: 1m off roof (scintillation meter)- 200uCi Ra-226; 1.5m under roof (bullet probe) - 100 uCi Ra-226; Table - 0.2 uCi Ra-226; unpainted entrance concrete doorway threshold - 1300 +/- 350 dpmβ/100 cm2. December 8, 2000 letter provided the following measurements for room 103: gamma radiation levels up to 4000 uR/hr near some devices, maximum α 12,000 dpm/100 cm2 and maximum beta-gamma of 300,000 dpm/100 cm2 on a table in room.	February 20, 2001 and March 22, 2001 letters mention that radium aircraft instruments had been isolated for secure storage and pickup by the Army. September 28, 2001 letter mentions that Duratek Inc. (removal contractor for the Army) removed all sequestered radioactive items in June 2001.	Rick Farrell, Detroit Pilot Center, 12401 Conner St. A second address: Richard Farrell, Detroit Pilot Center, 19630 Fitzpatrick St, Detroit, MI, 48228	Letter from MI DEP to CS-2000-005 dated November 3, 2000. Letter from MI DEP to Mike Samsol, Airport Operations Manager dated December 8, 2000. Letter from MI DEP to Richard Farrell dated March 22, 2001. Letter from Sara DeCair to Beacon Instrument Service, Michigan Aviation Company, and Detroit Pilot Center dated February 20, 2001. Letter from Kenneth Coble (MI DEQ) to Detroit City Airport dated September 28, 2001.	A complete review of MI DEQ files on Detroit City Airport is recommended. ORNL only has access to partial files from MI DEQ.

January 29, 2018							
Detroit City Airport (MI)-Historical Storage/Maintenance of Aircraft Instruments Containing Luminous Radium Materials, Summary of Radiological Survey Data from Michigan Department of Environmental Quality (MI DEQ)							
Detroit City Airport	Historical Ra Use	Rad Survey Details	Rad Survey Data	Removal Actions	Owner at Time of Rad Survey	Information Source	Comments
Hanger Bay # 13, Executive Terminal	Areas within Bay 13 were used for storage and repair of aircraft instrument gauges, dials, and toggles. Some of these gauges, dials, and toggles contained Ra luminous paint. Dates of aircraft instrument repair operations are unknown. Radiological surveys focused on work rooms, storage rooms within each bay.	MI DEQ initial survey in Feb 1997. MI DEQ follow-up survey in Aug 2000. Details from Aug 2000 survey not provided. Summary statement from MI DEQ indicates no change in level of contamination from 1997 most likely due to continued receipt and handling of radioluminous aircraft instruments. June 2003 survey found additional radium contaminated components and unregistered radium paint gauges and toggle switches.	September 4, 2003 letter provided the following measurements: 1. Scorsby table: alpha cpm - 0, beta-gamma cpm - 150-2,200; 2. toolbox: alpha cpm - 180-5,000, beta-gamma cpm - 200-4,600; 3. mounted vise: alpha cpm - 20-145, beta-gamma cpm - 70-150; 4. roller/bearing/ tension tester: alpha cpm - 20-560, beta-gamma cpm - 100-300.	In Aug 2000 at time of survey, MI DEQ directed owner to secure storage of Ra gauges, gauge needles, circuit breakers, gyroscope rings, toggle switches, and switch tips. Items were bagged and moved to rooftop storage area. September 28, 2001 letter mentions that Duratek Inc. (removal contractor for the Army) removed all sequestered radioactive items in June 2001. Additional items found in June 2003 survey were also sequestered and moved to controlled storage for Army pickup. All sequestered items were removed by a disposal contractor for the Army in August 2003.	Wendell Laurents, Beacon Instruments Service, Inc., Bay 13, DCA	Letters from MI DEQ to Wendell Laurents dated September 27, 2000; March 22, 2001; July 17, 2003; and September 4, 2003 . Letter from Sara DeCair to Beacon Instrument Service, Michigan Aviation Company, and Detroit Pilot Center dated February 20, 2001. Letter from Kenneth Coble (MI DEQ) to Detroit City Airport dated September 28, 2001.	In Sept 2003, Beacon transferred contaminated calibration and test equipment to Astro Instruments (owner Richard Tuscany). Beacon is to close soon and vacate Bay 13. Note: 10 unregistered Ra gauges/toggle switches were discovered by MI DEQ at this time and MI DEQ contacted the Army for disposal. Sept 2003 letter from MI DEQ states Army contractor removed Ra paint sources (gauges, etc.). A complete review of MI DEQ files on Detroit City Airport is recommended. ORNL only has access to partial files from MI DEQ.