



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

March 3, 1995

NOTICE OF SIGNIFICANT LICENSEE MEETING

Name of Licensee: Advanced Medical Systems, Inc.

Docket No.: 030-16055

License No.: 34-19089-01

Enforcement Action No.: N/A

Date and Time of Meeting: Tuesday March 7, 1995
11:00 a.m. (EST)

Location of Meeting: U.S. Nuclear Regulatory Commission
Headquarters Office

Purpose of Meeting: Meeting to discuss licensees request to have NRC direct
AMS to discharge waste water to the sanitary sewer system.

NRC Attendees:

Carl J. Paperiello, Deputy Director, Office of Nuclear Materials Safety and
Safeguards

Representatives of the Office of Nuclear Materials Safety & Safeguards

Representatives of the Office of the General Counsel

Representatives of the Region III Office

Licensee Attendees:

D. Cesar, Treasurer

D. Miller, Counsel

H. Billingsley, Counsel

C. Berger, Certified Health Physicist

NOTE: Participation by NRC personnel at this Management Meeting should be
made known by 4:00 p.m. (EST), Monday, March 6, 1995, via a telephone
call to Joe DeCicco, NMSS, (301) 415-7833.

Approved By: John A. Grobe

John A. Grobe, Chief
Nuclear Materials Inspection Section 2

See Attached Distribution

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PDR FOIA
ENGLISH96-444 PDR

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Distribution

J. Milhoan, Deputy Executive Director for Nuclear Reactor Regulation,
Regional Operations, and Research, EDO
H. Thompson, Deputy Executive Director for Nuclear Materials Safety,
Safeguards and Operations Support, EDO
J. Lieberman, Director, Office of Enforcement
J. Goldberg, Deputy Assistant General Counsel for Enforcement, Office of
the General Counsel
R. Bernero, Director, Office of Nuclear Material Safety and Safeguards
D. A. Cool, Director, Division of Industrial and Medical Nuclear
Safety, NMSS
L. Camper, Chief, Medical, Academic and Commercial Use Safety Branch, NMSS

CONVERSATION RECORD

TIME
P.M.DATE
3/2/95☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

NAME OF PERSON(S) CONTACTED OR IN CONTACT

Mike Kalstrom

ORGANIZATION (OFFICE, DEPT. ETC.)

Cuyahoga LEPC

TELEPHONE NO.

216-443-7597

SUBJECT

Concerns regarding AMS

SUMMARY

I initiated a call to pursue issues that Kalstrom raised in the 2/7/95 letter from the LEPC to the SERC. I addressed the following issues:

1. I went through a complete description of the facility and the NRC licensing of the facility. Kalstrom expressed that it was his view that the NRC had not provided appropriate oversight of the facility, particularly in the emergency planning area. I pursued with him his knowledge base and whether he was familiar with our licensing guides and regulations. He was not aware of these documents and I committed to send them to him.

Kalstrom understood from the sewer district that NRC was causing the sewer district to spend \$40M to deal with the cobalt contaminated ash. I explained to him that the NRC was not planning any further action with respect to the sewer district and it appeared that the \$40M figure was a strategy used to frame the issue to best suit the sewer district.

3. Kalstrom believed that the NRC did not support local emergency planning. I explained to Kalstrom that we require licensees to involve appropriate emergency planning organizations in their formulation of emergency plans and AMS did involve the city and state folks as well as a local hospital in emergency planning for their facility.

4. Kalstrom summarily dismissed the competence of all of the experts who were providing information to the Ad Hoc Committee, including OEMA who did offsite dose projections showing no impact, ODH, NRC and the licensee's staff and consultants.

5. I explored with Kalstrom why he stated in his letter, "Given the NRC's willingness to allow gross inadequacies at this Facility to go uncorrected for years...the NRC will [not] follow through and require the implementation of emergency planning appropriate for this Facility....the LEPC is unconvinced that the NRC will adequately address these issues if the NRC continues to be the sole regulatory agency involved."

I asked Kalstrom for his basis for this statement, since he had never previously expressed these concerns to me or discussed these issues with me. He stated that he did not have any specifics on which to base his statement. I asked him if he had reviewed our recent inspection of emergency planning. He responded that he had not, and stated further that it didn't matter since it was the sewer district that was ensuring that

B/74

appropriate emergency planning would take place. I further explained our schedule for inspections and shared the results of our recent emergency preparedness inspection that was issued in November 1994. I expressed concern that he would take such a strong public position without first having the facts or discussing the issue with me.

Kalstrom then stated that he did not understand why I might be concerned by his letter. He stated that the purpose of his letter was clear. He was requesting an unusual variance from the state regulations, one that has not previously been requested, and he had to make it sound good so the state would grant the exception. He then stated, "It's not like I sent this to the Plain Dealer [the Cleveland daily newspaper]."

At that point, I realized that Kalstrom was not responding to the AMS situation from a logic or knowledge standpoint, but from a political standpoint and any further discussion would not be beneficial. I reiterated that I would send him the documentation underpinning our regulations and licensing guidance and terminated the conversation.

ACTION REQUIRED

Send Kalstrom documents.

NAME OF PERSON DOCUMENTING CONVERSATION

John A. Grobe

SIGNATURE

DATE

John A. Grobe

3/15/95

ACTION TAKEN

SIGNATURE

TITLE

DATE

NRC FORM 549

U. S. NUCLEAR REGULATORY COMMISSION

(5-84)
NRCMC 3.5

PUBLIC MEETING ANNOUNCEMENT DATA INPUT

MEETING

X

NEW

REVISED

MEETING NOTICE NUMBER

(FOUO FOR BRANCH WILL COMPLETE)

(Fields with shaded headings are mandatory)

NRC MEETING CONTACT

NAME

COMMERCIAL TELEPHONE

(Include Area Code)

FACSIMILE TELEPHONE

(Include Area Code)

Joseph E. DeCicco

(301) 415-7833

(301) 415-5369

MEETING DATE(S) AND TIME(S) (up to three entries)

MEETING DATE(S) (Use MM/DD/YY format)

MEETING TIME(S) (Circle a.m. or p.m.)

FROM

TO

BEGINNING

ENDING

03/07/95

03/07/95

11:00

a.m.
p.m.

1:00

a.m.
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a.m.

p.m.

a.m.

p.m.

a.m.

p.m.

MEETING LOCATION

BUILDING

Two White Flint

STREET ADDRESS

15545

ROOM NUMBER

T8-F1

CITY AND STATE

Rockville, MD

PURPOSE OF MEETING (96 characters available)

DISCUSS CONTENTS OF AN ORDER

COMMENTS (96 characters available)

X

PUBLIC

NON-PUBLIC

DOCKET OR PROJECT NUMBER

and/or

FACILITY NAME

030-16055

ADVANCED MEDICAL SYSTEMS, INC.

ORGANIZATIONS IN ATTENDANCE

NRC OFFICES/REGIONS

OUTSIDE PARTICIPANTS

(NRC only - Docket Office Divisions, Branches, etc.)

(Community/Consumer Agency Members - Advocates, etc.)

ADVANCED MEDICAL SYSTEMS, INC.

APPROVAL (Required for fewer than 10 calendar days advance notice)

DATE - BRANCH/REGION

DATE

2/28/95

RETURN THIS FORM TO:

MEETING NOTICE COORDINATOR, MAIL STOP T-5 D8

FACSIMILE (301) 415-5130, TELEPHONE (301) 415-7092, E-MAIL: PMNS

U.S. NUCLEAR REGULATORY COMMISSION
Region III Office of Public Affairs
801 Warrenville Road, Lisle IL 60532-4351

Contact: Jan Strasma 708/829-9663
Angela Dauginas 708/829-966
Internet: rjs2@nrc.gov

March 2, 1994

NOTE TO EDITORS AND NEWS DIRECTORS:

The Nuclear Regulatory Commission staff has scheduled the following meeting, which is open to public observation:

Meeting: Between NRC staff and Advanced Medical Systems to discuss the request of the licensee for an NRC directive as described in the attached letter.

Time/Date: 11 a.m., March 7, 1995

Location: Room T8-F1, Two White Flint (NRC Headquarters), 15545 Rockville Pike, Rockville, MD

Technical Contact: Joseph E. DeCicco, 301/415-7833

The NRC's Policy Statement on Staff Meetings Open to the Public was effective November 1. Information on meetings open to the public is available through two toll-free systems. For a recorded announcement of upcoming meetings, call 800/952-9674. A computer bulletin board with a listing of meetings may be reached at 800/952-9676.

Notices of meetings of particular interest may be provided by fax to interested news media by the NRC Region III Office of Public Affairs.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

| | | |
|--------------------------------|---|-------------------------|
| In the Matter of |) | |
| |) | Docket No. 030-16055 |
| Advanced Medical Systems, Inc. |) | License No. 34-19089-01 |
| Cleveland, Ohio |) | EA 95-NNN |

CONFIRMATORY ORDER MODIFYING LICENSE
(EFFECTIVE IMMEDIATELY)

I

Advanced Medical Systems, Inc. (AMS or Licensee) is the holder of NRC License No. 34-19089-01 issued by the Nuclear Regulatory Commission (NRC or Commission) pursuant to 10 CFR Part 30. The license authorizes the Licensee to possess and use up to: (1) 150,000 curies of cobalt-60 as solid metal for storage only incident to waste disposal or transfer; (2) 135,000 curies of cobalt-60 in sealed sources for installation in; maintenance on; servicing and dismantling of; and training on teletherapy units; (3) 40,000 curies of cesium-137 for installation in; maintenance on; and servicing and dismantling of radiography and teletherapy units; (4) 4,040 kilograms of depleted uranium for shielding in radiography and teletherapy units; (5) 15,000 curies of cobalt-60 in non-NRC approved sealed sources for storage only; and (6) 15 millicuries of cobalt-60 in sealed sources for calibration of survey instruments. The license was originally issued on November 2, 1979, was renewed on December 13, 1989, with an expiration date of December 31, 1994, and was most recently amended on September 27, 1994. The license is under timely renewal.

II

On October 21, 1994, the Executive Director of the Northeast Ohio Regional Sewer District (NEORS) served an Order upon the AMS facility at 1020 London Road, Cleveland, Ohio, indicating that the NEORS would no longer provide wastewater treatment services for the London Road facility. The NEORS had identified cobalt-60 in sewage system effluents from that facility on five days from July 5, 1994, through October 10, 1994, and in one sludge filter cake sample collected at the Southerly Wastewater Treatment Plant on September 22, 1994. The contaminated effluent samples contained from 13 to 306 pCi/l of cobalt-60 and the contaminated filter cake sample contained 151 pCi/g of cobalt-60.

6/70

Under the NEORSD's Code of Regulations, the NEORSD found that: (1) the cobalt-60 in the AMS London Road facility sewage effluents was deleterious to the wastewater treatment system; (2) caused NEORSD to incur excessive expense in the handling and treatment of the cobalt-60; and (3) the AMS discharges appeared to present a substantial danger to the environment or may interfere with the operation of the publicly owned treatment works. Based on those findings, the NEORSD Order directed AMS to cease all discharges of any type to any and all building drains and/or building sewers. Prohibited discharges under the Order included sanitary flow, industrial process water and storm water. The effective date of the Order was October 24, 1994, at 5:00 p.m.

AMS responded to the NEORSD Order on October 24, 1994, indicating that the NEORSD Order was insupportable under NEORSD and NRC regulations and any attempt by NEORSD to enforce the Order would represent an arbitrary and capricious action.

By letter dated October 25, 1994, the NEORSD informed AMS that the district would take steps to force AMS to comply with the Order.

On November 15, 1994, after a hearing on a petition filed in state court by the NEORSD on October 28, 1994, a Temporary Restraining Order (TRO) was issued to AMS by the Cuyahoga County Court of Common Pleas requiring AMS to cease all discharges, including stormwater, to the sewer system and institute alternative methods to deal with discharges effective November 18, 1994, at 5:00 p.m. AMS complied with the TRO and the NEORSD installed plugs in the AMS connections to the NEORSD sewage treatment system. Subsequently, the Cuyahoga Court of Common Pleas concluded that it did not have jurisdiction over this matter rendering the TRO invalid. The sewer line plugs installed by NEORSD remained in place.

On December 14, 1994, after a hearing on a petition filed in federal court by the NEORSD on December 13, 1994, a TRO was issued by the United States District Court, Northern District of Ohio, permitting the NEORSD to maintain the plugs in the sewer lines from the AMS London Road facility. No restrictions were placed on the discharge of storm water to the sewers.

The sewer line plugs installed by NEORSD rendered non-functional the London Road facility underdrain system which was designed to control ground water pressure on the foundation structure. This resulted in increasing water level in the soils around the facility and ground water intrusion into the basement of the facility. The water in the basement became radioactively contaminated from facility surface contamination. Radioactivity concentration levels in the accumulated water approached , 1,000,000 picocuries per liter (pCi/l).

On December 15, 1994, the NRC issued a Confirmatory Action Letter (CAL) confirming the licensee's commitments to: (1) monitor the water level in the manhole on its property and take prompt action to reduce or maintain the water level to allow the foundation drainage system to function as evidenced by the lack of water intrusion into the facility basement; (2) test water removed from the manhole for compliance with 10 CFR 20.2003; (3) notify NRC immediately should water begin to intrude into the basement; (4) provide the NRC the plan to address the radioactively contaminated water that was removed from the facility manhole and was in the facility basement; and (5) describe the plans and schedules to deal with ground water to assure the structural integrity of the facility and to discharge waste and storm water from your facility without violating 10 CFR 20.2003, including the isolation and remediation of the radioactively contaminated manhole and sewer line exiting the facility to the London Road interceptor. The licensee responded to the CAL on December 28, 1994, with plans and schedules to accomplish those activities.

Before those plans could be implemented, significant liquid precipitation occurred on January 15, 1995, resulting in intense ground water hydrostatic pressure on the foundation and water level in the basement rising to approximately one and one half feet. That hydrostatic pressure challenged the integrity of the facility basement floor slab. At that time, the basement contained approximately 18,000 gallons of highly contaminated water that would have direct communication with the soils and ground water beneath the facility should the slab be ruptured.

NRC hydrogeology and structural engineering experts evaluated the situation concluding that the basement floor slab was not in imminent risk of failure, however new commitments from the licensee were confirmed in a revision to the CAL to: (1) monitor the water level in the manhole on its property and pump water from the manhole to maintain level between 64 and 74 inches above the bottom of the manhole; (2) test water pumped from the manhole prior to discharge for compliance with 10 CFR 20.2003; (3) monitor level in the manhole continually should liquid precipitation or snow melt occur; (4) visually examine the basement floor slab at least once every 24 hours for any physical changes; (5) notify the NRC immediately should water level increase or decrease in the basement or should the physical condition of the floor slab change; and seal all penetrations into the 15 inch drain that could contribute surface water to the manhole. Water level has continued to slowly rise to over two feet in the basement as ground water level has been maintained slightly above basement water level.

Approximately 27,000 gallons of water with radioactive contamination concentrations ranging up to approximately 170,000 pCi/l has accumulated in the basement. In addition, the Waste Hold Up Tank (WHUT) Room in the basement which contains up to 100 Curies of radioactive contamination on the floor and in tanks. The WHUT Room was separated from the remainder of the basement

several years ago, but may have been infiltrated with water from these recent problems. The potential for release of the contaminated water outside the WHUT Room and the possibility of significant additional contamination transport from within the WHUT Room represents a significant threat to environmental health and safety should the basement integrity be compromised. With the onset of spring thaw and increased liquid precipitation, the lack of a reliable system to maintain ground water level below the basement foundation further exacerbates the risk represented by the basement contamination.

III

In letters dated January 27, February 2, 10, and 14, and March 1, 3, 8 and 10, 1995, the licensee proposed and clarified its plans and schedules for: (1) dealing with the accumulation of ground water in and around its facility basement; (2) immobilizing and/or remediating contamination that has collected in below ground sewer piping and manholes; and (3) processing future ground water that builds up around the facility. The licensee requested an amendment to its license in the letter from David Cesar to J. A. Grobe dated March 1, 1995.

These plans and schedules address the following actions the licensee will take.

1. Process water that is currently stored outside its facility in above-ground tanks, as follows.
 - a. Tanked water will be processed in-situ, using submersible water treatment equipment comprised of filtration and ion-exchange demineralization systems, as described in letters dated March 1, March 3, March 8, and March 10, 1995.
 - b. Water will be treated to contain 200 pCi/l or less of soluble cobalt-60 as determined by a contract analytical laboratory. The treated water will subsequently be pumped to 25,000 gallon storage containers located in the facility warehouse, as described in letters dated March 3, March 8 and March 10, 1995.
2. Simultaneously pump and process water currently residing in the sanitary sewer manhole and lateral, building sump pit and that in the basement, as follows.
 - a. Pumping will be sequenced as described in letter dated March 1, 1995, to ensure a positive hydrostatic pressure is maintained from outside to inside the facility's basement floor slab.

- b. Water in the sewer manhole, lateral and building sump will be pumped into above-ground tanks located outside the facility and processed in-situ using the submersible equipment described in item 1(a).
- c. Basement water will be pumped to a radiologically controlled area of the London Road facility and processed using a skid mounted, multi-stage filtration and ion-exchange system, as described in letters dated March 1, March 3, March 8 and March 10, 1995. Spill procedures and radiological controls will be implemented as described in letter dated February 14, 1995, and Supplement 2 to letter dated March 1, 1995.
- d. Water removed from the sump pit, sewer manhole/lateral and basement will be treated to contain 200 pCi/l or less of soluble cobalt-60 as determined by a contract analytical laboratory. The treated water will subsequently be pumped to 25,000 gallon storage containers located in the facility warehouse, as described in letters dated March 3, March 8, and March 10, 1995.

Water sampling and analytical protocols will be as described in letter dated February 2, 1995, as clarified in letter dated February 14, 1995 and letter dated March 3, 1995. Solubility of cobalt-60 in samples containing detectable activity up to a maximum of 200 pCi/l will be demonstrated in accordance with the reference in Attachment 2 to letter dated March 3, 1995. All solid radwaste generated from the water processing activities, including filter and demineralizer resin wastes, will be collected and stored at the London Road facility pending its ultimate disposal as radioactive waste.

- 3. Excavate areas around the facility to allow: (i) access to the radioactively contaminated four-inch sewer discharge line; and (ii) the radiological evaluation of the facility's underdrain system and surrounding soils, as follows.
 - a. Excavate the soil in the vicinity of the building's four-inch sewer discharge line and foundation footer drains (underdrain system) and disconnect these drains as described in letter dated March 1, 1995. Evaluate the radiological contamination status of the underdrain system and remediate or remove the system, as necessary. Reconnect the foundation footer drain system discharge to the existing sump pit and pump, test and process the underdrain system waters as described in letter dated March 1, 1995.

The testing and processing of water pumped from the underdrain system will continue until the

radiologically clean status of the underdrain system is assured.

Pursuant to the letter from the NRC dated February 1, 1995, once the testing of groundwater pumped from the underdrains and sump pit consistently reveals no detectable non-soluble cobalt-60 and concentrations of soluble cobalt-60 below 200 pCi/l without the need to process or treat the groundwater, as demonstrated by the pumping sampling and testing of at least 6,000 gallons of ground water, release of that water to the sanitary sewers is acceptable.

- b. Evaluate the radiological status of the soil in the vicinity of the underdrain system, sump pit, and sewer manhole/lateral, as described in letters dated February 10 and March 1, 1995.
 - c. Supplement the Decommissioning Funding Plan to incorporate additional funds to ensure future remediation of the lateral, manhole, four-inch discharge line and surrounding soils, as described in letter dated February 10, 1995.
4. Immobilize the radioactive contamination present in the sewer discharge system owned by the licensee, as follows.
- a. Completely grout-in the radioactively contaminated four-inch sewer discharge pipe and sewer system's manhole/lateral up to the sewer interceptor at London Road, as described in "Issue 4" of letter dated January 27 and letter dated March 1, 1995. The grouting will render the existing sewer discharge piping system inoperable and immobilize (fix) the radioactive contamination that resides in the system.
 - b. Develop and implement a sub-surface radiological monitoring program to ensure the contamination remains fixed in place. The program must be submitted in writing and approved by the NRC.
5. Remediate the London Road interceptor in the vicinity of the abandoned facility lateral, as described in letter dated January 27, 1995. The remediation activities will be coordinated with the Northeast Ohio Regional Sewer District.
6. Any reference in the above listed letters to evaporation of treated water or its discharge to the sanitary sewer system is not authorized by this Order. In addition, the following specific activities are also excluded by this Order.
- a. Installation of a composite sampler and flow gage, as referenced in Supplement I of letter dated March 1, 1995.

- b. Conventional disposal of excavated soils exhibiting Cobalt-60 concentrations greater than 8 pCi/gm, as described in letter dated March 1, 1995, in the section entitled "solid waste management".
- c. Reconnection of foundation footer drains to newly installed manhole/lateral system, as described in letter dated March 1, 1995.

The NRC staff has reviewed the Licensee's submittals. I find that the Licensee's commitments as set forth in those letters are acceptable and necessary and conclude that with these commitments the public health and safety are reasonably assured. In view of the foregoing, I have determined that the public health and safety require that the Licensee's commitments in its letters dated January 27, and February 2, 10, 14, and March 1 and 3, 1995, be confirmed by this Order. The Licensee has agreed to this action. Pursuant to 10 CFR 2.202, I have also determined that the significance of the environmental radiological threat described above is such that the public health and safety require that this Order be immediately effective.

IV

Accordingly, pursuant to sections 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Part 30, IT IS HEREBY ORDERED, EFFECTIVE IMMEDIATELY, THAT LICENSE NO. 34-19089-01 IS MODIFIED AS FOLLOWS:

The licensee shall begin the following activities immediately and complete them within 90 days of the date of this order in accordance with letters dated January 27, February 2, 10, and 14, and March 1, 3, 8, and 10, 1995:

1. Process water that is currently stored outside its facility in above-ground tanks.
2. Simultaneously pump and process water currently residing in the sanitary sewer manhole and lateral, building sump pit and that in the basement.
3. Excavate the areas on the south and east portions of the facility to allow access to the radioactively contaminated four-inch sewer discharge line and the radiological evaluation of the facility's underdrain system and surrounding soils.
4. Immobilize the radioactive contamination present in the sewer discharge system owned by the licensee.
5. Remediate the London Road interceptor in the vicinity of the abandoned facility lateral, as described in letter dated

January 27, 1995. The remediation activities will be coordinated with the Northeast Ohio Regional Sewer District.

6. Any reference in the above listed letters to; (i) evaporation of treated water or its discharge to the sanitary sewer system; (ii) installation of a composite sampler and flow gauge; (iii) conventional disposal of radioactively contaminated materials; and (iv) reconnection of the facility foundation under drains, is not authorized by this Order. In addition, the following specific activities are also excluded by this Order.

The Regional Administrator, Region III, may relax or rescind, in writing, any of the above conditions upon a showing by the Licensee of good cause.

V

Any person adversely affected by this Confirmatory Order, other than the Licensee, may request a hearing within 20 days of its issuance. Any request for a hearing shall be submitted to the Secretary, U.S. Nuclear Regulatory Commission, ATTN: Chief, Docketing and Service Section, Washington, D.C. 20555. Copies also shall be sent to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, to the Assistant General Counsel for Hearings and Enforcement at the same address, to the Regional Administrator, NRC Region III, 801 Warrenville Road, Lisle, IL 60532-4351, and to the Licensee. If such a person requests a hearing, that person shall set forth with particularity the manner in which his interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Confirmatory Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i), any person other than the licensee adversely affected by this Order, may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, the provisions specified in Section IV above shall be final 20 days from the date of this Order without further order or proceedings. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Hugh L. Thompson, Jr.
Deputy Executive Director for
Nuclear Materials Safety, Safeguards,
and Operations Support

Dated at Rockville, Maryland
this ____ day of March, 1995

March 3, 1995

Advanced Medical Systems, Inc.
ATTN: Mr. David Cesar, Treasurer
121 N. Eagle Street
Geneva, OH 44041

Dear Mr. Cesar:

This confirms our plans to conduct a meeting with you at 11:00 a.m. (EST) on March 7, 1995, in the NRC Headquarters Office at Two White Flint North, Room T8-F1, 11545 Rockville Pike, Rockville, MD. The meeting will be open to public observation.

This meeting is being held at your request. The purpose of the meeting is to discuss your request in the letter from your attorney at Arter and Hadden dated February 23, 1995, that the NRC take certain actions regarding the processing and discharge of waste water from the Advanced Medical Systems, Inc. facility at 1020 London Road. A copy of that letter is enclosed.

Should you have any questions concerning this meeting, please feel free to contact me or Joe DeCicco at (301) 415-7833.

Sincerely,

Original Signed by John A. Grobe

John A. Grobe, Chief
Nuclear Materials Inspection Section 2

Docket No. 030-16055
License No. 34-19089-01

Enclosure: Letter dated 2/23/95
from H. E. Billingsley
to J. A. Grobe

See Attached Distribution

DOCUMENT NAME: G:\LTRS2LIC\MTLS\030\95316055.L13

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OFFICIAL RECORD COPY

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February 23, 1995

Mr. John A. Grobe
Nuclear Materials Inspection
Section 2
Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60532-4351

Re: Advanced Medical Systems, Inc.
License No. 34-19089-01
Our File: 62931/49779

Dear Mr. Grobe:

We refer to our telephone conversation of earlier today and confirm our request that the NRC assist AMS, its licensee and our client, in completing arrangements for the immediate treatment and discharge into the sewer system of water containing low levels of soluble Cobalt 60 (between undetectable and 200 pico Curies per liter). As you know the water that is the subject of this request has accumulated on the basement floor of our client's facility at 1020 London Road, and in the foundation drains and surrounding soil on the exterior of the building, due to the installation of a sewer plug by NEORS.

We request that NRC, in writing:

1. direct AMS promptly to treat and discharge this water to the sanitary sewer system, as authorized under 10 C.F.R. 20.2003;

95-03100034 (4)

| | | | | |
|---|---|---|---|---|
| IN COLUMBUS ARTER & HADDEN West Broad Street, Suite 2100 Columbus, Ohio 43215-3122 614/221-3155 | IN DALLAS ARTER & HADDEN JOHNSON & BROMBERG 1717 Main Street, Suite 4100 Dallas, Texas 75201-8000 214/761-2100 | IN IRVINE ARTER & HADDEN 2 Park Plaza, Suite 700 Irvine, California 92714-8517 714/272-7500 | IN LOS ANGELES ARTER & HADDEN 700 South Flower Street, Suite 3000 Los Angeles, California 90017-4250 213/629-9300 | IN WASHINGTON, D.C. ARTER & HADDEN 1801 K Street, N.W., Suite 400K Washington, D.C. 20006-1301 202/773-7100 |
|---|---|---|---|---|

ARTER & HADDEN

Mr. John A. Grobe
February 23, 1995
Page 2

2. confirm by reference to your letter of February 1, 1995 that the discharge of this water (containing no more than 200 pico Curies per liter of soluble Cobalt 60) will pose no health or safety risk to any party; and,

3. confirm that the discharge of this material from AMS will not result in the initiation of any regulatory activity on the part of NRC against the sewer district (NEORS D).

We also request NRC's assistance in providing a witness who can testify to these matters in court, if necessary.

We recognize that these are unusual requests. We are sure, however, that you agree that the unusual circumstances presented by this case warrant the issuance of this directive if we are to avert what could be a far more serious safety problem: the accumulation of excessive water inside and around the foundation of the building at 1020 London Road with resulting structural damage to the facility.

Yesterday's long and unrewarding meeting with the representatives of the NEORS D and Ohio EPA may have caused you to conclude, as we did, that the position the sewer district has taken (no discharge of water containing even a single atom of Cobalt 60) is indefensible from a regulatory standpoint. Indeed, the only justification that the NEORS D representatives could offer for the extreme position they are taking is a draft EPA technical summary that is so preliminary that its citation as authority is proscribed on the face of the document. Clearly, there is no justification for this position under any reading of current NRC regulations, which preempt those of NEORS D.

More to the point, however, as Ms Berger demonstrated during the course of our telephone call earlier today, even at a discharge rate of 200 pico Curies per liter (assuming 10,000 gallons per day total discharge) the total discharge of Cobalt 60 from AMS under the proposed treatment and discharge protocol, if every atom travelled unimpeded to NEORS D's plants, would result in filtercake that is below the maximum discharge limits for Cobalt 60 set forth in the EPA draft technical summary. It should be noted that the

ARTER & HADDEN

Mr. John A. Grobe
February 23, 1995
Page 3

same can not be said for the radioactive potassium that would be present in the filtercake. There is, accordingly, absolutely no merit to NEORSD's position in this matter, even if they are correct in their assertion that they are entitled to enforce their regulations in defiance of those of the NRC.

Given the grave circumstances presented by the state of affairs at our client's facility at London Road, and the absence of any practical alternative for dealing with the accumulation of water at the site there is no alternative to the issuance of the directive that we have requested.

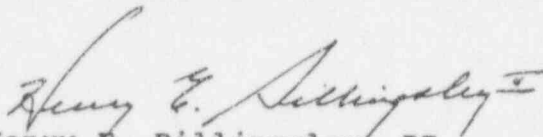
You have graciously agreed to convey our requests to the appropriate authorities at the NRC. We thank you for this undertaking and also request that, if there is any hesitation on the part of the NRC to grant our requests, we be given the opportunity to address, in person, whomever is the appropriate person, or persons, to make this decision.

We are available to meet with you, or whomever you designate, in Chicago or in Washington, as soon as practicable.

Thank you.

Very truly yours,

ARTER & HADDEN


Henry E. Billingsley, II

ARTER & HADDEN

Mr. John A. Grobe
February 23, 1995
Page 4

cc: Mr. David Cesar
Advanced Medical Systems
121 North Eagle Street
Geneva, Ohio 44041

Dwight Miller, Esq.
Stavole & Miller
55 Public Square
Suite 1604
Cleveland, Ohio 44113

Ms. Carol D. Berger, C.H.P.
IEM
1680 East Gude Drive
Suite 305
Rockville, Maryland 20850

March 3, 1995

Advanced Medical Systems, Inc.
ATTN: Mr. David Cesar, Treasurer
121 N. Eagle Street
Geneva, OH 44041

SUBJECT: NOTICE OF VIOLATION NOVEMBER 29, 1994

Dear Mr. Cesar:

This acknowledges receipt of your letter dated December 29, 1994, in response to our letter dated November 29, 1994, transmitting a Notice of Violation and other concerns identified during our October 11-12, 1994 inspection.

We have no further questions regarding your response and planned corrective actions for Violations B, C and Concern Nos. 1-3. However, your corrective action plans for Violation A and Concern No. 4 continue to be of regulatory concern.

With respect to Violation A regarding a full-scale exercise involving offsite emergency response personnel, this exercise should be conducted as soon as all offsite participants are prepared. We understand that one of the key offsite response organizations, the Cleveland Fire Department, will not be fully prepared to participate in the drill until July or August 1995. This important test of your emergency response readiness should not be delayed beyond this time.

With respect to Concern No. 4, a routine radiological monitoring and surveillance program is necessary to ensure that the Waste Holdup Tank (WHUT) room's isolation integrity is maintained. Consequently, your proposed monthly WHUT room surveillances must include a series of direct radiation measurements of the exterior walls and wall/floor slab interface in addition to physical observation of the exterior WHUT room walls. The details of this monitoring and surveillance program will be addressed in our response to your recently submitted license renewal application.

The implementation of your corrective actions will be examined during a future inspection. No further response regarding these matters is necessary.

Sincerely,

Original Signed by John A. Grobe

John A. Grobe, Chief
Nuclear Materials Inspection Section 2

Docket No. 030-16055
License No. 34-19089-01

See Attached Distribution

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Radiation Safety Officer
Advanced Medical Systems, Inc.
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Geneva, OH 44041

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Cleveland, OH 44114

Lisa Mehringer
City of Cleveland Law Department
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Radiological Health Program
Department of Health
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Columbus, OH 43266

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Cuyahoga County Board of Health
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Cleveland, OH 44115

Erwin J. Odeal, Executive Director
Northeast Ohio Regional Sewer District
3826 Euclid Avenue
Cleveland, OH 44115

bcc:

Mike Stein, OGC
Steve Crockett, OGC
Marian Zobler, OGC

Cathy Haney, NMSS
John A. Grobe, RIII
Gary L. Shear, RIII

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Gary Shear (GLS)
Wayne Slawinski (WJS2)
Mike Stein (MHS)
Mike Weber (MFW1)
Marian Zobler (MLZ)



Northeast Ohio Regional Sewer District

3826 Euclid Avenue • Cleveland, Ohio 44115-2504

216 • 881 • 6600

FAX: 216 • 881 • 9709

March 6, 1995

VIA REGULAR U.S. MAIL

Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C.

VIA OVERNIGHT DELIVERY

Executive Director for Operations
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Re: March 7, 1995 Meeting Between NRC and AMS

Dear Executive Director:

On March 7, 1995, a meeting is scheduled to be held between the NRC staff and the Advanced Medical Systems, Inc. ("AMS") to discuss certain actions that have been requested by AMS. As stated in a letter dated February 23, 1995 from Henry Billingsley to John Grobe, AMS requests that the NRC issue a written order that includes the following:

1. direct AMS promptly to treat and discharge this water to the sanitary sewer system, as authorized under 10 C.F.R. 20.2003;
2. confirm by reference to your letter of February 1, 1995 that the discharge of this water (containing no more than 200 pico Curies per liter of soluble Cobalt 60) will pose no health or safety risk to any party; and,
3. confirm that the discharge of this material from AMS will not result in the initiation of any regulatory activity on the part of NRC against the sewer district (NEORSD).

It appears that, at least as to item one in his request, Mr. Billingsley is requesting that the NRC issue an order to AMS in accordance with 10 C.F.R. 2.202. Mr. Billingsley also requests that the NRC assist AMS in providing a witness who can testify to these matters in court.

These requests raise serious concerns and if granted will adversely affect the Northeast Ohio Regional Sewer District ("NEORSD"). The present letter is to inform the NRC that the NEORSD objects to the issuance of any order by the NRC that directs AMS or any other licensee

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MAR 13 1995

to discharge Cobalt 60 in any form into the sanitary sewers tributary to any of the NEORSD's wastewater treatment plants.

As an adversely affected party as to any such order, the NEORSD hereby demands, pursuant to its rights set forth in 10 C.F.R. 20.202(a)(3), that NEORSD be granted a hearing prior to the issuance of any such order. Given the nature of the requested order, a hearing after the fact will not provide the NEORSD with due process as the Cobalt 60 will have been dumped and the damage to the treatment system and/or interference with its operations will have occurred.

The NEORSD also believes that the action requested by Mr. Billingsley in item three would be a largely empty gesture. Assuming for the purpose of argument that the NRC does actually have some regulatory authority over the NEORSD, the action would be improper. If discharges from AMS result in Cobalt 60 concentrations in excess of NRC criteria, there would be no justification for the NRC to abdicate whatever authority it has over such material merely because it was no longer contained on a licensee's premises. However, if the NRC's justification for such an abdication of authority is that the current release criteria for Cobalt 60 is without basis, then the NRC should revisit its methods for establishing and implementing release criteria.

More important, however, is the fact that the NRC is not the sole regulator in this area and is thus incapable of unilaterally averting an interference with the NEORSD's wastewater treatment operations. Interference with a wastewater treatment plant occurs when a pollutant discharged into the collection system interferes with the operation of the wastewater treatment plant or interferes with the use or disposal of the solids produced in the wastewater treatment process. An interference may occur without any health and safety implications. Therefore, the action requested in item three would be insufficient as protection for the NEORSD, and therefore is meaningless to the NEORSD. It must be borne in mind that it is not solely NRC regulatory activity that results in interference from Cobalt 60 discharges.

With regard to past incidents at NEORSD's plants, interference from Cobalt 60 discharges has occurred when the concentration in plant solids has exceeded the NRC release criteria. Regardless of whether the NRC takes "regulatory action" against the NEORSD in such a situation, the NEORSD nonetheless is still stuck with solids that cannot be shipped offsite, with the possible exception of being shipped to a low-level radioactive waste disposal site. The mere fact that AMS's wastes may be too radioactive to be sent to those low-level radioactive waste disposal sites that are available to Ohio waste generators is no reason for the burden of those wastes to be shifted to the NEORSD and its ratepayers.

An interference with the use or disposal of NEORSD solids can also result when EPA standards or criteria are exceeded. Material currently entering the ash lagoons at the Southerly Wastewater Treatment Plant may remain there for four years or longer before the material is removed for disposal. The USEPA has already prepared draft radiological criteria for soils in 40 C.F.R. 196. In its current draft form, this regulation would establish criteria for Cobalt 60 of less than one picoCurie per gram in solids.

This figure is directly relevant to the present discussion. For example, in Mr. Billingsley's February 23 letter, he claims that AMS could discharge 10,000 gallons of water a day containing Cobalt 60 at a concentration of 200 picoCuries per liter and the EPA draft criteria for Cobalt 60 would not be exceeded at Southerly. Mr. Billingsley does not, however, state his assumptions or show his calculations. Nor does he reveal the source of his expertise with respect to what happens to a metal such as Cobalt 60 in an advanced wastewater treatment system such as that operated by NEORSD.

Performing the simple calculation of 10,000 gallons x 3.4 liters per gallon x 200 picoCuries per liter establishes that 6,800,000 picoCuries of Cobalt 60 would be in the discharge requested by AMS. Reviewing this discharge in light of the EPA draft criteria for Cobalt 60 of one (1) picoCurie per gram, enough Cobalt 60 can be discharged under this scenario to produce 14,978 pounds of ash at the EPA criteria ($6,800,000 / 454 \text{ grams per pound} = 14,978 \text{ pounds of contaminated ash}$). In other words, there is a potential for this discharge to contaminate 7.5 tons of ash per day, which is close to the average daily production at Southerly.

The NEORSD acknowledges that the above assumes slug flow and that the limit of 200 picoCuries per liter is never exceeded. However, neither AMS nor the NRC has offered any evidence regarding the ultimate fate of Cobalt 60 in the NEORSD's treatment system that support a deviation from these assumptions.

In fact, Pacific Northwest Laboratory (PNL), under contract to the NRC, concluded on page 7.3 in NUREG/CR-6289 that "With the data and models currently available, it is not possible to quantitatively determine the physical and chemical processes that cause reconcentration or to calculate, *a priori*, reconcentration factors for specific WWTP unit processes or WWTPs in general." On page 7.2 of this report PNL points out the unreliability of NRC licensee discharge data. PNL states, "Generally, the release data grossly underestimated what was found in the sludge."

Given this lack of scientific understanding regarding the tendencies of Cobalt 60 to concentrate; and the NEORSD's past experience with Cobalt 60 contamination, the NEORSD refuses to ask its ratepayers to bear the financial risk associated with accepting Cobalt 60 at any level until such time as satisfactory evidence exists that such levels are incapable of concentrating above acceptable levels in wastewater solids. As of today, no non-interfering level of Cobalt 60 has been demonstrated.

Mr. Grobe is aware as the result of attending the meeting on February 23, 1995 held at the Ohio EPA office in Twinsburg, Ohio, that AMS is not willing to indemnify the NEORSD or obtain insurance to cover the potential increased costs to the NEORSD of handling or disposing of Cobalt-60 contaminated solids.

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areas offsite or that future operations could result in offsite contamination." Despite this conclusion, the Director goes on to deny the NEORSD's request, in part because the risk posed by AMS is less than that of a nuclear reactor.

This position is puzzling because materials licensees have options other than sanitary disposal. In the aforementioned meeting at the Ohio EPA, the expert for AMS conceded that options such as wastewater evaporation are feasible in the situation at AMS. She indicated the sole problem was the slowness of the process. Assuming for the sake of argument that her position is correct, AMS would not have accumulated the amount of water it has collected in its basement had such a unit, or alternative measures, been placed in operation in a timely fashion following the termination of sewer service on October 21, 1994. Moreover, the NEORSD has information that evaporators are available in a number of sizes that make the assumption that water cannot be timely evaporated somewhat strained.

In addition to notifying AMS on October 21, 1994 that service was being terminated, the NEORSD notified Mr. John Martin, Region III Administrator that such action was being taken and that "... alternative disposal or storage will need to be arranged for all water, including sanitary, industrial process, and storm, that may otherwise have been discharged to the public wastewater collection system." It appears that in the more than four months since sewer service was terminated, the NRC has done little to prevent the accumulation of contaminated water at this facility. The NRC's failure to act cannot be ignored in the context of who is to bear the burden of any problems at its licensee.

Notwithstanding the above, the NEORSD does not oppose two of the requests made by AMS. In item two, Mr. Billingsley requests an NRC statement regarding the lack of health and safety concerns arising from a discharge of not more than 200 picoCuries per liter. While such levels do pose regulatory and environmental concerns subject to NEORSD regulation, the NEORSD does not dispute that such a level is without health and safety concerns.

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If you wish to discuss the matters addressed in this letter, please phone Tom Lenhart or

me at 216-881-6600. In addition, Tom Lenhart, Larry English, and Barry Koh, Ph.D., will be attending the meeting on March 7 and will be prepared to discuss these issues at that time if you so desire.

Sincerely,

William Schatz/JC2

William Schatz
General Counsel

cc: Senator John Glenn
Erwin Odeal
Thomas Lenhart
Lawrence English
Barry Koh, Ph.D.
Sara Fagnilli
Richard Connelly
✓ John Grobe
Joe DeCicco
Henry Billingsley, II
Dwight Miller
Frank DiPiero
Martha McCorkle
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William Schatz
Northeast Ohio Regional Sewer District

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DOC DT: 03/06/95
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TO:

EDO

FOR SIGNATURE OF :

** GRN **

CRC NO:

DESC:

ROUTING:

MEETING 3/7/95 BETWEEN NRC STAFF AND THE ADVANCED
DICAL SYSTEMS, INC. (AMS) RE DISCHARGE OF WATER
THE SANITARY SEWER SYSTEM

Taylor
Milhoan
Thompson
Blaha
JMartin, RIII
Cyr, OGC

DATE: 03/09/95

ASSIGNED TO:

CONTACT:

NMSS

Bernero

SPECIAL INSTRUCTIONS OR REMARKS:

For appropriate Action

MAR 13 1995



Northeast Ohio Regional Sewer District

3826 Euclid Avenue • Cleveland, Ohio 44115-2504

216 • 881 • 6600

FAX: 216 • 881 • 9709

March 6, 1995

VIA REGULAR U.S. MAIL

Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C.

✓ VIA OVERNIGHT DELIVERY

Executive Director for Operations
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

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General Counsel

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Richard Connelly
John Grobe
Joe DeCicco
Henry Billingsley, II
Dwight Miller
Frank DiPiero
Martha McCorkle
Jacqueline Mallett

March 7, 1995

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

| | | |
|---------------------------|---|----------------------------|
| In the Matter of |) | |
| |) | Docket No. 30-16055-ML-REN |
| ADVANCED MEDICAL SYSTEMS, |) | |
| INC. |) | ASLBP No. 95-707-02-ML-REN |
| (Cleveland, Ohio) |) | |
| |) | (Material License |
| |) | No. 34-19089-01) |

NRC STAFF'S RESPONSE TO
LICENSEE'S MOTION AS TO TIME FOR SERVICE

DISCUSSION

The staff of the Nuclear Regulatory Commission (Staff) hereby responds to the "Motion of Advanced Medical Systems, Inc. As to Time for Service," filed on February 27, 1995 (Motion). In its Motion, Advanced Medical Systems, Inc. (Licensee), requests that the Presiding Officer consider the Licensee's responses to the various requests for hearing filed in the above-captioned proceeding as timely filed and to accept the Notice of Appearance attached to its Motion. Motion at 1. The Staff has no objection to the Licensee's Motion.

Respectfully submitted,

Marian L. Zobler
Marian L. Zobler
Counsel for NRC Staff

Dated at Rockville, Maryland
this 7th day of March, 1995

95-0313-0099 (3)

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MAR 10 1995

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

In the Matter of

ADVANCED MEDICAL SYSTEMS,
INC.

(Cleveland, Ohio)

)
)
)
)
)
)

Docket No. 30-16055-ML-REN

ASLBP No. 95-707-02-ML-REN

(Material License
No. 34-19089-01)

CERTIFICATE OF SERVICE

I hereby certify that copies of the "NRC STAFF'S RESPONSE TO LICENSEE'S MOTION AS TO TIME FOR SERVICE" in the above-captioned matter have been served on the following by deposit in the United States mail, first class, as indicated by asterisk or through deposit in the Nuclear Regulatory Commission's internal mail system this 7th day of March, 1995:

Marshall E. Miller*
Presiding Officer
1920 South Creek Boulevard
Spruce Creek Fly-In
Daytona Beach, FL 32124

Adjudicatory File (2)
Atomic Safety and Licensing Board
Mail Stop: T-3F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Harry Foreman*
Special Assistant
1564 Burton Avenue
St. Paul, MN 55108

Office of Commission Appellate
Adjudication
Mail Stop: 16-G-15 OWFN
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Office of the Secretary
ATTN: Docketing and Service
Mail Stop: 16-G-15 OWFN
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Chris Trepal*
Earth Day Coalition
3606 Bridge Avenue
Cleveland, Ohio 44113

Sharon Sobol Jordan, Esq.*
Martha R. McCorkle, Esq.
Department of Land
City of Cleveland
Room 106-City Hall
601 Lakeside Avenue
Cleveland, Ohio 44114

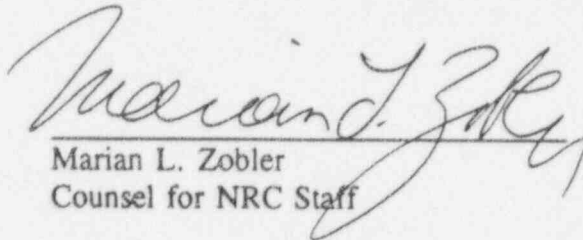
Michael S. Kalstrom
Secretary
Cuyahoga County Local
Emergency Planning Committee
1255 Euclid Ave., Room 102
Cleveland, Ohio 44115

Atomic Safety and Licensing Board
Panel
Mail Stop: T-3F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555


Marian L. Zabler
Counsel for NRC Staff



Northeast Ohio Regional Sewer District

4747 East 49th Street • Cuyahoga Heights, Ohio 44125-1011 216 • 641 • 6000 FAX: 216 • 641 • 8118

March 7, 1995

Mr. Mike Kurth
U.S. Nuclear Regulatory Commission
901 Warrensville Road
Lisle, Illinois 60532-4351

Dear Mr. Kurth:

In response to your request during our telephone conversation of 3/6/95, I have enclosed a list of fifty-two (52) entities which in part or total are serviced by the Northeast Ohio Regional Sewer District. It was my understanding that this request was generated by the District's Freedom of Information Act request for license holders and or discharges from facilities within our service area.

I hope that the enclosed city list along with the previously submitted zip code list will assist you in your endeavor to answer our Freedom of Information request. Should you need any additional assistance, please feel free to contact me at 216-641-6000.

Sincerely,

Richard N. Connelly
Richard N. Connelly, Manager
Water Quality & Industrial Surveillance

RNC:jah
95213201/4

Enclosure

cc: Tom Lenhart

| | | | |
|--|--------------|--------------|---------------|
| Post-It™ brand fax transmittal memo 7671 | | * of pages * | 2 |
| To | MIKE KURTH | From | Rich Connelly |
| Co. | NRC | Co. | |
| Dept. | | Phone # | 216-641-6000 |
| Fax # | 708-515-1249 | Fax # | |

9503310287 (2)

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The following communities are served by NEORSD:

| | |
|------------------------------|----------------------|
| Beachwood | Bedford |
| Bedford Heights | Berea |
| Boston Heights | Bratenahl |
| Brecksville | Broadview Heights |
| Brook Park | Brooklyn |
| Brooklyn Heights | Cleveland |
| Cleveland Heights | Cuyahoga Heights |
| East Cleveland | Garfield Heights |
| Gates Mills | Highland Heights |
| Highland Hills | |
| (formerly Warrensville Twp.) | Independence |
| Lakewood | Linndale |
| Lyndhurst | Macedonia |
| Maple Heights | Mayfield Heights |
| Mayfield Village | Middleburg Heights |
| Newburgh Heights | North Randall |
| North Royalton | Northfield |
| Northfield Center Twp. | Oakwood |
| Olmsted Falls | Orange |
| Parma | Parma Heights |
| Pepper Pike | Richfield |
| Richmond Heights | Riveredge Twp. |
| Sagamore Hills | Seven Hills |
| Shaker Heights | Solon |
| South Euclid | Strongsville |
| University Heights | Valley View |
| Walton Hills | Warrensville Heights |

TOTAL: 52

RNC:jah
95213201/3