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AUG 31 1988

NOTE TO: Richard E. Cunningham, IMNS
Glen L. Sjoblom, IMNS
John M. Austin, IMAB
Ramon A. Lamastra, IMAB
Steven L. Baggett, IMAB
Patricia C. Vacca, IMAB

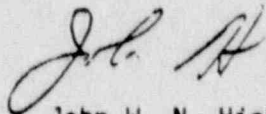
FROM: John W. N. Hickey, IMNS

SUBJECT: SEPTEMBER 15 MEETING WITH DOE INVESTIGATION TEAM ON
WESF CAPSULE INCIDENT

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On August 30, 1988, Ron Hultgren called and requested a meeting with NRC Headquarters staff regarding WESF Capsules. He is the Chairman of an independent DOE group investigating the Georgia incident. The group has already talked to Region II, Region III, and the State of Georgia. Their primary concern with NRC Headquarters is information on the process by which we approved use of WESF Capsules in licensed irradiators.

I confirmed the meeting for 8:30 AM, Thursday, September 1, 1988 at White Flint. Prior to the meeting, I will work with Steve Baggett and Patricia Vacca to organize the relevant files.



John W. N. Hickey, IMNS

cc: H. Thompson
R. Bernero
J. Lubenau

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ITEM FOR THE EDO STAFF MEETING

Medical, Academic, and Commercial Use Safety Branch

August 25, 1988

Meeting with Department of Energy (DOE) Regarding Return of Cesium-137
Waste Encapsulation and Storage Facility(WESF) Sources to DOE

On August 24, 1988 NMSS/IMNS staff met with representatives of DOE and its contractors to discuss DOE's plans and schedule for accepting returned Cs-137 WESF sources from commercial users in the United States.

DOE indicated that its WESF facility at Hanford is the best place for it to receive and store returned Cs-137 sources. However, this facility has been in a "stand by condition" since January 1986. In order to reactivate the WESF facility, DOE/Hanford will need to staff and train operators, reinstall and test equipment, develop procedures approved by other DOE components, and perform other safety reviews before sources can be accepted for long-term storage. With certain assumptions and planning for the return of Cs-137 sources from Radiation Sterilizers, Inc.'s (RSI) facilities of Westerville, Ohio, and Decatur, Georgia, DOE indicated that December 1, 1988 would be the earliest it could accept sources at WESF for long-term storage. NRC representatives stated their belief that sources should be removed from RSI's facilities more rapidly than indicated by DOE's schedule.

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Representatives of both agencies agreed that RSI (Westerville) sources should be moved first because of RSI's desire to resume irradiation services at Westerville using Co-60. Both also agreed that the Westerville sources must be examined (e.g., visually; ultrasound testing) before they are shipped to DOE in order to provide reasonable assurance that the sources continue to meet "special form" requirements. DOE representatives stated that the examinations cannot be done while Co-60 sources are in the Westerville pool. NRC representatives then stated that RSI (Westerville) would not be authorized to receive Co-60 sources until each source has been examined, and at least 25% of the Cs-137 sources have been removed and sent to DOE.

DOE agreed that it could take possession of 36-44 sources at WESF/Hanford if the sources remain in their shipping casks until the WESF facility is fully staffed and capable of unloading the casks and placing the Cs-137 sources in their long-term storage locations. This solution is dependent on extended use of RSI's 9 RSI-1500 casks that hold 4 sources each and the 2 GE-600 casks located elsewhere in the United States.

DOE representatives promised to arrange a visit by appropriate staff to RSI (Westerville) during the week of August 28, 1988 to examine the facility and determine if and how DOE's source examination equipment can be accommodated. They expected to begin the examinations during the week of September 5, 1988 and believe it would take 2-2½ weeks to complete the examinations. At that point, depending on the number of casks available, 36-44 Cs-137 sources could be removed and shipped to Hanford and off-loaded when the WESF facility is ready. This schedule assumes no unforeseen problems develop during this time period.

5-24-88 Meeting

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Name	Org	Phone	FTS
Elizabeth Bowers	DOE-RL	(509) 376-9922	(444) 992
Bobby Davis	DOE-OR	(615) 576-0126	(444) 0126
STEVE COWAN	DOE-HQ	(801) 353-3952	233-395
GARY BRACKEN	DOE-RL	(509) 376-9106	(444) 9106
Jim Shuler	DOE-EH	(301) 353-5464	(233) 5464
RE Cunningham	NRC-NMSS	301 492 3426	(492) 342
Patricia C. Vacca	NRC-NMS	301-492-0615	(492) 0615
JD THOMSON	WESTINGHOUSE HANFORD	509-376-3707	(444) 37
LEANNE Waldo	DOE DP122	233-3710	
JOHN H. AUSTIN	NRC/NMSS	492-3415	
Ted Needels	DOE/EA-32	(FTS) 233-4684	
CARL CAROL	DOE/SH-32	233-5606	
WALT FRANKHAUSER	DOE/DP	353-4214	233-4214
JOE COLEMAN	DOE/NE	301-353-4724	(233) 472
Susan Huznick	DOE/GC	586-6975	(FTS 896)

ACTION PLAN
FOR
RETURN OF CESIUM CAPSULES

DEPARTMENT OF ENERGY - HEADQUARTERS

AUGUST 24, 1988

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**ACTION PLAN
FOR
RETURN OF CESIUM CAPSULES**

AGENDA

- 0 OPTIONS FOR RETURN OF CAPSULES TO HANFORD**
- 0 ACTIONS REQUIRED TO PREPARE FOR RETURN OF CAPSULES**
- 0 KEY ASSUMPTIONS**
- 0 SCHEDULE**
- 0 ESTIMATED COSTS**
- 0 ISSUES**

HANFORD OPTIONS FOR RETURN OF CESIUM CAPSULES

OBJECTIVE: EXPEDITIOUS CAPSULE RETURN FROM COMMERCIAL USERS

- o WESF IS THE BEST HANFORD OPTION FOR EXPEDITIOUS CAPSULE RETURN**
 - DESIGNED FOR STORAGE OF FULL COMPLIMENT OF CAPSULES**
 - EQUIPPED TO HANDLE RSI-1500 CASKS**

- o WESF IS NOW IN A STANDBY CONDITION *since 1/86***
 - SURVEILLANCE CREW SIZE INSUFFICIENT TO SUPPORT SHIPPING PROGRAM**
 - NEED TO REINSTALL EQUIPMENT TO SUPPORT HANDLING**

OPTIONS FOR RETURN (CONTINUED)

- o CAPSULES HAVE NEVER BEEN RETURNED TO WESF FOR STORAGE**
- o OPTIONS FOR EARLY RECEIPT OF CAPSULES**
 - LOAD AND STORE DRY IN SHIPPING CASKS**
 - STORE DRY IN WESF HOT CELLS**
 - COMBINATION OF THE ABOVE**

OPTIONS FOR RETURN (CONTINUED)

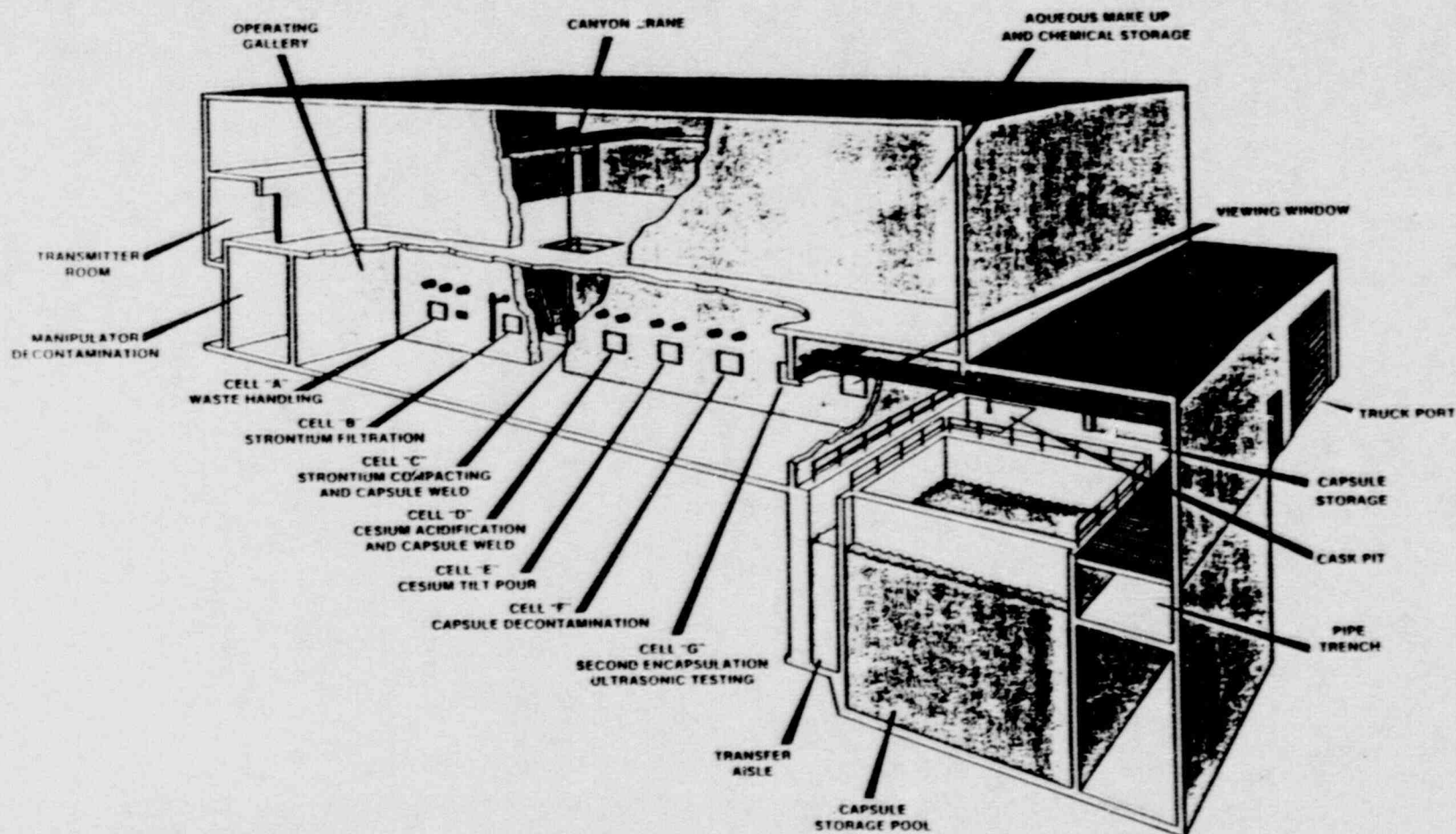
<u>OPTION</u>	<u>CAPSULES</u>	<u>CONSTRAINTS</u>
0 DRY STORAGE IN CASKS	44	(9) RSI-1500 (2) GE-1500
0 DRY STORAGE AFTER TRANSLOAD TO GE-700	28	(2) GE-700 CASKS
0 DRY STORAGE WESF HOT CELLS	32	8 CAPSULES/CELL PREPARE 4 CELLS (SAR REVISION REQUIRED)

PREFERRED OPTION: WASTE ENCAPSULATION AND STORAGE FACILITY (WESF)

ACTION REQUIRED TO PREPARE TO RECEIVE AND STORE CAPSULES:

- 0 STAFF AND TRAIN OPERATORS**
- 0 REINSTALL EQUIPMENT TO SUPPORT HANDLING**
- 0 PROCEDURES FOR RETURN TO STORAGE**
- 0 TECHNICAL SPECIFICATION REVISION**
- 0 REVIEW OF SAFETY DOCUMENTATION**
- 0 VERIFY READINESS**

ENCAPSULATION FACILITY



KEY ASSUMPTIONS

ON WHICH PLAN AND SCHEDULE ARE BASED

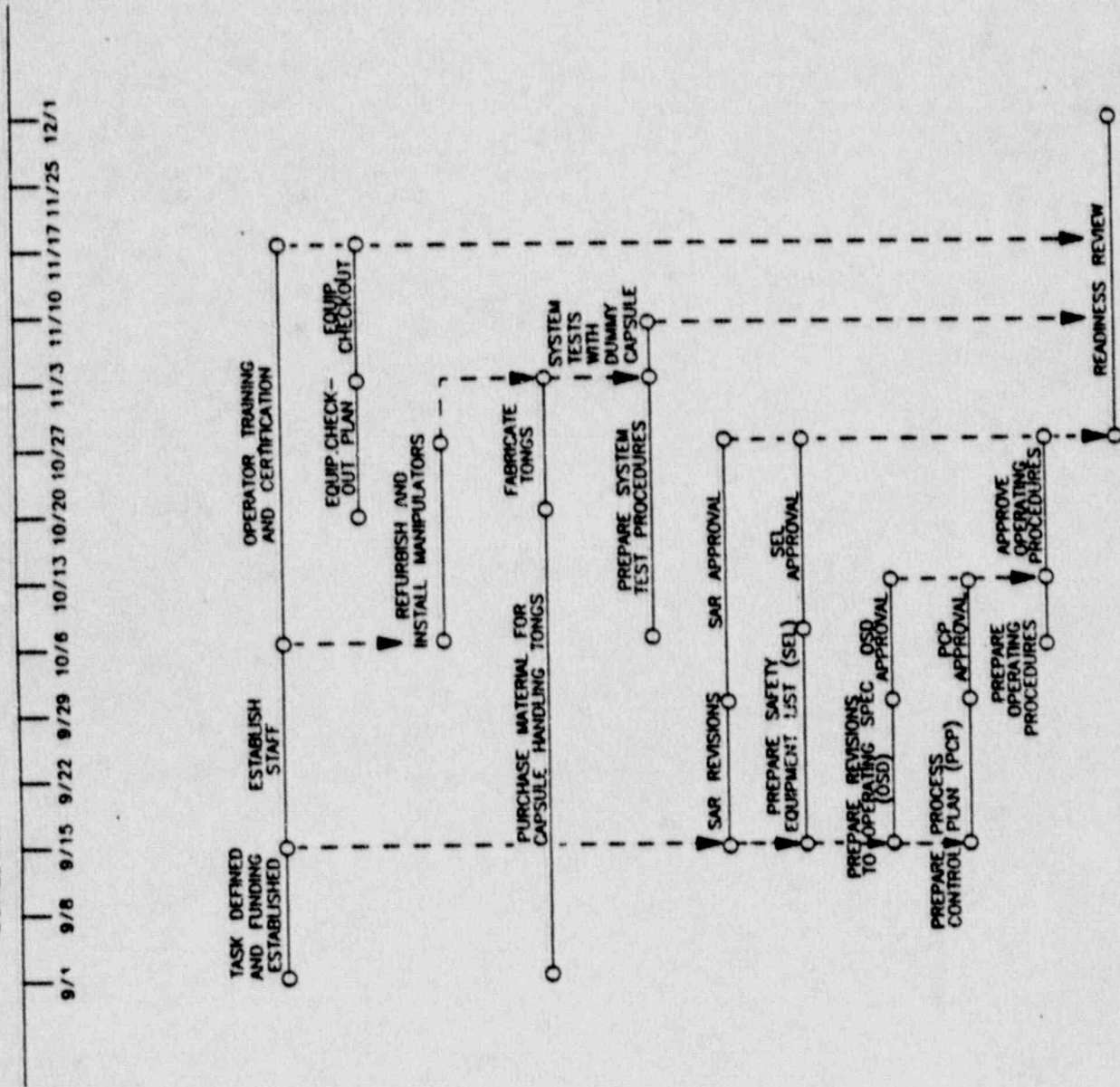
- 0 DECISION MADE TO RETURN CAPSULES**
- 0 NO GENERIC CAPSULE "SPECIAL FORM" FLAWS**
- 0 STORE RETURNED CAPSULES AT WESF**
- 0 CAPSULE SCREENING CONDUCTED TO VERIFY SPECIAL FORM**

SCHEDULE: RETURN OF CESIUM CAPSULES

TASK	FY 88					FY 89												
	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S		
INSPECTIONS AT RSI - DECATUR	<div></div>																	
CAPSULE EXAMINATIONS AT ORNL	<div></div>																	
	<div>DECISION ON RETURN OF RSI CAPSULES</div>																	
OPTIONS FOR RETURN TO WESF	<div></div>																	
PREPARE WESF FOR RECEIPT	<div></div>																	
	<div>DECISION ON RETURN OF REMAINING COMMERCIAL CAPSULES</div>																	
RECEIVE & STORE RSI SPECIAL FORM CAPSULES AT WESF	<div>WESTERVILLEDECATUR</div>																	
RECEIVE & STORE RSI SUSPECT CAPSULES AT WESF	<div></div>																	
SHIP & RECEIVE REMAINING COMMERCIAL CAPSULES	<div></div>																	

8/21/88

SCHEDULE: PREPARE WESF TO RECEIVE & STORE CAPSULES



COST ESTIMATE

<u>TASK</u>	<u>FY 1988</u> <u>(\$000)</u>	<u>FY 1989</u> <u>(\$000)</u>
1. FIELD FACILITY OPERATIONS	1,270	3,520
2. WESF OPERATIONS	100	2,240
3. TECHNICAL SUPPORT	415	880
TOTALS	<u>1,785</u>	<u>6,640</u>

WORK SCOPE ASSUMPTIONS FOR COST ESTIMATE

- o ONLY CESIUM CAPSULES FROM THE TWO RSI FACILITIES ARE CONSIDERED**
- o CAPSULES AT RSI-WESTERVILLE, OHIO WILL BE RETURNED FIRST**
- o CAPSULES WILL BE RETURNED TO HANFORD'S WESF**
- o CAPSULES IDENTIFIED AT RSI-DECATUR, GEORGIA AS "SUSPECT" WILL BE:**
 - SHIPPED AS NRC NORMAL FORM MATERIAL**
 - SHIPPED IN GE-600 CASK IN AN NRC APPROVED OVERPACK**
- o REMAINING NON-SUSPECT CAPSULES AT DECATUR AND WESTERVILLE WILL BE:**
 - SHIPPED AS NRC SPECIAL FORM MATERIAL**
 - SHIPPED IN RSI-1500 CASKS WITH 4 CAPSULES PER CASK**
 - TRANSPORTED TO WESF AT THE AVERAGE RATE OF ONE CASK PER DAY**

ISSUES

- o DECISION ON RETURN OF RSI CAPSULES**
- o DEFINITION OF RESPONSIBILITIES FOR CAPSULE RETURN PROGRAM**
- o FUNDING FOR FY 1989**
- o DECISION ON OTHER COMMERCIAL USERS**
- o SCREENING INSPECTION, DECONTAMINATION PRIOR TO SHIPMENT**

James G. Ledbetter, Ph.D./Commissioner



Radiological Health Section
OFFICE OF REGULATORY SERVICES - ROOM 800

878 PEACHTREE STREET, N.E. / ATLANTA, GEORGIA 30309

August 4, 1988

Allan Chin, President
Radiation Sterilizers, Inc. **D-H 3**
2300 Mellon Court
Decatur, Georgia 30035

Dear Mr. Chin:

On March 9, 1984, you applied to the Georgia Department of Human Resources for a license to receive, possess and use radioactive material in a radiation sterilizer facility to be located at 2300 Mellon Court, Decatur, Georgia. In response to your application, Radiation Sterilizers, Inc., (RSI) was issued Georgia Radioactive Material License GA 868-1. Amendment .02 to license GA 868-1, dated February 8, 1985, authorized the use of Cobalt 60 (Co-60) sources for sterilization of primarily medical products.

By letter dated October 30, 1985, you requested a license amendment to authorize the use of Cesium 137 (Cs-137) WESF sources at your Decatur, Georgia plant. License amendment .07 to radioactive material license GA 868-1, dated January 6, 1986, authorized RSI to use the Cs-137 WESF sources.

On June 6, 1988, RSI notified the Department that the cell safety system locked due to a high radiation level detected by the in-cell detector. It was subsequently determined that one or more Cs-137 sources were leaking, thereby causing a necessity for clean-up and decontamination of the Decatur, Georgia facility.

You signed and agreed to a Department of Energy Management Plan For Radiation Sterilizers, Inc. Recovery Activities on June 20, 1988. The Management Plan included a provision designating RSI with responsibility for contracting for health physics support and control during the recovery of your facility. Pursuant to the Plan, RSI contracted with Chem Nuclear Systems, Inc. (CNSI) for these services.

In a letter to Mr. Lester Price, Director of Energy Programs Division, U.S. Department of Energy, dated July 13, 1988 you threatened to terminate the contract with CNSI. Also, in a letter to CNSI dated August 2, 1988, you stated that you could not pay CNSI's bill for services.

If the contract with CNSI is terminated such that health physics control and support at the facility are no longer available and recovery activities are discontinued, the Department believes that conditions at the facility may deteriorate, resulting in a potential hazard to public health and

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Allen Chin, President
August 4, 1988

safety in violation of Chapter 290-5-23-.03 of the Georgia Rules and Regulations for Radioactive Materials. In the event of termination of your contract with CNSI, certain short-term actions would have to be initiated immediately and maintained at the site until decontamination and clean-up activities are reinstituted at the facility. These include:

1. Control access to Zone 3 to prevent the spread of contamination from Zone 3. Spread of radioactive contamination from Zone 3 could adversely affect the environment and any continued operation at the RSI facility. The duration and expense of the recovery of the facility would be increased.
2. Continue to perform radiation surveys of persons leaving the area of Zone 3. This action would determine the presence or absence of contamination of personnel leaving zone 3 so that recontamination of other parts of the facility and the outside environment would be less likely to occur. If this action were not done, the cost and duration of continued recovery activities would possibly increase.
3. Maintain chiller operation to prevent an escalation of pool water temperature. An increase in pool water temperature may accelerate the leakage rate from the leaking source or sources stored in the pool. This in turn may lead to contamination of outside areas and make the decontamination and recovery of the facility more expensive, more difficult, and more time consuming.
4. Monitor, on a daily basis, the concentration of Cs-137 in the source storage pool. Should the concentration of Cs-137 increase, the potential for an adverse impact on the environs exists. Also, the task of packaging of the suspect source(s) for transport to DOE becomes more complicated due to the extra action necessary to assure that the shipping cask is decontaminated. The ability to work in the cell preparing the shipment may be jeopardized if the radiation level increases excessively. The duration and expense of the recovery of the facility would be increased.
5. Continue operation of the cell air monitor and measurement of filter samples to check the cell for possible airborne Cs-137 and to monitor for any additional spread of radioactive contamination.
6. Continue maintenance of conditions in Zone 1 according to the terms of the re-entry permit issued on July 22, 1988. Failure to do so may result in loss of the permit and imposition of civil penalties.
7. Notify the Department immediately of any indication of adverse change noted as a result of actions 1. through 6. above.

Please notify me in writing within 24 hours of your receipt of this letter as to whether the CNSI contract will be terminated and, if so, of your

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Allan Chin, President

August 4, 1988

intended course of action to ensure that the short-term requirements set forth herein are met. Failure to assure the Department that these requirements will be met in a competent manner will be construed as unwillingness or inability on your part to protect the public health and safety from the uncontrolled release of radioactive material.

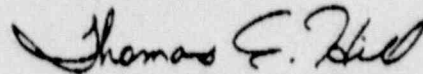
Should radioactive contamination be spread as a result of your failure to ensure the proper implementation of the above actions, the Department will take appropriate measures to protect the public health and safety. Such measures may include the revocation of the July 22, 1988 reentry permit, the issuance of an emergency order, and the imposition of civil penalties. Furthermore, your present operating practices will be considered by the Department, pursuant to Rule 290-5-23-.02(8), upon any licensure request in the future.

On a longer term basis, the need exists to continue the short-term plans outlined above and to continue decontamination and recovery of the facility as indicated in the DOE management plan dated June 20, 1988.

The Department expects the decontamination of the facility and equipment to proceed in a timely manner. Decontamination activities, contamination control, chiller maintenance, and pool and air concentration monitoring are to be performed under strict health physics control by qualified personnel. Any delay in recovery of the facility is not acceptable to the Department, as delay imposes added risk to the public health and safety and constitutes a drain on state resources.

If you would like to discuss this matter further, please do not hesitate to contact me.

Sincerely,



Thomas E. Hill, Acting Director
Radiological Health Section

cc: Martin J. Rotter
James L. Setser
Lester Price
Richard L. Woodruff
Rose H. Nathan

TEH:dp