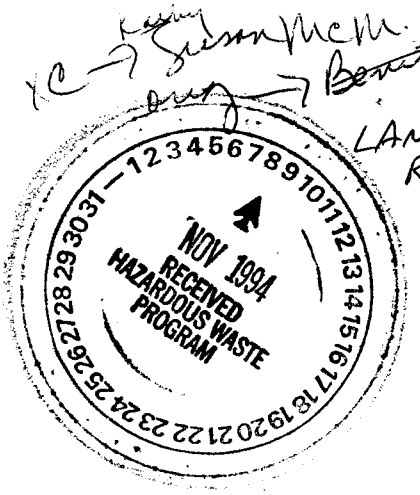
Department of Energy
Field Office, Albuquerque
Los Alamos Area Office
Los Alamos, New Mexico 87544

NOV 07 1994



CERTIFIED MAIL - RETURN RECEIPT REQUESTED

TA 50

Ms. Kathleen Sisneros, Director
Water and Waste Division
New Mexico Environment Department
1190 St. Francis Drive
P. O. Box 26110
Santa Fe, NM 87502

Dear Ms. Sisneros:

Subject: Class 1 Permit Modification

The purpose of this letter is to request a Class 1 permit modification for the Controlled Air Incinerator (CAI). The CAI has not operated since its trial burn prior to the issuance of a hazardous waste permit by the State of New Mexico on November 8, 1989. Numerous legal and legislative issues have forestalled operations. Further, modification to CAI equipment to improve operating efficiencies may require additional modifications to the permit conditions by the New Mexico Environment Department (NMED) prior to operation.

Our permit (Section V.I.5.b.) requires that we reverify the Destruction and Removal Efficiency (DRE) of the CAI after any modification that affects the DRE, or after 8,000 hours of operation or five years after the permit was issued, whichever comes first. The intent of this section of the permit is to insure the CAI is continuing to operate at the expected level of proficiency. We agree this is necessary.

Since the CAI has not operated, however, and is not in a state of readiness to begin operation at this time due to modifications being made/completed and not yet approved by NMED, we propose that Section V.I.5.b. be modified to say that prior to commencement of operation, a reverification of the DRE will be made if it has not operated during the five-year time frame. This will allow the reverification to occur at a point in time when operation of the incinerator is imminent, thereby providing the clearest picture of the CAI's treatment efficiency. We request this Class 1 modification under Section 270.42(h)B.3.

Our proposed modification reads as follows:

V.I.5.b. "The Destruction and Removal Efficiency (DRE) shall be reverified after incinerator modifications affecting the DRE, upon accumulation of eight thousand hours of hazardous waste incineration time or five years

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after the effective date of this permit, or if the incinerator has not operated under the permit then the DRE will be reverified prior to commencement of treatment of waste." Enclosed are two complete versions of Module V of the permit. One is a red line/strikeout version submitted so the proposed change is clearly visible. The other is a clean version which can be inserted into the permit in its entirety to replace the old Module V.

We request a current copy of the facility mailing list or permission to use the detailed mailing list kept by the Los Alamos National Laboratory so appropriate notification of the public can be made pursuant to Section 270.42(a)ii of the Hazardous Waste Management Regulations.

If you should have any questions concerning this request, please feel free to address them to Jon Mack, Office of Environment and Projects, at 665-5026.

Sincerely,

Larry Kirkman, P.E.
Acting Area Manager

LAAMEP:6JM-083

Enclosures

cc w/enclosures:
Barbara Hoditschek
Permits Program Manager
NMED
525 Camino de los Marquez
Santa Fe, NM 87502
Jack Ellvinger, ESH-19, LANL,
MS-K498
Paul Schumann, CST-WM, LANL,
MS-E539
Kathy Elsberry, CST-16, LANL,
MS-E517
HSWS File, (ESH-19/HSWS-94-0296-1),
ESH-19, LANL, MS-K498

bcc w/enclosure:
Jon Mack, AAMEP, LAAO
H.L. Plum, Scientech, LAAO

MODULE V CONTROLLED AIR INCINERATOR OPERATION

V.A. GENERAL CONDITIONS

1. Authorized Unit. The unit is the modified Environmental Control Products model ECP 500-T Controlled Air Incinerator (CAI) located in Technical Area 50, Building 37 and configured as shown in Figure 8.

2. Destruction and Removal Efficiency. The incinerator and associated effluent control system shall be operated to achieve a minimum destruction and removal efficiency (DRE) of 99.99% calculated in accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343(a). A minimum DRE of 99.9999% shall be achieved whenever waste F027 is incinerated.

3. Regulatory Compliance. In accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343(d), compliance with the operating conditions of this permit will be regarded as compliance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343. Evidence that compliance with these conditions is insufficient to ensure compliance with the performance standards of HWMR-5, as amended 1989, Part V, 40 CFR section 264.343, shall be information justifying permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.41 or 270.42 or permit revocation in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.43.

V.B. WASTE IDENTIFICATION

1. Authorized Wastes.

   a. Only wastes identified in Permit Attachment G. with the process code "T03" in column D.1. "Processes" shall be incinerated at the CAI.

   b. Only wastes generated at the Permittee's facility shall be incinerated. See permit paragraph II.B.2. above.

2. Prohibited Wastes.

   a. The following listed hazardous wastes shall not be incinerated unless chemical analysis shows them to not exceed one hundred micrograms per gram concentration in the waste:

      (i) U121 Trichloromonofluoromethane (Freon 11)

(ii) U225 Tribromomethane

(iii) U075 Dichlorodifluoromethane (Freon 12)

b. Any future listed hazardous waste with a heat of combustion less than 0.24 kilocalories per gram shall not be incinerated unless chemical analysis shows it to not exceed one hundred micrograms per gram concentration in the waste.

c. Wastes generated off-site shall not be incinerated. See permit paragraph II.B.2.above.

3. Physical Form. Wastes in gaseous, liquid, solid, or semi-solid sludge forms may be incinerated.

V.C. WASTE ANALYSIS

1. Waste Analysis Plan. The Permittee shall follow Permit Attachment A. Each knowledge of process determination shall be documented and justified. Each batch of waste shall be analyzed in accordance with Permit Attachment A.4.1.2.

2. Analysis of Waste Blends. Waste blends of previously analyzed materials shall not require reanalysis unless:

a. Physical properties are expected to vary more than five percent (5%) from those of the original feedstock, and

b. Those physical properties cannot be calculated based on previous analytical knowledge of the individual components or blends forming the new mixture.

c. Five percent (5%) of the waste blends not analyzed on an annual basis shall be subject to analysis as a quality control check of the calculated values. Agreement between analytical data and calculated values of ten percent (10%), based on the analytical data, shall be acceptable. Disagreement shall be investigated for cause and documented in the record, along with appropriate corrective actions. The next waste blend created after a disagreement shall be analyzed to confirm corrective action.

d. Waste blends may not be incinerated prior to receipt of analytical data.

3. Determination of Radionuclides Content. Each batch of waste treated under this permit shall be surveyed to

determine its radionuclide content. Knowledge of Process shall not be used for this survey.

4. Metals Standards. Each batch of liquid waste treated under this permit shall be analyzed to determine its metal content. For each metal, the waste feed rate, in grams/sec, should not exceed that dictated by the emissions screening limits for noncarcinogenic and carcinogenic metals for facilities in complex terrain determined by using the terrain adjusted effective stack height according to the EPA "Guidance on Metals and Hydrogen Chloride Controls for Hazardous Waste incinerators, Vol. IV, March, 1989"' or the succeeding guidance documents. Knowledge of Process analyses may be used on no more than 80% by volume of the wastes treated.

V.D. PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS

1. Routine Operations. For all hazardous waste burns the following constituents are designated as POHCs unless chemical or physical analysis shows they comprise less than 100 micrograms per gram of the waste:

   a. U044 Chloroform

   b. U228 Trichloroethylene

   c. U226 1,1,1-trichloromethane

   d. U2 11 Tetrachloroethane

2. Bulk-Feed Operations. Whenever the hazardous waste feed contains ten percent by weight or more of any listed hazardous waste, each such constituent is designated a POHC.

V.E. MONITORING

For each hazardous waste burn, the continuous monitoring and/or recording devices below shall be observed hourly by an operator during waste feed operation and the observation recorded in the operating record. For purposes of this requirement, permanent charts which are made a part of the record may be initialed to document such observation. A log identifying the full name associated with the initials shall be included with the record.

1. Flue gas scrubber solution pH, "Process Sump pH Out";

2. Primary Combustion Chamber Temperature, "Lower Chamber Temperature";

3. Secondary Combustion Chamber Temperature, "Upper Chamber Temperature";

4. Waste Feed Rate;

5. Flue gas carbon monoxide content;

6. Secondary combustion chamber oxygen content, "Upper Chamber Oxygen";

7. Combustion airflowrate, "Final Flow Totalizer";

8. Scrubber water recycle flow rate, "Absorber Liquid Flow" and "Quench Liquid Flow".

9. Total hydrocarbon reading from the exhaust stack.

10. Radioactivity from the exhaust stack.

V.F. OPERATION

During hazardous waste feed operations the following operational limits shall be observed:

1. Total Chloride Content. The aggregate chlorine content of the waste plus fuel shall not exceed 99.4 pounds per hour input to the CAI. Each batch of waste shall meet this standard.

2. Waste Feed Rates.

   a. Liquid hazardous wastes shall be introduced at a rate not to exceed 1.5 million Btu per hour total thermal input. Total thermal input shall include contributions from auxiliary fuel, hazardous and nonhazardous wastes.

   b. Solid hazardous wastes shall be introduced at a rate not to exceed 1.5 million Btu per hour total thermal input. Total thermal input shall include contributions from auxiliary fuel, hazardous and nonhazardous wastes. Of this feed rate, solid hazardous waste mixtures shall not exceed 125 pounds per hour.

3. Venturi Scrubber. The pressure drop across the venturi scrubber shall be a minimum of forty inches W.C.

4. High Efficiency Particulate Air Filters. The pressure drop across both on-line incinerator exhaust gas HEPA filter banks shall be a minimum of one-tenth inch W.C. or alternative equivalent manufacturer's performance specification.

5. Operating Temperatures.

   a. The incinerator shall be brought to operating temperature in both the primary and secondary combustion chambers before hazardous wastes are introduced.

   b. Primary chamber operating temperature shall be a minimum of 1400 degrees Fahrenheit, measured at the hot duct between the primary and secondary chambers.

   c. Secondary chamber operating temperature shall be a minimum of 2000 degrees Fahrenheit, measured at the chamber exit to the high temperature duct.

   d. Temperatures shall be maintained above these minimums as long as hazardous wastes remain in the incinerator, except that during an emergency shutdown these temperatures need not be maintained after waste feed is terminated.

6. Effluent Control System Solution.

   a. The effluent control system (ECS) scrubber solution shall be recycled to the packed column absorber at a minimum flow rate of 1 0 gallons per minute.

   b. The ECS scrubber solution shall be controlled with either sodium hydroxide or potassium hydroxide to a pH range above 1 .0 $\pm$ 3% .

7. Combustion Air.

   a. Exhaust gas flow shall not exceed:

      (i) 3654 pounds per hour during solid or semisolid waste incineration, or

      (ii) 3933 pounds per hour during liquid waste incineration.

   b. Carbon monoxide concentration, as measured by the continuous recording carbon monoxide analyzer, shall not exceed 100 parts per million by volume, except that for a period not to exceed five minutes, the system may continue to burn waste if the carbon monoxide concentration does not exceed 500 parts per million.

   c. Oxygen concentration in the secondary combustion chamber shall be a minimum of seven and one-half percent (7.5%) for solids and six percent (6%) for liquids. Measurement accuracy shall be $\pm$ 3%.

8. Total Hydrocarbon.

   a. Total hydrocarbon reading in the exhaust gas shall not exceed 20 parts per million corrected to dry stack gas for more than one hour rolling average where the stack gas is sampled at least 4 times per minute.

   b. Total hydrocarbon reading in the exhaust gas shall not exceed 100 parts per million for more than one minute.

   c. Total hydrocarbon reading in the exhaust gas shall not exceed 500 parts per million for any reading.

9. Radioactivity.

   a. The exhaust gas radioactivity measured during operation under this permit shall! not exceed the background by ten percent (10%) for more than one minute.

   b. The exhaust gas radioactivity measured during operation under this permit shall not exceed the background by fifty percent (50%).

   c. Background is defined as that level of radiation read when the incinerator is operating at the parameters required for hazardous waste treatment but no waste feed occurring measured prior to hazardous waste treatment.

10. Automatic Shutdown.

   a. The Permittee shall install and properly maintain a system of monitors and automatic waste feed cutoff so that hazardous waste feed is shutdown whenever the operating conditions in permit paragraphs V.F.3. through V.F.9. above are not met.

   b. Hazardous wastes shall not be reintroduced to the incinerator until the cause of any automatic shutdown is determined and appropriate corrective action is taken.

11. Waste Handling Practices.

   a. Wastes to be incinerated shall be stored only at storage areas authorized in permit paragraph III.A. above.

   b. Liquid and solid feed preparation operations which take place at the CAI shall be performed in accordance with the provisions of:

(1) Los Alamos National Laboratory Manual, Chapter 1, Health and Safety, Current edition. A copy shall be readily available to the operator.

(2) Permit Attachment J, "Incinerator Operational Safety". A copy shall be readily available to the operator.

(3) The operating manual for the Controlled Air Incinerator. A copy shall be readily available to the operator.

(4) The applicable Operating Instruction(s), Safe Operating Procedures, and/or Special Work Permit(s) required for the particular operation being conducted. A copy of the applicable document(s) shall be readily available to the operator.

c. Sampling of wastes for analysis in accordance with Permit Attachment A. shall be done at the place of storage or at the incinerator waste feed tanks. Periodic quality control spot sampling may be done elsewhere in the incinerator area at the discretion of the inspector and with the approval of the incinerator supervisor.

V.G. EFFLUENT CONTROL

The incinerator effluent controls shall be operational at all times the incinerator is burning hazardous wastes.

1. Ash Control. Ash resulting from a listed waste burn shall be cemented and disposed of off site as a hazardous waste. Ash resulting from incineration of characteristic wastes or wastes listed solely due to characteristic shall be disposed of as a hazardous waste or analyzed for alternate disposition. If such analysis demonstrates the waste is no longer characteristic as defined in HWMR-5, as amended 1989, Part II, 40 CFR section 261, subpart C, it may be disposed of in accordance with other applicable regulations.

2. Effluent Control System. Effluent control system wastewater and filters shall be disposed of as a hazardous waste in accordance with applicable regulations. "Filters" as used herein applies to both the HEPA filters and the carbon absorber materials. The carbon absorber unit materials shall be replaced at intervals no longer than 2000 operating hours.

V.H. INSPECTION

The Permittee shall inspect the incinerator in accordance with Permit Attachment B. and the requirements below.

1. Spill Kits. The type, presence, location and quantity of spill kits shall be verified and annotated monthly. If spill kits are locked up, the location of access keys shall be verified.

2. Instrumentation. All gauges and instruments shall be inspected for calibration dates prior to incineration of wastes. No instrument or gauge shall be used if it has not been calibrated in accordance with its manufacturers, recommendations.

3. Warning Signs. The legibility and condition of warning signs shall be included in the quarterly inspection. Missing or illegible signs shall be promptly replaced within 24 hours of discovery.

   a. Signs shall be at the entrances to the hazardous waste units. Collocated units may be included within one signed area.

   b. Signs shall say "Danger, Unauthorized Personnel Keep Out" and "Hazardous Waste Storage Area".

   c. Signs shall be in English and Spanish.

   d. Signs on approachable fences shall be spaced no more than 50 feet apart.

4. Automatic Cutoff. The automatic cutoff system shall be tested every 2000 operating hours to demonstrate proper operation.

V.I. RECORDKEEPING

1. Waste History. The incinerator operating record shall include the source, date of receipt, description, quantity and rate of incineration for each batch of hazardous waste incinerated.

2. Waste Analysis. Records of waste analysis shall be kept in accordance with permit paragraph II.K.1.a. above.

3. Inspections. Records of inspection shall be kept for three years from the date of the last action taken as a result of the inspection.

4. Automatic Waste Feed Cutoff. Whenever the automatic waste feed cutoff system required by permit paragraph V.F.8. above operates, the cause, time and remedy or repair shall be entered in the operating record. This record shall include the testing or demonstration operations required by permit paragraph V.H.4. above.

5. Effluent Analysis.

a. Whenever sampling and analysis of the incinerator combustion exhaust or effluent control system scrubber solution are done, the sampling date, individual(s), methods and analytical results shall be entered in the operating record.

b. The destruction and removal efficiency (DRE) shall be reverified after incinerator modifications affecting the DRE, upon accumulation of eight thousand hours of hazardous waste incineration time or five years after the effective date of this permit, ~~whichever occurs first or if EID determines that new information requires further testing of the incinerator. Subsequent to a modification subject to this paragraph the time calculation shall be restarted~~ or if the incinerator has not been operable under the permit then the DRE will be reverified prior to commencement of treatment of waste.

c. Results of calculations of the DRE associated with effluent analysis shall be entered in the operating record.

V.J. CLOSURE

The incinerator shall be closed in accordance with HWMR-5, as amended 1989, Part V, Subpart G and Part V, 40 CFR section 264.351, permit paragraphs II.L. and V.J. and Permit Attachment E.

1. Incinerator Components. The waste feed components and combustion chambers, along with interconnecting plumbing, may be steam cleaned with a detergent solution. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the steam cleaning may be repeated until no detectable hazardous constituents are found.

2. Effluent Control System. The ECS may be drained and flushed with a detergent solution. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the cleaning may be repeated until no detectable hazardous constituents are found.

3. Waste Storage Tanks. The waste storage tanks may be drained and washed with a detergent solution or steam cleaned. The spent cleaning solution shall be collected

and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the cleaning may be repeated until no detectable hazardous constituents are found.

4. Closure Residues.

   a. All final cleaning solutions used for closure shall be tested for POHCs designated in permit paragraph V.D. above. Solutions showing detectible POHC(s) or hazardous waste characteristics shall be disposed of as hazardous wastes.

   b. Any component not decontaminated in accordance with permit paragraph V.J. above shall be disposed of as hazardous waste.

MODULE V CONTROLLED AIR INCINERATOR OPERATION

V.A. GENERAL CONDITIONS

1. Authorized Unit. The unit is the modified Environmental Control Products model ECP 500-T Controlled Air Incinerator (CAI) located in Technical Area 50, Building 37 and configured as shown in Figure 8.

2. Destruction and Removal Efficiency. The incinerator and associated effluent control system shall be operated to achieve a minimum destruction and removal efficiency (DRE) of 99.99% calculated in accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343(a). A minimum DRE of 99.9999% shall be achieved whenever waste F027 is incinerated.

3. Regulatory Compliance. In accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343(d), compliance with the operating conditions of this permit will be regarded as compliance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343. Evidence that compliance with these conditions is insufficient to ensure compliance with the performance standards of HWMR-5, as amended 1989, Part V, 40 CFR section 264.343, shall be information justifying permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.41 or 270.42 or permit revocation in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.43.

V.B. WASTE IDENTIFICATION

1. Authorized Wastes.

   a. Only wastes identified in Permit Attachment G. with the process code "T03" in column D.1. "Processes" shall be incinerated at the CAI.

   b. Only wastes generated at the Permittee's facility shall be incinerated. See permit paragraph II.B.2. above.

2. Prohibited Wastes.

   a. The following listed hazardous wastes shall not be incinerated unless chemical analysis shows them to not exceed one hundred micrograms per gram concentration in the waste:

      (i) U121 Trichloromonofluoromethane (Freon 11)

(ii) U225 Tribromomethane

(iii) U075 Dichlorodifluoromethane (Freon 12)

b. Any future listed hazardous waste with a heat of combustion less than 0.24 kilocalories per gram shall not be incinerated unless chemical analysis shows it to not exceed one hundred micrograms per gram concentration in the waste.

c. Wastes generated off-site shall not be incinerated. See permit paragraph II.B.2.above.

3. Physical Form. Wastes in gaseous, liquid, solid, or semi-solid sludge forms may be incinerated.

V.C. WASTE ANALYSIS

1. Waste Analysis Plan. The Permittee shall follow Permit Attachment A. Each knowledge of process determination shall be documented and justified. Each batch of waste shall be analyzed in accordance with Permit Attachment A.4.1.2.

2. Analysis of Waste Blends. Waste blends of previously analyzed materials shall not require reanalysis unless:

a. Physical properties are expected to vary more than five percent (5%) from those of the original feedstock, and

b. Those physical properties cannot be calculated based on previous analytical knowledge of the individual components or blends forming the new mixture.

c. Five percent (5%) of the waste blends not analyzed on an annual basis shall be subject to analysis as a quality control check of the calculated values. Agreement between analytical data and calculated values of ten percent (10%), based on the analytical data, shall be acceptable. Disagreement shall be investigated for cause and documented in the record, along with appropriate corrective actions. The next waste blend created after a disagreement shall be analyzed to confirm corrective action.

d. Waste blends may not be incinerated prior to receipt of analytical data.

3. Determination of Radionuclides Content. Each batch of waste treated under this permit shall be surveyed to determine its radionuclide content. Knowledge of Process

shall not be used for this survey.

4. Metals Standards. Each batch of liquid waste treated under this permit shall be analyzed to determine its metal content. For each metal, the waste feed rate, in grams/sec, should not exceed that dictated by the emissions screening limits for noncarcinogenic and carcinogenic metals for facilities in complex terrain determined by using the terrain adjusted effective stack height according to the EPA "Guidance on Metals and Hydrogen Chloride Controls for Hazardous Waste incinerators, Vol. IV, March, 1989"' or the succeeding guidance documents. Knowledge of Process analyses may be used on no more than 80% by volume of the wastes treated.

V.D. PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS

1. Routine Operations. For all hazardous waste burns the following constituents are designated as POHCs unless chemical or physical analysis shows they comprise less than 100 micrograms per gram of the waste:

   a. U044 Chloroform

   b. U228 Trichloroethylene

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2. Bulk-Feed Operations. Whenever the hazardous waste feed contains ten percent by weight or more of any listed hazardous waste, each such constituent is designated a POHC.

V.E. MONITORING

For each hazardous waste burn, the continuous monitoring and/or recording devices below shall be observed hourly by an operator during waste feed operation and the observation recorded in the operating record. For purposes of this requirement, permanent charts which are made a part of the record may be initialed to document such observation. A log identifying the full name associated with the initials shall be included with the record.

1. Flue gas scrubber solution pH, "Process Sump pH Out";

2. Primary Combustion Chamber Temperature, "Lower Chamber Temperature";

3. Secondary Combustion Chamber Temperature, "Upper Chamber Temperature";

4. Waste Feed Rate;

5. Flue gas carbon monoxide content;

6. Secondary combustion chamber oxygen content, "Upper Chamber Oxygen";

7. Combustion airflowrate, "Final Flow Totalizer";

8. Scrubber water recycle flow rate, "Absorber Liquid Flow" and "Quench Liquid Flow".

9. Total hydrocarbon reading from the exhaust stack.

10. Radioactivity from the exhaust stack.

V.F. OPERATION

During hazardous waste feed operations the following operational limits shall be observed:

1. Total Chloride Content. The aggregate chlorine content of the waste plus fuel shall not exceed 99.4 pounds per hour input to the CAI. Each batch of waste shall meet this standard.

2. Waste Feed Rates.

   a. Liquid hazardous wastes shall be introduced at a rate not to exceed 1.5 million Btu per hour total thermal input. Total thermal input shall include contributions from auxiliary fuel, hazardous and nonhazardous wastes.

   b. Solid hazardous wastes shall be introduced at a rate not to exceed 1.5 million Btu per hour total thermal input. Total thermal input shall include contributions from auxiliary fuel, hazardous and nonhazardous wastes. Of this feed rate, solid hazardous waste mixtures shall not exceed 125 pounds per hour.

3. Venturi Scrubber. The pressure drop across the venturi scrubber shall be a minimum of forty inches W.C.

4. High Efficiency Particulate Air Filters. The pressure drop across both on-line incinerator exhaust gas HEPA filter banks shall be a minimum of one-tenth inch W.C. or alternative equivalent manufacturer's performance specification.

5. Operating Temperatures.

a. The incinerator shall be brought to operating temperature in both the primary and secondary combustion chambers before hazardous wastes are introduced.

b. Primary chamber operating temperature shall be a minimum of 1400 degrees Fahrenheit, measured at the hot duct between the primary and secondary chambers.

c. Secondary chamber operating temperature shall be a minimum of 2000 degrees Fahrenheit, measured at the chamber exit to the high temperature duct.

d. Temperatures shall be maintained above these minimums as long as hazardous wastes remain in the incinerator, except that during an emergency shutdown these temperatures need not be maintained after waste feed is terminated.

6. Effluent Control System Solution.

a. The effluent control system (ECS) scrubber solution shall be recycled to the packed column absorber at a minimum flow rate of 1 0 gallons per minute.

b. The ECS scrubber solution shall be controlled with either sodium hydroxide or potassium hydroxide to a pH range above 1 .0 $\pm$ 3% .

7. Combustion Air.

a. Exhaust gas flow shall not exceed:

(i) 3654 pounds per hour during solid or semisolid waste incineration, or

(ii) 3933 pounds per hour during liquid waste incineration.

b. Carbon monoxide concentration, as measured by the continuous recording carbon monoxide analyzer, shall not exceed 100 parts per million by volume, except that for a period not to exceed five minutes, the system may continue to burn waste if the carbon monoxide concentration does not exceed 500 parts per million.

c. Oxygen concentration in the secondary combustion chamber shall be a minimum of seven and one-half percent (7.5%) for solids and six percent (6%) for liquids. Measurement accuracy shall be $\pm$ 3%.

8. Total Hydrocarbon.

   a. Total hydrocarbon reading in the exhaust gas shall not exceed 20 parts per million corrected to dry stack gas for more than one hour rolling average where the stack gas is sampled at least 4 times per minute.

   b. Total hydrocarbon reading in the exhaust gas shall not exceed 100 parts per million for more than one minute.

   c. Total hydrocarbon reading in the exhaust gas shall not exceed 500 parts per million for any reading.

9. Radioactivity.

   a. The exhaust gas radioactivity measured during operation under this permit shall! not exceed the background by ten percent (10%) for more than one minute.

   b. The exhaust gas radioactivity measured during operation under this permit shall not exceed the background by fifty percent (50%).

   c. Background is defined as that level of radiation read when the incinerator is operating at the parameters required for hazardous waste treatment but no waste feed occurring measured prior to hazardous waste treatment.

10. Automatic Shutdown.

   a. The Permittee shall install and properly maintain a system of monitors and automatic waste feed cutoff so that hazardous waste feed is shutdown whenever the operating conditions in permit paragraphs V.F.3. through V.F.9. above are not met.

   b. Hazardous wastes shall not be reintroduced to the incinerator until the cause of any automatic shutdown is determined and appropriate corrective action is taken.

11. Waste Handling Practices.

   a. Wastes to be incinerated shall be stored only at storage areas authorized in permit paragraph III.A. above.

   b. Liquid and solid feed preparation operations which take place at the CAI shall be performed in accordance with the provisions of:

(1) Los Alamos National Laboratory Manual, Chapter 1, Health and Safety, Current edition. A copy shall be readily available to the operator.

(2) Permit Attachment J, "Incinerator Operational Safety". A copy shall be readily available to the operator.

(3) The operating manual for the Controlled Air Incinerator. A copy shall be readily available to the operator.

(4) The applicable Operating Instruction(s), Safe Operating Procedures, and/or Special Work Permit(s) required for the particular operation being conducted. A copy of the applicable document(s) shall be readily available to the operator.

c. Sampling of wastes for analysis in accordance with Permit Attachment A. shall be done at the place of storage or at the incinerator waste feed tanks. Periodic quality control spot sampling may be done elsewhere in the incinerator area at the discretion of the inspector and with the approval of the incinerator supervisor.

V.G. EFFLUENT CONTROL

The incinerator effluent controls shall be operational at all times the incinerator is burning hazardous wastes.

1. Ash Control. Ash resulting from a listed waste burn shall be cemented and disposed of off site as a hazardous waste. Ash resulting from incineration of characteristic wastes or wastes listed solely due to characteristic shall be disposed of as a hazardous waste or analyzed for alternate disposition. If such analysis demonstrates the waste is no longer characteristic as defined in HWMR-5, as amended 1989, Part II, 40 CFR section 261, subpart C, it may be disposed of in accordance with other applicable regulations.

2. Effluent Control System. Effluent control system wastewater and filters shall be disposed of as a hazardous waste in accordance with applicable regulations. "Filters" as used herein applies to both the HEPA filters and the carbon absorber materials. The carbon absorber unit materials shall be replaced at intervals no longer than 2000 operating hours.

V.H. INSPECTION

The Permittee shall inspect the incinerator in accordance with Permit Attachment B. and the requirements below.

1. Spill Kits. The type, presence, location and quantity of spill kits shall be verified and annotated monthly. If spill kits are locked up, the location of access keys shall be verified.

2. Instrumentation. All gauges and instruments shall be inspected for calibration dates prior to incineration of wastes. No instrument or gauge shall be used if it has not been calibrated in accordance with its manufacturers, recommendations.

3. Warning Signs. The legibility and condition of warning signs shall be included in the quarterly inspection. Missing or illegible signs shall be promptly replaced within 24 hours of discovery.

   a. Signs shall be at the entrances to the hazardous waste units. Collocated units may be included within one signed area.

   b. Signs shall say "Danger, Unauthorized Personnel Keep Out" and "Hazardous Waste Storage Area".

   c. Signs shall be in English and Spanish.

   d. Signs on approachable fences shall be spaced no more than 50 feet apart.

4. Automatic Cutoff. The automatic cutoff system shall be tested every 2000 operating hours to demonstrate proper operation.

V.I. RECORDKEEPING

1. Waste History. The incinerator operating record shall include the source, date of receipt, description, quantity and rate of incineration for each batch of hazardous waste incinerated.

2. Waste Analysis. Records of waste analysis shall be kept in accordance with permit paragraph II.K.1.a. above.

3. Inspections. Records of inspection shall be kept for three years from the date of the last action taken as a result of the inspection.

4. Automatic Waste Feed Cutoff. Whenever the automatic waste feed cutoff system required by permit paragraph V.F.8. above operates, the cause, time and remedy or repair shall be entered in the operating record. This record shall include the testing or demonstration operations required by permit paragraph V.H.4. above.

5. Effluent Analysis.

a. Whenever sampling and analysis of the incinerator combustion exhaust or effluent control system scrubber solution are done, the sampling date, individual(s), methods and analytical results shall be entered in the operating record.

b. The destruction and removal efficiency (DRE) shall be reverified after incinerator modifications affecting the DRE, upon accumulation of eight thousand hours of hazardous waste incineration time or five years after the effective date of this permit, or if the incinerator has not been operated under the permit then the DRE will be reverified prior to commencement of treatment of waste.

c. Results of calculations of the DRE associated with effluent analysis shall be entered in the operating record.

V.J. CLOSURE

The incinerator shall be closed in accordance with HWMR-5, as amended 1989, Part V, Subpart G and Part V, 40 CFR section 264.351, permit paragraphs II.L. and V.J. and Permit Attachment E.

1. Incinerator Components. The waste feed components and combustion chambers, along with interconnecting plumbing, may be steam cleaned with a detergent solution. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the steam cleaning may be repeated until no detectable hazardous constituents are found.

2. Effluent Control System. The ECS may be drained and flushed with a detergent solution. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the cleaning may be repeated until no detectable hazardous constituents are found.

3. Waste Storage Tanks. The waste storage tanks may be drained and washed with a detergent solution or steam cleaned. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the cleaning may be repeated until no detectable hazardous constituents are found.

4. Closure Residues.

a. All final cleaning solutions used for closure shall be tested for POHCs designated in permit paragraph V.D. above. Solutions showing detectible POHC(s) or hazardous waste characteristics shall be disposed of as hazardous wastes.

b. Any component not decontaminated in accordance with permit paragraph V.J. above shall be disposed of as hazardous waste.