RCRA PART B REVIEW

CHECKLIST FOR STORAGE FACILITIES

1.) Facility Name - INTERNATIONAL SOLVENT RECOVERY INC.

2.) Facility Address - 6740 CROSSWINDS DRIVE NORTH, SUITE D
(city/state) ST PETERSBURG, FL. 33710
BARTOW MUNICIPAL AIRPORT INDUSTRIAL PARK

3.) EPA I.D. # - FLD 980 729 610

4.) Reviewer's Name - _____

Reviewer's Agency - FL. DEPT. OF ENVIRONMENTAL REGULATION

5.) Part B Review return due date - _____

6.) Date Review Completed - _____

7.) Reviewer's Certification

I certify that I have reviewed the Part B application noted above and have evaluated the applicant's compliance with the RCRA permitting requirements outlined in 40 CFR 122 and 264. The deficiencies which I have found in the application are noted in the attached Part B evaluation checklist, the list of deficiencies, and/or the transmittal memo. I have also noted any areas where I was unable to complete the technical evaluation.

Francis D. Hill
signature of reviewer

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE AND TREATMENT FACILITIES

Facility Name INTERNATIONAL SOLVENT RECOVERY INC. EPA I.D. Number FLD 980 729 610
Address 6740 CROSSWINDS DRIVE NORTH, SUITE D Permit Review Team
ST. PETERSBURG, FL. 33710
BARTOW MUNICIPAL AIRPORT INDUSTRIAL PARK
Contact Name MR. MARK WORLEY Date Review Complete
Contact Phone Number 813-384-6740
Date Received

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
PART A - APPLICATION	122.6(a) and (b) 122.4(d) 122.24	45 FR 35544, May 19, 1980 Ref. 1; Ref. 2		NOT INCLUDED
A-1 Label Items • EPA ID number • Facility name • Facility mailing address • Facility location				
A-2 Pollutant Characteristics				
A-3 Name of Facility				
A-4 Facility Contact • Name and title				
A-5 Facility Mailing Address				
A-6 Facility Location				
A-7 SIC Code(s) • Four digits				
A-8 Operator Information • Name • Address • Status • Phone				
A-9 Indian Land				
A-10 Existing Environmental Permits • NPDES • UIC • RCRA • PSD • Other				

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
A-11 Map • One mile beyond property line • Outline of facility • Location of existing and proposed intake and discharge structures • Hazardous waste treatment, storage, and disposal facilities • Underground injection wells • Springs, rivers, and other surface water bodies				NOT INCLUDED
A-12 Nature of the Business				
A-13 Certification • Name, title, and date • Acceptable signature				
A-14 EPA ID Number				
A-15 New/Existing Facility First/Revised Application				
A-16 Description and Design Capacity of TSD Processes • Process codes • Amount • Unit of measure				
A-17 Description of Hazardous Wastes • EPA hazardous waste number • Estimated annual quantity • Unit of measure • Process code • Process description				
A-18 Facility Drawing				
A-19 Facility Photograph				
A-20 Latitude and Longitude				
A-21 Facility Owner • Name • Address • Telephone				
A-22 Owner Certification • Name, signature, date				
A-23 Operator Certification • Name, signature, date				

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
PART B - FACILITY DESCRIPTION				
B-1 General Description A general description of the facility, including the nature of the business. Offsite facilities should identify the types of industry served; on-site facilities should briefly describe the process(es) involved in the generation of hazardous waste.	122.25(a)(1)		P. 1-5	B-1 — OD
B-2 Topographic Map A topographic map showing the facility and a distance of 1000 feet around it with the following information: • Scale 1 in < 200 ft • Contours sufficient to show surface water flow • Extend 1000 ft beyond property • Map scale • Map date • 100-yr floodplain • Surface waters • Surrounding land use • Wind rose • Map orientation • Legal boundaries • Location of access control • Injection and withdrawal wells • Buildings • Structures • Sewers • Loading and unloading areas • Fire control facilities • Flood control or drainage barriers • Run-off control systems • Location of hazardous waste units For large facilities the use of other scales may be acceptable on a case-by-case basis.	122.25(a)(19)	Ref. 3, Part 1; Ref. 4; Soil State Conservationists, U.S. Geological Survey District offices; Ref. 5; Ref. 6; Ref. 7; Ref. 8, Ch. 15.1.10; Ref. 9; Ref. 10; Ref. 11; Ref. 12, Ch. 12, Sec. II.B.2	ENCLOSURES MAPS BARTOW, FL. 7.5' QUAD. APENDEX A (P. 98-96)	B-2 — OD
B-3 Location Information	122.25(a)(11)	U.S. Geological Survey District Offices		B-3a — NA
B-3a Seismic Considerations For new facilities only, applicant must identify the political jurisdiction (county, township, or election district) in which facility will be located. If located in any of the political jurisdictions specified in Part 264 Appendix VI, the applicant must prove that the facility is located at least 3000 ft from any fault where movement has taken place in Holocene time or that no such faults pass within 200 ft of the portions of the facility used for treatment, storage, or disposal of hazardous waste.	122.25(a)(11)(i) and (ii) 264.18(a) 264 Appendix VI			

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
Proof may come from geologic studies, aerial photographs, field observations or subsurface investigations. All information gathered must be acceptable by a geologist experienced in evaluating seismic activity.				
B-3b Floodplain Standard Documentation of whether or not the facility is located within a 100-yr floodplain including the source of data (Federal Insurance Administration Map or other maps and calculations). If map other than FIA map is used demonstration of equivalent mapping technique should be provided. If located in 100-yr floodplain include: • 100-yr floodplain level • Other special flooding factors (e.g., wave action that must be considered to prevent washout)	122.25(a)(11)(iii) 264.18(b)	Ref. 3, Ref. 4; Ref. 5; Ref. 6; Ref. 9; Ref. 10	APENDIX B (P. 98-99)	B-3b — OD
B-3b(1) Demonstration of Compliance For facilities located within the 100-yr floodplain, a description of how the facility is designed, constructed, operated, and maintained to prevent washout of any hazardous waste during a flood. Either of the following may be used:	122.25(a)(11)(iv) 264.18(b)			B-3b(1) — OD
B-3b(1)(a) Flood Proofing and Flood Protection A structural or other engineering study showing how design of the tanks, containers, or waste piles and the flood proofing and protection devices at the facility will prevent washout. • Engineering analysis of hydrodynamic and hydrostatic forces • Structural or other engineering studies of hazardous waste units and flood protection devices	122.25(a)(11)(iv)(A) and (B)	Refs. 14-28		B-3b(1)(a) — OD
B-3b(1)(b) Flood Plan Description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded, including: • Timing related to flood levels • Estimated time to move the waste • The location to which the waste will be moved	122.25(a)(11)(iv)(C)	Ref. 3, Part 1, Sec. 3.1; Ref. 3, Part 1, Sec. 3.3.4; Ref. 3, Part 1, Sec. 3.3.5		B-3b(1)(b) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
• Procedures, equipment, and personnel to be used and the means to ensure that these resources will be available • Potential for accidental discharge of the waste • Demonstration that those facilities will be eligible to receive hazardous waste (e.g., permitted by EPA under Part 122, by a state with authorization under Part 123, or facilities with interim status under 122 and 264)				
B-3b(2) Plan for Future Compliance with Floodplain Standard For facilities located within the 100-yr floodplain that do not comply with the floodplain standard, a plan showing how and when the facility will be brought into compliance.	122.25(a)(11)(v)			B-3b(2) — OD
B-4 Traffic Information A description of the traffic pattern, including: All facilities • Estimated volume • Traffic pattern • Traffic control • Access road(s) • Load-bearing capacity and road surfacing Off-site facilities (only) • Movement of waste to the facility from the point where it leaves nearest major highway	122.25(a)(10)	Ref. 29	P. 24	B-4 — OD
PART C - WASTE CHARACTERISTICS				
C-1 Chemical and Physical Analyses For each hazardous waste treated, stored or disposed at the facility, the following information should be provided: • General description of the waste • Hazardous characteristics • Basis for hazard designation • Laboratory report on analyses results • Existing published or documented data on hazardous waste or hazardous waste from a similar process (new facilities only) At a minimum, the analyses should include all the information which must be known to treat, store, or dispose of the waste in accordance with the regulatory requirements.	122.25(a)(2) 264.13(a) 122.27(b)(2)(ii)(4)	Refs. 30-33 40 CFR §261, Subpart C, Appendix VII; and Appendix VIII	P. 11-12 P 41-69	C-1 — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
C-1a Containers • Free liquids • Waste specific parameters based on hazardous designation • Other information required for safe operation			P. 10-12	C-1a — OD
C-1b Tanks • Specific gravity • Waste specific parameters based on hazardous designation • Other information required for safe operation			P. 10-12 105-135 136-146	C-1b — OD
C-1c Waste Piles • Free liquids • Waste specific parameters based on hazardous designation • Other information required for safe operation				C-1c - NA
C-1d Surface Impoundments (Reserved)				C-1d — NA
C-1e Incinerators • Appendix VIII constituent • Heat value • Viscosity (liquids only) • Chlorine content • Other parameters needed for proper operation of the incinerator				
C-2 Waste Analysis Plan The Waste Analysis Plan should describe the procedures used to obtain chemical and physical information and data on the wastes to insure proper storage, treatment, and disposal.	122.25(a)(3) 264.13(b) and (c)	Ref. 100		
C-2a Parameters and Rationale A list of parameters chosen for analysis and an explanation of the rationale for their selection.	264.13(b)(1) 264.341	Ref. 33, Ch. 2.1.1; Ref. 34, Sec. 7.4.2; 40 CFR Part 261, Appendix VII	P. 10-12	C-2a — OD
C-2b Test Methods A description of the test methods used to test for parameters chosen.	264.13(b)(2)	40 CFR 261, Appendix II; Refs. 35-38	P. 11	C-2b — OD
C-2c Sampling Methods A list of the sampling methods used to obtain a representative sample of each waste to be analyzed.	264.13(b)(3) 261, Appendix I	40 CFR 261 Appendix I; Ref. 8; Refs. 34-36; Ref. 39; Refs. 41-43; Ref. 46	P. 10	C-2c — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
C-2d Frequency of Analysis A description of the frequency at which the analyses will be repeated. For an onsite facility this will be whenever there is a process change or as often as required to verify consistency of the waste feed.	264.13(b)(4)		P. 11	C-2d — OD
C-2e Additional Requirements for Wastes Generated Offsite A description of the procedures used to inspect and/or analyze wastes generated offsite that includes procedures to determine their identity and sampling methods used. Also information supplied by generator.	264.13(b)(5) 264.13(c)	40 CFR 261, Appendix I; Ref. 8, Ch. 9.5; Ref. 34, Sec. 4.2.3; Ref. 36, Sec. 4.0; Ref. 39; Ref. 40, Ch. V; Ref. 41, Part 3; Ref. 42, Part III		C-2e — OD
C-2f Additional Requirements for Facilities Handling Ignitable, Reactive, or Incompatible Waste If the facility stores or treats ignitable, reactive, or incompatible waste, a description of methods which will be used to meet the additional waste analsis requirements necessary for complying with the regulatory requirements for these types of hazardous waste.	264.13(b)(6) 264.17		P. 5+12	C-2f — OD
PART D - PROCESS INFORMATION				
D-1 Containers				
D-1a Containers with Free Liquids				
D-1a(1) Description of Containers A description of the facility's primary containment devices that includes basic design parameters, dimensions, material of construction, and compatibility of waste with containers. Information submitted should include: • Type of container(s) and construction material • Dimensions and useable volume • Liner specifications • Condition of containers • Manufacturer specifications • Determination of compatibility of wastes and containers with description of how compatibility is determined such as trial mixing of waste in containers.	122.25(b)(1)(i)(A) 264.171 264.172	Refs. 90-93	P 4, 12, 23, 30, 31, + 73-78	D-1a(1) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
D-1a(2) Container Management Practices A description of container management practices • Waste containers are always kept closed during storage, except when adding or removing waste. • Containers must not be stored in a manner that may cause them to rupture or to leak. • Adequately separated for inspection • Aisle space • Maximum number, height, volume, and types of containers in storage area • Locations of ignitable, reactive, or incompatible wastes • Machinery, equipment and procedures used to move containers	264.173	Ref. 90	P 73-78 P 71, 12 16, 17+ 30.	D-1a(2) — OD
D-1a(3) Secondary Containment System Design and Operation A description of the design and operation of the container storage area containment systems showing: • Design drawing of containment system • Capacity of system to hold spills, leaks, precipitation • Dimensions • Location of storage areas • Liquid collection system and location of sump • Description of base grade and slope • Description of curbs, dikes, berms, ditches, and trenches	122.25(b)(1) 264.175(b)		P. 23+ 73-78	D-1a(3) — OD
D-1a(3)(a) Requirement for the Base to Contain Liquids The base under the containers must be free of cracks or gaps and sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed. The applicant should address: • Construction and characteristics of base materials • Engineering evaluation of base structural integrity • Compatibility of base or liner with types of wastes stored	264.175(b)(1)	Ref. 90; Ref. 94; Ref. 95	P. 73	D-1a(3)(a) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
D-1a(3)(b) <u>Containment System Drainage</u> The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or otherwise protected from contact with accumulated liquids. For this requirement the applicant should address where applicable: • Describe handling and stacking practices • Grading of base • Drainage design and removal system so that standing liquid does not remain on base longer than one hour after a leakage or precipitation event.	122.25(b)(1)(i)(B) 264.175(b)(2)	Ref. 90; Ref. 96; Ref. 97	P. 73-78	D-1a(3)(b) — OD
D-1a(3)(c) <u>Containment System Capacity</u> The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Information that should be included to satisfy this requirement is: • Volume of largest container • Total volume of containers • Containment structure capacity • Capacity of run-off collection system • Geographic storm intensity/ frequency data	122.25(b)(1)(i)(C) 264.175(b)(3)	Ref. 90; Refs. 96-98	P. 74	D-1a(3)(c) — OD
D-1a(3)(d) <u>Control of Run-on</u> Run-on into the containment system must be prevented, unless the collection system has sufficient excess capacity in addition to that required in the above paragraph to contain any run-on that might enter the system. The applicant should discuss structures used to control run-on such as:	122.25(b)(1)(i)(D) 264.175(b)(4)	Ref. 90; Ref. 94; Ref. 95; Ref. 98	P. 75+76	D-1a(3)(d) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
• Containment system auxiliary structures (curbs, dikes, etc.) • Engineering grading design • Collection and removal system design capacity • Potential run-on • Demonstration that system has adequate capacity to handle run-on from precipitation event in addition to 10% of the volume of containers or the largest container whichever is greater.				
D-1a(4) Removal of Liquids from Containment System Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in a timely manner to prevent overflow of the containment system. Information that should be included when describing removal of accumulated liquids is: • How liquids will be analyzed • Removal equipment and methods (sump pump design, piping specifications, location, discharge point and capacity) • Management of accumulated liquid including prevention of overflow	122.25(b)(1)(i)(E) 264.175(b)(5)	Ref. 34; Ref. 35; Ref. 90; Ref. 97	P. 76-78	D-1a(4)—OD
D-1b Containers Without Free Liquids				
D-1b(1) Test for Free Liquids For areas that store containers of wastes that do not contain free liquids, the test procedures and results or other documentation or information showing that the wastes do not contain free liquids.	122.25(b)(1)(ii)(A)	40 CFR 265.314 Federal Register 8311 February 25, 1982		D-1b NA
D-1b(2) Description of Containers A description of the facility primary containment devices that includes basic design parameters, dimensions, materials of construction, and demonstration of compatibility of waste with containers. Information submitted should include:	264.171 264.172	Refs. 90-93		

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
• Types of container(s) and construction material • Dimensions and useable volume • Liner specifications • Container condition • Manufacturer specifications • Determination of compatibility of wastes and container with description of how compatibility is determined such as trial mixing of waste in containers				NA
D-1b(3) Container Management Practices A description of container management practices: • Waste containers are always kept closed during storage except when adding or removing waste • Containers are not opened, handled, or stored in a manner that may cause the container to rupture or to leak • Adequately separated for inspection • Aisle space • Maximum number, height, volume, and types of containers in storage area • Location of ignitable, reactive, and incompatible waste	264.173	Ref. 90		
D-1b(4) Container Storage Area Drainage The storage area must be sloped or otherwise designed to drain and remove liquid resulting from precipitation • Design drawing showing location of hazardous waste and dimensions • Description of stacking practices • Base slope • Drainage design and removal system	122.25(b)(1)(ii)(B) 264.175(c)	Ref. 90; Ref. 96; Ref. 97		
D-2 Tanks				
D-2a Description of Tanks A review of tank design specifications to assure that the tanks will not collapse or rupture. The specifications to be reviewed include shell strength, capacity, pressure controls, foundation, structural support, and seams sufficient to demonstrate that tank will not collapse or rupture. Specifically the applicant should address such items as:	122.25(b)(2) 264.191	Ref. 23; Ref. 24; Ref. 26; Ref. 27; Ref. 28; Ref. 29 Ref. 99	P. 79-85	D-2 — OD D-2a — OD - See D-2

	Subject requirement	40 CFR section Nos.	References	Location in application	Comments
	• Types and number of tanks • Tank wall thickness • Tank internal pressure and pressure controls • Foundation construction, specifications, and structural supports • Tank design specifications including dimensions, capacity, design, shell thickness, material and method of construction • Tank design standard code and year • Specifications on seams • Operating pressure and temperature • Type of waste contained in tanks • Specific gravity of tank liquids • Maximum height of liquid level				
D-2b	Tank Corrosion and Erosion A review of the pertinent characteristics of the tank construction material and lining materials to determine corrosion or erosion effects with wastes and other materials (i.e., treatment reagents). The applicant should also address: • Description of lining and coating materials • Corrosion allowance and corrosion and erosion rates. Demonstration of how minimum shell thickness will be maintained • Tank construction compatibility with waste and tests or documentation to substantiate compatibility • Description of treatment reagents	122.25(b)(2)(ii) 264.192(a)	Ref. 91; Ref. 99		D-2b — OD (See D-2)
D-2c	Tank Management Practices A description of the tank owner's or operator's operating practices and controls: • Description of controls to prevent overfilling and overtopping such as waste feed cut-off system(s), by-pass or standby tank • Demonstration of maintenance of sufficient freeboard to prevent overtopping by wave or wind action or precipitation for uncovered tanks • Tank process flow and piping diagrams • Description of tank instrumentation such as pressure, temperature, pH, level gauges and monitors • Description of safety devices such as rupture discs and safety vents • Description of pollution control devices such as vapor recovery systems	122.25(b)(2)(iv) and (v) 264.192(b)	Ref. 99	p. 24 & 54	D-2c — OD (See D-2)

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
D-3 Waste Piles (Reserved)				D-3 NA
D-4 Surface Impoundments (Reserved)				
D-5 Incinerators				
D-5a Justification for Exemption The applicant should have documentation including waste analysis to show that the waste exhibits only the ignitability, corrosivity or selected reactivity characteristic of Subpart C, is not a listed waste in Subpart D, and contains no or insignificant levels of Appendix VIII constituents.	122.25(b)(5)(i) 264.340(b)	Ref. 33		
D-5b Trial Burn If the applicant decides to conduct a trial burn to prove the incinerator can meet required performance standards under the established operating conditions, a trial burn plan or the results of a trial burn must be submitted. A statement should be included which suggests the conditions necessary to operate in compliance with performance standards including: • Restrictions on waste constituents • Waste feed rates • Operating parameters	122.25(b)(5)(ii) 122.27(b)(1)(i) 264.343 264.345	Ref. 33		
D-5b(1) Trial Burn Plan The trial burn plan should identify test protocol(s) to be used during trial burn.	122.27(b)(2)(i)	Ref. 33		
D-5b(1)(a) Waste Analysis An analysis of each waste or mixture of wastes to be burned which includes: • Heating value • Viscosity of liquid or physical form • Identification of any Part 261 Appendix VIII constituents • Quantity of any hazardous constituents	122.27(b)(2)(ii)(4) 264.341			

Subject requirement		40 CFR section Nos.	References	Location in application	Comments
D-5b(1)(b)	Detailed Description and/or Engineering Drawing of the Incinerator Including: • Manufacturer's name and model number • Type of incinerator • Linear dimensions of incinerator unit including cross sectional area of combustion chamber • Description of the auxiliary fuel system (type and feed) • Capacity of prime mover • Description of automatic waste feed cut-off system(s) • Stack gas monitoring and pollution control equipment • Nozzle and burner design • Construction materials • Location and description of temperature, pressure, and flow indicating and control devices.	122.27(b)(2)(ii)(B)	Ref. 33; Refs. 44 - 47; Ref. 53-57		N/A
D-5b(1)(c)	Sampling and Monitoring Procedures A detailed description of sampling and monitoring procedures including: • Sampling and monitoring locations • Sampling and monitoring equipment • Sampling and monitoring frequency • Analytical procedures • Monitoring frequency	122.27(b)(2)(ii)(C) 264.347	Ref. 28; Ref. 33; Ref. 35; Ref. 38; Ref. 39; Ref. 43		
D-5b(1)(d)	Test Schedule • Dates when shake-down and trial burn are planned • The duration of each test burn • The quantity of waste to be burned during each test burn • Other relevant factors	122.27(b)(2)(ii)(D)	Ref. 33		
D-5b(1)(e)	Test Protocol for Each Waste Identifying Variable Parameters or Operating Conditions Significant variations would include such items as increases in POHC levels; increases in levels of other hazardous constituents; change in ease of combustibility such as a decrease in waste heating values and increases in solids or halogen content.	122.27(b)(2)(ii)(E) 264.345	Ref. 33; Ref. 44		

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
D-5b(1)(e)(1) Temperature Range Temperatures at which each test burn will take place. The applicant should specify test burns for at least two temperatures unless he is confident that operating and performance standards will be met at the designated combustion temperature. Usually, and especially when auxiliary fuel is necessary, the applicant will want to establish the minimum temperature at which all requirements will be met. This will also serve to establish the temperature at which automatic waste feed cutoff systems will be activated. If a temperature range is given in the Part B Application, the permit writer should specify at least the lower temperature as a condition of the draft permit so that a "worst case" operating condition is used for at least one test burn.		Ref. 33		NA
D-5b(1)(e)(2) Waste Feed Rate A waste feed rate for each test burn. The applicant will again want to test at more than one feed rate. To optimize the feed rate, the applicant will want to determine the maximum feed rate. If a feed rate range s given in the permit application, the permit writer should specify the upper limit of the range as a condition of the draft permit so that "worst case" operating parameters are used during at least one test burn.		Ref. 33		
D-5b(1)(e)(3) Combustion Gas Velocity A combustion gas velocity for each test burn should be established. Where systems have a blower(s) with one output rate (i.e., not adjustable),		Ref. 33; Ref. 44		

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
the output should be designated in scfm at the specified system pressure drop.				N/A
D-5b(1)(e)(4) Auxiliary Fuel An auxiliary fuel feed rate for each test burn.		Ref. 33; Ref. 44		
D-5b(1)(e)(5) Other Operating Conditions • Expected CO level in stack gas • Variations in incinerator system design or operating procedures • Control of fugitive emissions (i.e., sealed combustion zone, negative operating pressure) • Waste feed cut off system and conditions which automatically activate				
D-5b(1)(e)(6) Other relevant factors affecting DRE				
D-5b(1)(f) Operating Conditions for Pollution Control Devices A description of conditions for pollution control devices including the following: Scrubbers • Pressure drop • Temperature at inlet • Liquid/gas ratios • pH of scrubbing liquid ESP • Temperature at inlet • Gas flow rate • Rapping interval, intensity and duration • Voltage and current density Fabric filter • Pressure drop • Temperature at inlet • Gas flow rate	122.27(b)(2)(ii)(F)	Ref. 44; Ref. 48-52		
D-5b(1)(g) Shut-down Procedures				
D-5b(1)(h) Other Pertinent Information				

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
D-5b(2) Results of Trial Burn Results including all required determinations as detailed in trial burn plan. This should be submitted within 90 days of completion of trial burn.	122.25(b)(5)(ii)			
D-5b(2)(a) Feed POHC's				
D-5b(2)(b) Emissions of POHC's, CO_2, and O_2				
D-5b(2)(c) Analysis of Scrubber water and Residues				
D-5b(2)(d) DRE of POHC's				
D-5b(2)(e) Chlorine Removal Efficiency				
D-5b(2)(f) Particulate Emissions				
D-5b(2)(g) Source of Fugitive Emissions				
D-5b(2)(h) Combustion Gas Temperatures and Velocity				
D-5b(2)(i) CO_2 Measurement in Exhaust Gas				
D-5b(2)(j) Additional Information				
D-5b(3) Certification That Trial Burn Was Conducted According to Trial Burn Plan				
D-5c Trial Burn Substitute Submissions An applicant may forego a trial burn if he or she can provide sufficient information and data to show that the incinerator design and waste to be incinerated are comparable to an existing incinerator for which a successful trial or operational burn has been performed using a similar waste (Note: A successful burn means that all operating and performance standards under Part 264 Subpart O were met.)	122.25(b)(5)(iii)	Ref. 33		
D-5c(1) Waste Analysis An analysis of each waste or mixture of wastes to be burned including: • Heat value • Viscosity or physical form • Identification of Appendix VIII constituents • Quantification of Appendix VIII constituents	122.25(b)(5)(iii)(A) 122.25(b)(5)(iii)(H) 264.341			

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
• Quantification of possible POHC's based on data submitted from other burns • Information needed to designate POHC's				N/A
D-5c(2) Engineering Description A detailed engineering description including: • Manufacturer's name and model number • Type of incinerator • Linear dimensions including cross sectional area of combustion chamber • Description of auxiliary fuel system • Capacity of prime mover • Description of automatic waste feed cutoff system(s) • Stack gas monitoring and pollution control monitoring system • Nozzle and burner design • Construction materials • Location and description of temperature, pressure, and flow indicating devices and control devices	122.25(b)(5)(iii)(B)			
D-5c(3) Waste Similarity A description and analysis of the waste to be burned compared with data from operational or trial burns to support contention that trial burn is not needed including POHC's.	122.25(b)(5)(iii)(C)			
D-5c(4) Design and Operating Conditions Design and operating conditions of the incinerator unit to be used compared with that for which comparative burn data are available.	122.25(b)(5)(iii)(D)	Ref. 33; Ref. 44-47; Refs. 53-58		
D-5c(5) Description of Results Description of results submitted from previously conducted trial burn(s) • Sampling and analysis techniques used to calculate performance standards in 264.343 • Methods and results of monitoring temperatures, waste feed rates, carbon monoxide and an appropriate indicator of combustion gas velocity • Certification of results	122.25(b)(5)(iii)(E)	Ref. 33; Ref. 44		

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
D-5c(6) Incinerator Operation Information Expected incinerator operation information including: • Expected CO • Waste feed rate • Combustion zone temperature • Stack gas volume, flow rate and temperature • Computed residence time • HCl removal efficiency • Fugitive emissions and control procedures • Waste feed cut-off limits	122.25(b)(5)(iii)(F) 264.345	Ref. 33; Ref. 44		NA
D-5c(7) Supplemental Information	122.25(b)(5)(iii)(G)			
PART E - GROUNDWATER MONITORING (Reserved)				
PART F - PROCEDURES TO PREVENT HAZARDS				
F-1 Security				
F-1a Security Procedures and Equipment Unless a waiver is granted, the facility must demonstrate the following:	264.14 122.25(a)(4)	Ref. 59	P. 8-9	F-1
F-1a(1) 24-Hour Surveillance System A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) that continuously monitors and controls entry onto the active portion of the facility; or	264.14(b)(1)	Ref. 59		F-1a(1) — NA
F-1a(2) Barrier and Means to Control Entry	264.14(b)(2)(i)	Ref. 59		
F-1a(2)(a) Barrier An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff) that completely surrounds the active portion of the facility; and • Height • Material of construction			P. 8	F-1a(2)(a) — OK

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
F-1a(2)(b) Means to Control Entry A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).	264.14(b)(2)(ii)		P. 8-9	F-1a(2)(b) — OD
F-1a(3) Warning Signs The facility must have a sign with the legend, "Danger - Unauthorized Personnel Keep Out", which must be posted at each entrance to the active portion of the facility and at other locations, in sufficient numbers to be seen from any *approach to this active portion.* The legend must be written in English and in any other language predominant in the area surrounding the facility and must be legible from a distance of at least 25 ft. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion and that entry onto the active portion can be dangerous.	264.14(c)		P. 8	F-1a(3) — OD
F-1b Waiver If a waiver of these requirements is requested, the owner or operator must demonstrate the following:	264.14(a)			F-1b N/A
F-1b(1) Injury to Intruder Physical contact with the waste, structure, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock that may enter the active portion of a facility; and	264.14(a)(1)	Ref. 36, Ch. 5, Secs. 2 and 4		
F-1b(2) Violation Caused by Intruder Disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility will not cause a violation of the requirements of 40 CFR Part 264.	264.14(a)(2)	Ref. 36, Ch. 5, Secs. 3 and 4		

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
F-2 Inspection Schedule	122.25(a)(5) 264.15			
F-2a General Inspection Requirements A description of the facility inspection schedule (schedule must be kept at the facility) for the following equipment: • Monitoring equipment. • Emergency and safety equipment. • Security devices. • Operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards.	264.15(a) and (b) 264.33	Ref. 62, Ch. 9; Ref. 63, Vol. 12; Ref. 63; Vol. I	P. 18-22	F-2a — OD
F-2a(1) Types of Problems The schedule must identify the types of problems to look for during the inspection (e.g., leaks, deterioration, readings out of specified range, missing items or materials, inoperative equipment, etc.).	264.15(b)(3)		P. 19-22	F-2a(1) — OD
F-2a(2) Frequency of Inspection A description of the frequency of inspection for items on the schedule. The frequency of inspection should be based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. All emergency waste feed cut-off valves must be inspected at least weekly to verify proper operation. All system alarms must also be tested daily.	264.15(b)(4) 264.347(3)		P. 18	F-2a(2) — OD
F-2b Specific Process Inspection Requirements F-2b(1) Container Inspection A description of the weekly inspection of containers and container storage areas for leaks in containers or deterioration of the containment system.	122.25(a)(5)		P. 19-21	F-2b(1) — OD
F-2b(2) Tank Inspection • A description of the daily inspection of overfilling control equipment, monitoring equipment and level of waste in uncovered tanks.	264.194		P. 18-21	F-2b(2) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
• A description of the weekly inspection of tank construction materials and the area surrounding the tank. • A schedule describing the daily monitoring of monitoring equipment (e.g., pressure and temperature gauges) where present to ensure that the tank is operated according to design specifications. • A schedule showing the level of waste in uncovered tanks is inspected daily. • A schedule and procedure for assessing the condition of the tank. • A procedure for emptying a tank to allow entry and inspection when necessary.				
F-2b(3) Waste Pile Inspection • A description of the inspection of waste pile liner systems and containment system during their construction or installation. • Inspection of manufactured liner materials to ensure tight seams and joints and the absence of tears or blisters during construction or installation. • Inspection of the containment system whenever any indication of possible failure is indicated.	264.254 264.255			F-2b(3) — NA
F-2b(4) Surface Impoundment Inspection (Reserved)				
F-2b(5) Incinerator Inspection • Incinerator and associated equipment must be inspected visually at least daily for leaks, spills, fugitive emissions and signs of tampering • Emergency waste feed cut-off system and associated alarms must be tested weekly unless the applicant demonstrates that weekly frequency is unduly restrictive. At minimum operational testing must be conducted monthly.	264.347			
F-2c Remedial Action Procedures for taking remedial actions when inspections reveal problems. (These may alternately be described in the contingency plan.)	264.15(c) 264.194(c) 264.255		P. 29-40	F-2c — OD

Subject requirement	40 CFR section Nos.	References	location in application	Comments
F-2d Inspection Log A description of the inspection log or summary including the following: • Dates and times of inspections • Name(s) of inspector(s) • Observations made • Date and nature of repairs or remedial actions	264.73(b)(5) 264.15(d)		P. 19-22	F-2d — OD
F-3 Waiver of Preparedness and Prevention Requirements	122.25(a)(6)			F-3a — NA
F-3a Equipment Requirements Unless it can be demonstrated that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below, the facility must have the following equipment:	264.32			
F-3a(1) Internal Communications An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.	264.32(a)		P. 70	F-3a(1) — OK
F-3a(2) External Communications A device such as a telephone (immediately available at the scene of operations) or a handheld two-way radio, for summoning emergency assistance from local police departments, or state or local emergency response teams.	264.32(b)		P. 70	F-3a(2) — OK
F-3a(3) Emergency Equipment • Fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals and portable fire extinguishers • Spill control equipment • Decontamination equipment	264.32(c)	Ref. 30, Sec. 7; Ref. 63, Secs. 4-7, 5-5, 6-8, 8-6, 9-4; Ref. 75; Ref. 76	P. 39471	F-3a(3) — OD
F-3a(4) Water for Fire Control • Water at adequate volume and pressure to supply water hose streams • Foam-producing equipment • Automatic sprinklers or water spray systems	264.32(d)		P. 71436	F-3a(4) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
F-3b Aisle Space Requirement Requests for a waiver of the aisle space requirement must be accompanied by a demonstration that aisle space is not needed to allow the unobstructed movement of personnel, fire protection equipment, or spill control equipment to any area of facility operation in an emergency.	264.35		P. 70-71, 73-75	F-3 b — OK
F-4 Preventive Procedures, Structures, and Equipment A description of procedures, structures, or equipment used at the facility for the following:	122.25(a)(8)			
• Prevention of hazards in unloading operations (e.g., use of ramps or special forklifts).	122.25(a)(8)(i)	Ref. 30, Sec. 7	[redacted] P.23, 30-33, ¥39	F-4 — OD
• Prevention of runoff from hazardous waste handling areas to other areas of the facility or environment, or prevention of flooding (e.g., berms, dikes, trenches).	122.25(a)(8)(ii)			
• Prevention of contamination of water supplies	122.25(a)(8)(iii)			
• Mitigation of effects of equipment failure and power outages	122.25(a)(8)(iv)			
• Prevention of undue exposure of personnel to hazardous waste (e.g., protective clothing).	122.25(a)(8)(v)	Ref. 39, Ch. 2, Part 4; Ref. 62, Ch. 4-7		
F-5 Prevention of Reaction of Ignitable, Reactive and Incompatible Wastes			P.23X24	F-5a — OD
F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste A description of the precautions taken by a facility that handles ignitable or reactive waste to prevent actual ignition, including separation from sources of ignition such as open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., heat producing chemical reactions), and radiant heat. Demonstration that when ignitable or reactive waste is being handled, the owner or operator confines smoking and open flames to specially designated locations. "No Smoking" signs must be conspicuously placed wherever a hazard exists from ignitable or reactive waste.	122.25(a)(9) 264.17(a)			

	Subject requirement	40 CFR section Nos.	References	Location in application	Comments
F-5b	General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste A description of the precautions taken by a facility that treats, stores, or disposes of ignitable or reactive waste, or accidentally mixes incompatible waste or incompatible wastes and other materials, to prevent reactions which: (1) generate extreme heat or pressure, fire or explosions or violent reactions; (2) produce uncontrolled flammable fumes, dusts, or gases in sufficient quantities to threaten human health or the environment; (3) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions; (4) damage the structural integrity of the device or facility; (5) by similar means threaten human health or the environment.	122.25(a)(9) 264.17(b)		P.23& 24	F-5 b — ~~OD~~ OK
F-5c	Ignitable or Reactive Wastes in Containers Sketches, drawings, or data demonstrating that containers of ignitable or reactive waste are located at least 15 meters (50 feet) from the facility's property line.	122.25(b)(1)(iii) 264.176		P. 70	F-5 c — OK
F-5d	Incompatible Wastes in Containers • The procedures used to ensure that incompatible wastes and materials are not placed in the same container (unless 264.17(b) is complied with) or in an unwashed container that previously held incompatible waste, • Dikes, berms, walls, or other devices used to separate wastes in containers, piles, open tanks, or surface impoundments.	122.25(b)(1)(iii) 264.177		P. 1-3	F-5d — OD
F-5e	Ignitable or Reactive Wastes in Tanks A description of the operational procedures used for storing such wastes in tanks that includes specific information on: • How the waste is treated, rendered, or mixed before or immediately after placement in the tank so that it is no longer considered ignitable and complies with §264.17(b); or the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite; or the tank is used solely for emergencies.	122.25(b)(2)(vi) 264.198		P. 83	F-5e — ~~OD~~ OK

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
• How facilities that treat or store ignitable or reactive waste in covered tanks comply with the National Fire Protection Association's buffer zone requirements for tanks.				
F-5f Incompatible Wastes in Tanks	122.25(b)(2)(vi) 264.199(b)		[redacted]	F-5f — OD
F-5g Ignitable or Reactive Wastes in Waste Piles (Reserved)	122.25(b)(4)(iii) 264.256			F-5g NA
F-5h Incompatible Wastes in Waste Piles (Reserved)	122.25(b)(4)(iii) 264.257		[redacted]	
F-5i Ignitable or Reactive Wastes in Surface Impoundments (Reserved)				
F-5j Incompatible Wastes in Surface Impoundments (Reserved)				
PART G - CONTINGENCY PLAN A copy of the Contingency Plan or Spill Prevention control and Countermeasures (SPCC) Plan amended for hazardous waste management to describe the actions facility personnel will take in response to fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, surface water, or groundwater at the facility.	122.25(a)(7) 264.50 through 264.56	Ref. 36, Ch. 2; Ref. 64-68		
G-1 General Information • Facility name and location and owner or operator name • Site plan • Description of facility operations	122.25(a)(7) 264.52 264.53	Ref. 36, Ch. 2	P. 36	G-1 — OD
G-2 Emergency Coordinators • Names, addresses, office and home phone numbers, and duties of primary and alternate coordinates • A statement authorizing designated coordinators to commit the necessary resources to implement the contingency plan	264.52(d) 264.55	Ref. 36, Ch. 2	[redacted]	G-2 — OD
G-3 Implementation Criteria for implementation of contingency plan for any potential emergency.	264.52(a) 264.56(d)	Ref. 64; Ref. 65; Ref. 68	P. 35+37	G-3 — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
G-4 Emergency Response Procedures				
G-4a Notification Methodology for immediate notification of facility personnel and necessary state or local agencies.	264.56(a) 264.56(d)(1) 264.56(d)(2)	Ref. 64; Ref. 68	P. 37	G-4a — OD
G-4b Identification of Hazardous Materials Available data and/or procedures for identification of hazardous materials involved in the emergency and quantity and areal extent of release. Include information on: • Biological, physical, and chemical properties of the waste • Exact source • Amount • Areal extent of release	264.56(b)	Ref. 36, Ch. 2; Ref. 69	P. 34, P. 41-69	G-4b — OK
G-4c Hazard Assessment • Procedure for assessment of possible hazards to the environment and human health • Procedure for determining the need for evacuation and notification of authorities. The authorities to be notified should include the On-Scene-Coordinator for that area or the National Response Center.	264.56(c) 264.56(d)	Ref. 30; Ref. 36, Ch. 2; Ref. 60; Ref. 61; Ref. 64; Ref. 65; Ref. 68; Ref. 70, Ch. 1	P. 37	G-4c — OD
G-4d Control Procedures • Specific responses and control procedures to be taken in the event of a fire, explosion, or release of hazardous waste to air, land, or water, including procedures for rapidly stopping waste feed.	264.52(a) 122.27(b)(2)(ii)(G)	Ref. 33; Ref. 34; Ref. 36, Ch. 2; Ref. 44, Ch. 4; Refs. 64-68; Ref. 70; Ref. 71; Ref. 72	P. 35-38	G-4d — OD
G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases During an emergency situation, a description of the necessary steps to be taken to ensure that fires, explosions, or releases do not occur, reoccur, or spread to other hazardous waste at the facility. Steps should include: • Shut-down of processes and continued monitoring of them • Collecting, containing, and treating released wastes • Removing and isolating containers and • Proper use of fire control structures (e.g., fire doors), systems (e.g., sprinkler systems), and equipment (e.g., extinguishers)	264.56(e)	Ref. 36, Ch. 2; Ref. 71; Ref. 73; Ref. 74	P. 34 P. 35 P. 35-37	G-4e — OD

	Subject requirement	40 CFR section Nos.	References	Location in application	Comments
G-4f	Storage and Treatment of Released Material • Provisions for treatment, storage, or disposal of any hazardous waste resulting from a release, fire, or explosion at the facility • Equipment available • Procedures for deployment of these resources • Methods to contain, treat, and clean up a hazardous release and decontaminate the affected area	264.56(g)	Ref. 70, Ch. 3 and 4	P. 33-37	G-4f — OD
G-4g	Incompatible Waste Provisions for prevention of incompatible waste from being treated, stored, or located in the affected areas until cleanup procedures are completed.	264.56(h)(1)	Ref. 36, Ch. 2	Not found	G-4g — Not found.
G-4h	Post-Emergency Equipment Maintenance Procedures for ensuring that all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	264.56(h)(2)	Ref. 36, Ch. 2	P. 38	G-4h — ok
G-4i	Container Spills and Leakage Procedures for responding to container spills or leakage including removal of spilled waste and repair or replacement of containers.	264.171		P. 34	G-4i — ok
G-4j	Tank Spills and Leakage Procedures for responding to tank spills or leakage including removal of spilled waste and repair of tank.	264.194(c)	Ref. 78	P. 34	G-4j — OD
G-4k	Waste Pile Spills and Leakage Upon indication of failure: • Inspection of containment system • Evaluation and repair plan techniques and schedule of actions for repair • Procedures to remove waste pile from service • Conditions to be met to return waste pile to service including containment system repair and certification by a qualified engineer • Closure of waste pile if not repaired	264.255 264.258			G-4k — NA G-4l — NA
G-4l	Surface Impoundments Spills and Leakage (Reserved)				

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
G-5 Emergency Equipment Location, description, and capabilities of emergency equipment. This should include: • Spill control equipment • Fire control equipment • Personnel protective items such as respirators and protective clothing • First aid and medical supplies • Emergency decontamination equipment • Emergency communication and alarm systems	264.52(e)	Ref. 30; Ref. 36, Ch. 2; Ref. 62, Ch. 5; Ref. 70; Ref. 75; Ref. 76	P. 33+39 P. 36 P. 33 P. 70	G-5 → OD
G-6 Coordination Agreements • A description of coordination agreements with local police and fire departments, hospitals, contractors, and state and local emergency response teams to familiarize them with the facility and actions needed in case of emergency • A statement indicating that a copy of the contingency plan has been submitted to these organizations • If applicable, documentation of refusal to enter into a coordination agreement	264.52(c) 264.37	Ref. 36, Ch. 2	P. 71-72	G-6 — OD
G-7 Evacuation Plan The plan must include: • Criteria for evacuation • A description of signal(s) to be used to begin evacuation, with primary and alternate evacuation routes	264.52(f)	Ref. 36, Ch. 2		G-7 - OD
G-8 Required Reports • Provisions for submission of reports of emergency incidents within 15 days of occurrence • Notation of such incidents in the operating record identifying the time, date, and details of these emergency incidents	264.56(j)	Ref. 36, Ch. 2	P. 38 + 15	G-8- OK
PART H - PERSONNEL TRAINING	122.25(a)(12) 264.16	Ref. 77		
H-1 Outline of Training Program An outline of both the introductory and continuing training programs by owners or operators to prepare the personnel to operate and maintain the facility in a safe manner. Include a brief description of how training will be designed to meet actual job tasks. (Note: on-the-job training may be used to comply with these requirements.)			P. 25	H-1 → OD

	Subject requirement	40 CFR section Nos.	References	Location in application	Comments
H-1a	Job Titles and Duties For each employee whose position at the facility is related to hazardous waste management include: • Name • Job title • Job duties • Job description	264.16(d)(1) 264.16(d)(2)	Ref. 77	P. 25-28	H-1a — OD
H-1b	Training Content, Frequency, and Techniques In both introductory and continuing training (including an annual review of the initial training) for each employee describe: • Training content • Frequency of training • Technique(s) used in training	264.16(d)(3) 264.16(c)	Ref. 77	P. 26 27	H-1b — OD
H-1c	Training Director Demonstration that the program is directed by a person trained in hazardous waste management. • Credentials of training director	264.16(a)(2)	Ref. 77	4 28	H-1c — OD
H-1d	Relevance of Training to Job Position A brief description of how instructions of facility personnel in hazardous waste management procedures (including contingency plan implementation) is relevant to their positions.	264.16(a)(2)	Ref. 77, Ch. 5		H-1d — OK
H-1e	Training for Emergency Response Documentation that the training program trains facility personnel to respond effectively to emergencies and trains them to be familiar with emergency procedures, emergency equipment, and emergency systems, include where applicable:	264.16(a)(3)	Ref. 77		H-1e — OK
H-1e(1)	Procedures for Using, Inspecting, Repairing, and Replacing Facility Emergency and Monitoring Equipment		Ref. 77		H-1e(1) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
H-1e(2). Key Parameters for Automatic Waste Feed Cutoff Systems Some key parameters include: • Type of valve (e.g., diaphragm, solenoid, or fusible element) and how it basically operates • Whether the valve fails in an open or closed position • Whether the valve is pneumatically, hydraulically, electrically, or in the case of fusible element, heat activated • Whether or not there is a manual override in case of valve failure and how to manually operate the valve • Conditions which activate waste feed cut-off		Ref. 77	P. 34-37	H-1e(2) — OD
H-1e(3) Communications or Alarm Systems		Ref. 77		
H-1e(4) Response to Fires		Ref. 30; Ref. 77		
H-1e(5) Response to Groundwater Contamination Incidents		Ref. 66; Ref. 77; Ref. 78		H-1e(3) — OD (4) — ok
H-1e(6) Shutdown of Operations		Ref. 77	P. 25-27	(5) — OD (6) — ~~OD~~ OK
H-2 Implementation of Training Program • Indication that training has been and will be successfully completed by facility personnel within 6 months of their employment or assignment to a facility, or transfer to a new position at a facility, whichever is later. (Note: employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements.) • Records documenting that the required training has been given to and completed by facility personnel must be maintained.	264.16(d)(4) 264.16(b)	Ref. 77		H-2 —— OD
PART I - CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS	122.25(a)(13); 122.25(a)(15) 122.25(a)(16) 122.25(a)(17) 122.25(a)(18) 264.110-264.115 264.351	Ref. 79; Ref. 80; Ref. 81; Ref. 82		

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
I-1 Closure Plans A copy of the written closure plan consistent with items I-1a through I-1k.	122.25(a)(13) 264.112			
I-1a Closure Performance Standard A description of how closure • Minimizes the need for post-closure maintenance • Minimizes releases of hazardous wastes, leachate, and contaminated rainfall to the air, groundwater, surface water, and surrounding land	264.111	Ref. 80; Ref. 81	P.86-88	I-1a — OK
I-1b Partial Closure and Final Closure Activities If partial closure is anticipated, a description of how and when the facility will be partially closed, including an identification of the maximum extent of operation after partial closure. Also, a description of how and when the facility will be finally closed.	264.112(a)(1)	Ref. 79-82		I-1b — NA
I-1c Maximum Waste Inventory A description of the maximum inventory of wastes that could be in storage and treatment at any time.	264.112(a)(2)	Ref. 79-82		I-1c — OD
I-1d Inventory Disposal, Removal or Decontamination of Equipment A description of how all facility equipment and structures will be decontaminated or disposed of when closure is completed. • Decontamination procedures • Criteria for determining contamination • List equipment • Disposal of contaminated soil • Decontamination of clean up materials and residues • Demonstrate decontamination has been affective	264.114	Ref. 80; Ref. 81		I-1d - OD
I-1d(1) Closure of Containers A description of how at closure, all hazardous waste residues will be removed from the containment system, and how remaining containers, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed. The description should address the following:	264.178		P. 86-88	I-1d(1) — OD

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
• Hazardous waste removal and disposal • Container decontamination and disposal • Site decontamination and disposal including linings, soil, and washes • Verification of decontamination • Maximum inventory			P. 86-88	I-1d (2) — OD
I-1d(2) Closure of Tanks A description of how at closure, all hazardous waste residues will be removed from tanks, discharge control equipment, and discharge confinement structure, and the facility will be decontaminated. The description should address the following: • Waste removal from tanks and equipment • Decontamination of all components • Verification of decontamination • Disposal of wastes and residues • Maximum inventory	264.197			
I-1d(3) Closure of Waste Piles A description of how at closure, all hazardous waste residues will be removed from the pile, and any component of the containment system containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed. The description should address the following: • Waste removal • Decontamination of containment system • Verification of decontamination • Disposal of wastes and residues • Maximum inventory	264.258			I-1d (3) — NA
I-1d(4) Closure of Surface Impoundments (Reserved)				I-1d (4)—NA
I-1d(5) Closure of Incinerators Description of how at closure all hazardous residues will be removed from the incinerator, associated ductwork, piping, air pollution control equipment, sumps, and any other structures or operating equipment such as pumps, valves, etc., that have come into contact with the hazardous waste. Alternatively, a description of how the incinerator and associated units and equipment will be dismantled and disposed of as a hazardous waste will suffice.	264.351			I-1d (5)—NA

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
I-1e Schedule for Closure A schedule for final closure including; • Estimated expected year of closure • Closure schedule with total time to close, time for closure activites, and inspection schedule during closure	264.112(a)(4)	Ref. 80; Ref. 81		I-1e — OD
I-1e(1) Time Allowed for Closure A schedule for closure which shows • All hazardous wastes will be treated, removed off-site, or disposed of on-site within 90 days from receipt of final volume of waste • All closure activities will be completed within 180 days from receipt of final volume of waste	264.113(a) and (b)			I-1e(1)— OK
I-1e(1)(a) Extensions for Closure Time A petition made to the Regional Administrator for a schedule for closure which exceeds the 90 days for treatment, removal, or disposal of wastes and/or the 180 days for completion of closure activities made to the Regional Administrator. One of the following must be demonstrated: • Closure activities require longer than 180 days • Facility has capacity to receive additional wastes • A person other than owner or operator will begin operation of the site • Closure would be incompatible with continued operation Demonstrate that all steps have and will be taken to prevent threats to human health and environment from unclosed but inactive facility.	264.113(a) 264.113(b)			I-1e (1)a - NA
I-2 Postclosure (Reserved)				I-2 — NA
I-3 Notice in Deed and Notice to Land Authority (Reserved)		Ref. 83; Ref. 84; Ref. 85		I-3 — NA

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
I-4 Closure Cost Estimate A copy of the most recent closure cost estimate, calculated to cover the cost of closure when the cost would be greatest. • Cost estimate • Fully loaded • No salvage credits • Current year costs • Cost adjusted annually	122.25(a)(15) 264.142	Ref. 83; Ref. 85; Ref. 86	P. 89	I-4 — OD
I-5 Financial Assurance Mechanism for Closure A copy of the established financial assurance mechanism for facility closure. The mechanism must be one of the following (I-5(a) through I-5(c)) and include due dates and use standard wording.	122.25(a)(15) 264.143 264.151	Ref. 85, Sec, HH		
I-5a Closure Trust Fund A copy of the closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgment. • Bank or approval institution • Mechanics - Pay-in period; life of permit - Annual payment; unfunded liability divided by years left in pay-in period - Release of trust assets in excess of total cost estimate - Reimbursement for authorized closure expenditures	264.143(a) 264.143(a)(1) 264.151(a)(1)			I-5a — OK
I-5b Surety Bond A surety bond from a federally acceptable surety company meeting one of the following requirements: • Surety bond guaranteeing payment into a closure fund. A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund, and a written guarantee that the owner or operator will fund the standby fund at least 60 days before final closure begins and will provide alternate financial assurance if the bond is cancelled. • Surety bond guaranteeing performance of closure. A copy of the surety bond with the wording requiredin Part 264.151 (c), guaranteeing that the owner or operator will perform closure according to the closure plan and the requirements of Subpart H.	264.143(b) 264.151(b) 264.143(c)			I-5b — NA

	Subject requirement	40 CFR section Nos.	References	Location in application	Comments
I-5c	Closure Letter of Credit A copy of a closure letter of credit with the wording required in 264.151(d) • Irrevocable letter of credit • At least one year period, automatic renewal • Standby trust fund • Amount reflects current cost estimate	264.143(d) 264.151(d)	Ref. 85, Sec. III		I-5c-NA
I-5d	Closure Insurance To demonstrate that the owner or operator has closure insurance, he or she must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(a). • Noncancellable policy, automatic renewal • Insurer licensed or eligible surplus lines carrier • Certificate of insurance • Funds available whenever final closure occurs	264.143(a)			I-5d-NA
I-5e	Financial Test and Corporate Guarantee for Closure To demonstrate that this test is met, an owner or operator must submit a letter signed by the company's chief financial officer that is worded as specified in 264.151(f) and meets the following criteria: • Tangible net worth $10 million • Tangible net worth 6 x all closure and post-closure costs • U.S. assets at least 90% of total assets or at least six times all closure and post-closure costs • Bond rating requirement or alternative application must include; - Copy of a report on the company's latest financial statements drafted by an independent certified public accountant (CPA) - Copy of a report from the owner's or operator's independent CPA to the owner or operator statin that he or she has examined the data in the letter from the chief financial officer and has found no reason to change any of the data.	264.143(f) 264.151(f) 264.151(h)			I-5e-NA

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
In lieu of the above items, the owner or operator may submit a corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor, which must be the parent company of the owner or operator, will perform final closure in accordance with the closure plan if the owner or operator fails to do so or will establish a closure trust fund for the owner or operator. A copy of these items should be submitted with the Part B for review by the permit writer.				
I-5f Combinations				I-5f-NA
I-5f(1) Use of Multiple Financial Mechanisms A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a closure trust fund or letters of credit, insurance, and state assumption of responsibility, which provide financial assurance for the amount of closure. Combined financial assurance must equal or exceed current cost estimate.	264.143(g)			
I-5f(2) Use of Financial Mechanism for Multiple Facilities A copy of a financial assurance mechanism for more than one facility showing for each facility, the EPA ID number, name, address, and amount of funds closure assured by the mechanism. A letter of credit may not be used to assure funds in more than one region. Total funding must exceed sum required for each facility considered separately. Documents must be submitted to each Region where facilities are located. Financial test applies to sum of closure and post-closure costs for all facilities.	264.143(h)			
I-6 Post-Closure Cost Estimate (Reserved)	122.25(a)(16)			I-6-NA
I-7 Financial Assurance Mechanism for Post-Closure (Reserved)	122.25(a)(16)			I-7-NA
I-8 Liability Requirements	122.25(a)(17) 264.147(a) 164.147(b)			

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
I-8a Sudden Insurance Hazardous waste treatment, storage, or disposal facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences. • Amount of at least $1 million per occurrence • An annual total of at least $2 million • A signed duplicate original of the Hazardous Waste Facility Liability Endorsement worded as specified in 264.151(i), or • A Certificate of Liability Insurance worded as specified in 264.151(j)	264.147 (a through d) 264.151 (g,i,j)		P. 90	I-8-a — OK
I-8b Nonsudden Insurance This applies to high risk storage facilities, surface impoundments, land disposal and land treatment. • At least $3 million per occurrence • An annual total of at least $6 million is required				I-8b — OK I-8c — NA
I-8c Financial Test for Liability Insurance Owner or operators may meet liability insurance requirements by passing a financial test and submitting a certified document • Letter from CFO (264.151(g)) • Auditor's report • Auditor's opinion • Other information requested by RA				I-8d - NA
I-8d Variance Procedures Evaluation of degree and duration of risk sufficient to allow RA to make a judgement on reduction of required liability. The financial responsibility levels specified above for liability insurance for sudden accidental occurrences may be adjusted downward if the owner or operator can prove to the Regional Administrator that these levels are not consistent with the degree and duration of risk at the owner's or operator's facility. Conversely, the Regional Administrator may adjust the levels of financial responsibility up or down, based on the Administrator's assessment of the degree and duration of risk associated with the facility.				

Subject requirement	40 CFR section Nos.	References	Location in application	Comments
I-9 State Financial Mechanism	122.25(a)(18)			
I-9a Use of State-Required Mechanisms Where a state has hazardous waste regulations with equivalent or greater liability requirements for financial assurance for closure and post-closure care, a copy of the state-required financial mechanisms, including the facility EPA ID number, name, address, and amounts of coverage. If a state assumes legal responsibility for compliance with closure, post-closure, or liability requirements or the state assures that the state funds are available to cover those requirements, then facility is in compliance and may include a copy of a letter from the state describing the state assumption of responsibility and including the facility EPA ID number, name, address, and amounts of liability coverage or funds for closure or post-closure care that are assured by the state. If state coverage is less than federal requirements (264.143, 264.145, and 264.147), then the owner or operator must provide demonstration of additional financial assurance mechanisms to equal federal requirements.	264.149			I-9-N/A
I-9b State Assumption of Responsibility If a state assumes legal responsibility for compliance with closure, post-closure, or liability requirements or the state assures that state funds are available to cover those requirements, then facility is in compliance and may include a copy of a letter from the state describing the state assumption of responsibility and including the facility EPA ID number, name, address, and amounts of liability coverage or funds for closure or post-closure care that are assured by the state.	264.150			
PART J - OTHER FEDERAL LAWS Demonstration of compliance if applicable with the requirements of applicable other federal laws such as the Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, Fish and Wildlife Coordination Act.	122.25(a)(20) 122.12	Ref. 3		J — OD
PART K - CERTIFICATION • Certification of application by a principal of the company. • Certification by professional engineer of all engineering drawings, data and calculations.	122.6(a) and (d)			K — OD