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**Texas Commission on Environmental Quality**

**CHECKLIST WORKSHEET**

**IHW BOILER AND INDUSTRIAL FURNACE (BIF) ADDENDUM**

**Reg Ent Name:**

**Date:**

**Add ID:**

**Investigator Name:**

Item No	Description	Answer	Citations	Notes
	SECTION A: DIRECT TRANSFER FACILITIES			
1	Is hazardous waste directly transferred as defined under 40 CFR 266.111(a) from a transport vehicle to a boiler industrial furnace without the use of a storage unit?			
1A	NOTE: If answer above is NO, remainder of this Section A does not apply.			
2	Does facility document description of Direct Transfer Equipment?			
2A	Note the equipment items to be observed during the site visit; the list includes designated piping, transfer pump, fittings, valves, flanges and other items.			
2B	What type of transport containers (e.g tanker truck, tanker trailer, rail tank cars, containers on or in a transport vehicle.) are used?			
3	Direct transfer of pumpable hazardous waste should not be conducted from open-top containers. Is this condition met?		266.111(c)(1) 335.221(a)(22)	
4	Is direct transfer equipment always kept closed except when adding or removing waste, and is it handled to prevent rupture or leak?		335.221(a)(22) 266.111(c)(2)	
5	Is the direct-transfer equipment designed and operated to prevent exposure due to following conditions?		266.111(c)(3) 335.221(a)(22)	
5A	Extreme heat or pressure generation, fire, explosion, or violent reaction;			
5B	Uncontrolled toxic mists, fumes, dusts, or gases;			
5C	Uncontrolled flammable fumes or gases;			
5D	Damage to structural integrity of container or direct transfer equipment.			
6	Is hazardous waste compatible with the direct transfer equipment?		335.221(a)(22) 266.111(c)(4)	
7	Are the following safety control measures present at the direct-transfer units?		266.111(c)(5) 335.221(a)(22)	
7A	Spill prevention controls?			
7B	Automatic waste feed cutoffs?			
8	For areas where direct transfer vehicles (containers) are located, evaluate the following conditions:			
8A	Are containers in good condition? Referencing 265.171.		266.111(d)(1) 335.221(a)(22)	
8B	Are the containers compatible with the wastes being stored? Referencing 265.172.		266.111(d)(1) 335.221(a)(22)	
8C	Are containers kept closed except when adding waste? Referencing 265.173(a).		335.221(a)(22) 266.111(d)(1)	
8D	Are containers stored in a safe manner? Referencing 265.173(b).		266.111(d)(1) 335.221(a)(22)	
8E	Are containers holding ignitable or reactive wastes kept at least 15 meters (50 ft) from the facility property line or within the protective distance established by the NFPA? Referencing 265.176.		266.111(d)(2) 335.221(a)(22)	

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8F	Are containers holding incompatible wastes separated by a physical barrier or sufficient distance? Referencing 265.177(c).		335.221(a)(22) 266.111(d)(1)	
9	Is the direct transfer equipment provided with a secondary containment?		266.111(e)(1) 266.111(d) 335.221(a)(22)	
10	Are the secondary containment requirements for the Direct Transfer Equipment met?			
10A	Is the containment underlain by a base that is free of cracks or gaps and is sufficiently impervious to prevent migration of wastes out of the system? Referencing 264.175(b)(1) & 265.193(b)(1)&(2).		266.111(e)(1) 266.111(d) 335.221(a)(22)	
10B	Is the containment sloped to drain and remove liquids, unless containers are elevated to prevent contact with liquids? Referencing 264.175(b)(2) & 265.193(c)(4).		266.111(e)(1) 266.111(d) 335.221(a)(22)	
10C	Is the containment constructed of or lined with material that is compatible with waste? Referencing 265.193(c)(1).		335.221(a)(22) 266.111(e)(1)	
10D	Is the containment foundation or base capable of providing support to secondary containment? Referencing 265.193(c)(2).		266.111(e)(1) 335.221(a)(22)	
10E	Does the containment have a sufficient capacity to contain 10% of the liquid volume of all containers present or of the largest container, whichever is greater? Referencing 264.175(b)(3).		266.111(e) 335.221(a)(22) 266.111(d)	
10F	Is the containment designed to prevent run-on, unless containment has sufficient capacity to contain run-on? Referencing 264.175(b)(4).		266.111(e) 335.221(a)(22) 266.111(d)	
10G	Is the containment provided with a leak detection system that detects failure of containment and a release or accumulation of waste or liquid within 24 hours? Referencing 265.193(c)(3).		266.111(e)(1) 335.221(a)(22)	
10H	Are accumulated liquids removed in a timely manner to prevent overflow of collection system?		335.152(a)(7) 264.175(b)(5)	
11	Based on the operating records, does the owner/operator inspect the following items at least once each operating hour when hazardous waste is being transferred from the transport container to a boiler or industrial furnace:			
11A	Is overflow/spill control equipment (e.g., waste-feed cutoff, bypass, and drainage systems) inspected to ensure that it is operational?		335.221(a)(22) 266.111(e)(3)(i)(A)	
11B	Are above ground portions of equipment inspected for corrosion, erosion, or releases?		335.221(a)(21) 266.111(e)(3)(i)(B)	
11C	Is monitoring and leak detection equipment data gathered to ensure that transfer equipment is being operated properly?		266.111(e)(3)(i)(C) 335.221(a)(22)	
12	Are records of these investigation maintained at the facility for at least 3 years?		335.221(a)(22) 266.111(e)(3)(iii)	
13	If a release or spill has occurred into the secondary containment or it is unfit for use, was the system removed from service immediately and further complied with 40 CFR 265.196?		266.111(e)(5) 335.221(a)(22)	
<b>SECTION B: ASSESSMENT OF RESIDUES</b>				
1	Most BIF units do not qualify for exclusion of the residues from solid waste definition. Residues like fly ash waste, bottom ash waste, slag waste, flue gas emission control waste are not solid wastes [excluded from the solid waste definition per 261.4(b)(4), (b)(7) and (b)(8) when these residues are generated by devices like coal or fossil fired combustion units. However, BIF regulation 266.112(a) and (b) may override this exclusion as follows:			

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1A	If a boiler burns less than 50 % coal on a total heat input or mass input basis, residues generated during combustion are solid wastes. Based on this criteria, are BIF residues solid wastes?			
1B	If a cement kiln uses less than 50 % by weight of normal cement manufacturing raw materials, residues generated during combustion are solid wastes. Based on this criteria, are BIF residues solid wastes?			
1C	Are BIF residues that are not excluded (example: liner bricks generated during maintenance) from the solid waste definition adequately classified?		262.11 335.62	
2	Criteria for residues to be excluded from the hazardous waste definition are noted as follows [266.112(b) and Appendix IX section 7.0]: The facility may demonstrate that burning hazardous waste does not significantly affect the residue by either: Option A - comparison of waste derived residue with normal residue or, Option B - comparison of waste-derived residue with concentrations with health based limits. Which option does the facility use?			
2A	If the facility uses Option A, does facility meet requirements in the following steps?		335.221(a)(23) 266.112(b)(1)	
2AI	Has the owner analyzed at least 10 composite normal residue (residue generated by a facility without burning) samples representing 10 days of operation for Appendix VIII constituents?			
2AII	Has the facility calculated an upper tolerance limit (UTL) of the concentration for each Appendix VIII constituent in the normal residue?			
2AIII	Does the facility document that there have not been any changes in raw materials or process operations that would affect the UTL for the normal residue?			
2AIV	Are waste-derived samples composited and analyzed during each 24-hour period when hazardous waste is burned? (Note: Compositing period cannot exceed 24 hours. There must be a minimum of 10 composite samples.)			
2AV	Have concentrations of constituents in waste-derived residues been shown to be less than the statistically-derived concentrations of constituents in the normal residue?			
2AVI	Does the facility have on record all waste analysis data from each composite sample?			
2B	If the facility uses Option B, does facility meet requirements in the following steps?		266.112(b)(2) 335.221(a)(23)	
2BI	Are waste-derived residues samples composited and analyzed during each 24-hour period when hazardous waste is burned?			
2BII	Are organic in Part 261 Appendix VIII constituents less than or equal to the concentrations in Part 266 Appendix VII?			
2BIII	Are metals (based on TCLP analysis) less than or equal to the concentrations in Part 266 Appendix VIII?			
B3	Facility should determine whether solid waste residue is hazardous waste by using the criteria under 266.112 (b), option A or B as well as 262.11-hazardous waste determination. Has facility taken all steps to perform complete hazardous waste determination?		262.11 335.62 266.112(c)	
B4	Does the facility keep records of BIF residue determinations until the closure of the facility?		335.221(a)(23) 266.112(c)	