

Illinois Environmental Protection Agency

RCRA PART B PERMIT APPLICATION DECISION GUIDE

Purpose: This decision guide, together with the RCRA permit application checklist, is designed to assist applicants in the preparation of a RCRA Part B permit application. All permit applications should follow the format of the decision guide as specified below to facilitate a timely review of all documents.

NOTE: Pursuant to [35 Ill. Adm. Code 702.108](#), the Agency has no authority to issue any permit that is inconsistent with Board regulations. If an applicant seeks a permit which would authorize actions which would be inconsistent with Board regulations, including delayed compliance dates, the applicant should file a variance petition pursuant to Title IX of the Environmental Protection Act and [35 Ill. Adm. Code 104](#).

Currently, the only hazardous waste management units contained in this decision guide are containers, tanks, and miscellaneous units. If a permit application contains units not contained in this decision guide, the application should follow the decision guide dated December 1990 for those units. All other sections of the permit application should follow the format of this decision guide.

A FORMS, CERTIFICATIONS, CONFIDENTIALITY, & PUBLIC INVOLVEMENT

A.1 Forms and Permits

A.1.1 **RCRA Part A Application:** [702.121](#), [702.123](#), [702.126\(a\)](#) and [\(d\)](#), [703.181](#)

The Part A application must be complete and consistent with the Part B application. [703.181](#) specifies the contents of a Part A application. Signatures must be provided for both the owner and operator. This includes landowners of a site that are different from the company operating the hazardous waste facility.

A.1.2 **Permits or Construction Approvals:** [702.123](#)

The RCRA permit application must include a list of all permits or construction approvals received or applied for under any of the following programs: RCRA, UIC program under SDWA and 704, NPDES program under the CWA and 309, PSD program, and Title 5 permits under the CAA, Nonattainment program under the CAA, NESHAPS pre-construction approval under the CAA, open dumping permits under the MPRSA, dredge or fill permits under Section 404 of the CWA, other relevant environmental permits including Illinois permits.

A.2 Certifications: [703.182](#)

A.2.1 **Siting Certification:** [703.184\(f\)](#), **Environmental Protection Act: Sections 39(c) & 39.2**

All pollution control facilities must demonstrate that they have complied with the requirements of Section 39.2 of the Environmental Protection Act. That is, the applicant must demonstrate that they have received approval from the local county or municipality before the Illinois EPA reviews a permit application for the site if applicable.

All new applications for proposed pollution control facilities must include a completed [Certification of Siting Approval Form LPC-PA8](#).

A.2.2 **Facility Certification:** [702.121](#), [703.182](#), [702.126](#)

Applications must be accompanied by a certification letter as specified in [702.126\(d\)](#). The required signatures are as follows: (1) for a corporation, a principal executive officer (at least at the level of vice-president); (2) for a partnership or sole proprietorship, a general partner or the proprietor, respectively; (3) for a municipal, state, Federal, or other public Agency, either a principal executive officer or ranking elected official.

Signatures must be provided for both the owner and operator. This includes landowners of a site that are different from the company operating the hazardous waste facility.

A.2.3 Technical Information Certification: [703.182](#), Illinois Professional Engineering Act

Certain technical data, such as design drawings, specifications and engineering studies, must be certified (sealed) by a qualified Professional Engineer who is licensed to practice in the State of Illinois in accordance with Ill. Rev. Stat., par. 5101, Sec. 1 and par. 5119, Sec. 13.1.

Work required by your application or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

A.2.4 Prior Conduct Certification: Section 31 Environmental Protection Act

Applications must be accompanied by a completed and signed prior conduct certification evaluation, as required under Section 39(i) of the Act. Both the Agency form and applicant's signature must be originals, not copies.

A.3 Public Disclosure Exemption Claims and Trade Secret Claims: Section 7 of the Act; [2 Ill. Adm. Code Part 1828](#); [35 Ill. Adm. Code Part 130](#)

Any documents submitted that are not properly marked and justified will not be regarded as exempt and will be released to the public upon request.

A.3.1 No Information Claimed Exempt from Public Disclosure

If no information in the application is claimed exempt from public disclosure, the applicant should clearly state this in the cover letter. This will release any disclaimers on drawings, plans etc. that are included in the application.

A.3.2 Trade Secrets Claims

This claim should be asserted if any portion of the application is regarded as trade secret pursuant to [35 Ill. Adm. Code 130](#).

- Provide claim and justification letter with submittal.
- Stamp each page in red ink "TRADE SECRET" that is to be exempt.
- Provide sanitized version for public review.

A.3.3 Exempt or Exempt In-Part Data Claims: [2 Ill. Adm. Code 1828.401](#)

This claim should be asserted if any portion of the application is regarded as exempt or exempt in part pursuant to [2 Ill. Adm. Code 1828.401](#).

- Provide claim and justification letter with submittal.
- Marking requirements as specified.
- Provide Sanitized version for public review.

A.3.4 Justification Letter: [2 Ill. Adm. Code 1828.401](#)

All submittals must be accompanied by a claim and statement of justification if an exemption is required.

A.3.5 Privileged Information: [2 Ill. Adm. Code 1828.401](#)

This claim should be asserted if any portion of the submittal is regarded as privileged and meets the definition of privileged information pursuant to [1828.401](#).

- Provide claim and justification letter with submittal.
- Marking requirements as specified.

- Provide sanitized version for public review.

A.4 Public Participation

A.4.1 Facility Mailing List & Information Repositories: Environmental Protection Act, Section 39(d), [703.193](#), [703.248](#), [705.163](#)

Applicability: The following requirements apply to all permit applications.

- A.4.1.1 Facility Mailing List. Submit a dated copy of the facility mailing list as an attachment to the permit application. Both a printed copy and an electronic copy in MS Word format need to be provided. The list must be updated and resubmitted to the Illinois EPA as needed to include individuals who have interacted with the facility such as those attending the pre-application meeting, respondents to mailings, and when a permit modification is requested.

The Agency will review and approve all updates prior to using the mailing list. Mailing lists originally developed by the Illinois EPA are available from the Agency's RCRA public participation coordinator.

A.4.1.2 Identification of Repositories:

All documents submitted to the Illinois EPA in furtherance of the permit application, with the exception of trade secrets, must be made available to the public at the office of the local government and in another location in the host community (or nearest community to the facility) no later than the date the permit application was provided to the Illinois EPA.

Provide the name, address, contact person, phone number, and business hours for each repository. List the information and indicate the dates it was added to each repository.

Note: The community repository may not be located at the subject facility and must be available to the community for review and copying of application documents after regular office hours. Public libraries are recommended repository locations.

A.4.1.3 Contents of Repository, Public Notice of Repository Availability:

The repository contents must include all of the documents identified in A.4.1.2. The applicant is required to maintain and update the repository throughout the application process. Verify the contents and update the application information as new information is developed and submitted to the Agency. Document each new repository submission by referencing it in the letter submitting that same information to the Agency.

The applicant's notice of the repositories' availability for public review must include all of the following information:

- Identification and address or map of the applicant facility and the hazardous waste management operations or proposed operations that this permit application addresses.
- A statement that hazardous waste permit application materials have been prepared and are available for community members to review and copy at the repository location.
- The location and business hours of the repository.
- A statement that the applicant will update the repository materials periodically during the Illinois EPA's review of the permit application.
- The name, address and telephone number of the applicant's contact person to address questions regarding the application or to be added to the facility's mailing list for future permit activities.
- A statement "For general information on the hazardous waste management permit program in Illinois, please contact" then provide the address of the RCRA Public Involvement Coordinator, Illinois EPA.

Note: The applicant is required to maintain and update the repository throughout the application process.

A.4.1.4 Documentation of Public Notices of Repositories:

Provide documentation that the public notices of the repositories were completed as required by the regulations. These notices must be made no later than the date the permit application is submitted to the Illinois EPA. Specifically:

- Provide a copy of the letter sent to individuals on the approved facility mailing list. Indicate the date the letter was sent, and the revision date of the mailing list used for the mailings.
- Provide either the publisher's certification stating that it published the notice as a display ad once per week for three consecutive weeks, or provide newspaper tear sheets containing the display ad for each date the ad ran. [This information may be submitted separate from the original permit application if it is not evaluated on the date the application is submitted to the Illinois EPA.]

A.4.2 **Notification of Permit Application Submittal:** [703.192](#), [705.163\(a\)\(5\)](#)

Applicability: The following additional requirements only apply to applications for new permit and all permit renewals. The requirements of this section do not apply to applications that are submitted for the sole purpose of conducting post-closure or corrective action at a facility.

Note: This notice may be combined with the applicant's notice of repository availability. If this is done, those on the entire mailing list must be noticed.

A.4.2.1 Content of Permit Application Notice:

The applicant's notice of the permit application submittal must include all of the following information:

- A statement that a hazardous waste management permit application was submitted to the Illinois EPA.
- The date that the application was submitted.
- A brief description of the facility and proposed operations, including the address or a map (e.g., a sketched or copied street map) of the facility location on the front page of the notice;
- The location where the applicant has established an information repository where copies of the permit application and any supporting documents can be viewed and copied;
- The name, telephone number, and address of the applicant's contact person to whom people can write in order to be placed on the mailing list;
- The mailing address of the RCRA Public Involvement Coordinator in the Illinois EPA Bureau of Land to whom information, inquiries and opinions may be directed throughout the review process;
- The name and telephone number of the appropriate Illinois EPA regional office;

A.4.2.2 Documentation of Permit Application Notice:

Within 30 days of submitting the permit application to the Illinois EPA, the applicant must provide documentation that notice of the submittal was provided to any unit of local government that has jurisdiction over the area where the facility is located, and each State Agency that has any authority under State law with respect to the construction or operation of the facility.

- Provide one copy of the letter sent to each local and state agency.
- Provide a list of the contact names, agencies, and their addresses, that received the notice.

A.4.2.3 New Combustion Units [703.232\(d\)\(3\)](#), [703.223\(f\)](#)

Applicants for new BIFs and incinerators performing trial burns for their initial Part B permit must notify all persons on the mailing list required in Section A.4.1 and all local and state agencies indicated in Section A.4.2 of the plans to perform a trial burn. The notice must include all information required in Section 4.2.1 above [\[703.232\(d\)\(3\)\(B\)\]](#) as well as the scheduled commencement and completion dates for the trial burn. This notice must be mailed within a reasonable time period (not less than 15 and not more than 30 days) before the scheduled trial burn.

Notice of trial burn. The trial burn may not commence until the applicant provides documentation to the Agency that this notice has been issued to all required parties.

- Provide a copy of the notice sent to those on the mailing list.
- Provide a the mailing list to which the notice was sent.

A.4.3 Pre-Application Meeting: [703.183\(v\)](#), [703.191](#), [703.192](#)

Applicability: The following additional requirements apply to initial permit applications and those seeking to renew a permit where the application is proposing a significant (e.g. Class 3) modification to the facility. The requirements of this section do not apply to applications for the sole purpose of conducting post-closure and/or corrective action at a facility.

A.4.3.1 Pre-application Public Meeting:

Provide a summary of the pre-application public meeting. At a minimum, this summary must include the list of attendees, their addresses, and copies of any written comments, questions or materials submitted at the meeting. The Agency expects that the addresses of any repositories established at this stage as well as meeting topics of discussion be included as part of the meeting summary.

A.4.3.2 Public Notice of Pre-application Meeting:

Provide documentation that the public notice of the pre-application meeting occurred at least 30 days prior to the meeting and was done in each of the following forms as specified at [703.191\(d\)](#):

Note: This notice may be combined with the applicant's notice of repository availability (See Section A.4.1 above)

- A newspaper display advertisement in a newspaper of general circulation in the county that hosts the proposed location of the facility.
- A notice posted on a clearly marked sign at or near the facility. The sign must be large enough to be readable from the nearest point where the public would pass by.
- A broadcast media announcement at least once on at least one local radio or television station.
- A copy of the newspaper notice to the Illinois EPA and all other state and local officials as set forth at [705.163\(a\)\(5\)](#).

The Agency recommends sending this notice to those on the complete facility mailing list, although this is not a requirement.

A.4.3.3 Content of Pre-Application Meeting Notice: All notices required under this section must include:

- The date, time, and location of the meeting;
- A brief description of the purpose of the meeting;
- A brief description of the facility and proposed operations, including the address or a map of the facility location;
- A statement encouraging people to contact the facility at least 72 hours before the meeting if they need special access to participate in the meeting;
- The name, address, and telephone number of a contact person for the applicant; and
- The addresses of any repositories (if established at this stage), although this is not a requirement.

B FACILITY DESCRIPTION

B.1 General Description: [702.123](#), [703.183\(a\)](#), [703.183\(n\)](#), [703.183\(s\)](#)

B.1.1 Operation of Facility: Describe the facility and the activities conducted by the applicant that require a permit under RCRA, including the nature of the business. Off-site facilities should identify the types of industry served. On-site facilities should briefly describe the process(es) involved in the generation of hazardous waste.

B.1.2 Process Flow Diagram: Provide a process flow diagram that identifies the units used to manage waste at the facility and describes how each type of waste will move through the facility.

B.1.3 Units: Describe all Solid Waste Management Units (SWMUs) at the facility. This includes both hazardous and nonhazardous units, satellite accumulation areas, Leaking Underground Storage Tanks (LUSTs), units in the Site Remediation Program (SRP), and units that are/will be closed. The description of each unit should include the type of unit (container storage, tank, surface impoundment, etc.), the wastes managed in the unit, and its size or capacity. The location of each unit must be identified on a scale drawing of the facility.

- The description of SWMUs must indicate if the unit is/was addressed in the corrective action portion of the permit application, the LUST Program (include the incident number), or the Site Remediation Program. It must also indicate if there has been a release from the unit.
- The description of closed units should also identify the IEPA Log Number for the closure plan, when the unit was closed, and when/if the certification of closure was approved.
- For hazardous waste disposal units that have been closed, the applicant must provide documentation that the notices required under [724.219](#) have been filed.

B.2 Topographic Map: [702.123\(g\)](#), [703.183\(r\)](#), [703.184](#), [703.185\(c\)](#), [703.185\(d\)](#), [724.195](#), [724.197](#)

B.2.1 General Map Requirements:

B.2.1.1 Facility + 1 mile: Provide a topographic map (or Quadrangle map) that extends at least 1 mile beyond the property boundaries. This map must depict the legal boundaries of the facility.

B.2.1.2 Facility + 1000 feet: Provide a topographic map that shows the facility and a distance of 1,000 feet outside the facility's property line, at a scale of 1 inch equal to not more than 200 feet. Multiple maps may be submitted to meet this requirement if necessary. The map(s) must include the following information. If an item does not pertain to the facility, the narrative must indicate why it is not applicable:

- Map Orientation (north arrow)
- Map Date
- Scale
- Legal boundaries
- Surrounding land uses
- Access controls
- Buildings and Structures
- Sewers: storm, sanitary and process
- Storm drains
- Loading and unloading areas
- Fire control facilities
- Contours sufficient to show surface water flow around facility unit operations
- 100-year floodplain area
- Surface waters including intermittent streams
- Flood control or drainage barriers
- Run-off control systems

- A wind rose
- Injection and withdrawal wells (both on-site and off-site)
- New (proposed) hazardous waste units
- Existing hazardous waste units
- Solid waste management units

B.2.2 Additional Map Requirements for New Land Disposal Facilities: In order to demonstrate that new disposal facilities will not violate Section 21(1) of the Act, the following information must be provided on a topographic map, or a demonstration must be made that Section 21(1) does not apply.

- The location of any active or inactive shaft or tunneled mine below the facility;
- The location of any active faults in the earth's crust within two (2) miles of the facility boundary;
- The location of existing private wells or existing sources of a public water supply within 1000 feet of any disposal unit boundary; and
- The location of the corporate boundaries of any municipalities within one and one-half miles of the facility boundary.
- Documentation showing approval of municipalities if required by Section 21(1) of the Act.

B.2.3 Legal Description: Provide a legal description of the property where the facility is located. If the permit application is for a piece of property that is leased, provide legal descriptions for both the entire property, and the leased portion.

B.3 Location Standards: [703.184](#), [724.118](#)

B.3.1 Seismic Standard: Demonstrate that the portion of new facilities where treatment, storage or disposal of hazardous waste will be conducted are not within 200 feet (61 meters) of a fault which has had displacement during Holocene time.

B.3.2 Floodplain Standard: Document whether or not the facility is located within a 100-year floodplain. This information must indicate the source of data for this determination and include a copy of the relevant flood map produced by Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP), or the calculations and maps used where NFIP maps are not available. [Note: [703.184\(c\)](#) provides sources of NFIP maps] Maps of the facility must also identify the 100 year flood level and any other special flooding factors (e.g. wave action) that must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100 year flood.

B.3.3 Facilities in the 100-year floodplain: Facilities located within the 100-year floodplain must include the following information:

B.3.3.1 Engineering Analysis: Provide an engineering analysis that identifies and evaluates the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100 year flood;

B.3.3.2 Structural or Engineering Study: Provide a structural or other engineering study that shows the design of operational units (e.g. tanks, incinerators) and flood protection devices (e.g. floodwalls, dikes) at the facility and how these will prevent washout;

B.3.3.3 Procedures to Remove Waste: In lieu of B.3.3.1 and B.3.3.2, provide a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. This information must include:

- Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.
- A description of the location(s) to which the waste will be moved, and a demonstration that those facilities will be eligible to receive hazardous waste in accordance with [702](#), [703](#), [724](#) and [725](#);
- The planned procedures, equipment, and personnel to be used, and the means to ensure that such resources will be available in time for such use;

- The potential for accidental discharge of the waste during movement.

B.3.4 Existing facilities not in compliance with [724.118\(b\)](#): Provide a plan showing how the facility will be brought in compliance and a schedule for compliance with [724.118\(b\)](#). Such facilities must also file a concurrent variance petition with the Board. [[703.184\(e\)](#)]

B.4 Traffic Information: [703.183\(j\)](#)

The application must include the following hazardous waste traffic-related information:

- Traffic patterns on site;
- Estimated volumes, including number and types of vehicles;
- Traffic control signs, signals and procedures; and
- Adequacy of access roadway surfaces and load bearing capacity for expected traffic at the site.

B.5 Operating Record: [724.173](#)

B.5.1 Contents of Operating Record: The application must include procedures to record information about the facility described in [724.173](#) in the operating record as it becomes available:

- A description of the quantity of each hazardous waste received and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by [703, Appendix A](#),
- The location and quantity of each hazardous waste managed or disposed,
- The results of waste analyses and waste determinations. For example, a Waste Receipt Analysis Report similar to Table 4-20 in the USEPA WAP guidance EPA/530-SW-84-012 could be used to track the acceptance of wastes received from off-site.
- Any refusals of State or local authorities to coordinate emergency services with the facility,
- Reports and details of all incidents where the Contingency Plan was implemented,
- Records of inspections,
- Monitoring, testing, or analytical data and corrective action data where required,
- For off-site facilities, notices to generators per [724.112\(b\)](#),
- All closure and post-closure cost estimates,
- Annual certification, by permittee, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste generated,
- Records of each shipment of hazardous waste placed in a land disposal unit under an extension of the effective dates of the LDRs, and
- Copy of the notice (on-site facilities only need the information in the notice) and the certification, and demonstration required of the generator by [728.107](#) or [728.108](#).

Note: Separate documents can be used as the operating record provided the requirements of [724.173](#) are satisfied.

B.5.2 Installation of Tanks [724.292\(g\)](#): The operating record must include written statements by those persons required to certify the design of a tank system and supervise the installation of the tank system in accordance with the requirements of [724.292\(b\)](#) through [\(f\)](#), that attest that the tank system was properly designed and installed and that repairs, pursuant to [724.292\(b\)](#) and [\(d\)](#), were performed. These written statements must also include the certification statement as required in [702.126\(d\)](#).

C WASTE CHARACTERISTICS

These requirements apply to all wastes; solids, liquids, and gases managed in a RCRA regulated unit at the facility. These requirements also apply to nonhazardous wastes if they are managed in a RCRA regulated unit.

C.1 **Chemical and Physical Analyses:** [703.183\(b\)](#), [724.113\(a\)](#)

Note: if a commercial/technical grade of a chemical/product (e.g., explosives or ammunition) will be managed at the facility, in some cases, an MSDS or literature information may be used in place of an actual laboratory analysis.

C.1.1 **General Chemical Information and Analyses**

The permit application must include the following information for each hazardous waste stored, treated or disposed at the facility:

- A description of the waste
- The unit where it will be managed
- Its physical state (solid, liquid, gas) at standard temperature and pressure
- The basis for hazard designation
- Laboratory analysis no more than five years old, signed and dated, that details the chemical and physical analyses of a representative sample of the hazardous wastes managed at the site, (i.e., provide a typical analysis of an ignitable, corrosive, reactive and TCLP toxic waste, if managed)
- A table summarizing the analytical results for all of the wastes managed in the RCRA units and
- Identify if dioxin containing waste, acutely toxic wastes and wastes containing free liquids as determined by the Paint Filter Liquids Test, Method 9095, in USEPA's publication SW-846 "Test Methods for Evaluating Solid Waste" (3rd edition and most recent finalized updates) will be managed

At a minimum, these analyses must contain all the information which must be known to treat, store or dispose of the hazardous wastes properly in accordance with Subtitle G.

C.1.2 **Physical Properties and Toxicity Information:** [703.183\(b\)](#), [703.188](#), [724.156\(c\)](#)

As part of the Contingency Plan, the application must evaluate the off-site consequences of a release (toxic vapor cloud or fire) from the facility. To address the air modeling requirements in the evaluation, a separate table with the information listed below needs to be provided for each constituent present in the hazardous waste managed at the facility:

Compound Name
 USEPA Hazardous Waste Number
 CAS Number
 IDLH
 TLVs (TLV-TWA, TVL-STEL, TLV-C)
 Boiling Point
 Vapor Pressure @ 68° F (20° C)
 Vapor Pressure @ 100° F
 Lower Explosive Limit
 Upper Explosive Limit
 Molecular Weight
 Specific Gravity
 NFPA Designation (flammable or combustible and the subdivision classification)

C.1.3 **Land Disposal Restrictions:** [703](#), [728](#)

Identify all hazardous constituents present in the waste subject to treatment standards including underlying hazardous constituents if applicable (e.g., those hazardous constituents which make the waste characteristic or for which the waste is listed)

C.1.3.1 For Generators: Provide a determination that the hazardous waste meets or does not meet the treatment standards in [728.140](#), [728.145](#) or [728.149](#).

C.1.3.2 For Disposal Facilities: If a generator has certified that waste(s) meets the treatment standards, identify the frequency the wastes will be analyzed to determine compliance with the LDRs.

C.1.3.3 For Treatment Facilities: Identify the frequency that the treatment residue will be analyzed to determine compliance with the treatment standards in [728.140](#), [728.145](#) or [728.149](#).

C.2 Waste Analysis Plan: [703.183\(c\)](#), [724.113\(b\)](#) and (c)

Provide a copy of the waste analysis plan (WAP) that describes the methodologies for conducting the analyses required to properly treat, store, or dispose of hazardous wastes. USEPA's publication EPA/530-SW-84-012 "Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Wastes" April 26, 1994 (PB94-963603), and most recent finalized updates, should be used to develop the WAP. The information requested below should be used to develop a table which identifies the generic waste, parameter, test method and justification for the test method.

C.2.1 Parameters and Rationale: [724.113\(b\)\(1\)](#)

C.2.1.1 Parameters: List the parameters chosen for analysis

C.2.1.2 Rational: Identify a rationale for selecting these parameters and describe how analysis for these parameters will provide sufficient information on the waste's properties to safely manage the wastes at the facility.

C.2.1.3 Operational WAP Requirements: List parameters and rational required for site specific waste analysis requirements, if applicable:

- Management of ignitable, reactive, or incompatible wastes ([724.117](#)). For example, the flash point of a waste may impact the arrangement and stacking height of a container (see NFPA 30).
- Analysis of waste feed to incinerator ([724.441](#))
- Analysis of waste feed to BIF ([726.202\(b\)](#)).
- Management of wastes which have been stabilized (i.e. penetrometer test)
- Describe the procedures the owner/operator of an off-site landfill receiving container sized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

C.2.2 Test Methods: [724.113\(b\)\(2\)](#), [720.121](#)

C.2.2.1 Identify Test Methods: Identify the analytical test methods used to determine the concentrations of the parameters in the WAP. USEPA's publication [SW-846 "Test Methods for Evaluating Solid Waste"](#) (3rd edition and most recent finalized updates) and/or ASTM should be used to identify standardized methods.

C.2.2.2 Nonstandard Test Methods: If a modified or nonstandard test method is proposed, the application must include a copy of the procedure and justification for using the method. The application must document compliance with the requirements of [720.121](#) and 40 CFR 260.21(b).

C.2.3 Sampling Methods: [724.113\(b\)\(3\)](#), 40 CFR 261 - Appendix I

The application needs to list the sampling methods used to obtain a representative sample of each waste to be analyzed.

C.2.3.1 Identify Sampling Devices and Methods: Identify the sampling devices and methods used for each waste type. [721 Appendix A](#) (Appendix I in 40 CFR 261), USEPA's publication [SW-846 "Test Methods for Evaluating Solid Waste"](#) (3rd edition and most recent finalized updates) and/or ASTM should be used to identify standardized procedures.

- C.2.3.2 Nonstandard Devices or Method: If a modified or nonstandard sampling device or method is proposed, the application must include a justification for using the device or method. The entire methodology must be provided.
- C.2.3.3 Sampling Strategies: Identify sampling strategy techniques (e.g. grab, composite) and why the chosen method is appropriate for the type and nature of the waste.
- C.2.3.4 Multi-phase Wastes: Identify sampling procedures for multi-phase wastes if they are managed at the facility.
- C.2.3.5 Safety: Identify health and safety procedures for sampling personnel.
- C.2.4 Frequency of Analyses: [724.113\(b\)\(4\)](#)**
Describe the frequency at which the analyses will be repeated. An analysis must be performed each time a waste changes to ensure that the analytical results are accurate, and up to date. At a minimum, wastes must be reanalyzed every 5 years or when the process generating the waste changes.
- C.2.5 Additional Requirements for Wastes Generated Off-Site: [724.113\(c\)](#)**
- C.2.5.1 Pre-acceptance Procedures: Describe the preacceptance procedures used to determine if the facility can receive a particular waste from off-site.
- Identify regulatory (permit) limitations and operational limitations on the types of wastes which can not be received at the facility.
 - Identify the information required from off-site generators, such as, the preacceptance analytical parameters used to identify and classify the wastes.
- C.2.5.2 Waste Receipt Procedures: Procedures must be specified which will be used to inspect and analyze each of the hazardous wastes received at the facility to ensure that it matches the identity of the wastes designated on the accompanying manifest or shipping papers. Describe the different procedures followed for bulk (roll off boxes, tank trucks) and containerized (drummed) wastes.
- C.2.5.2.1 Describe the method used to determine a representative sample of the incoming wastes (e.g. the number of drums to be sampled).
- C.2.5.2.2 Describe the waste receipt inspection procedures.
- C.2.5.2.3 Describe any additional waste receipt procedures followed for Lab Packs or compressed gas cylinders.
- C.2.5.3 Waste Acceptance Criteria: Describe the criteria used to determine whether to accept the waste. This determination should be based on the preacceptance information and results, and the data generated when the waste is received at the facility.
- C.2.5.3.1 Identify the fingerprint or gate receipt analysis parameters used to verify the waste is consistent with the preacceptance analysis.
- C.2.5.3.2 Identify the fingerprint parameters, or concentrations, which will trigger additional analyses and/or informational requirements from the generator.
- C.2.6 Additional Requirements for Ignitable, Reactive or Incompatible Wastes: [724.113\(b\)\(6\)](#), [724.117](#), [724.277](#), [724.299](#)**
- C.2.6.1 Identification: Describe the methods used to identify ignitable, reactive or incompatible wastes.
- C.2.6.2 Compatibility Testing: Describe the testing procedures conducted to determine whether wastes are compatible with each other. This requirement applies to all wastes (both hazardous and nonhazardous) if they are

managed in a RCRA regulated unit at the facility. All wastes must be classified for compatibility pursuant to 40 CFR 264 Appendix V and pages B9A-9F of USEPA OSWER Doc. #9938.4. In addition any products or materials stored within the same containment system as the waste must also be evaluated for compatibility.

C.2.7 Surface Impoundments Exempt From LDRs Under [728.104\(a\)](#):

Describe the procedures and schedules for:

C.2.7.1 The sampling of impoundment contents;

C.2.7.2 The analysis of test data; and

C.2.7.3 The annual removal of residues that are not delisted under [720.122](#) or which exhibit a characteristic of a hazardous waste and either:

- Do not meet the applicable treatment standards of [728, Subpart D](#); or
- Where no treatment standards have been established, such residues are prohibited from land disposal under [728.132](#), [728.139](#), or [728.133\(f\)](#).

C.3 Quality Assurance: [702.145](#), [703.188](#)

Provide a quality assurance plan, in accordance with the standards established in the "[Test Methods for Evaluating Solids Wastes, Physical/Chemical Methods](#)" EPA Publication No. SW-846 (3rd edition and most recent finalized updates) for laboratory analysis of wastes and groundwater.

C.3.1 QA/QC Procedures

Identify the QA/QC procedures for each analytical method such as:

- Blank testing
- Spike testing
- Testing of duplicate samples
- Sample containers
- Sample preservation
- Decontamination procedures for all sampling equipment

C.3.2 Chain of Custody: Describe the chain of custody procedures for all samples.

D1 CONTAINERS

Applicability: The requirements in this section apply to all units/areas where RCRA hazardous wastes are managed in containers except as provided in [724.101](#). Examples include, but are not limited to, areas/units used for the storage of containers, treatment in drums or roll-off boxes, units where wastes are removed from drums, and lab pack unpacking or repacking areas. At facilities that receive wastes from off-site, this section also applies to areas/units where drummed or bulk wastes are unloaded/loaded from trucks or tank trucks except for areas operated in accordance with [723.1123](#).

These requirements apply to all wastes; solids, liquids, and gases managed in a RCRA regulated unit at the facility. These requirements also apply to nonhazardous wastes if they are managed in a RCRA regulated unit.

D1.1 **Description of Containers:** [724.271](#), [724.272](#)

D1.1.1 **General**

Provide the following information about the containers (drums, bags, boxes, lab packs, compressed gas cylinders, roll-off boxes, tank trucks, etc.) used to treat or store hazardous waste: approximate number of each type of container, construction materials, dimensions and usable volumes, DOT specifications or other manufacturer specifications, liner specifications (if applicable), and markings and labels.

D1.1.2 **Compatibility**

Provide documentation that the containers (and liners) are compatible with the waste placed in them.

D1.2 **Container Management Practices:** [703.188](#), [724.271](#), [724.273](#)

D1.2.1 **General**

Describe container management practices used to ensure that hazardous waste containers are always kept closed during storage, except when adding, or removing or sampling waste, and are not opened, handled, or stored in a manner that may cause them to rupture or to leak.

- Describe the tools and procedures used to open or close containers and any equipment used to add or remove wastes from containers. All places where wastes are removed from, or added to (except generator accumulation areas), containers must be clearly indicated on a scale drawing.
- Describe the procedures followed to transfer the contents from a container that is not in good condition (e.g. leaking, rusting, etc.) into a container that is in good condition. Identify the area where this activity would take place.

D1.2.2 **Movement of Containers**

Describe the equipment and procedures used to transport containers within the facility.

- If more than one container is moved at a time, describe how the containers are stabilized (e.g. strapped together) prior to transport.
- Describe the methods used to track where wastes are located within the facility.

D1.2.3 **Arrangement**

The following must be shown on a scale drawing of the storage unit:

- The arrangement of containers when the storage area is at maximum capacity.
- The locations where ignitable and reactive wastes, and containers with free liquids will be stored.
- The locations where incompatible wastes will be stored. Specifically, indicate where the different waste classifications, which are identified using the procedures in C.2.6, will be stored. Examples of compatible wastes are provided in 40 CFR 264, Appendix V. Hatayma waste classifications are typically used to classify the compatibility of wastes. The Hatayma waste classifications may be obtained from the National Technical Information System, or EPA 600/2-80-076, A Method For Determining Compatibility of Hazardous Wastes. Alternate methods of classifying compatibility may be used provided a complete

description of the method and justification for its selection are provided and the method is adequate to fulfill the requirement of [724.277](#).

- The minimum aisle space that will be maintained. The aisle space must be sufficient
 - 1) to allow for inspection of each container (a minimum of 2.5 feet);
 - 2) to comply with the NFPA 30, Flammable and Combustible Liquids Code for pile arrangements; and
 - 3) to allow for movement of emergency equipment within the RCRA unit.

NOTE: Not all aisles must satisfy the above requirements.

- The flow direction of spilled liquids in the container storage area.
- The location of secondary containment system and flow direction within the secondary containment. A plan view and cross section must be provided.

D1.2.4 Stacked Containers

Provide the stacking height of containers. The maximum recommended stacking height is 6.5 feet (two 55 gallon containers high). Containers stored above this height, are not easily inspected. In addition, the higher a container is stored, the more likely it is to rupture if it falls to the floor. If the proposed stacking height is greater than 6.5 feet, provide inspection procedures in Section F.2.6 to address these concerns.

- D1.2.4.1 Describe how containers will be stabilized when in storage, if needed.
- D1.2.4.2 For non-metallic containers, provide information from the container manufacturer that documents the container's ability to support the weight of the container(s) placed on top of it.
- D1.2.4.3 Document that the stacking height is in compliance with NFPA 30, Flammable and Combustible Liquids Code.

D1.2.5 Ignitable, Reactive, or Incompatible Wastes: [703.201\(c\)](#), [724.117](#), [724.276](#), [724.277](#)

Provide the following additional information regarding the management of ignitable, reactive, or incompatible wastes in containers:

- D1.2.5.1 Demonstrate, via a scaled drawing, that containers of ignitable or reactive waste are located at least 50 feet from the facility's property line.
- D1.2.5.2 Describe the precautions taken to prevent accidental ignition or reaction of ignitable or reactive waste managed in containers. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions) and radiant heat. When ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.
- D1.2.5.3 If a storage container holds a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments, document that the wastes are separated from the other material or protected from them by means of a dike, berm, wall or other device.
- D1.2.5.4 Describe the procedures used to ensure that incompatible wastes, or incompatible wastes and materials are not placed in the same containers or in an unwashed container that previously held incompatible waste or material.
- D1.2.5.5 If a facility treats, stores, or disposes of ignitable or reactive waste, or mixes incompatible wastes in containers, the application must describe the precautions which are taken to prevent reactions which:
 - Generate extreme heat or pressure, fire or explosions, or violent reactions;
 - Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment;
 - Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- D1.2.5.6 Provide documentation that the precautions taken during the management of ignitable, reactive, or incompatible wastes are appropriate. This documentation may be based on references to published scientific or

engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in [724.113](#)), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

D1.2.6 Lab Packs

Describe the management of lab packs at the facility. The application must describe the unpacking procedures, how the smaller containers of waste are managed and consolidated, and how broken containers are managed. Describe how a lab pack is managed when pressurized, smoking or on fire. Include a detailed scale drawing of the lab pack area which shows the arrangement of lab packs (maximum number in the area) and all equipment used for this activity such as fume hoods or pumps. Include design details and operating conditions of all fume hoods.

D1.2.7 Compressed Gas Cylinders

Provide scale drawings and describe how cylinders are secured to storage racks during storage, if applicable.

D1.3 Secondary Containment System Design and Operation: [703.201\(a\)](#), [724.275\(a\)](#), [\(b\)](#) and [\(d\)](#)

Applicability: The requirements of this sub-section are applicable to areas/units used to manage wastes that contain free liquids. These requirements also apply to storage areas used to manage wastes F020, F021, F022, F023, F026 and F027, whether or not these wastes contain free liquids.

D1.3.1 General

Provide design parameters, dimensions, materials of construction container storage area(s). There should not be any drains or underground piping associated with the secondary containment system because these items can not be inspected. All sumps should be blind sumps.

D1.3.2 Requirement for the Base or Liner to Contain Liquids: [724.275\(b\)\(1\)](#)

Demonstrate the capability of the base to contain liquids, including:

- A statement that the base is free of cracks or gaps;
- Base design specifications, and materials of construction;
- An engineering evaluation of the base's structural integrity which demonstrates the base is strong enough to hold the weight of the containers and the equipment used to move containers (e.g. forklifts) without cracking. This evaluation must be certified by an Illinois Registered Professional Engineer; and
- A demonstration that the secondary containment system is impermeable to, and compatible with the wastes stored in it. Concrete is considered to be permeable to liquid hazardous waste. Therefore, it must be coated with a compatible sealer. The construction joints and water stops must also be made of materials that are impermeable to, and compatible with the wastes managed in the area. Provide copies of the manufacturer's specifications for the sealers and joint grouts and compare them with the wastes managed in each area.

D1.3.3 Containment System Drainage: [703.201\(a\)\(2\)](#), [724.275\(b\)\(2\)](#)

Demonstrate that the base is sloped or the containment system is otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation. Alternatively, demonstrate the containers are elevated or are otherwise protected from contact with accumulated liquids. Please note that sewers and sewer systems should not be utilized as a component of the secondary containment system.

D1.3.4 Containment System Capacity: [703.201\(a\)\(3\)](#), [724.275\(b\)\(3\)](#)

Provide calculations which demonstrate that the containment system will have sufficient capacity to contain at least 10 percent of the volume of the containers or the volume of the largest container, whichever is greater. This demonstration must discuss the volume of the largest container, total volume of containers, containment structure capacity, and volume displaced by containers and other structures in the containment system.

D1.3.5 Control of Precipitation: [703.201\(a\)\(4\)](#), [724.275\(b\)\(4\)](#)

- Demonstrate how run-on into the containment system will be prevented. Describe the dikes, berms, drainage system, etc., used to prevent run-on; or
- Demonstrate the collection system has sufficient excess capacity in addition to that required by [724.275\(b\)\(3\)](#) to contain any run-on and precipitation that might enter the system. Provide calculations of the excess capacity to contain precipitation. A 24-hour, 25-year storm event must be used as the basis for the calculations.

D1.3.6 Removal of Liquids from Containment System: [703.201\(a\)\(5\)](#), [724.275\(b\)\(5\)](#)

- Demonstrate how spilled or leaked waste and accumulated precipitation will be removed from the sump or collection area in a timely manner to prevent overflow of the containment system.
- Describe the procedures and equipment used during liquid removal. For the removal of accumulated precipitation, provide calculations of the time precipitation can accumulate in the containment system before it overflows (use a 24-hour, 25-year storm event as the basis for the calculations).
- Provide design specifications and drawings for the sump, pump and piping if applicable.
- Specify the methods for determining whether the material removed from the secondary containment system is a hazardous waste and for handling it if it is hazardous.

D1.4 Containers Without Free Liquids: [703.201\(b\)](#), [724.275\(c\)](#)

Applicability: The requirements of this sub-section apply to container storage areas/units used to manage wastes that do not contain free liquids. Pursuant to [724.275\(c\)](#), these areas are not required to have secondary containment systems provided the following requirements are met:

D1.4.1 Container Storage Area Drainage: [703.201\(b\)\(2\)](#), [724.275\(c\)](#)

Describe how the storage area is sloped or is designed and operated to drain and remove liquids unless containers are elevated or otherwise kept from contact with standing liquids.

D1.4.2 Protection of Soil and Water: [703.188](#), [724.131](#)

Demonstrate the capability of the base to prevent waste from coming into contact with soil in the event of a spill or leak. A leak or spill of hazardous waste on soil could result in added closure and post-closure costs, or corrective action. The following information should be included as part of this demonstration:

- A statement that the base is made of non-earthen materials and is free of cracks or gaps;
- Base design specifications, and materials of construction; and
- An engineering evaluation of the base's structural integrity which demonstrates the base is strong enough to hold the weight of the containers and the equipment used to move containers (e.g. forklifts) without cracking. This evaluation must be certified by an Illinois Registered Professional Engineer.

D2 Tank Systems

Applicability: The following items must be provided for all tank systems used to manage solid, liquid, and gaseous wastes. Note that a tank system includes the tank and its associated ancillary equipment and containment system. These requirements also apply to nonhazardous wastes if they are managed in a RCRA regulated unit.

D2.1 Description of Tanks: [703.202](#), [703.188](#), [724.296](#)

D2.1.1 Summary Table: Provide the following information for each tank system proposed in the permit application using a table format. Columns may be added for additional tanks.

Tank Name and/or Identifying Number		
Tank Farm, or Location at the Facility		
Date Tank System was constructed / installed		
New or Existing Tank System per 720.110		
Design Standard used to construct tank		
Hazardous Waste Codes		
Generic Description of Waste(s)		
Management Codes (S02, T01)		
Description of Operation		
Maximum Permitted Capacity (gallons)		
Minimum Shell Thickness shell - top - bottom -		
Materials of Construction of the Tank & Liner		
Type of Secondary Containment		
Maximum Operating Temperature		
Maximum Operating Pressure		

D2.1.2 Dimensions and Capacity of Each Tank: Provide a scale drawing of each tank which shows the dimensions and the locations of all supports, openings, internal plumbing, instruments, ladders, etc. on the tank. Provide calculations that identify the capacity of each tank.

D2.1.3 Piping and Instrumentation Diagram (P&ID): Provide a P&ID for each tank system which identifies flow directions, pipe diameters, controls (vents), valves, instrumentation, sensors, safety cut-off systems, and alarms.

D2.1.4 Feed Systems, Safety Cutoff, Bypass Systems and Pressure Controls: Provide a written description of the feed systems, safety cutoff, bypass systems and pressure controls (e.g., vents) identified on the P&ID(s) and Process flow diagram(s).

D2.1.5 Tank History: All renewal applications are required to provide the following information about the history of each tank system (tank & ancillary equipment) in the application to document the tank has been maintained in compliance with design standard since the assessment required by [724.291](#) or [724.292](#) was completed:

D2.1.5.1 A copy of the most recent internal tank inspection report and any photographs taken during the inspection.

D2.1.5.2 The results of the thickness testing and the corrosion rates for the tank top, shell, bottom, and piping of each tank system. At a minimum, this information must include:

- The calculations used to determine the corrosion rates.
- The original thickness measurements.
- A copy of the last testing report.
- A summary table of all testing conducted on each tank since the tank system was constructed (the test locations must be shown on scale drawings). Include the dates of each test, the results, all comments, and the conclusions/recommendations from each report.
- The projected service life of the tank based on the estimated corrosion rate for the tank top, shell, bottom, and piping of each tank system.

D2.2 Age of Tank System: [703.202](#), [720.110](#), [724.291](#), [724.292](#)

For each tank system (both tank and ancillary equipment) proposed in the application, specify whether it is regulated as an existing or a new tank system as defined at [720.110](#). Provide a justification of this determination for each tank system.

D2.3 Assessment of Tank System's Integrity: [703.183\(t\)](#), [703.202\(a\)](#), [724.291](#), [724.292](#)

Provide an assessment for each tank system proposed in the permit application.

D2.3.1 Existing Tank Systems: Provide a written assessment that is reviewed and certified by an independent, qualified, registered professional engineer in accordance with [702.126\(d\)](#), on the structural integrity and suitability of each existing tank system for handling hazardous waste. This assessment must determine whether the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture or fail. At a minimum, this assessment must consider the following:

D2.3.1.1 Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

D2.3.1.2 Hazardous characteristics of the waste(s) that have been and will be handled;

D2.3.1.3 Existing corrosion protection measures;

D2.3.1.4 Documented age of the tank system, if available (otherwise an estimate of the age); and

D2.3.1.5 Results of the most recent:

- Tank shell thickness test of the top, bottom and sides walls.
- Internal inspection.
- Leak test that addresses cracks, leaks, corrosion and erosion.

Note: For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets and high water table effects.

D2.3.1.6 If, as a result of the assessment, a tank system is found to be leaking or unfit for use, the application must document how the owner or operator has complied with the requirements of [724.296](#).

Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," incorporated by reference in [720.111](#), may be used, where applicable, as guidelines in conducting other than a leak test.

D2.3.2 New Tank Systems: Provide a written assessment, reviewed and certified by an independent, qualified registered professional engineer, in accordance with [702.126\(d\)](#), attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated and corrosion protection to ensure that it will not collapse, rupture or fail. This assessment must include, at a minimum, the following information:

D2.3.2.1 Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;

D2.3.2.2 Hazardous characteristics of the waste(s) to be handled;

D2.3.2.3 Results of the most recent:

- Tank shell thickness test of the top, bottom and sides walls.
- Internal inspection.
- Leak test that addresses cracks, leaks, corrosion and erosion.

D2.3.2.4 For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, provide a written assessment, reviewed and certified by an independent, qualified registered corrosion expert, in accordance with [702.126\(d\)](#), considering the following:

D2.3.2.4.1 Factors affecting the potential for corrosion, including but not limited to:

- Soil moisture content;
- Soil pH;
- Soil sulfide level;
- Soil resistivity;
- Structure to soil potential;
- Influence of nearby underground metal structures (e.g., piping);
- Existence of stray electric current;
- Existing corrosion-protection measures (e.g., coating, cathodic protection)

D2.3.2.4.2 The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

- Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc.;
- Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes); and
- Electrical isolation devices such as insulating joints, flanges, etc.

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85) Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and API Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems", incorporated by reference in [720.111](#), may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

D2.3.2.5 For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

D2.3.2.6 Design considerations to ensure that:

- Tank foundations will maintain the load of a full tank;
- Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of [724.118\(a\)](#); and
- Tank systems will withstand the effects of frost heave.

D2.4 Installation of a New Tank System: [703.202\(f\)](#), [724.292\(b\)](#), [\(c\)](#), [\(d\)](#), [\(e\)](#), [\(f\)](#)

D2.4.1 Installation Report: The application must demonstrate that the following criteria will be taken into account during the installation of a new tank system or component. A written installation report must be provided as part of the construction certification for the unit.

The installation report must be certified by an independent, qualified installation inspector or an independent, qualified, registered professional engineer, in accordance with [702.126\(d\)](#), that the following proper handling procedures are adhered to in order to prevent damage to the system during installation.

D2.4.1.1 Prior to covering, enclosing or placing a new tank system or component in use, the system must be inspected for the presence of any of the following items:

- Weld breaks;
- Punctures;
- Scrapes of protective coatings;
- Cracks;
- Corrosion;
- Other structural damage or inadequate construction/installation. All discrepancies must be remedied before the tank system is covered, enclosed or placed in use.

D2.4.1.2 Describe the procedures for backfilling around new tank systems or components that are placed underground. A noncorrosive, porous, homogeneous backfill should be selected and installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

D2.4.1.3 All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed or placed into use.

D2.4.1.4 Indicate how ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

Note: The piping system installation procedures described in API Publication 1615, "Installation of Underground Petroleum Storage Systems", or American National Standards Institute (ANSI) Standard B31.3, "Petroleum Refinery Piping", and ANSI Standard B31.4 "Liquid Petroleum Transportation Piping Systems," incorporated by reference in [720.111](#), may be used where applicable, as guidelines for proper installation of piping systems.

D2.4.1.5 Provide a written assessment, reviewed and certified by an independent, qualified registered corrosion expert, in accordance with [702.126\(d\)](#), that (1) the type and degree of corrosion protection on the tank system required by the tank assessment at [724.292\(a\)\(3\)](#) is adequate to ensure the integrity of the tank system during the use of the tank system or component; and (2) the installation of corrosion protection system that is field fabricated was supervised by an independent corrosion expert to ensure proper installation.

D2.5 Secondary Containment and Detection of Releases: [724.290\(a\)&\(b\)](#), [724.293](#)

D2.5.1 Documentation of Secondary Containment: Document that all new tank systems, or components, have a secondary containment system that meets the requirements of [724 Subpart J](#) before they are placed in service.

For tank systems that store or treat materials that are newly identified hazardous wastes, document that these systems have secondary containment systems within the timeframes required by [724.293\(a\)\(1\) – \(a\)\(4\)](#); except that the date that a material becomes a hazardous waste must be used in place of January 12, 1987.

D2.5.2 Exemption: Tanks that meet either of the following requirements are exempt from the secondary containment and detection of releases requirements in [724.293](#). Applications for tank systems covered by an exemption must include documentation that the tank system meets one of these requirements.

- No free liquids, as defined by the Paint Filter Test (Method 9095) are managed in the tank system, and the tank is located inside a building with an impermeable floor.
- The tank (including sumps) is part of a secondary containment system.

D2.6 Plans and Description of the Design, Construction, and Operation of the Secondary Containment System for Each Tank System: [724.293\(b\)-\(f\)](#), [703.202\(g\)](#)

Secondary containment for tanks must include one or more of the following devices. Specify which devices will be used for each tank at the facility:

- A liner (external to the tank);
- A vault;
- A double walled tank; or
- An equivalent device as approved by the Illinois Pollution Control Board in an adjusted standards proceeding.

Demonstrate that the secondary containment system for the tank and all ancillary equipment has been (will be) designed, installed and operated to prevent any migration of waste or accumulated liquid from the tank system to the soil, groundwater, or surface water at any time during its use. Also demonstrate that the secondary containment system can detect and collect releases and accumulated liquids. Sewers and sewer systems should not be utilized as components of the secondary containment system. This demonstration must include at least the following:

D2.6.1 Exceptions for Ancillary Equipment: Document that ancillary equipment without secondary containment meets one or more of the following requirements:

- Aboveground piping (exclusive of flanges, joints, valves and other connections) are visually inspected for leaks on a daily basis;
- Welded flanges, welded joints and welded connections, are visually inspected for leaks on a daily basis;
- Sealless or magnetic coupling pumps, are visually inspected for leaks on a daily basis; and
- Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off that are visually inspected for leaks on a daily basis.

D2.6.2 Design: Provide scale drawings and a narrative description which demonstrate how the secondary containment system is sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation.

D2.6.3 Materials of Construction: Specify the materials (including the construction joints, water stops, and grouts) used to construct, seal, and/or line the system.

D2.6.4 Compatibility with & Impermeability to Wastes: Demonstrate that the materials (including the construction joints and water stops) used to construct, seal or line the containment system are compatible with, and impermeable to, the wastes in the tank system. Concrete is considered to be permeable to liquid hazardous waste. Therefore, it must be coated with a sealer or lined. Construction joints and water stops must also be made of materials that are impermeable to, and compatible with the wastes managed in the unit. Provide copies of the manufacturer's specifications for the sealers, liners and joint grouts. Compare them with the wastes managed in each tank system.

D2.6.5 Strength of Materials: Demonstrate using engineering analyses that the system has sufficient strength and thickness to prevent failure caused by any of the following:

- Pressure gradients (including static head and external hydrological forces);
- Physical contact with the wastes;
- Climatic conditions; and
- Stresses from daily operation (including stresses from nearby vehicular traffic).

D2.6.6 Foundation Analysis: Provide engineering calculations to prove that the secondary containment system is placed on a foundation or base that is capable of providing support, resisting pressure gradients above and below the system, and preventing failure due to settlement, compression, or uplift.

D2.6.7 Leak Detection System: Provide a description of the leak detection system, including its operating principle, design features and operating procedures. Demonstrate that the leak detection system will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within twenty four (24) hours. If the prevailing site conditions or detection technologies will not allow detection of a release within 24 hours, then specify the earliest practical time that detection can take place. Demonstrate why this longer period does not pose a threat to human health and the environment.

D2.6.8 Removal of Wastes or Liquids: Document how the design and operation of the containment system will ensure that spilled or leaked wastes and precipitation will be removed from the secondary containment system within twenty four (24) hours. If wastes and precipitation cannot be removed within 24 hours, then specify the earliest practical time that removal can take place. Document why this longer period does not pose a threat to human health and the environment.

D2.7 Specific Requirements for External Liner, Vault, Double-Walled Tank or Equivalent Device: [703.202\(g\)](#), [724.293\(d\)](#) and [\(e\)](#)

Provide the following information for secondary containment devices applicable to the tank systems at the facility.

D2.7.1 External Liner Systems:

D2.7.1.1 Provide calculations to show that the external liner system is designed or operated to contain 100 percent of the capacity of the largest tank within its boundary. Note: the volume of any tanks, or other items, in the containment system that subtract from the available capacity need to be considered in the calculations.

D2.7.1.2 Show that the external liner system is designed or operated to prevent run-on or infiltration of precipitation from accumulating in the secondary containment system. Alternatively, show that the containment system has sufficient capacity to contain the volume of the largest tank and the precipitation from a 25-year, 24-hour rainfall.

D2.7.1.3 Show that the external liner system is free of cracks or gaps.

- D2.7.1.4 Demonstrate that the system is designed and installed to surround the tank completely and to cover all surrounding soil likely to come in contact with the wastes if they were released from the tank(s).

D2.7.2 Vault Systems

- D2.7.2.1 Provide calculations to show that the vault system is designed or operated to contain 100 percent of the capacity of the largest tank within the vault system's boundary. Note: the volume of any tanks, or other items, in the containment system that subtract from the available capacity need to be considered in the calculations.
- D2.7.2.2 Show that the vault system is designed or operated to prevent run-on or infiltration of precipitation from accumulating in the secondary containment system. Alternatively, show that the containment system has sufficient capacity to contain the volume of the largest tank and the precipitation from a 25-year, 24-hour rainfall.
- D2.7.2.3 Specify the method used to protect against the formation and ignition of vapors within the vault if the wastes being placed in the tank(s) are ignitable or reactive.
- D2.7.2.4 Specify the exterior moisture barrier used and provide the manufacturer's data sheet. Alternatively, describe how the vault is designed or operated to prevent the migration of moisture into the vault if the vault is subject to hydraulic pressure.

D2.7.3 Double-walled Tank Systems

- D2.7.3.1 Demonstrate that the unit is designed as an integral structure so that any release from the inner tank is contained by the outer shell.
- D2.7.3.2 Protected from corrosion if the unit is metallic. Specify the type(s) or corrosion protection used for both the primary tank interior and the external surface of the outer shell.
- D2.7.3.3 Describe the leak detection system used including the principle of operation, design, and operating characteristics. Demonstrate that it is a continuously operating system, capable of detecting a release within 24 hours. If the prevailing site conditions or detection technologies will not allow detection of a release within 24 hours, then specify the earliest practical time that detection can take place. Demonstrate why this longer period does not pose a threat to human health and environment.

Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks", incorporated by reference in [720.111](#), may be used as guidelines for aspects of the design of underground steel double-walled tanks.

D2.8 Requirements for Tank Systems Until Secondary Containment is Implemented: **724.293(i)**

Applicability: The following requirements apply to all tank systems, until such time as secondary containment that meets the requirements of [724 Subpart J](#) is provided.

- D2.8.1 Non-enterable Underground Tanks:** Provide the results of the most recent leak test, internal inspection or other tank integrity examination, as approved or required by the Agency. The assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets and high water table effects. Indicate the procedures that will be repeated annually until secondary containment is provided.
- D2.8.2 All Other Tanks:** The owner or operator shall either:
- D2.8.2.1 Conduct a leak test as specified in section D2.8.1, or

D2.8.2.2 Develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified registered professional engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks and corrosion or erosion that may lead to cracks and leaks. The owner or operator shall remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection and the characteristics of the waste being stored or treated.

D2.8.3 Ancillary Equipment: Provide the results of a leak test or other integrity assessment as approved by the Agency. Document the test or assessment is conducted at least annually.

D2.8.4 Leaking or Unfit Tanks: If, as a result of the leak test or assessment, a tank system is found to be leaking or unfit for use, the application must document how the owner or operator has complied with the requirements of [724.296](#).

Note: The practices described in the API Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," incorporated by reference in [720.111](#), may be used, where applicable, as guidelines for assessing the overall condition of the tank system.

D2.9 Adjusted Standard for Secondary Containment Requirements: [703.202\(h\)](#), [724.293\(g\)](#), [724.293\(h\)](#)

Provide a copy of the Illinois Pollution Control Board Order granting alternative design and operating practices for all tank systems seeking an adjusted standard allowed under [724.293\(g\)](#).

D2.10 Tank Management Practices: [703.202\(i\) & \(j\)](#), [724.294](#), [724.298](#), [724.299](#)

D2.10.1 Controls and Practices to Prevent Spills and Overflows: Provide a detailed description of controls and practices used to prevent spills and overflows. At a minimum, this must include:

D2.10.1.1 Spill prevention controls (e.g., check valves, dry disconnect couplings);

D2.10.1.2 Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

D2.10.1.3 Calibration of tank control equipment (level sensing devices, high level alarms, automatic feed cutoff system, or bypass) and tank monitoring equipment (pressure and temperature gauges). Identify the accuracy and precision of this equipment. Demonstrate that the proposed calibration procedures, and frequency are adequate to insure the equipment is operating properly.

D2.10.1.4 Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

D2.10.2 Tank Systems with Ignitable or Reactive Wastes: Provide a detailed description of how the operating procedures, tank system, and facility design will prevent ignitable or reactive waste from being placed in a tank system unless:

D2.10.2.1 The waste is treated, rendered or mixed before or immediately after placement in the tank system so that the resulting waste, mixture or dissolved material no longer meets the definition of ignitable or reactive waste under [721.121](#) or [721.123](#), and the requirements at [724.117\(b\)](#) are met by demonstrating precautions are taken to prevent reactions which:

- Generate extreme heat or pressure, fire or explosions, or violent reactions;

- Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment; or
 - Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.
- OR**

D2.10.2.2 The waste is stored or treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react. **OR**

D2.10.2.3 The tank is used solely for emergencies.

D2.10.2.4 Demonstrate compliance with NFPA Flammable and Combustible Liquids Code (NFPA 30) by providing a written description and scale drawing demonstrating it is met. The scale drawing must identify the locations of all tanks used to manage ignitable or reactive wastes, the facility's property line, and all streets, alleyways, etc. adjacent to the facility.

D2.10.3 Tank Systems with Incompatible Wastes: Provide the following information regarding the management of incompatible wastes in tanks:

D2.10.3.1 Identify the tanks where incompatible wastes or materials are managed on a scale drawing. If incompatible wastes or other materials are stored in different tanks in the same tank farm, document that the tanks are separated from the other by means of a dike, berm, wall or other device capable of containing the volume of the entire tank.

D2.10.3.2 Provide a detailed description of how the operating procedures, tank system, and facility design will prevent incompatible wastes, or incompatible wastes and materials, from being placed in the same tank system or a tank that previously held an incompatible waste or material.

D2.10.3.3 If incompatible wastes are mixed or treated in a tank, the application must demonstrate that precautions are taken to prevent reactions which:

- Generate extreme heat or pressure, fire or explosions, or violent reactions;
- Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment; or
- Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.

D2.10.4 Documentation: Provide documentation that the precautions taken for the management of ignitable, reactive, or incompatible wastes are appropriate. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in [724.113](#)), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

D10 MISCELLANEOUS UNITS

Applicability: The requirements in this section apply to owners and operators of facilities that treat, store or dispose of hazardous waste in miscellaneous units, except as [724.101](#) provides otherwise. Examples of miscellaneous units include, but are not limited to, aerosol can puncturing machines, shredding machines for full containers, compactors for full drums or thermal treatment devices which are not incinerators or BIF's.

D10.1 Miscellaneous Unit: [724.701](#)

Describe the miscellaneous activity to be conducted at the facility. Provide the following information about the unit:

- D10.1.1 Dimensions;
- D10.1.2 Process rate;
- D10.1.3 Design standards or manufacturing standards to which the unit was constructed;
- D10.1.4 Safety features such as automatic waste feed cutoff, fire suppression, pressure relief, and deflagration system;
- D10.1.5 A description of the wastes to be treated.

Note: A detailed description (analysis/properties) of the wastes to be managed must be provided in accordance with Section C.

D10.2 Assessment of the Unit: [724.701](#)

Provide a written assessment that is reviewed and certified by an independent, qualified, registered professional engineer in accordance with [703.182](#), on the structural integrity and suitability of the miscellaneous unit for handling hazardous waste. This assessment must determine whether the miscellaneous system is adequately designed and has sufficient structural strength and compatibility with the waste to be treated, to ensure that it will not collapse, rupture or fail. At a minimum, design considerations must include:

- Characteristics of the waste to be handled;
- The standards to which the unit was constructed;
- The load imposed upon the foundation;
- Whether the miscellaneous unit is placed in a saturated or is located within a seismic fault zone;
- Frost heave; and
- The soundness of the unit and its ancillary equipment in preventing releases

D10.3 Secondary Containment and Detection of Releases: [724.701](#)

- D10.3.1 Miscellaneous units that handle wastes with free liquids must provide secondary containment.
 - D10.3.1.1 Provide calculations to show that the containment system is designed or operated to contain 100 percent of the capacity of the largest unit within its boundary.

Note: The space of any tanks, structures, or other items, in the containment system which subtract from the available capacity need to be considered in the calculations.

- D10.3.1.2 Additionally, show that the containment system has sufficient capacity to contain the volume of the largest tank or unit and the precipitation from a 25-year, 24-hour rainfall, if applicable.

Note: If the unit is not located within a building, covered by a roof, or receives runoff from a precipitation event, this is a requirement.

D10.3.1.3 Demonstrate that the system is designed to prevent the surrounding soil from coming into contact with any released waste. This demonstration must show that the materials used to construct, seal or line the containment system are compatible with, and impermeable to, the wastes in the miscellaneous unit.

D10.3.2 For wastes without free liquids, describe the controls to prevent wind dispersion of waste during conveyance or residue (e.g., ash) produced from the treatment process.

D10.4 Assessment of the Operation of the Unit: [724.701](#)

The application must demonstrate that the treatment technology is protective of public health and the environment in addition to being safe for the waste handler.

This demonstration can be made by:

- Doing a risk assessment using the guidance in the document “Human Health Risk Assessment Protocol for Waste Combustors”, U.S. EPA Doc. No.# 530-D-98-001A, 1B;
- By demonstrating compliance with other regulations (e.g., Subpart BB for compliance with organic emissions);
- By performing a risk assessment using an alternative method approved by the Illinois EPA or
- By demonstrating “no detection” of the hazardous constituents of concern.

E GROUNDWATER MONITORING

E.1 Exemption from Groundwater Protection Requirements: [703.185](#), [724.190\(b\)](#)

If a waiver from the Subpart F groundwater monitoring requirements is requested, The applicant must demonstrate one of the following conditions applies to the facility or exempted under [724.101](#).

E.1.1 Waste Piles: [724.190\(b\)\(2\)](#) and [\(5\)](#)

The waste pile has been designed and operated to meet conditions specified in [724.350\(c\)](#).

E.1.2 Landfill: [724.190\(b\)\(2\)](#)

The landfill has been designed and operated to meet conditions specified herein.

E.1.3 No Migration: [724.190\(b\)\(4\)](#)

No potential for migration of liquid from a regulated unit to the uppermost aquifer exists during the active life of the regulated unit (including the closure period) and the post closure period. Predictions must be based on assumptions maximizing the rate of liquid migration.

E.2 Interim Status Groundwater Monitoring Data: [703.185\(a\)](#)

The applicant must provide, by reference, the location of a summary of the groundwater monitoring data obtained during the interim status period.

E.3 Historical Hydrogeological Summary: [703.185\(b\)](#), [620.210](#)

The applicant must provide an identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property. Include groundwater classification, flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area). A table of hydraulic properties must be submitted which includes at a minimum permeability, sieve analysis, porosity, hydraulic conductivities, etc.

E.4 Topographic Map Requirements: [703.183\(s\)](#), [703.185\(c\)](#)

The applicant must provide on the map required in [703.183\(s\)](#) a complete legal description of the property boundary along with the following additional information:

The waste management area, the property boundary, the proposed point of compliance, the proposed groundwater monitoring zone (if applicable), the proposed location of groundwater monitoring wells and the information required in [703.185\(b\)](#).

E.5 Contaminant Plume Description: [703.185\(d\)](#), [721-Appendix I](#)

The applicant must provide a description of any plume of contamination detected in the groundwater originating from a regulated unit. Identify the concentrations of [Part 721, Appendix I](#) constituents (throughout the plume or the maximum concentration of each Appendix I constituent) for the plume of contamination delineated on the topographic map.

THE MONITORING PROGRAM MUST BE ESTABLISHED BASED ON THE MONITORING DATA FROM THE FACILITY AND BE APPROPRIATE FOR THE GROUNDWATER CONDITIONS BENEATH THE REGULATED UNIT. COMPLETE ONLY THE MONITORING PROGRAM SECTION WHICH IS CURRENTLY APPROPRIATE FOR THE FACILITY (E.6: DETECTION, E.7: COMPLIANCE, E.8: CORRECTIVE ACTION)

E.6 Detection Monitoring Program: 703.185(f), 724.198

If the presence of hazardous constituents has not been detected in the groundwater at the time of permit application, the applicant must provide sufficient information, supporting data and analyses to establish a detection monitoring program which meets the requirements of [724.198](#).

A detection monitoring program must include at a minimum the ability to monitor for specific indicator parameters based upon the type and characteristics of waste(s) managed at the facility and to maintain a complete and accurate record and statistical evaluation of all groundwater monitoring data.

E.6.1 Indicator Parameters, Waste Constituents, Reaction Products to be Monitored: 703.185(f)(1), 724.198(a)

The applicant must provide a list of indicator parameters, waste constituents or reaction products to be used in providing a reliable indication of the presence of hazardous constituents in the groundwater.

E.6.2 General Monitoring Program Requirements: 703.185(e), 724.197

The applicant must provide detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of [724.197](#).

Groundwater monitoring systems must be developed to provide a sufficient number of wells for the regulated unit(s), constructed in a manner to provide representative samples from the uppermost aquifer. The program must include appropriate procedures for sampling, analyzing and evaluating groundwater quality.

E.6.3 Groundwater Monitoring System: 703.185(f)(2), 724.197(a) & (b), 724.198(b)

The detection monitoring system must be installed at the established compliance point and comply with [724.197\(a\) & \(b\)](#). All groundwater monitoring wells must be installed at appropriate locations and depths to yield representative groundwater samples and be cased in a manner capable of maintaining the integrity of the monitoring well bore hole.

The applicant must reference, by location, boring logs and well completion reports (including a cross reference if necessary). A table of wells must be submitted identifying the well ID# and measurements for the following in both mean sea level (MSL) and feet below ground surface (ft. bgs): well depth, screen interval, ground surface, and stick-up.

E.6.4 Description of Sampling and Analysis Procedures: 703.185(f)(4), 724.197(d) & (e)

The applicant must provide a description of sampling and analysis procedures including at a minimum procedures and techniques for sample collection, sample preservation and shipment, and analytical procedures and chain of custody control. The sampling and analytical methods must be appropriate for groundwater sampling and accurately measure hazardous constituents in groundwater samples. Alternative methods must be included for contingency basis.

E.6.5 Evaluation of Groundwater Surface: 724.197(f), 724.198(e)

The applicant must provide procedures for the evaluation of the groundwater surface at the facility. A determination of the groundwater surface elevation each time the groundwater is sampled. The applicant must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

E.6.6 Background Quality: 703.185(f)(3), 724.197(g), 724.198(c)

The applicant must provide an evaluation of background groundwater quality and if necessary, re-establish background based on the historical data gathered over the active life of the permit using a trend analysis.

E.6.7 Statistical Evaluations: 703.185(f)(4), 724.197(h), 724.198(d)

The applicant must provide a demonstration that the current statistical method remains appropriate or justify a new method to be used for statistical evaluation of data.

- E.6.8 Statistically Significant Increases:** [724.198\(f\) & \(g\)](#)
Using methods required in E.7.7, The applicant must evaluate the existence of statistically significant evidence of contamination in the groundwater. If such evidence exists, specific measures of retesting and Illinois EPA notification must be provided.
- E.7 Compliance Monitoring Program:** [703.185\(g\)](#), [724.199](#)
- If the presence of hazardous constituents has been detected in the groundwater at the point of compliance at the time of permit application, The applicant must submit sufficient information, supporting data and analyses to establish a compliance monitoring program which meets the requirements of [724.199](#).
- E.7.1 Description of the Monitoring Program:** [724.199\(a\)](#)
The program will be used to determine if compliance standards have been achieved by a regulated unit.
- E.7.1.1 Waste Description:** [703.185\(g\)\(1\)](#), [724.193\(a\)](#), [724.199\(a\)\(1\)](#)
The applicant must provide a list of hazardous constituents for groundwater that are reasonably expected to be in or derived from waste(s) contained in a regulated unit.
- E.7.1.2 Concentration Limits:** [703.185\(g\)\(4\)](#), [724.194\(a\)](#), [724.199\(a\)\(2\)](#)
The applicant must provide a discussion addressing the appropriate concentration limits for the hazardous constituents in groundwater.
- E.7.1.3 Compliance Point:** [724.195](#), [724.199\(a\)\(3\)](#)
The applicant must provide a discussion addressing the compliance point including rationale for location of groundwater monitoring wells utilized to delineate the compliance point.
- E.7.1.4 Compliance Period:** [724.196](#), [724.199\(a\)\(4\)](#)
The applicant must provide a discussion addressing the compliance period.
- E.7.2 Alternate Concentration Limits:** [703.185\(g\)\(4\)](#), [724.194\(b\)](#)
In situations where the Illinois EPA determines, based on information and supporting data provided by The applicant, a constituent will not pose a substantial hazard an alternate concentration limit can be established.
- E.7.2.1 Adverse Effects on Groundwater Quality:** [724.193\(b\)\(1\)](#), [724.194\(b\)\(1\)](#)
The applicant must provide information and supporting data addressing any proposed alternate concentration limit and adverse effects on groundwater quality.
- E.7.2.2 Potential Adverse Effects on Hydraulically Connected Surface Water Quality:** [724.193\(b\)\(2\)](#), [724.194\(b\)\(2\)](#)
The applicant must provide information and supporting data addressing any proposed alternate concentration limit and potential adverse effects on hydraulically connected surface water quality.
- E.7.3 General Monitoring Program Requirements:** [703.185\(g\)\(5\)](#), [724.197](#)
The applicant must provide detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of [724.197](#).
- Groundwater monitoring systems must be developed to provide a sufficient number of wells for the regulated unit(s), constructed in a manner to provide representative samples from the uppermost aquifer. The program must include appropriate procedures for sampling, analyzing and evaluating groundwater quality.
- E.7.4 Groundwater Monitoring System:** [724.197\(a\)](#), [\(b\) & \(c\)](#), [724.199\(b\)](#)
The compliance monitoring system must be installed at the established compliance point as specified by [724.197\(a\)\(2\)](#), [724.197\(b\)](#) and [724.197\(c\)](#). All groundwater monitoring wells must be installed at appropriate locations and depths to yield representative groundwater samples and be cased in a manner capable of maintaining the integrity of the monitoring well bore hole.

The applicant must reference, by location, boring logs and well completion reports (including a cross reference if necessary). A table of wells must be submitted identifying the well ID# and measurements for the following in both mean sea level (MSL) and feet below ground surface (ft bgs): well depth, screen interval, ground surface, and stick-up.

- E.7.5 Description of Sampling and Analysis Procedures:** [703.185\(g\)\(6\)](#), [724.197\(d\) & \(e\)](#), [724.199\(c\)](#)
The applicant must provide a description of sampling and analysis procedures including at a minimum procedures and techniques for sample collection, sample preservation and shipment, and analytical procedures and chain of custody control. The sampling and analytical methods must be appropriate for groundwater sampling and accurately measure hazardous constituents in groundwater samples. Alternative methods must be included for contingency basis.
- E.7.6 Background Quality:** [724.197\(g\)](#)
The applicant must provide an evaluation of background groundwater quality and if necessary, re-establish background based on the historical data gathered over the active life of the permit using a trend analysis.
- E.7.7 Statistical Evaluations:** [703.185\(g\)\(6\)](#), [724.197\(h\)](#), [724.199\(d\)](#)
The applicant must provide a demonstration that the current statistical method remains appropriate or justify a new method to be used for statistical evaluation of data.
- E.7.8 Evaluation of Groundwater Surface:** [724.197\(f\)](#), [724.199\(e\)](#)
The applicant must provide procedures for the evaluation of the groundwater surface at the facility. A determination of the groundwater surface elevation must take place each time the groundwater is sampled. The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.
- E.7.9 Annual Appendix I:** [724.199\(g\)](#)
The applicant must provide procedures for the Annual Appendix I sampling event. Samples from all monitoring wells at the compliance point must be analyzed for all constituents listed in Appendix I at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer.
- E.7.10 Statistically Significant Increases:** [724.199\(h\) & \(i\)](#)
Using methods required in E.8.6, The applicant must evaluate the existence of statistically significant evidence of contamination in the groundwater of the point of compliance. If such evidence exists, specific measures of retesting and Illinois EPA notification must be met.
- E.8 Corrective Action Program:** [703.185\(h\)](#), [724.191\(a\)\(2\) & \(3\)](#), [724.200](#)
If hazardous constituents have been measured in the groundwater which exceed the concentration limits established under [724.194](#), Table 1, or if groundwater monitoring conducted at the waste boundary indicates the presence of hazardous constituents from the facility in groundwater over background concentrations, The applicant must submit sufficient information supporting data and analyses to establish a corrective action program which meets the requirements of [724.200](#).
- E.8.1 Description of Corrective Action Program:** [703.185\(h\)](#), [724.200](#)
The program will be used to demonstrate the effectiveness of a corrective action measure.
- E.8.1.1 Characterization of Contaminated Groundwater:** [703.185\(h\)\(1\)](#), [724.200\(a\)\(1\)](#)
The applicant must include a characterization of the contaminated groundwater, including concentrations.
- E.8.1.2 Concentration Limits:** [703.185\(h\)\(2\)](#), [724.194\(a\)](#), [724.200\(a\)\(2\)](#)
The applicant must provide a discussion addressing the appropriate concentration limits for groundwater for each of the hazardous constituents.
- E.8.1.3 Compliance Point:** [724.195](#), [724.200\(a\)\(3\)](#)
The applicant must provide a discussion addressing the compliance point.

- E.8.1.4 **Compliance Period:** [724.196](#), [724.200\(a\)\(4\)](#)
The applicant must provide a discussion addressing the compliance period.
- E.8.1.5 **Construction Detail:** [703.185\(h\)\(3\)](#)
The applicant must provide detailed plans and an engineering report describing the corrective action to be taken.
- E.8.1.6 **Effectiveness of Corrective Action:** [703.185\(h\)\(4\)](#), [724.200\(d\)](#) & [\(g\)](#)
The applicant must describe how the groundwater monitoring program will assess the adequacy of the corrective action.
- E.8.2 Alternate Concentration Limits:** [724.194\(b\)](#)
In situations where the Illinois EPA determines, based on information and supporting data provided by The applicant, a constituent will not pose a substantial hazard an alternate concentration limit can be established.
- E.8.2.1 **Adverse Effects on Groundwater Quality:** [724.193\(b\)\(1\)](#), [724.194\(b\)\(1\)](#)
The applicant must provide information and supporting data addressing any proposed alternate concentration limit and adverse effects on groundwater.
- E.8.2.2 **Potential Adverse Effects on Hydraulically-Connected Surface Water Quality:** [724.193\(b\)\(2\)](#), [724.194\(b\)\(2\)](#)
The applicant must provide information and supporting data addressing any proposed alternate concentration limit and adverse effects on hydraulically connected surface water quality.
- E.8.3 Corrective Action Plan:** [703.185\(h\)](#), [724.200\(b\)](#), [724.200\(c\)](#), [724.200\(e\)](#)
In addition to the other requirements of [724.200](#), The applicant must provide and describe a corrective action program to remove or treat in place hazardous waste constituents in groundwater between the point of compliance and the downgradient facility boundary, or beyond the facility boundary where necessary to protect human health and the environment.

The corrective action program must begin corrective action within a reasonable time period after the groundwater protection standard is exceeded considering the extent of contamination.
- E.8.4 Groundwater Monitoring Program:** [703.185\(h\)\(4\)](#), [724.192](#), [724.200\(d\)](#)
The groundwater monitoring program must be as effective as the program required under E-8a in determining compliance with groundwater protection standards and in determining the success of a corrective action program.
- E.8.4.1 **General Monitoring Program Requirements:** [703.185\(e\)](#), [724.197](#)
The applicant must provide detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of [724.197](#).

Groundwater monitoring systems must be developed to provide a sufficient number of wells for the regulated unit(s), constructed in a manner to provide representative samples from the uppermost aquifer. The program must include appropriate procedures for sampling, analyzing and evaluating groundwater quality.
- E.8.4.2 **Groundwater Monitoring System:** [724.197\(a\)](#) & [\(b\)](#), [724.200\(d\)](#)
The corrective action monitoring system must be installed at the established compliance point as specified by [724.197\(a\)\(2\)](#), [724.197\(b\)](#), and [724.197\(c\)](#). All groundwater monitoring wells must be installed at appropriate locations and depths to yield representative groundwater samples and be cased in a manner capable of maintaining the integrity of the monitoring well bore hole.

The applicant must reference, by location, boring logs and well completion reports (including a cross reference if necessary). A table of wells must be submitted identifying the well ID# and measurements for the following in both mean sea level (MSL) and feet below ground surface (ft. bgs): well depth, screen interval, ground surface, and stick-up.

- E.8.4.3 **Description of Sampling and Analysis Procedures:** [724.197\(d\) & \(e\)](#)
The applicant must provide a description of sampling and analysis procedures including at a minimum procedures and techniques for sample collection, sample preservation and shipment, and analytical procedures and chain of custody control. The sampling and analytical methods must be appropriate for groundwater sampling and accurately measure hazardous constituents in groundwater samples. Alternative methods must be included for contingency basis.
- E.8.4.4 **Background Quality:** [724.197\(g\)](#), [724.199\(c\)](#)
The applicant must provide an evaluation of background groundwater quality and if necessary, re-establish background based on the historical data gathered over the active life of the permit using a trend analysis.
- E.8.4.5 **Statistical Evaluations:** [703.185\(f\)](#), [724.197\(h\)](#), [724.199\(d\)](#)
The applicant must provide a demonstration that the current statistical method remains appropriate or justify a new method to be used for statistical evaluation of data.
- E.8.4.6 **Evaluation of Groundwater Surface:** [724.197\(f\)](#), [724.199\(e\)](#)
The applicant must provide procedures for the evaluation of the groundwater surface at the facility. A determination of the groundwater surface elevation each time the groundwater is sampled. The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.
- E.8.4.7 **Extension of Compliance Period:** [724.200\(f\)](#)
The applicant must provide a discussion addressing the extension of the compliance period. The compliance period during which the groundwater protection standard applies shall be extended until the applicant demonstrates that the groundwater protection standard of [724.192](#) has not been exceeded for three consecutive years.
- E.8.4.8 **Effectiveness of Corrective Action:** [724.200\(g\)](#)
The applicant must provide a discussion addressing the evaluation and reporting of the effectiveness of the corrective action program to the Illinois EPA. The written reports must be submitted semi-annually.
- E.8.4.9 **Evaluation of the Corrective Action Program:** [724.200\(h\)](#)
The applicant must provide a discussion addressing any determination that the corrective action program no longer satisfies the requirements of [724.200](#).
- E.9 Reporting Requirements:** [724.197\(i\)](#)
- The applicant must provide a discussion addressing groundwater monitoring data collected and the maintenance of the data in the facility operating record.
- E.10 Description of Corrective Action for Solid Waste Management Units (SWMUs):**
[724.201](#)
- The applicant seeking a permit for the treatment, storage or disposal of hazardous waste must provide a discussion and institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any SWMU at the facility to include a schedule for corrective actions, financial responsibility for completing corrective action and corrective measures beyond the property boundary where necessary to protect human health and the environment.

F PROCEDURES TO PREVENT HAZARDS

F.1 **Security:** [703.183\(d\)](#), [724.114](#)

The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility. Unless a waiver is granted, the facility must have either a 24-hour surveillance systems, or a barrier and a means to control entry.

F.1.1 Waiver from the Security Requirements: Facilities seeking a waiver from the security requirements must demonstrate that:

F.1.1.1 Physical contact with the waste, structures or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

F.1.1.2 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 724.

F.1.2 24-Hour Surveillance System: Describe the 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) at the facility that continuously monitors and controls entry onto the active portion of the facility; or

F.1.3 Barrier and Controlled Entry: Describe the artificial or natural barrier system (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and the 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).

F.1.4 Warning Signs: Identify the locations of all warning signs on a scale drawing of the facility. A sign with the legend, "Danger: Unauthorized Personnel Keep Out", must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The sign must be legible from a distance of at least 25 feet. 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.

F.2 **Inspection Requirements:** [703.183\(e\)](#), [724.115](#)

Describe the inspection procedures followed at the facility. Provide copies of the inspection log and repair log that will be used to document inspections and repairs at the facility in accordance with the RCRA requirements.

F.2.1 Inspection Log: The inspection log must include all of the following items. It must also include the date and time of each inspection, the name of the inspector, notation of the observations made, and the date of any repairs or remedial actions.

F.2.1.1 **Items Inspected:** Identify each item the owner/operator will inspect at the facility in order to comply with the RCRA requirements. These items include, all RCRA regulated units, monitoring equipment, safety and emergency equipment (e.g. all equipment identified in the Contingency Plan), security and communication devices, and operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards.

F.2.1.2 **Types of Problems:** Identify the types of problems (e.g. malfunctions or deterioration) the inspector must look for during an inspection (e.g. inoperable sump pump, leaking fitting, eroding dike).

F.2.1.3 **Inspection Frequency:** Identify the inspection frequency for each item in the log. In addition, provide justification for the inspection frequency proposed for each item. (This justification should be separate from the actual inspection log.). The frequency of inspection needs to 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.

F.2.2 Repair Log: The repair log must be used to schedule and record repairs (deterioration, or malfunction of equipment or structures) revealed by an inspection of the items listed in the inspection log. The repair log must include the following items:

F.2.2.1 Contents of Repair Log: Identify the item needing repair, the problem identified during the inspection, the date the problem was detected, the time frame within which the repair must be made, the name of the person making the repair, notation of the observations made, and the nature and date of any repairs or remedial action.

F.2.2.2 Repair Times: Identify the time frames within which repairs will be made. The time frame for making repairs can vary for the items inspected and types of problems discovered. However, it must be sufficient to insure the problem(s) identified during an inspection do not lead to an environmental or human health hazard. Where a hazard is imminent, or has already occurred, remedial action must be taken immediately.

The Illinois EPA expects most repairs to be remedied immediately upon detection. The application needs to identify the problems that could take longer than 24 hours to repair and provide justification for the longer repair time.

Specific Unit and Process Inspection Requirements

The inspection and repair schedules must also address the requirements applicable to the specific units or processes proposed in the permit application. All of the inspection and repair schedule requirements indicated above (e.g. types of problems, justifications for inspection frequencies and repairs, etc.) also apply to the unit specific requirements below.

F.2.3 Container & Container Storage Area Inspection: [724.274](#), [724.271](#)

F.2.3.1 Inspection Frequency: Demonstrate that the containers and the container storage area will be inspected at least once a week for evidence of leaks, spills, or deterioration caused by corrosion or other factors.

F.2.3.2 Compressed Gas Cylinders: If compressed gas cylinders are managed in a RCRA regulated unit, describe the procedures and equipment used to inspect them for leaks, the allowable pressures, and compliance with DOT pressure testing requirements. NOTE: If compressed gas cylinders will not be continuously monitored (e.g. inspected) for leaks, provide justification on how the proposed frequency complies with [724.131](#).

F.2.4 Tank System Inspection: [724.293](#), [724.295](#)

F.2.4.1 Tanks: Demonstrate that the above-ground portions of the tank are inspected at least once each operating day to detect corrosion or release of waste.

F.2.4.2 Ancillary Equipment: Demonstrate the following types of ancillary equipment are visually inspected daily for leaks if they do not have secondary containment:

- Aboveground piping (exclusive of flanges, joints, valves and other connections),
- Welded flanges, welded joints and welded connections,
- Sealless or magnetic coupling pumps and sealless valves, and
- Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices).

F.2.4.3 Shell Thickness: Demonstrate that the thickness of the sides, top, and bottom of each tank will be determined annually. Provide a detailed inspection plan that describes the testing methods and procedures followed to determine the shell thickness of a tank.

- F.4.1 Unloading Operations:** Describe procedures, structures, and equipment used to prevent hazards when wastes are loaded or unloaded at the facility.
- F.4.1.1 Locations: Identify the location(s) where loading/unloading operations will occur on a scale drawing of the facility. Describe the secondary containment capacity of these area(s).
- F.4.1.2 Structures & Equipment: Describe the structures and equipment (e.g. truck docks, ramps, forklifts, hoses, etc.) used to load or unload wastes.
- F.4.1.3 Procedures: Describe the procedures followed when wastes are loaded or unloaded from vehicles.
- F.4.2 Run-Off:** Describe the procedures, structures, and equipment used to prevent run-off from hazardous waste handling areas from entering other areas of the facility or environment, or prevention of flooding (e.g., berms, dikes, trenches).
- F.4.3 Water Supplies:** Describe the procedures, structures, and equipment used to prevent contamination of water supplies.
- F.4.4 Equipment and Power Failure:** Describe the procedures, structures, and equipment used to mitigate the effects of equipment failure and power outage.
- F.4.5 Personnel Protection Equipment:** Describe the procedures, structures, and equipment used to prevent the undue exposure of personnel to hazardous waste (e.g., protective clothing and equipment).

G EVALUATION-ASSESSMENT OF POTENTIAL HAZARDS & CONTINGENCY PLAN

[724.151](#) requires the Contingency Plan be designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water. In order to develop a Contingency Plan that meets these requirements, the owner/operator must provide information in the RCRA permit application that demonstrates development of the contingency plan was based upon an evaluation of the facility's hazardous waste management activities, potential emergency situations (a release, fire, or explosion), and the consequences of these situations both on-site and off-site.

To properly respond to an emergency, the facility's emergency coordinator (EC) must identify the character, source and amount of waste involved in the emergency. Concurrently, the EC must also assess the possible hazards to human health or the environment resulting from the emergency. This assessment must consider both (1) the direct and indirect health and/or environmental effects of the emergency, and (2) the extent of the area which will be impacted by the emergency. Finally, the EC must determine if the incident could threaten human health or the environment outside of the facility and if the evacuation of local areas may be advisable.

In some cases, an incident at a hazardous waste facility could impact off-site receptors, and may even require evacuation of the surrounding area. Furthermore, it may only take a few seconds or minutes for a toxic concentration of a gaseous release to reach the nearest receptors. Due to the fact that there will be a very limited time to properly assess the hazards and their effects during an actual emergency, the RCRA permit application needs to include an evaluation-assessment of the potential hazards, and their consequences, before an emergency actually occurs. **A simple statement that the EC will make an assessment of the situation at the time of the emergency is not acceptable.**

Section G of the Decision Guide is divided into two parts: Evaluation-Assessment of Potential Hazards, and the Contingency Plan. While the first part can (and needs to) refer to information in other portions of the permit application, Section G.2, the Contingency Plan must be a complete stand alone document.

Note: Alternate procedures or default values may be used for the evaluation-assessment of potential hazards. For an alternate method or default value to be acceptable, the applicant must demonstrate that it is at least as effective as those identified in the sections below.

G.1 Evaluation-Assessment of Potential Hazards Report: [703.183\(t\)](#), [703.183\(g\)](#), [724.137](#), [724.150](#) through [724.156](#)

The applicant must conduct an evaluation of the off-site impacts a waste-related emergency may have on the surrounding area. This evaluation may necessitate changes in the design and operation of the facility to minimize/eliminate these off-site impacts. An evaluation report must be prepared and submitted to the Agency as part of the RCRA Part B permit application. The Evaluation-Assessment Report must contain the following information (reference can be made to other sections of the Part B application when applicable):

G.1.1 Executive Summary: In addition to summarizing the evaluation, the executive summary of the report must include a description of the worst-case scenario for both a spill and a fire at the facility. This description needs to include all of the following:

- The location(s) of the worst-case spill and fire at the facility.
- The chemicals involved.
- Identify the maximum horizontal extent of the AEL concentration in the gas plume on a scale drawing of the area. Show the source, facility property line, roads, and all receptors.
- Indicate the duration of the release.

G.1.2 Facility Description: The evaluation must consider the operations, and physical locations of those operations, at the facility. In addition, it needs to consider the potential receptors located in the area around the facility.

G.1.2.1 **General Information:** Demonstrate that the operations and activities at the site as described in Sections B and D of the permit application were considered in the evaluation. Provide the average temperature, and the prevailing wind direction and speed for each month.

G.1.2.2 **Surrounding Area:** Provide a scale drawing/map of the area around the facility that shows all of the following present within 1,000 feet of the facility's property line.

- Off-site receptors. This includes all residential areas, schools, factories, hospitals, nursing homes, apartment complexes, day care facilities, nearest highway, etc.
- The topography of the area.
- All roads and railroad crossings in the area.

G.1.3 Chemical & Physical Properties of Wastes Managed at the Site: The evaluation must consider the waste types and the chemical and physical properties of the materials managed at the facility. In addition, in order to determine the consequences of a fire or spill, it needs to consider the products of incomplete combustion of those materials, and the appropriate exposure limit (AEL) for each compound managed at the facility.

G.1.3.1 **Waste Properties:** Identify all constituents in [Appendix H of 721](#) that are (will be) present in the wastes managed at the facility. Provide the chemical and physical properties for these compounds. The information provided in Section C.1.2 of the application can be referenced.

G.1.3.2 **Products of Incomplete Combustion (PICs):** Identify the most toxic products of incomplete combustion that would be generated if any of the wastes managed at the facility were to be engulfed in a fire. This information must be compiled for each waste to be managed at the facility. Examples of incomplete products of combustion that would be of concern are shown in the following table:

Waste Type Involved in Fire	Products of Incomplete Combustion
Aliphatic chlorinated hydrocarbons	Phosgene, HCl
Non-substituted aromatics	CO, CO ₂ , Alcohols
Nitrated compounds	NO, NO ₂ , N ₂ O
Sulfur bearing wastes	SO ₂ , SO ₃
Cyanide bearing wastes	Hydrogen cyanide gas
Fluoride bearing wastes	Hydrogen fluoride gas
Bromine containing wastes	Hydrogen bromide gas

G.1.3.3 **Appropriate Exposure Limit:** Identify an appropriate exposure limit (AEL) for each of the wastes or compounds managed at the site. Also identify an AEL for each of the products of incomplete combustion. Provide the basis for choosing the AEL for each compound. The AEL should be established pursuant to procedures on Page 6-17 of the document entitled "Handbook of Chemical Hazard Analysis Procedures" available free of charge from the Federal Emergency Management Agency (FEMA) in Washington, D.C. (202/646-3484). As a starting point, the AEL could be established as the highest value of the following:

- IDLH/10
- TLV-STEL
- 3 x TLV-TWA (if no TLV-STEL exists)
- TLV-C

G.1.3.4 **Ranking of AELs:** Provide a ranking of the hazardous wastes managed at the facility according to their AEL (lowest AEL receives highest ranking). A separate ranking (independent of AEL) based upon vapor pressure must also be prepared (compound with highest vapor pressure receives highest ranking).

G.1.4 Air Modeling: The evaluation/assessment of the consequences of a fire or spill at the facility necessarily includes air modeling of these incidents. Therefore, the following information needs to be provided regarding the model that will be used:

G.1.4.1 **Air Model:** Describe the model to be used. Several public domain models are available on [USEPA's Support Center for Regulatory Air Models](#) web pages.: These include:

SLAB --- Used to model denser-than-air releases and neutrally-buoyant releases from the following possible sources: ground-level evaporating pool; an elevated horizontal jet; a stack or elevated vertical jet; an instantaneous volume source.

HGSYSTEM --- This model is specific to hydrogen fluoride and non-reactive ideal gas releases that are the result of spills or a jet release from a pressurized vessel.

DEGADIS --- Used to model both instantaneous and continuous ground level releases of heavier-than-air gases. The model can simulate evaporation from a pool as well as a vertical jet release.

AFTOX --- This model can simulate instantaneous or continuous releases of liquid or gas associated with a tank or pipe rupture, stack dispersal, or evaporation from a pool.

ADAM --- A modified box and Gaussian dispersion model which incorporates thermo-dynamics, chemistry, heat transfer, aerosol loading, and dense gas effects. Release scenarios include continuous and instantaneous, area and point, pressurized and unpressurized, and liquid/vapor/two-phased options.

ARCHIE --- This model is used to model ground level evaporating pools. It is free and available by calling the Federal Emergency Management Agency at 202/646-3484.

If a different, or proprietary model is proposed, a licensed copy of the computer model software should be provided with the application so that the Agency can duplicate the computer model scenarios and results. If this is not possible, the applicant must provide all input parameters, background documents on the model, and other information the Illinois EPA deems necessary in order to insure that the model is appropriate for the situation, and to verify the output.

The following need to be provided for all models:

G.1.4.2 **Limitations:** Identify and discuss the strengths and weaknesses of the model.

G.1.4.3 **Justify Assumptions:** Identify the assumptions associated with the model in applying it to the situation at hand. Provide justifications for all assumptions used in the evaluation.

G.1.4.4 **Input Data:** Identify all input data. The sources of all input data must be documented. At a minimum, the input data must include the following conditions:

- Stable (Type F) atmospheric conditions should be evaluated (wind speed of 1.5 m/s (3.4 mph))
- The maximum air temperature for summer at the site, (the facility may also want to model the conditions at the site during the winter, and spring/fall).
- The AELs established Section G.1.3 should be used in determining the area impacted by the release and the length of time over which the release will impact human health (e.g. exceed the AEL).
- Size and depth of the pool. Specify the dimensions of any secondary containment, if present.

G.1.5 Evaluation/Assessment Report: Using the information required above, perform an evaluation, and report the findings for each of the following scenarios and wastes/compounds managed at the facility. That is, use the air model to evaluate the transport and dispersion of air-borne toxic compounds generated during spills, fires, or an explosion (e.g. releases) at the facility.

Note: For the purpose of these evaluations, an “off-site impact” is any situation in which an AEL is found beyond the facility property line.

G.1.5.1 **Scenarios:** Evaluate the consequences of a release in each of the following scenarios:

- The largest container used to manage hazardous waste (this includes a tank truck).
- The largest tank used to manage hazardous waste.
- The largest volume that can be released from a tank or container that does not have an off-site impact.

Unless the application proposes to limit the amount of a particular compound that is managed in a unit at the facility, the evaluation must assume that the container and tank in these scenarios contain 100% of each of the following compounds.

Note: if the application proposes to limit the amount of a certain compound at the facility, the Waste Analysis Plan must include procedures to verify this condition is always met.

G.1.5.2 Wastes: For each of the above scenarios, evaluate all the following compounds:

- The compound with the highest AEL ranking (see Section G.1.3.4).
- The compound with the highest vapor pressure ranking.
- The compound with the highest combined AEL and vapor pressure ranking.

Note: If the facility does not manage these “worst case” compounds on a regular basis, it may also want to evaluate additional compounds that are regularly managed at the facility as part of the permit application.

G.1.5.3 Air Model Results & Evaluation: Present the results of each air modeling run. In addition to the computer printouts, this presentation must include an evaluation and discussion of the results. For each compound of concern and scenario evaluated, provide the following information and discuss:

- G.1.5.3.1 The on-site and off-site effects. Identify the possible hazards that may result from a release, fire or explosion involving the compound being modeled. Discuss the effects of any toxic, irritating or asphyxiating gases that could be generated, the effects of any hazardous surface water run-off from the water or chemical agents used to control a fire, and any heat-induced explosions.
- G.1.5.3.2 The areas and populations which could be affected;
- G.1.5.3.3 Identify the maximum extent of the AEL concentration on a scale drawing of the facility and surrounding area. At a minimum, the drawing must show the concentrations within the plume, the source, facility property line, roads, railroad crossings, buildings, major topographic features, and all receptors. Also indicate the locations of any fire stations, police stations, and hospitals. Show the location of the plume for both the wind direction that would carry the gas plume to the nearest off-site receptors, and the most common wind direction as indicated on the wind rose.
- G.1.5.3.4 Identify the time it will take AEL concentration in the gas plume to reach its maximum extent.
- G.1.5.3.5 Identify the time the AEL concentration will remain at a steady state, and the overall duration of the off-site impact.
- G.1.5.3.6 Describe the arrangements, if any, the residents in the community have with facility in response to a sounding of the facility alarm siren.
- G.1.5.3.7 Indicate the conditions that would result in evacuation of the facility or the surrounding area. Identify the time required to initiate evacuation procedures.

G.2 Contingency Plan: [703.183\(t\)](#), [703.183\(g\)](#), [724.137](#), [724.150](#) through [724.156](#)

The Contingency Plan must be designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water. The provisions of this plan must be carried out **immediately** whenever there is a

fire, explosion or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment.

The Contingency Plan must be a complete stand alone document. Therefore, all figures and other information referenced in the Contingency Plan must be included as part of the plan. This is necessary because the Contingency Plan is intended to be a document that will actually be used in an actual emergency situation and will be sent to local fire and police departments, hospitals, and emergency response agencies. Thus, all the necessary information must be readily available in it.

The Contingency Plan serves two main functions. It specifies the procedures the facility emergency coordinator (EC) needs to follow when responding to an incident, and it identifies the conditions the local and state agencies may encounter when responding to an emergency at the facility. That is, it identifies both the hazards at the facility, and the facility's capabilities to respond to those hazards.

The applicant needs to utilize the information developed above in Section G.1 above to develop the Contingency Plan. Specifically, this information can be used to assess emergency situations and develop emergency response procedures.

G.2.1 General Information:

G.2.1.1 General Description: Provide a general description of the operations and activities carried out at the site.

G.2.1.2 Facility Drawing: Provide a scale drawing of the facility that shows the following:

- All buildings and roadways.
- Areas where hazardous waste is managed (generated, transported, transferred, accumulated, stored, treated, or disposed). Identify those areas used to manage ignitable, reactive, corrosive, and incompatible wastes.
- The locations of communications, alarms, fire protection, spill control, PPE, and other emergency equipment.

G.2.1.3 Waste Types: Identify (e.g. list) all wastes managed at the facility. Identify the characteristics of each waste (ignitable, reactive, corrosive, toxic, or incompatible), and describe how they are managed in each area shown on the facility drawing.

G.2.1.4 Surrounding Land Uses: Provide a description of the area surrounding the facility. Provide a USGS topographic map that shows the facility and the following features within 1,000 feet of the facility property line:

- The topography
- Roads
- Population centers. Identify all schools, factories, hospitals, day care facilities, nursing homes, apartment complexes, residential areas, etc.

G.2.1.5 Possible Hazards: Identify the possible hazards that may result from a release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that could be generated, the effects of any hazardous surface water run-off from water or chemical agents used to control fire, and heat-induced explosions).

G.2.1.6 Worst Case Scenario: Provide a copy of the executive summary from the Hazards Evaluation Report required in Section G.1 above. Provide a description of the worst-case scenario for both a spill and a fire at the facility that includes:

- The location(s) of the worst-case spill and fire at the facility
- The chemicals involved
- The time it will take the AEL in a toxic gas plume from both a spill and a fire to reach the property line

- The time it will take the AEL in a toxic gas plume from both a spill and a fire to reach the nearest off-site receptors

G.2.1.7 **Emergency Equipment:** This equipment includes, but is not limited to: PPE, respirators, spill control materials, communications, emergency generators, fire extinguishers, fire suppression systems, etc.

- List, and provide the quantity of, all emergency equipment available at the facility for responding to a spill, leak, release, fire, or explosion involving hazardous waste.
- Indicate the location of all equipment on the scale drawing of the facility required above.
- Provide a brief description of each piece of equipment and its capabilities (e.g. fire extinguishers are designed for certain types of fires). Describe why the emergency equipment is appropriate for responding to the types of incidents that could occur at the facility.

G.2.2 **Emergency Coordinators (EC):** [724.152\(d\)](#), [724.155](#)

G.2.2.1 **Emergency Coordinators:** Provide the names, addresses, office and home phone numbers, and duties, of the primary and alternate emergency coordinators who are responsible for coordinating all emergency response measures.

G.2.2.2 **Availability and Responsibility of Emergency Coordinators:** Demonstrate that at least one emergency coordinator will be on the facility premises, or on call (i.e. available to respond to an emergency by reaching the facility within a short period of time) at all times.

G.2.2.3 **Authority to Commit Resources:** The application must include a statement that clearly gives the Emergency Coordinator authority to commit the resources necessary to implement the Contingency Plan and to stop processes or operations at the facility in the event of an emergency. The ability of the EC to commit resources or shut down certain operations in an emergency must not be contingent on the EC gaining approval to do so from a supervisor during the emergency.

G.2.3 **Assessment:** Describe the information and procedures the EC will use during an emergency to assess the possible hazards to human health or the environment resulting from the emergency. This assessment should be based on, and use, the information developed in Section G.1. The assessment must consider both the direct and indirect effects of the release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that could be generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

G.2.3.1 **Off-Site Impact:** Identify the information and procedures the EC will use during an emergency to determine if a release, fire, or explosion could threaten human health or the environment outside the facility. An “off-site impact” is any situation in which an AEL is found beyond the facility property line.

G.2.3.2 **Evacuation Determination:** Identify the information and procedures the EC will use to determine if evacuation of local areas may be advisable.

G.2.4 **Implementation:** [724.151](#), [724.152\(a\)](#)

G.2.4.1 **When:** Provide a clear description of when the Contingency Plan will be implemented. Identify the minimum criteria (e.g. smallest release or fire) that will result in implementation of the Contingency Plan. Provide justification for this criteria based on the Evaluation of Potential Hazards performed in Section G.1.

Note: If no air modeling was performed, the Contingency Plan must be implemented whenever 1 gallon or more of waste is released (unless an adequate alternate method for assessment of air releases is provided).

G.2.4.2 **How:** Describe how the Contingency Plan will be implemented. Provide a step-by-step description of the actions the EC and facility personnel will take to implement the Contingency Plan.

G.2.5 **Emergency Response Procedures:** [724.156](#)

It is recommended that important names, phone numbers, and key emergency response procedures be placed on the very first page of the Contingency Plan in order to assist the EC during the initial phases of an actual emergency response.

- G.2.5.1 **Identification of Materials Released:** Describe the information and procedures the EC will use to identify the compound(s) involved in the spill, fire, or explosion; the exact source, amount and aerial extent of any material released during the emergency.
- G.2.5.2 **Notification:** Describe the procedures the EC will follow to immediately notify all facility personnel and the appropriate state or local agencies that there is an imminent or actual emergency situation. Describe how the EC will determine who to notify first, second, etc.
- G.2.5.2.1 Describe how the EC will notify all facility personnel (e.g. by activating an alarm or communications system).
- G.2.5.2.2 Identify the names and phone numbers of the state or local agencies (e.g. police, fire, on-scene coordinator for that geographical area, etc.) that could be notified if their help is needed. Indicate the local or state agency that will have primary authority for responding to a release, fire or explosion.
- G.2.5.2.3 Specify the names and phone numbers of the state or local agencies the EC will notify if the assessment of the incident indicates that evacuation of local areas may be advisable. Indicate the local or state agency that will have primary authority for determining if a local area outside the facility needs to be evacuated.
- G.2.5.2.4 The Contingency Plan must specify that the EC shall immediately report the following information to the government official designated as the on-scene coordinator for that geographical area (in the applicable regional contingency plan under 40 CFR 300) or the National Response Center (using their 24-hour toll free number 800-424-8802). The application must specify that the EC will provide all of the following information:
- Name and telephone number of reporter
 - Name and address of facility
 - Time and type of incident (e.g., release, fire)
 - Name and quantity of the material(s) involved, to the extent known
 - The extent of injuries, if any
 - The possible hazards to human health or the environment outside the facility
- G.2.6 Control Procedures:** [724.152\(a\)](#), [724.156](#)
Describe the procedures facility personnel will take to control a release, fire, or explosion.
- G.2.6.1 **Prevention of Recurrence or Spread of Fires, Explosions, or Releases:** Describe the steps the EC will take during an emergency to ensure that fires, explosions, or releases do not occur, reoccur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.
- G.2.6.2 **Monitoring:** If the facility stops operations in response to a fire, explosion, or release, specify the equipment the EC will use to monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate. Specify the equipment to be monitored, monitoring frequency, and necessary actions the EC must take if a leak or pressure buildup is detected.
- G.2.6.3 **Containers:** ([724.152](#), [724.271](#)):
Specify the procedures, and the order they will be performed, to respond to a container spill, leak, fire or explosion. Include procedures for the expeditious removal of spilled waste and repair or replacement of the container(s).
- G.2.6.4 **Tank System:** ([724.296](#)): A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately.

G.2.6.4.1 Specify the procedures, and the order they will be performed, to respond to a tank spill, leak, fire or explosion. Include procedures for the expeditious removal of spilled waste and repair or replacement of the tank(s).

G.2.6.4.2 Demonstrate that these procedures will meet the requirements of [724.296](#).

[Reserved] Control Procedures for Surface Impoundment, Waste Pile, Landfills, etc.

G.2.7 Evacuation Plan: [724.152\(f\)](#)

G.2.7.1 Evacuation Signals: Describe the signal(s) used to notify facility personnel to evacuate the facility.

G.2.7.2 Evacuation Routes: Identify the primary and alternate evacuation routes and the location(s) where employees will meet after evacuating the facility on the scale drawing of the facility. Describe how these routes and locations were chosen.

G.2.8 Post-Emergency Actions: [724.156\(g\)](#), [724.156\(h\)](#)

G.2.8.1 Storage and Treatment of Released Material: Describe the steps that will be taken immediately after an emergency to provide for the treatment, storage, or disposal of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

G.2.8.2 Management of Incompatible Waste: Describe procedures that will be used to prevent incompatible waste from being treated, stored or located in the affected areas until clean-up procedures are completed.

G.2.8.3 Post-Emergency Equipment Maintenance: Describe procedures followed to ensure that all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

G.2.9 Reporting Requirements: [724.156\(i\)](#) and [\(j\)](#)

Describe the procedures that will be utilized to meet the following requirements:

G.2.9.1 Post-Emergency Response Actions: Notify the Illinois EPA's Bureau of Land (BOL) Permit Section, Regional Office, and the appropriate state and local agencies that clean-up operations have been completed and that the emergency equipment has been cleaned and is fit for its intended use.

G.2.9.2 Note in the Operating Record: The application must document that the operating record for the facility will record the time, date and details of any incident that requires implementation of the contingency plan.

G.2.9.3 Written Report: The application must document that the owner/operator will submit a written report to the Illinois EPA's BOL Permit Section, Planning and Reporting Section, and Regional Office within 15 days after the incident has occurred which includes the following information:

- Name, address and telephone number of the owner or operator;
- Name, address and telephone number of the facility;
- Date, time and type of incident (e.g., fire, explosion);
- Name and quantity of material(s) involved;
- The extent of injuries, if any;
- An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- Estimated quantity and disposition of recovered material that resulted from the incident.

G.2.10 Coordination Agreement Requirements: [724.137](#), [724.152\(c\)](#), [724.153\(b\)](#)

A facility applying for a RCRA permit is required to attempt to develop emergency plans and coordination agreements with the appropriate state and local emergency response agencies. The facility will also need to

conduct periodic meetings with these agencies to review the agreements and the facility's operations and to discuss any change in the facility or its contingency plan.

- G.2.10.1 Documentation of Agreements & Arrangements: For each of the emergency response entities identified in the Contingency Plan, provide written documentation of one of the following:
- An agreement was reached with the emergency response agency,
 - An attempt to make an arrangement with the emergency response agencies was made, or
 - The emergency response agency refused to enter into an arrangement with the facility.
- G.2.10.2 Coordination Agreements: Describe the arrangements agreed to by the local police and fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services. The agreements must be sufficient to define the responsibilities of each entity in the event that the contingency plan is implemented.
- G.2.10.3 Facility Operations: Document that the facility has made arrangements to familiarize police, fire departments and emergency response teams with the layout of the facility, properties of hazardous wastes handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and the possible evacuation routes and evacuation meeting locations.
- G.2.10.4 Familiarize Local Hospitals: Document that the facility has made arrangements to familiarize local hospitals with the properties of the hazardous waste handled at the facility and the types of injuries or illnesses that could result from fires, explosions or releases at the facility.
- G.2.10.5 Primary Response Authority: Identify the agency that will be the primary on-site emergency response authority. For example, state whether a facility's emergency response team or the responding fire department would have primary authority. In cases where more than one police and fire department might respond to an emergency, describe the agreements reached to designate the primary emergency authority to a specific police and a specific fire department. Describe the agreements reached with any others to provide support to the primary emergency authority.
- G.2.10.6 Primary Evacuation Authority: Identify the agency (e.g. police department) that will be the primary authority in determining whether to evacuate an area.

H PERSONNEL TRAINING

H.1 Training Program

H.1.1 Training Director: [724.116\(a\)\(2\)](#)

Demonstrate that a person trained in hazardous waste management directs the program.

H.1.2 Job Title - Job Description: [724.116\(d\)\(1\)](#) and [\(d\)\(2\)](#)

Identify the job title and job description (requisite skills, education, etc.) of each employee whose position at the facility is related to hazardous waste management.

H.1.3 Relevance of Training to Job Position: [724.116\(a\)\(2\)](#)

Describe how training will be designed to meet actual job tasks. That is, demonstrate that facility personnel are instructed in hazardous waste management procedures (including contingency plan implementation) that are relevant to their positions. Note: On-the-job training may be used to comply with these requirements.

H.1.4 Outlines of Training Programs: [724.116\(a\)](#), [724.116\(c\)](#), [\(d\)\(3\)](#), [724.156](#)

Provide outlines of both the introductory and continuing training programs by owners or operators to prepare personnel to operate or maintain the facility in a safe manner.

H.1.4.1 Training Content, Frequency and Techniques: Describe the content, frequency, and techniques used in both introductory and continuing training (including an annual review of the initial training to be given) to each employee.

H.1.4.2 Training for Emergency Response: Demonstrate that facility personnel are able to respond effectively to emergencies and are familiar with emergency procedures, emergency equipment, and emergency systems. The training program needs to include the following, when applicable:

- Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment
- Key parameters for automatic waste feed cut-off systems
- Communications or alarm systems
- Response to fires, explosion or releases
- Response to groundwater contamination incidents
- Shutdown of operations
- Coordination with local officials to effectively evacuate local areas in the event of an emergency

H.2 Implementation of Introductory and Continuing Training Programs

H.2.1 Completion of Training: [724.116\(b\)](#)

Indicate that training has been successfully completed by facility personnel within six months of their employment or assignment to the facility or transfer to a new position within the facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements.

H.2.2 Record Keeping: [724.116\(d\)\(4\)](#) and [\(e\)](#)

Describe the procedures that will be used to document that the required training has been given to and completed by facility personnel. Also describe the procedures followed to insure that this documentation is retained as part of the facility records that are maintained until closure of the facility. Training records on former employees must be kept at least three years from the date the employee last worked at the facility.

I CLOSURE AND POST-CLOSURE REQUIREMENTS

Note: A permit or enforceable document can contain alternative requirements that replace all or part of the closure and post-closure care requirements of this section of the Decision Guide provided the conditions in [703.161](#) and [724.210\(c\)](#) are met.

I.1 **Closure Plan:** [703.183\(m\)](#), [724.212](#)

Provide a written closure plan that describes how each hazardous waste management unit (HWMU) will be closed in compliance with all of the applicable requirements.

I.1.1 **Closure Performance Standard:** [724.211](#)

I.1.1.1 **General Requirements:** Describe how the HWMUs will be closed in a manner that minimizes the need for post-closure maintenance and controls, minimizes or eliminates, to the extent necessary to protect to human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off or hazardous decomposition products to the ground or surface waters or to the atmosphere.

I.1.1.2 **Specific Requirements:** Describe how closure of the facility complies with the closure requirements of Part 724 including, but not limited to, the requirements of Sections [724.278](#), [724.297](#), [724.328](#), [724.358](#), [724.380](#), [724.410](#), [724.451](#) and [724.701](#) through [724.703](#), and [724.1102](#).

I.1.2 **Maximum Operations and Waste Inventory:** [724.212\(b\)\(2\) & \(3\)](#)

Provide the dimensions and capacity of each HWMU that will exist during the active life of the facility. Provide an estimate of the maximum inventory of wastes ever in storage and in treatment at any time during the active life of the facility.

I.1.3 **Partial Closure**

Identify if partial closure is anticipated during the active life of the facility.

- Describe how and when the facility will be partially closed.
- Identify the maximum extent of facility operations after partial closure.

I.1.4 **Closure Methods:** [724.212\(b\)\(3\)](#)

Provide a detailed description of the methods to be used during partial or final closure of the facility. Describe the methods for removing, transporting, treating, storing or disposing of all hazardous wastes, and identification of the type(s) of off-site hazardous waste management units to be used, if applicable.

I.1.5 **Removal and Decontamination Procedures:** [724.212\(b\)\(4\)](#)

Provide a detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structure, and soils during partial and final closure. This description must include, but not be limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard.

I.1.6 **Other Activities:** [724.212\(b\)\(5\)](#)

Provided a detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, leachate collection, and run-on and runoff control.

I.1.7 **Unit Specific Closure Activities:** [724.212\(a\)\(2\)](#)

Describe how the closure activities described above in Sections I.1.4, I.1.5 and I.1.6 address the unit specific closure activities required below. (Note the specific activities can/should be included as part of Sections I.1.4, I.1.5 and I.1.6 above.)

I.1.7.1 Closure of Container Storage Areas (724.278): Describe how all hazardous waste and hazardous waste residue will be removed from the containment system, and how remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed.

I.1.7.2 Closure of Tank Systems (724.297, 724.410): Show that at closure, the owner or operator shall remove or decontaminate all hazardous waste and hazardous waste residues, contaminated containment system components (liners, etc.), contaminated soils, structures and equipment.

If all of the contaminated soils cannot be practicably removed or decontaminated, the tank system must close, perform post-closure care, and provide financial assurance in accordance with the requirements for landfills. If the tank system does not have a secondary containment system which meets Part 724 standards and has not been granted alternative design or operation under [724.293\(g\)](#), the closure plan must incorporate the contingency that the tank system will be closed as a landfill and must also include a contingent post-closure plan and financial assurance for post-closure care.

RESERVED -- Closure of Waste Piles, Surface Impoundments, Incinerators, Landfills, Containment Buildings, etc.

I.1.8 Closure Schedule: [724.212\(b\)\(6\)](#), [724.213](#)

Provide a schedule for closure of each hazardous waste management unit. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. For example, provide estimates of the time required to remove the entire hazardous waste inventory, decontaminate structures, and remove equipment.

If closure is expected to exceed 90 days for treatment, removal or disposal of wastes and/or 180 days for completion of closure activities, provide a petition for a schedule that justifies that a longer period of closure time is required.

I.1.9 Expected Year of Final Closure: [724.212\(b\)\(7\)](#)

Facilities that use trust funds to establish financial assurance under Section [724.243](#) or [724.245](#), and that are expected to close prior to the expiration of the permit, must provide an estimate of the expected year of final closure.

I.1.10 Alternate Requirements: [724.212\(b\)\(8\)](#)

Facility where alternative requirements are established at a regulated unit under Section [724.190\(f\)](#), [724.210\(c\)](#), or [724.240\(d\)](#), as provided under [35 Ill. Adm. Code 703.161](#), must provide either the alternative requirements applying to the regulated unit, or a reference to the enforceable document containing those alternative requirements.

I.2 Post-Closure Plan: [703.183\(m\)](#), [703.203\(f\)](#), [703.204\(h\)](#), [703.207\(e\)](#), [724.218](#), [724.297\(b\)](#) and [\(c\)](#), [724.328\(b\)](#), [724.328\(c\)\(1\)\(B\)](#), [724.380\(c\)](#), [724.410\(b\)](#)

Provide a copy of the most recent post-closure plan or, if applicable, the contingent post-closure plan.

I.2.1 Applicability

Identify the units at the facility to which the post-closure requirements apply. Post-closure requirements ([724.216](#) through [724.220](#)) apply to the owners and operators of:

- All hazardous waste disposal facilities,
- Waste piles and surface impoundments that can not be clean closed,
- Tank systems which are required under [724.297](#) to meet the requirements for landfills,
- Containment buildings that are required under [724.1102](#) to meet the requirements for landfills.

I.2.2 Post-Closure Inspection Plan: [724.218\(b\)](#), [724.328\(b\)](#), [724.328\(c\)\(1\)\(B\)](#), [724.358\(b\)](#), [724.358\(c\)\(1\)\(B\)](#), [724.380\(c\)](#), [724.410\(b\)](#)

Describe the inspection procedures followed at the facility during the post-closure care period and provide copies of the inspection schedule and repair schedule used to document inspections and repairs at the facility in accordance with the RCRA requirements. Identify where copies of the inspection and repair records will be maintained at the facility.

The inspection schedule must include all of the following:

I.2.2.1 Items Inspected: The schedule must identify each item the owner/operator will inspect at the facility in order to comply with the RCRA requirements. These include:

- All RCRA regulated units
- Monitoring equipment
- Safety and emergency equipment
- Security control devices
- Erosion damage
- Cover settlement, subsidence and displacement
- Vegetative cover condition
- Integrity of run-on and run-off control measures
- Cover drainage system functioning
- Leak detection system
- Leachate collection and removal system
- Gas venting system
- Well condition
- Benchmark integrity
- All operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards

I.2.2.2 Types of Problems: For each item inspected, the schedule needs to identify the types of problems (e.g. malfunctions or deterioration) the inspector must look for during an inspection (e.g. inoperable sump pump, leaking fitting, cracks, eroding berm, etc.).

I.2.2.3 Inspection Frequency: Identify the inspection frequency for each item on the schedule and provide justification for the proposed inspection frequencies. The frequency of inspection needs to 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.

I.2.2.4 Documentation of Inspection: The schedule must include the date and time of each inspection, the name of the inspector, notation of the observations made, and the nature and date of any repairs or remedial action.

I.2.2.5 Repair Log: The repair log must be used to schedule and record repairs (deterioration, or malfunction of equipment or structures) revealed by an inspection of the items listed in the inspection log. The repair log must include the following items:

I.2.2.6 Contents of Repair Log: Identify the item needing repair, the problem identified during the inspection, the date the problem was detected, the time frame within which the repair must be made, the name of the person making the repair, notation of the observations made, and the nature and date of any repairs or remedial action.

I.2.2.7 Repair Times: Identify the time frames within which repairs will be made. The time frame for making repairs can vary for the items inspected and types of problems discovered. However, it must be sufficient to insure the problem(s) identified during an inspection do not lead to an environmental or human health hazard. Where a hazard is imminent, or has already occurred, remedial action must be taken immediately.

The Illinois EPA expects most repairs to be remedied immediately upon detection. The application needs to identify the problems that could take longer than 24 hours to repair and provide justification for the longer repair time.

I.2.3 Post-Closure Monitoring Plan: [724.328\(b\)](#), [724.328\(c\)\(1\)\(B\)](#), [724.358\(b\)](#), [724.358\(c\)\(1\)\(B\)](#), [724.410\(b\)](#)
Describe the monitoring to be conducted during the post-closure care period, including, as applicable, the procedures for conducting and evaluating the data gathered from:

- Groundwater monitoring;
- Leachate collection and removal; and
- Leak detection between liners.

I.2.4 Post-Closure Maintenance Plan: [724.328\(b\)](#), [724.328\(c\)\(1\)\(B\)](#), [724.358\(b\)](#), [724.358\(c\)\(1\)\(B\)](#), [724.410\(b\)](#)

I.2.4.1 Procedures, Equipment & Materials: Describe the preventive and corrective maintenance procedures, equipment requirements and materials that will be needed during post-closure. Include the following items in the maintenance plan, as applicable:

- Repair of security control devices;
- Erosion damage repair;
- Correction of settlement, subsidence and displacement;
- Mowing, fertilization and other vegetative cover maintenance;
- Repair of run-on and run-off control structures;
- Leachate removal system maintenance; and
- Well replacement.

I.2.4.2 Rationale: Describe the rationale used to determine the need for corrective maintenance activities.

I.3 Survey Plat: [724.216](#)

The application needs to indicate that a survey plat will be prepared and submitted no later than the submission of the certification of closure for each disposal unit or areas where hazardous waste is left in place. The application also needs to describe the wording placed on the survey plat.

I.3.1 Identify Units/Areas: The survey plat must indicate the location and dimensions of landfill cells or other disposal units/areas with respect to permanently surveyed benchmarks and the legal boundary of the facility.

I.3.2 Note on Plat: The plat must contain a note, prominently displayed that states:

- (1) The land has been used to manage hazardous wastes.
- (2) The owner's and operator's obligations to restrict disturbance of the units containing hazardous waste in accordance with the applicable Subpart G regulations.

I.3.3 Certification of Plat: The plat must be prepared and certified using the wording at [702.126\(d\)\(1\)](#) by a professional land surveyor.

I.3.4 Recording of Survey Plat: The survey plat must be filed with any local zoning authority, or authority with jurisdiction over local land use, the Illinois EPA, and record with land titles.

I.3.5 Existing Facilities with Closed Disposal Units: If the facility includes a RCRA disposal unit that is already certified closed, provide a copy of the survey plat for that unit with the RCRA permit application.

I.4 Notice in Deed and Certification: [703.183\(n\)](#), [724.216](#), [724.217\(c\)](#), [724.219](#)

For all disposal units or areas where hazardous waste is left in place, the application needs to indicate that as part of the closure activities, the permittee must:

I.4.1 Notice in Deed: Record a notation on the deed to the facility property, or on some other instrument which is normally examined during title search that will in perpetuity notify any potential purchaser of the property that:

- The land has been used to manage hazardous waste.
- Use of these areas is restricted.
- A survey plat and record of the type, location and quantity of material in the disposal units or areas have been filed with the Illinois EPA, the County Recorder, and any local zoning authority or authority with jurisdiction over local land use.
- For hazardous wastes disposed prior to January 12, 1981, identify the type, location and quantity of the hazardous waste to the best of the owner or operator's knowledge and in accordance with any records the owner or operator has kept.

I.4.2 Certification of Notification: Submit a certification, signed by the owner or operator, that the owner or operator has properly recorded the notification required in I.4.1, including a copy of the document in which the notification has been placed, to the Illinois EPA.

I.4.3 Existing Facilities with Closed Disposal Units: If the facility includes a RCRA disposal unit that is already certified closed, provide a copy of the notice for that unit and a copy of the document in which the notification was placed, with the RCRA permit application.

I.5 Closure Cost Estimate: [703.183\(o\)](#), [724.242](#)

Provide a copy of the closure cost estimate.

I.5.1 Third Party Costs: Cost estimates must be based on third party costs and cannot include salvage value for sale of hazardous wastes, facility structures or equipment.

I.5.2 Maximum Cost Estimate: The estimate must be calculated to cover the cost of closure when the cost would be greatest (e.g. for the maximum volume of permitted waste). Partial closure cost estimates may be provided when appropriate, but only in addition to the estimated maximum full closure cost estimate.

I.5.3 Unit Costs: The estimate must include unit costs for each closure activity, and be calculated to cover the cost of closure when the cost would be greatest (not including partial closure).

I.5.4 Annual Updates: The cost estimate must be updated annually using an inflation factor or by recalculating the maximum cost of closure in current dollars. Existing facilities should provide a copy of the most recent cost estimate that was provided to the IEPA.

I.6 Financial Assurance Mechanism for Closure: [703.183\(o\)](#), [724.243](#)

Provide a copy of the established financial assurance mechanism for facility closure. The mechanism must be one of those described in [724.243](#). Contact the Illinois EPA Bureau of Land Permit Section to obtain the proper forms and instructions.

I.7 Post Closure Cost Estimate: [703.183\(p\)](#), [724.244](#)

Provide a copy of the post-closure cost estimate.

I.7.1 Third Party Costs: Cost estimates must be based on third party costs and cannot include salvage value for sale of hazardous wastes, facility structures or equipment.

- I.7.2 Unit Costs: The estimate must include unit costs for each activity, and be calculated to cover the cost of closure when the cost would be greatest.
- I.7.3 Annual Cost Estimate: Provide an estimate of the annual cost of providing post-closure monitoring and maintenance of the facility in accordance with the post-closure plan.
- I.7.4 Post-Closure Cost Estimate: Calculate the post-closure cost estimate by multiplying the annual cost estimate by the number of years of post-closure care required by [724.217](#).
- I.7.5 Annual Updates: The cost estimate must be updated annually using an inflation factor or by recalculating the maximum cost of closure in current dollars. Existing facilities should provide a copy of the most recent cost estimate that was provided to the IEPA.

I.8 Financial Assurance Mechanism for Post-Closure Care: [703.183\(p\)](#), [724.245](#)

Provide a copy of the established financial assurance mechanism for post-closure care of the facility. The mechanism must be one of those described in [724.245](#). Contact the Illinois EPA Bureau of Land Permit Section to obtain the proper forms and instructions.

I.9 Liability Requirements: [703.183\(q\)](#), [724.247](#)

- I.9.1 Provide copies of the financial assurance required to document compliance with applicable liability requirements for sudden and non-sudden accidental occurrences. The mechanisms must be one of those described in [724.247](#). Contact the Illinois EPA Bureau of Land Permit Section to obtain the proper forms and instructions.
- I.9.2 Request for Variance: Request for an adjusted level of required liability coverage must be accompanied by supporting information to demonstrate that established levels of financial responsibility specified in [724.247\(a\)](#) or (b) are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the applicant's facility or group of facilities.

I.10 State Mechanisms: 40 CFR 264.149, 40 CFR 264.150, 40 CFR 264.151, 40 CFR 220.14(b)(18)

If the State of Illinois 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, submit 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, together with a letter requesting that the state's assumption of responsibility be considered acceptable.

J. OTHER FEDERAL LAWS: [703.183\(t\)](#)

Provide information in the application that demonstrates compliance with the requirements of applicable Federal laws such as the Clean Air Act, Clean Water Act, the Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, and Fish and Wildlife Coordination Act. Provide all relevant documentation such as copies of required permits or letters from Federal Agencies stating the facility is in compliance with the Federal law in question.

K. CORRECTIVE ACTION (35 Ill. Adm. Code 724.201)

[35 Ill. Adm. Code 724.201](#) requires that facilities seeking a RCRA permit institute corrective action, as necessary, to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit. The information identified in Items K.1 through K.3 below must be contained in the original RCRA permit application submitted by a facility to allow Illinois EPA to develop permit conditions for ensuring this requirement is met; only the information in Item K.4 below needs to be submitted by facilities seeking a renewed RCRA permit.

K.1 Identification of Solid Waste Management Units (703.187(a))

Identify the solid waste management units (SWMUs) present at the facility. A SWMU includes any unit where solid waste has been managed in the past and which is not a hazardous waste management unit. Units that are SWMUs include, but are not limited to, the following:

- Landfills
- Surface impoundments
- Waste piles
- Land treatment units
- Injection wells
- Incinerators
- Tanks (including wastewater treatment units, elementary neutralization units, and tanks used in reuse/recovery operations)
- Container storage areas, transfer stations
- Waste recycling operations

K.2 Characterization of the SWMUs (703.187(a))

For each solid waste management unit identified above, submit the following information:

- Type of unit
- Location on the topographic map required by Item B-2 of the decision guide/checklist
- Engineering drawings and construction details as available
- General dimensions
- Dates when the unit was in operation
- Description (including physical and chemical characterization) of the materials or wastes placed in each unit
- Quantity or volume of waste managed in the unit, if known
- A description of: (1) the soil types present at the unit; and (2) the geology of the area where the unit is located.
- An indication of whether the wastes managed in the unit have been removed or still remain in it.

K.3 Characterization of Releases from SWMUs (703.187(b))

Provide all available information on whether or not any releases have occurred from each of the solid waste management units identified above. Reasonable efforts to identify releases must be made, even if releases have not been verified. (A release may include: spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment. Releases otherwise permitted or authorized under law or discharges into the injection zone of a UIC permitted class 1 injection well are not required to be identified). If a determination is made that there has not been any releases from a given SWMU, then a description of the efforts and information used to reach this conclusion must be provided.

The information to be provided regarding the releases, as available, includes:

- Date of the release
- Type of waste or constituent released
- Physical and chemical characteristics of the released material
- Quantity or volume released
- Nature of the release (such as spill, overflow, ruptured pipe or tank, etc.).
- Groundwater monitoring and other analytical data available to describe the nature and extent of the release.
- Physical evidence of distressed vegetation or soil contamination
- Historical evidence of releases, such as tanker truck accidents
- Any state, local or federal enforcement actions which may address releases
- Any public citizen complaints about the facility which could indicate a release
- Any information showing the migration of the release.
- A detailed description of any remedial activities taken in response to the release.

K.4 Information Required for Renewal Applications (703.187(c))

Facilities seeking a renewed RCRA permit have likely completed a substantial amount of corrective action efforts to date. A summary of this information must be provided in the renewal application; this information will form the foundation for determining future corrective action efforts to ensure the requirements of [35 Ill. Adm. Code 724.201](#) are met.

K.4.1 Required Information if USEPA Oversaw Initial Corrective Action Program

Facilities applying for a renewed RCRA permit which conducted corrective action efforts in accordance with requirements of the USEPA portion of the original RCRA permit issued to the facility must provide the following information regarding these efforts:

- K.4.1.1 A detailed chronology of all correspondence between USEPA and the facility regarding corrective action efforts, starting from the issuance of the original RCRA permit;
- K.4.1.2 Copies of all letters received from USEPA regarding corrective action efforts, starting with the issuance of the original RCRA permit;
- K.4.1.3 Copies of all letters and documents sent to the USEPA regarding corrective action efforts conducted in accordance with the original RCRA permit;
- K.4.1.4 A detailed discussion of each of the solid waste management units identified and addressed in accordance with the provision of the facility's original RCRA permit, including: (1) detailed description of each SWMU of concern (such as construction/operating details, types of waste managed in the unit and drawing showing the layout of the units geology/hydrology of the area where the unit is located, etc.); (2) a scaled drawing showing the location of the unit within the facility; (3) a summary of the investigation/remediation efforts completed to date; and (4) discussion of any investigation/remediation efforts which must still be carried out to complete corrective action responsibilities for the unit.
- K.4.1.5 The information in the appropriate portions of Section E (Groundwater Monitoring) regarding any on-going groundwater monitoring/remediation program being carried out at the facility.

Compiling all the information regarding corrective action efforts completed to date, as required above, is necessary to create an administrative record adequate to support the requirements to be placed in the facility's renewed RCRA permit regarding corrective action. In addition, this information will form the foundation for completing the facility's RCRA corrective action program.

K.4.2 Required Information if IEPA Oversaw Initial Corrective Action Program

Facilities which carried out corrective action under the requirements of the Illinois EPA portion of the original permit must provide the following information regarding corrective action efforts completed at the facility:

- K.4.2.1 A detailed chronology of all corrective action efforts completed to date, starting with the issuance of the original RCRA permit;
- K.4.2.2 A discussion of all corrective action related correspondence between the facility and Illinois EPA, including copies of all Illinois EPA letters regarding corrective action efforts at the facility (starting with the original permit);
- K.4.2.3 A detailed discussion of each of the solid waste management units identified and addressed in accordance with the facility's original RCRA permit. This must include: (1) detailed description of each SWMU of concern (such as construction/operating details, types of waste managed in the unit end drawing showing the layout of the units geology/hydrology of the area where the unit is located, etc.); (2) a scaled drawing showing the location of the unit within the facility; (3) a summary of the investigation/remediation efforts completed to date; and (4) a discussion of any investigation/remediation efforts which must still be carried out to complete corrective action responsibilities for the unit.
- K.4.2.4 The information in the appropriate portions of Section E (Groundwater Monitoring) regarding any on-going groundwater monitoring/remediation program being carried out at the facility.

Due to the fact that copies of all corrective action correspondence for these projects should be in Illinois EPA's files, it will not be necessary to include copies of submittals made by the facility in the application. However, the application must contain copies, in chronological order, of the cover letter of all submittals made to date by the facility and all Illinois EPA letters sent to the facility regarding corrective action (starting with the original permit). This will allow the permit application to provide an adequate administrative record of the corrective action efforts completed at the facility.

AA AIR EMISSION STANDARDS FOR PROCESS VENTS

Applicability: The requirements in this section apply to all process vents associated with hazardous waste where distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations occur and the hazardous wastes have an organic concentration of at least 10 parts per million by weight (ppmw).

NOTE: The requirements of [724.932](#) through [724.936](#) apply to process vents on hazardous waste recycling units previously exempt under [721.106\(c\)\(1\)](#). Other exemptions under [721.104](#), [722.134](#), and [724.101\(g\)](#) are not affected by these requirements. However, these requirements do not apply to process vents where the facility owner or operator has certified that the vents are operating in accordance with the process vent requirements of an applicable federal Clean Air Act regulation codified under 40 CFR 60, 61, or 63.

AA.1 Identification

Identify any units doing distillation, fractionation, thin-film evaporation, solvent extraction or air steam stripping operations that manage hazardous waste.

AA.2 Exemptions from Subpart AA Requirements: [724.930](#) and [724.934\(d\), \(e\), and \(f\)](#)

If the applicant believes that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation would be exempted from the requirements of AA, the permit application must include calculations and supporting documentation which show that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw. One of the following methods must be used:

AA.2.1 Direct Measurement, [724.934\(d\)\(1\)](#): If the determination is made using direct measurement, all of the following information must be provided in the permit application:

- **Samples:** A minimum of four grab samples must be collected from each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentrations. Identify the sample collection methods, and how volatilization or organics during sampling was minimized. Describe why the process conditions during sampling were expected to cause the maximum waste organic concentrations.
- **Sample Locations:** Identify the sample locations on a P&ID or detailed drawing of the unit. Describe how the sample location complies with the requirements of [724.934\(d\)\(1\)\(B\)](#).
- **Sample Analysis:** Identify the total organic concentration of the sample, the calculations used to arrive at this value, and the analytical method (SW-846 method 9060 or 8240) used to determine the concentrations.
- **Calculations:** Provide the calculations used to determine the time-weighted, annual average total organic concentration of the waste. These calculations must include the arithmetic mean of the results of the analyses of the samples for each waste stream managed in the unit. The time-weighted average must be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

AA.2.2 Knowledge, [724.934\(d\)\(2\)](#) : If the determination is made using knowledge of the waste, the permit application must include documentation of the waste determination. Examples of documentation include, but are not limited to:

- Production process information documenting that no organic compounds are used.
- Production process information from another facility that uses an identical process and has demonstrated through direct measurement that the waste from the process is less than 10 ppmw organic.

- Prior specification analysis results on the same waste stream, and documentation that no process changes have occurred since that analysis which could affect the organic concentration of the waste.

AA.2.3 **Date of determination, [724.934\(e\)](#):** The application must identify the date(s) that the applicant determined that the affected unit is exempt from the requirements of Subpart AA. This must be done by the effective date of the regulations, or the date that the waste is first managed in a waste management unit. For continuously generated waste, the application must include copies of the annual determination(s). The determination must also be done whenever there is a change in the waste or the process that generates or treats the waste.

AA.3 **Identification of Process Vents: [724.932](#), [703.210](#)**

The application must identify all process vents subject to Subpart AA (including those covered by an exemption). The locations of the affected units must be identified on a scale drawing of the facility. The affected process vents must be shown on P&ID's of the affected units.

AA.4 **Standards for Process Vents: [703.210](#), [724.932](#)**

AA.4.1 **Compliance with standards:** The application must identify how the owner/operator will comply with the standards for process vents. The owner/operator must either:

- Reduce total organic emissions from all affected process vents at the facility below 3 lb/hr and 3.1 tons/year, or
- Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

AA.4.2 **Determining Compliance:** The application must demonstrate how the owner/operator will determine compliance with [724 Subpart AA](#).

AA.4.2.1 The engineering calculations and performance tests must both include annual throughput and operating hours of each affected unit, estimated emission rates for the affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility).

AA.4.2.2 If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance test must conform with the requirements of [724.934\(c\)](#).

AA.5 **Standards: closed-vent systems and control devices: [703.210](#), [724.932](#), [724.933](#) and [724.935](#)**

Closed-vent systems and control devices used to comply with the provisions of this Subpart must be operated at all times when emissions may be vented to them.

AA.5.1 **Implementation Schedule:** If a closed-vent system and control device has not been installed at the time that this permit application is submitted and the facility meets the qualifications at [724.933\(a\)\(2\)](#), the application must include an implementation schedule for compliance with AA.4.

AA.5.2 **Documentation of Compliance:** If a closed-vent system and control device are installed to comply with the provisions of [724.932\(a\)](#), the application must include documentation that the requirements of [724.933](#) are met. This documentation must include the following:

AA.5.2.1 **Resources.** A list of all information references and sources used in preparing the documentation.

AA.5.2.2 **Records.** Copies of records including the dates of each compliance test required by [724.933\(k\)](#).

- AA.5.2.3 **Design Information.** A design analysis, specifications, drawings, schematics, and piping, and instrumentation diagrams (P&IDs) based on the appropriate sections of APTI Course 415, or other approved engineering texts which present basic control device design information or manufacturers literature. The design analysis must address the vent stream characteristics and control device parameters as specified in [724.935\(b\)\(4\)\(C\)](#).
- AA.5.2.4 **Certification of Operating Conditions.** A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions which exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.
- AA.5.2.5 **Certification of Efficiency:** A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater unless the total organic emission limits of [724.932\(a\)](#) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.
- AA.5.3 Control Devices:** Applications that propose to use a control device to meet the requirements of [724.933](#) must include the following information:
- AA.5.3.1 **Vapor Recovery.** If a control device involves vapor recovery (e.g. a condenser or absorber), the application must document how the system is designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of [724.932\(a\)\(1\)](#) for all affected process vents is attained at an efficiency less than 95 weight percent.
- AA.5.3.2 **Combustion Device.** If an enclosed combustion device (e.g. a vapor incinerator, boiler or process heater) is used, the application must document how the system is designed and operated to 1) reduce the organic emissions vented to it by 95 weight percent or greater; 2) achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or 3) provide a minimum residence time of 0.50 seconds at a minimum temperature of 760°C. If a boiler or process heater is used as the control device, then the vent stream must be introduced into the flame zone of the boiler or process heater.
- AA.5.3.3 **Flare.** If a flare is used, the application must document how it is designed and operated to meet conditions specified in [724.933\(d\)](#) and [724.933\(e\)](#).
- AA.5.3.4 **Carbon Absorption (on-site regeneration).** If a carbon absorption system that regenerates the carbon bed directly on-site in the control device is used, the application must document how the system is designed and operated to meet conditions specified in [724.933\(g\)](#).
- AA.5.3.5 **Carbon Absorption (off-site regeneration).** If a carbon absorption system that does not regenerate the carbon bed directly on-site and the control device is used, the application must document how the system is designed and operated to meet conditions specified in [724.933\(h\)](#).
- AA.5.3.6 **Alternate Control Device.** If an operator proposes to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon absorption system to meet the requirements of this part, the application must document how this is accomplished.
- AA.5.3.6.1 The documentation must include sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.
- AA.5.3.6.2 If test data is used to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in [725.935\(b\)\(3\)](#) must be provided.
- AA.5.4 Closed Vent Systems:** Applications that propose to use a closed vent system to meet the requirements of [724.933](#) must include the following information.

- AA.5.4.1 **Operation.** The application must describe how the closed vent system is designed and operated such that it does not have any detectable emissions. A detectable emission is indicated by an instrument reading of 500 ppm above background and by visual inspections, as determined by the methods specified in [724.934\(b\)](#).
- AA.5.4.2 **Monitoring and Testing.** The application must describe the monitoring and testing procedures followed during leak detection tests and how they meet the requirements of [724.934\(b\)](#). The application must include the monitoring and testing frequency, and the results of all leak detection tests.
- AA.5.4.3 **Control of Emissions.** The application must describe how the operator will control any detectable emission as soon as practicable, but no later than 15 calendar days after it is detected. The operator must make the first attempt to repair the system no later than 5 days after the emission is detected.

AA.6 Monitoring and Inspections of Control Devices: [724.933\(f\)](#)

The application must describe how the operator will monitor and inspect each control device to insure the proper operation and maintenance of the device. The application must describe how the operator has implemented the following requirements:

- AA.6.1 Flow Indicator.** Each affected process vent must be equipped with a flow indicator that provides a record of stream flow from each affected process vent to the control device at least once every hour.
- AA.6.1.1 **Flow Rates.** The application must identify the minimum, maximum and nominal flow rates for the affected unit, process vent and control device. It must identify the range of the flow indicator and document that it is capable of accurately sensing both the minimum and maximum flow rates.
- AA.6.1.2 **Location of Indicator.** The application must include detailed engineering drawings such as P&IDs and process flow drawings which show that the flow indicator sensor is installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.
- AA.6.2 Continuous Monitor and Recorder.** Each affected process vent must be equipped with a device that continuously monitors and records the operation of the control device as specified in [724.933\(f\)\(2\)](#).
- AA.6.2.1 **Parameters.** The application must identify the parameters that will be monitored and recorded (e.g. flow rate, temperature, CO, concentration of organics, etc.), the minimum, maximum and nominal values for those parameters, and the range(s) of the monitor and recorder. It must document that the monitors and recording devices are capable of accurately recording both the minimum and maximum values of all parameters.
- AA.6.2.2 **Location of Indicator.** The application must include detailed engineering drawings such as P&IDs and process flow drawings that show that the sensors are installed in accordance with the requirements of [724.933\(f\)\(2\)](#).
- AA.6.3 Specifications.** The application must include a copy of the manufacturer's specifications for the installation, calibration, maintenance, and operation of each flow indicator, continuous monitor and recorder. The application must document that the installation, calibration, maintenance, and operation of each device is in accordance with the manufacturer's specifications.
- AA.6.4 Calibration and Maintenance.** The application must include a maintenance and calibration schedule for the flow indicator, continuous monitor and recorder required by [724.933\(f\)\(2\)](#). The calibration schedule must identify the frequency that the devices will be calibrated and the specific procedures followed to calibrate them. The maintenance schedule must identify the frequency that the devices (or parts) are scheduled for maintenance.
- AA.6.5 Inspection Schedule.** Provide an inspection schedule for the flow indicator, continuous monitor and recorder required by [724.933\(f\)\(1\)](#) and [\(2\)](#). Readings from the devices must be inspected at least once each day to check control device operation. Describe the corrective measures to be taken to ensure the control devices operate in compliance with this section. Describe how corrective measures will be immediately implemented, if necessary.

AA.6.6 Carbon Adsorption System (On-Site Regeneration). Applications that include a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly on-site in the control device, must identify the time interval at which the owner or operator replaces the existing carbon in the control device with fresh carbon. This time interval shall not be longer than the design service life of the carbon established as a requirement of Section [724.935\(b\)\(4\)\(C\)\(vi\)](#). The application must identify the carbon regeneration cycle time and the design service life of the carbon determined using the design analysis specified at [724.935\(b\)\(4\)\(C\)\(vi\)](#). A complete copy of that design analysis must also be provided.

AA.6.7 Carbon Adsorption System (Off-Site Regeneration). The carbon in a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly on-site in the control device, must be replaced on a regular basis. The application must identify when the carbon is replaced. The carbon replacement interval must be based on the design analysis specified at [724.935\(b\)\(4\)\(C\)\(vii\)](#), and a complete copy of that design analysis must be provided as part of the application. One of the following methods must be used:

AA.6.7.1 **Monitoring Schedule.** The application must include a monitoring schedule that shows how the concentration level of organic compounds in the exhaust vent stream from the system will be monitored in accordance with [724.933\(h\)\(1\)](#). The application must show that when carbon breakthrough is indicated, the existing carbon will be replaced with fresh carbon immediately. The application must identify the monitoring frequency and how it was developed from the design analysis required in [724.935\(b\)\(4\)\(C\)\(vii\)](#).

AA.6.7.2 **Predetermined Time Interval.** The application must identify a predetermined time interval when the existing carbon will be replaced with fresh carbon. The time interval must be less than the design carbon replacement interval determined by the design analysis specified at [724.935\(b\)\(4\)\(C\)\(vii\)](#).

AA.6.8 Sampling and Monitoring. Provide a detailed description of sampling and monitoring procedures, including sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

AA.6.9 Alternate Parameter. If the owner/operator proposes to monitor an alternate operational or process parameter, the application must include the control device's design specifications, and demonstrate that the parameter will ensure that the control device is operated in conformance with these standards.

AA.7 Test Methods and Procedures for Closed Vent Systems: [724.934\(b\)](#)

If the application includes a closed vent system that must be tested for compliance with [724.933\(k\)](#), the application must include a detailed description of the test methods and procedures that will be followed. All of the following requirements must be addressed:

AA.7.1 **Instrument.** Show that the detection instrument meets the performance criteria of Reference Method 21 in 40 CFR 60. Identify the type of instrument(s) that will be used (OVA, FID, PID, etc.), and document that the instrument is appropriate for the parameters it will be used to monitor (discuss the response of the instrument to different groups of compounds and power of the lamp used in PIDs).

AA.7.2 **Calibration Plan.** Describe how the instrument will be calibrated before use on each day of use. The calibration plan must address all of the requirements of [724.934\(b\)\(3\)](#), [\(4\)](#), and [\(5\)](#).

AA.7.3 **Monitoring Plan.** Provide a monitoring plan that meets the requirements of Reference Method 21 in 40 CFR 60. Identify the inspection frequency. Explain the procedures to be used to ensure the instrument probe is traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

AA.8 Performance Tests: [724.934\(c\)](#)

If a performance tests is used to determine compliance with Sections [724.932\(a\)](#) or [724.933\(c\)](#), it must meet the following requirements:

- AA.8.1 Reference Methods. The application must include detailed descriptions of the performance tests used to determine total organic compound concentrations and mass flow rates entering an existing control devices. It must document that the tests are conducted and data reduced in accordance with the reference methods and calculation procedures specified in [724.934\(c\)\(1\)](#).
- AA.8.2 Operating Conditions. The application must identify the operating conditions of the hazardous waste management unit at which the highest load or capacity level is reasonably expected to occur, and the organic concentrations at these conditions. Justification of how these operating conditions were selected, including analytical test results, must also be provided.
- AA.8.3 Data. The application must include copies of all calculations, process information and analytical results necessary to justify that the performance tests were conducted at conditions that meet the requirements Subpart AA.
- AA.8.4 Drawings. Provide a P&ID and scale drawings of all affected units that show all process vents, control devices, sample locations, sampling ports and safe sampling platforms.

AA.9 Recordkeeping and Reporting Requirements: [724.935](#), [724.936](#)

The application must include a detailed description of the information that is documented in the operating record to comply with the recordkeeping and reporting requirements of [724 Subpart AA](#). The information to demonstrate compliance with AA must be kept in the operating record.

CC AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS AND CONTAINERS

Applicability: The following items must be provided for all tanks systems, surface impoundments and containers that treat, store or dispose of hazardous waste.

CC.1 **Exemptions from Subpart CC:** [724.980 \(b\) and \(d\)](#)

Waste Management Units are exempt from the requirements of all of Subpart CC if it meets one of the following requirements. Applications for waste management units covered by an exemption must include documentation that the waste management system meets one of the following exemptions:

- Waste was placed in the unit before December 6, 1996 and no additional hazardous waste was added to the unit on or after December 6, 1996.
- A container with a design capacity less than or equal to 0.1m³ (26.4 gal).
- A tank, that the owner or operator has stopped adding hazardous waste and has begun implementing or completed closure pursuant to an approved closure plan.
- A surface impoundment, that the owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and has begun implementing or completed closure pursuant to an approved closure plan.
- A unit used solely for on-site treatment or storage of hazardous waste that is generated as the result of implementing remedial activities required by IEPA or USEPA.
- A unit used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy act.
- A unit equipped with operating air emission controls in accordance with the requirements of an applicable federal Clean Air Act regulation codified under 40 CFR 60, 61 or 63.
- A tank that has a process vent.
- A tank or container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations, when the owner complies with the requirements of [724.980 \(d\) \(1\) thru \(3\)](#).

CC.2 **Exemptions from 724.984 through 724.987:** [724.982 \(c\)](#)

A tank, surface impoundment or container is exempt from the standards specified in [724.984](#) through [724.987](#) if one of the following conditions is true. Applications for waste management units covered by an exemption must include documentation that the waste management system meets one of these requirements:

- A tank, surface impoundment or container for which all hazardous waste entering the unit has an average volatile organic concentration at the point of waste origination of less than 500 parts per million by weight (ppmw).
- A tank, surface impoundment or container for which the organic content of all hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves specified criteria.
- A tank used for biological treatment of hazardous waste that destroys or degrades the organics contained in the hazardous waste such that the requirements [724.982 \(c\)\(2\)\(D\)](#) are met.
- A tank, surface impoundment or container for which all hazardous waste placed in the unit meets applicable organic concentration limits in [728 Table T](#) or has been treated by appropriate treatment technology.
- A tank located inside an enclosure vented to a control device that is used for bulk feed of hazardous waste to a waste incinerator that meets [724.982 \(c\)\(5\)](#).

CC.3 **Standards for Tanks:** [724.984](#)

CC.3.1 General information: Prepare a table, which provides the following information regarding each tank:

- The design capacity of the tank
- The maximum organic vapor pressure of the waste(s) to be placed in the tank
- An indication whether the tank is heated or if waste stabilization is conducted within the tank
- The level of control to be used on the tank

Note: Tanks used for waste stabilization or for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor limit for the tank are required to comply with Level 2 controls.

CC.3.2 Level 1 Controls for Tanks: Applications demonstrating compliance with Level 1 controls must include technical data, design drawings and specifications and engineering studies as appropriate to demonstrate the following:

CC.3.2.1 Fixed Roof Design: Provide a description of the fixed roof design /closure devices which documents that that a continuous barrier exists over the entire waste in tank, contains no visible open spaces between roof section joints or between the interface of the roof edge and tank wall, contains openings with closure devices or closed-vent systems and is made of suitable material.

CC.3.2.2 Closure Devices: Provide normal operating procedures for the closure devices and explain when the closure devices would not be secured in a closed position.

CC.3.3 Level 2 Controls for Tanks: Applications demonstrating compliance with Level 2 controls must include technical data, design drawings, and specifications and engineering studies as appropriate to demonstrate the following:

CC.3.3.1 Design: A design that satisfies one of the following:

- A fixed-roof tank equipped with an internal floating roof, which meets the requirements of [724.985\(e\)](#).
- A tank equipped with an external floating roof, which meets the requirements of [724.985\(f\)](#).
- A tank vented through a closed-vent system to a control device, which meets the requirements of [724.985\(g\)](#).
- A pressure tank designed and operated in accordance with the requirements of [724.985\(h\)](#).
- A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements of [724.985\(i\)](#).

CC.3.3.2 Closure devices/Closed vent systems: Provide normal operating procedures for the closure devices/closed vent systems and explain when the closure devices would not be secured in a closed position.

CC.4 Standards for Surface Impoundments: [724.985](#)

Owners and Operators controlling air pollutant emissions from a surface impoundment must submit technical data, design drawings, and specifications and engineering studies as appropriate to demonstrate the following:

- A floating membrane cover that meets the provisions specified in [724.985\(c\)](#).
- A cover that is vented through a closed-vent system to a control device that meets the provisions in [724.985\(d\)](#).

CC.5 Standards for Containers: [724.986](#)

Identify each container area subject to Subpart CC.

Note: For each container subject to this section, the application must document that the owner or operator is controlling air pollutant emissions in accordance with the following:

- For a container having a design capacity greater than 26 gal and less than or equal to 120 gal, the owner or operator shall control air pollutant emissions from the container in accordance with Container Level 1 standards.
- For a container having a design capacity greater than 120 gal that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards.
- For a container having a design capacity greater than 120 gal that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with Container Level 2 standards.

When a container having a design capacity greater than 26 gal is used for treatment of a hazardous waste by a stabilization process, the owner or operator shall control air pollutants emissions from the container in accordance with Container Level 3 standards at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

CC.5.1 Level 1 Standards: [724.986\(c\)](#)

CC.5.1.1 **Containers:** The application must state which of the following Container Level 1 controls the facility is using for each container using Container Level 1 controls:

- A container meeting the applicable U.S. Department of Transportation (USDOT) regulations on packaging hazardous materials for transportation.
- A container equipped with a cover and closure devices that form a continuous barrier over the container openings so that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g. a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g. a "portable tank" or bulk cargo container equipped with a screw-type cap).
- An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barriers is application of a suitable organic-vapor suppressing foam.

CC.5.1.2 **Covers and Closure Devices:** The application must include detailed procedures to demonstrate compliance with [724.986\(c\)\(2\)](#) and [\(3\)](#).

CC.5.2 Level 2 Standards: [724.986\(d\)](#)

CC.5.2.1 **Container:** The application must state which of the following Container Level 2 controls the facility is using for each container using Container Level 2 controls:

- A container that meets the applicable USDOT regulations on packaging hazardous materials for transportation as specified in [724.986\(f\)](#).
- A container that operates with no detectable organic emissions, as defined in [725.981](#), and determined in accordance with the procedure specified in [724.986\(g\)](#).
- A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR Appendix A, Method 27, incorporated by reference in [720.111](#), in accordance with the procedures specified in [724.986\(h\)](#).

CC.5.2.2 **Covers, Closure Devices, Pressure Relief Device and Safety Device:** The application must contain procedures for the operation of covers, closure devices, pressure relief devices and safety devices that meet the requirements [724.986\(d\)\(3\)](#).

CC.5.3 Level 3 Standards: [724.986\(e\)](#)

CC.5.3.1 The application must state which of the following Container Level 3 controls the facility is using for each container using Container Level 3 controls:

- A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of [724.986\(e\)\(2\)\(B\)](#).
- A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of [724.986\(e\)\(2\)\(A\)](#) and [\(B\)](#).

CC.5.3.2 The application must include design information on the air control equipment used to satisfy the requirements of [724.986\(e\)](#).

CC.5.3.3 The application must contain procedures for record keeping that meet the requirements of [35 Ill. Adm. Code 724.989\(d\)](#).

CC.6 Waste Transfer: [724.984 \(j\)](#), [724.985 \(e\)](#), [724.986 \(d\) \(2\)](#)

The application must include a discussion of how wastes are transferred in and out of the units regulated by Subpart CC.

CC.7 Repairs: [724.984 \(k\)](#), [724.985 \(f\)](#), [724.986 \(c\) \(4\) \(C\)](#), [724.986 \(d\) \(4\) \(C\)](#)

The application must contain repair procedures for tanks and surface impoundments, which meet the following criteria:

CC.7.1 The owner or operator shall make first efforts at repair of the defect no later than five calendar days after detection, and repair must be completed as soon as possible but no later than 45 calendar days after detection.

CC.7.2 Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the surface impoundment stops operation. Repair of the defect must be completed before the process or unit resumes operation.

CC.8 Standards for Closed-vent Systems and Control Devices: [724.987](#)

This section applies to closed-vent systems and control devices installed and operated by the owner or operator to control air emissions in accordance with the standards of [724, Subpart CC](#).

CC.8.1 The application must include the following:

CC.8.1.1 The application must demonstrate that the closed-vent system routes gases, vapors, and fumes emitted from the hazardous waste in the waste management unit are routed to a control device that meets the requirements of [724.987\(c\)](#).

CC.8.1.2 The application must demonstrate that the closed-vent system shall be designed and operated in accordance with the requirements specified in [724.933\(k\)](#).

CC.8.1.3 When the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, the application must demonstrate compliance with [724.987\(b\)\(3\)](#).

CC.9 Inspection and Monitoring Requirements: 724.988

The application must demonstrate compliance with the following requirements:

CC.9.1 The owner or operator shall inspect and monitor air emission control equipment used to comply with [724 Subpart CC](#) in accordance with the applicable requirements specified in [724.984](#) through [724.987](#).

CC.9.2 The owner or operator shall develop and implement a written plan and schedule to perform the inspection and monitoring required by [724.989\(a\)](#). The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under [724.115](#).

CC.10 Record Keeping Requirements: 724.989

The application must contain a record keeping procedure that demonstrates compliance with [724.989](#).

CC.11 Reporting Requirements: 724.990

The application must contain a reporting procedure that demonstrates compliance with [724.990](#).