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American Agronomic Stewardship Alliance (AASA)
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Operational Area Containment & Pads for Bulk Pesticides

Purpose	This document is intended as a general aid to agricultural bulk pesticide dealers and distributors who must install or upgrade their containment pads and operational area containment to meet federal and state requirements.
State Requirements	Site owners or operators should check with appropriate regulatory groups, such as the state Environmental Protection Agency (EPA), department of environmental quality, department of agriculture, or state chemist office before implementing a solution. Many states have requirements for containment pads that exceed federal rules. For instance, some states require 1000 gallon capacity; others require capacity exceeding the largest container—even if the container is a truck. Comply with whichever requirements are most strict.
Federal Requirements	Federal EPA regulations require containment pads at most sites where bulk transfers of liquid pesticides are performed by August 16, 2009. The 2006 EPA Container & Containment Rule includes storage containment, operational area containment, shut-off valves, inspection documentation, and more. See http://www.epa.gov/pesticides/regulating/containers.htm. The specific regulations are in Code of Federal Regulations Title 40 Subpart E—Standards for Pesticide Containment Structures. This includes 40 CFR 165.80 through 165.97. An overview prepared by the American Agronomic Stewardship Alliance (AASA) is available at: www.aginspect.org .
Manufacturer / Registrant Requirements	Most registrants list their storage requirements in bulk handling guides or other published literature; however, the primary driver for containment pad / operational area containment is regulatory compliance. The registrants have no authority to grant exception to the August 2009 EPA requirements.
Who Must Comply	The applicability of the EPA rules effective in August 2009 is spelled out in 40 CFR 165.81. The majority of retail bulk pesticide dealers and custom applicators are affected. In general, containment is needed for dealers or applicators transferring or dispensing pesticide product to or from a stationary bulk pesticide container and delivery vehicles, nurse trucks, refillable packaging, service containers, application equipment. Containment is also needed where refillable containers are emptied, cleaned, or rinsed. It also includes transferring from one portable container to another if for sale or distribution.

Specific EPA Requirements

Some specific examples of the federal EPA containment requirements are below. The rule is structured into two parts: existing structures and new structures. There are other requirements, such as mandatory self inspection and records.

Pad Capacity 40 CFR 165.85(c)(3) & (4) and 165.87(c)(2) and (3)	All old and new containment pads must have a capacity of: (1) 750 gallons; or (2) 100% of the capacity of the largest container or equipment used on the pad (if no container or equipment on the pad exceeds 750 gallons).
Pad Design 40 CFR 165.85(e) and 165.87(e)	New and old containment pads must: • be designed to intercept leaks and spills; • have enough surface area to extend under containers on it; • accommodate at least the portion of the transport vehicles where the hose couples to it for delivering pesticide; • allow for removal/recovery of spilled, leaked or discharged material and rainfall; • have no automatic pumps without overflow cutoffs; • have a surface sloped to a watertight sump or depression (new pads only).
Dike & Pad Materials 40 CFR 165.85(a) and 165.87(a)	Containment structures must be constructed of steel, reinforced concrete or other rigid material capable of withstanding the full hydrostatic head and load placed on the structure and must be compatible with the pesticides stored. The structure must be liquid-tight with cracks, seams and joints sealed. Natural earthen material, unfired clay and asphalt are prohibited.

Plan Approval

AASA suggests reviewing plans prior to construction with the authority having jurisdiction for your state. This may be the state department of agriculture, state EPA, state department of environmental quality, state chemist office, or fire marshal, along with local boards and commissions. Some states require a review. Enforcement of the 2006 EPA Pesticide Container & Containment Rule is typically by state environmental protection personnel, but may vary.

Until You Achieve Full Compliance

Meeting the August 2009 EPA requirement will take some time. At minimum, use temporary portable containment under the connections when receiving product from delivery trucks or when dispensing until a permanent containment pad is in place.

Check List

The self-check below may help in evaluating existing pads, or plans for new pads.

Item	Action
1	Has the design been reviewed by applicable authorities?
2	Is the capacity greater than any container placed on it, or at least 750 gallons for containers larger than 750 gallons?
3	Is it wide and long enough to catch leaks and spills off transport vehicles? (At least the portion near point of connection)
4	Is it sloped to a sump or otherwise allow for recovering spills and rainfall?
5	Is the area around it sloped to prevent rainwater from flowing into the pad?
6	Is the sump or collection point watertight?
7	Are all cracks and joints sealed?
8	Are automatic pumps removed or have overflow cutoffs?
9	Is it made of rigid material such as concrete or steel? (Earth, clay, and asphalt are prohibited.)

Design Help

Documents and web sites below are a sampling of sources for design guidance. They are not a substitute for design by a knowledgeable licensed engineer. They are intended to allow site owners to better communicate with chosen vendors. Listings are not an endorsement. The site owner or operator is responsible for assuring adequate design and compliance..

Internal Compliance, Environmental Health & Safety Contacts. Help may exist within your own company. Some large dealer/distributor organizations have standard facility designs and standards for containment pads.
"Designing Facilities for Pesticide and Fertilization Containment. MWPS-37" Midwest Plan Services, Iowa State University; Ames, IA. (515) 294-4337 www.mwps.org (~$20) This handbook discusses containment design, plus a wide range of other topics pertinent to pesticide storage and handling. 116 pages
"Environmental Handbook for Fertilizer and Agricultural Dealers" (~$75) Tennessee Valley Authority; National Fertilization and Environmental Research Center; Muscle Shoals, AL 35662. (256) 386-2872
Miscellaneous Web Sites: http://pubs.caes.uga.edu/caespubs/pubcd/B1095.htm University of Georgia Cooperative Extension Service. Includes sample plans. http://www.hort.wisc.edu/cran/pubs_archive/proceedings/1997/plakam.pdf University of Wisconsin excerpt of Midwest Plan Service aimed at cranberry growers.
Vendors: A number of vendors can assess your facility and provide a design that meets requirements and fits your operation.

Examples

Below are included for discussion, and are by no means the only or best designs.

Note the liquid collects in a low area, allowing recovery of spills and rainwater. Also, the entire truck can be placed over the containment pad.	
This pad is by a rail spur. Normally, place the pad directly adjacent to the bulk containment.	
This pad slopes toward the containment dike, and overflow drains into the dike; effectively raising the pad capacity to the same as the dike.	
This pad is obviously watertight. Be sure surrounding area does not flow toward the pad; and have a plan for addressing rainwater.	
Note lack of a sump, or slope. Collecting a spill would be difficult.	

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