



Virginia's Biosolids Regulatory Program

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**Mid Atlantic Biosolids Association Meeting
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Biosolids Technical Standards

- Virginia requires permits for land application and distribution and marketing of all biosolids (Class B and EQ)
- Class A/EQ standards – same as 503, except EQ materials that are distributed and marketed must not exceed PC concentrations
- Class B standards – same as 503
- Landfill standards – DEQ regulations do not consider use at a landfill to be land application
 - Virginia solid waste regulations no longer require sewage sludge to be stabilized prior to landfill disposal
 - DEQ has issued “Beneficial Use Demonstration” authorizations under the solid waste regulations for use of biosolids in landfills



Public Notice: Permitting Process

- DEQ notifies locality upon receipt of permit application
- DEQ evaluates application and proposed sites
- Public meeting regarding application
 - Adjoining landowners notified by mail
 - Newspaper notice: 7-14 days prior to meeting
 - Goal: educate & gather info about sites from public and local government; provide instructions for public involvement process
- Newspaper notice of draft permit
 - Once per week for 2 consecutive weeks
 - 30 day public comment period, hearing may be requested
- If no hearing requested, DEQ makes permitting decision



Public Notice: Adding Land

- “50% Rule” for permit modification process
 - Adding 50% or more land to an existing permit requires same public notice and involvement as a new permit
 - Adding <50%
 - No public meeting, no newspaper notice
 - DEQ notifies adjacent residents by mail
 - 30 day comment period
 - No provision to request a public hearing



Public Notice: Land Application

- 14 day notice to DEQ and locality
- 5 day sign posting
 - Entrance to site and field road frontage
 - 5 business days before land application
 - 30 days after land application
- 24 Hour notice to DEQ and locality



Setbacks from Dwellings and Property

- Standard Setbacks
 - Occupied dwelling 200 ft
 - Wells 100 ft
 - Property line 100 ft
 - Property line of publicly accessible site 200 ft
 - Odor sensitive receptors (not incorp) 400 ft
(hospitals, schools, etc.) (incorp) 200 ft
- If requested by owner or resident, DEQ extends standard setback extension
 - occupied dwelling (200' → 400') and/or
 - property line (100' → 200')
 - resident must provide recommendation from their physician that setbacks be extended based on medical condition
- Further extensions may be made based on evaluation by a VA Dept. of Health panel of physicians



Odor Control Plans

- Requires treatment plants to identify methods used to:
 - Minimize odor in producing biosolids
 - Identify malodorous biosolids at the plant
 - Identify and abate malodorous biosolids if delivered to the field
 - Abate malodor from biosolids if land applied
- Requires land applicators to identify methods used to:
 - Identify and abate malodorous biosolids if delivered to the field
 - Abate malodor from biosolids if land applied
- Plan becomes enforceable part of permits



Nutrient Management Plans

- All plans N limited, P limited >35% soil P saturation, no P apps >65% soil P saturation
- Written by VA DCR certified planners
- Lime or Potassium additions when crop yield could be affected by deficiencies
- Some plans require VA DCR approval
 - AFOs
 - Frequent applications > 50% of agronomic N rate
 - High soil P
 - Land reclamation
- NMP becomes enforceable part of permit



Environmental Setbacks

- Surface Waters without 35' vegetated buffer 100 ft
- Surface Waters with 35' vegetated buffer 35 ft
- Water Supply Wells or Springs 100 ft
- Public Water Supply Reservoirs 400 ft
- Public Water Supply Streams 100 ft
- Open sinkholes 100 ft
- Limestone rock outcrops & closed sinkholes 50 ft
- Other Rock Outcrops 25 ft
- Agricultural Drainage Ditches 10 ft
- Improved Roadways 10 ft

Staging and Storage

- **Staging**
 - placement of biosolids on field to be land applied
 - notification, setbacks, runoff management, inspections
 - up to 7 days
- **On-site Storage**
 - hard surface with runoff controls
 - up to 45 days on farm to be land applied
- **Routine Storage**
 - hard surface with cover
 - requires locality approval



Fees

- **Permit Processing Fees**

- Initial Permit Issuance \$5000
- Annual Maintenance Fee \$100
- Modification Fee \$1000

- **Land Application Fee**

- Class B \$7.50 per dry ton
- EQ cake \$3.75 per dry ton

Permit Data

- **In-State**
 - 107 Individual Permits held by 15 owners
 - Class B Land Application
 - EQ Distribution and Marketing
 - 2 composting facilities
 - ~40 Municipal Plants that land apply under their Virginia NPDES permit
 - Treatment
 - 9 sources use lime stabilization
 - 34 aerobic and 20 anaerobic digestion
- **Out-of-State**
 - Distribution and Marketing Permits Only



Farm Data

- ~463,000 Permitted Acres
- Land application occurs throughout Virginia
 - Majority in Northern, Piedmont, and Southside Virginia
 - Hay, Pasture and Row Crop Grains



Biosolids Land Application

Calendar Year	Dry Tons Spread	Acres Spread
2008	260,655	70,800
2009	204,879	60,100
2010	230,142	66,800
2011	220,534	66,000
2012	225,314	62,300
2013	184,590	52,100
2014	190,065	45,141
2015	130,219	35,396
2016 Projected	~144,000	~40,000



Biosolids Inspections

Calendar Year	Inspections	% Farms Inspected
2008	1,386	~75%
2009	1,495	82%
2010	1,943	93%
2011	1,583	94%
2012	1,948	88%
2013	1,564	93%
2014	1,148	87%
2015	662	72%



Biosolids Compliance

Calendar Year	Warning Letters	Notices of Violation
2008	11	0
2009	8	1
2010	11	1
2011	6	2
2012	6	0
2013	7	1
2014	8	0
2015	7	2



Biosolids Complaints

Calendar Year	Land Application Complaints
2008	203
2009	106
2010	143
2011	180
2012	84
2013	36
2014	31
2015	38



Compliance Assurance: Local Monitors

- Originally authorized by state law under VDH
- County must have local ordinance establishing local monitoring program (VA Association of Counties model)
- Local monitor can inspect activity, collect samples, order non-compliant activity to cease
- DEQ trains monitor
 - Must be trained before reimbursement
- DEQ reimburses locality up to \$2.50/dry ton land applied
 - Special cases: up to \$4.00 per dry ton if pre-approved
 - Labor, travel, training, permit review, sampling and analysis related to compliance with law or regulation



Biosolids Program Resources

Time Period	Annual Revenue	Biosolids Specialists	Biosolids Managers
FY09-FY13	\$1,743,678	20	7
FY17 projection	\$953,214	11	3



What's on the Horizon?

- **Exceptional Quality Biosolids**
 - 70% Class B land application
 - 30% EQ cake land application expected to increase with additional facilities installing new treatment technology
 - Distribution and Marketing of EQ cake
 - General Permit for EQ materials
- **Virginia's Joint Legislative and Audit Review Commission (JLARC) EQ study (HJ120)**
 - 2 year study to conclude in Nov 2017
 - Literature review on the health effects of biosolids and industrial residuals
 - Evaluate the feasibility of requiring municipal utilities to produce Class A biosolids



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<http://www.deq.virginia.gov/Programs/Water/LandApplicationBeneficialReuse.aspx>

OR:

deq.virginia.gov → Type "biosolids" in search box

The following are the P Source Coefficients for biosolids when using the P-index in Virginia:
<http://www.dcr.virginia.gov/soil-and-water/document/va-phos-index-v2.pdf>

Table 10. Phosphorus source coefficient for the Virginia P Index

Fertilizer Type	P Source Coefficient
Dairy/Beef Manure	0.20
Poultry Litter	0.20
Alum-treated Poultry Litter	
$0.7 < \text{Al:P ratio} < 1.0$	0.10
$0.4 < \text{Al:P ratio} < 0.7$	0.15
Inorganic	0.25
Biological P Removal (BPR) biosolids	0.20
Biosolids (all non-BPR)	0.10
Others	0.20