



Sewage Sludge and Biosolids Use or Disposal – Regulations & Permitting Requirements

Presented to:



J. Kilren Vidrine, ES Staff

2:00 PM to 3:00 PM

Wednesday – March 11 2009

Isle of Capri Hotel – Westlake, Louisiana

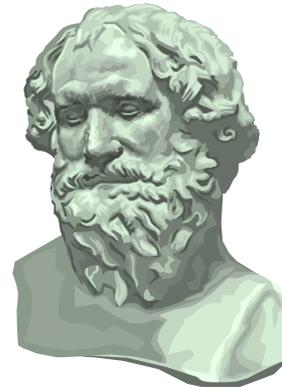
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Let us begin by looking at some facts and a bit of History...



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1987 - Section 405 of the Federal Clean Water Act charged EPA to develop and promulgate standards for the use or disposal of sewage sludge

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February 19, 1993 - EPA promulgated its Final Rule for the “Standards for the Use or Disposal of Sewage Sludge” as 40 CFR Part 503 [58 FR 9387, February 19, 1993]



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40 CFR Part 256 – State Solid Waste Management Plans

40 CFR Part 257 – Solid Waste

40 CFR Part 258 – Municipal Solid Waste

40 CFR Part 123 – State NPDES Program Requirements

40 CFR Part 122 – NPDES Program (LPDES)

40 CFR Part 403 - Pretreatment

40 CFR Part 501 – State Sewage Sludge Management Program Requirements

40 CFR Part 503 – Sewage Sludge Regulations

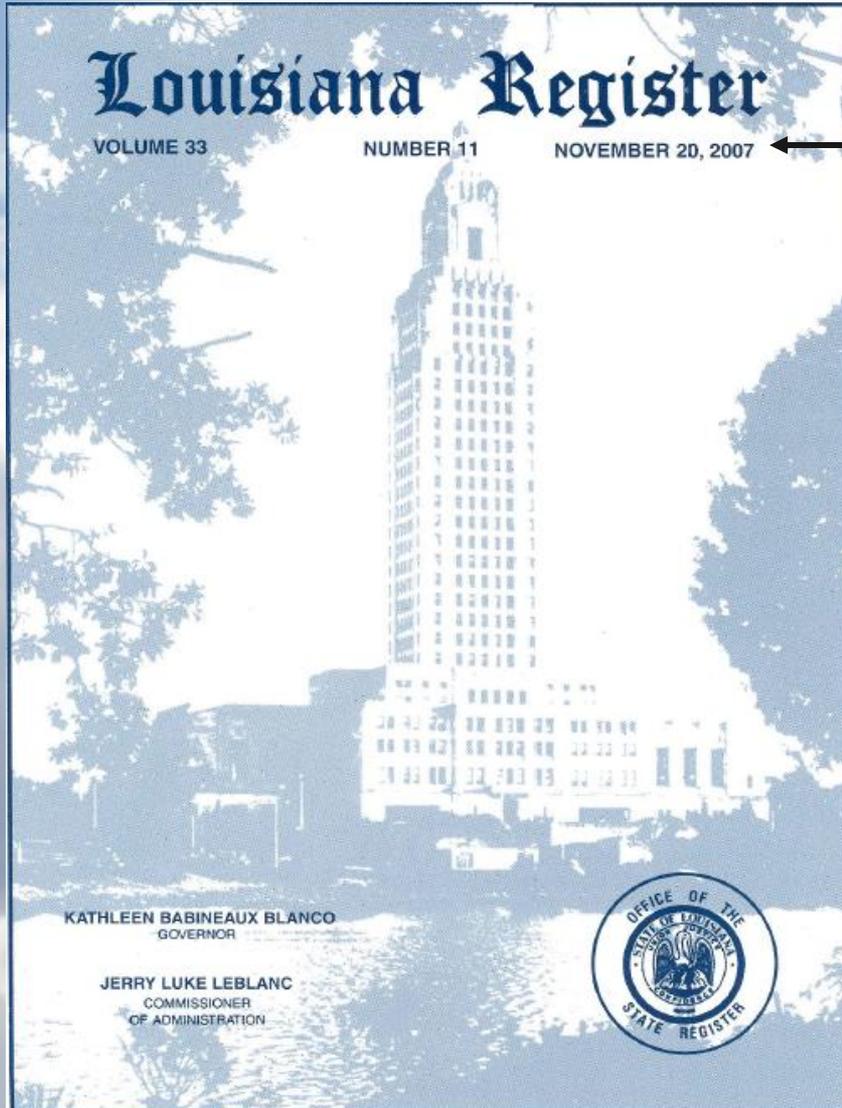




40 CFR Part 503 can be enforced through a permit or are “Self-implementing” (**Federal Register /Vol. 58, No. 32 / Friday, February 19, 1993 / Rules and Regulations – Page 9323 & 40 CFR Part 503.3) –**

Consequently, the responsible person must become aware of the standards in part 503, comply with the standards, monitor the sewage sludge, keep the appropriate records, and, if applicable, report information to the permitting authority even when a permit is not issued.” (**Federal Register /Vol. 58, No. 32 / Friday, February 19, 1993 / Rules and Regulations – Page 9323)**





The regulations were published in the **November 20, 2007 Louisiana Register** as a **Final Rule**.

LAC 33:IX.Subpart 3.Chapter 73

"Standards for the Use or Disposal of Sewage Sludge & Biosolids"

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Applicability



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1. The regulations apply to Sewage Sludge generated during the treatment of domestic sewage in a treatment works; excluding grit and bar screen residuals.



2. The regulations apply to all sanitary wastewater treatment facilities.





The regulations apply to **3. Commercial Preparers of Sewage Sludge**



& 4. Commercial Land Appliers of Biosolids...



...and to 5. Commercial, Industrial, Petro-chemical Facilities: treat sanitary wastewater separate from process wastewater (separate streams & treatment facility)





The regulations apply to **6**. pumped material from...

...Septic Tanks...

"Domestic Septage"



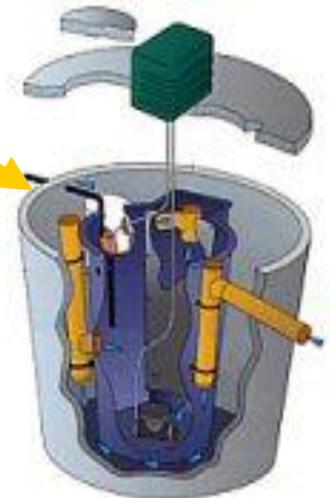
...Residential Mechanical Wastewater Treatment Plants...

"Domestic Septage"

...and...

...Portable Toilets.

"Portable Toilet Waste"



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7. The regulations apply to grease...



...that is generated at and pumped from a *Food Service Facility* when the grease is mixed with sewage sludge.





8. The regulations apply to the land...



... where sewage sludge is applied.



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Use or Disposal Options

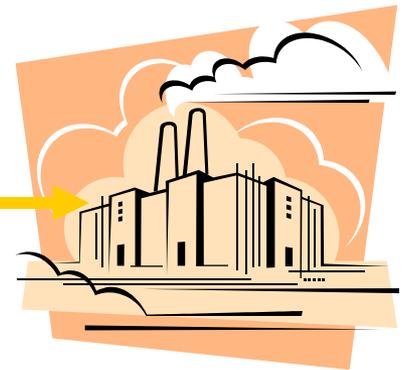


a permitted landfill



Land Application for Beneficial Use

Incineration





Implementation

A Sewage Sludge & Biosolids Use or Disposal Permit


STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Environmental Services - Water Permits Division
Post Office Box 4313
Baton Rouge, LA 70821-4313
PHONE#: (225) 219-3050

PERMIT APPLICATION
FOR
THE USE OR DISPOSAL OF SEWAGE SLUDGE (BIOSOLIDS)
IN
LOUISIANA

Form 7155_r03
09/27/2006




DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Environmental Services
DATE ISSUED: Jul 2 3 2008
WEDNESDAY

CERTIFIED MAIL NUMBER: 000 000 000 000 000
RETURN RECEIPT REQUESTED

PERMIT NUMBER: 011111
PERMIT TITLE: 1.001.11111
ISSUE DATE: 7/2/2008

PERMITTEE: ENVIRONMENTAL SERVICES, INC.
P.O. BOX 500
LAFAYETTE, LOUISIANA 70501

ADDRESS: 500 PINEAPPLE AVENUE
Lafayette, Louisiana 70501

Subject: Louisiana Sewage Sludge (Biosolids) Use or Disposal permit for a commercial operation of sewage sludge (biosolids) generated at Industrial Food Service Facility and use other substance of impurities in the permit on the sewage sludge or impurities to be disposed in a designated water ways located in parish 1, Louisiana.

Conditions:
This permit has been issued with certain conditions that the general public or the Environmental Processing, Inc. has access to the public access publication: The SOURCE OF Sewage Sludge and The Body Material of Operation (see 8, 2006).

Therefore, pursuant to the Louisiana Environmental Quality Act of R.S. 33:202 (c) (1) the attached Sewage Sludge (Biosolids) Use or Disposal Permit has been issued.

Provision of this permit may be appealed to writing pursuant to L.A. R.S. 33:204 (1) within 30 days of receipt of this permit. Once those provisions are received, they will be suspended by a request for abatement unless the secretary to the assistant secretary elects to suspend other permit conditions as well. All other provisions of this permit will remain in effect. A request for a hearing must be submitted following:

Louisiana Department of Environmental Quality
Office of the Secretary
Attention: Hearings Clerk, Legal Affairs Division
Post Office Box 4520
Baton Rouge, Louisiana 70802-4520

ENVIRONMENTAL SERVICES
PERMITTING AND COMPLIANCE DIVISION
POST OFFICE BOX 4313
BATON ROUGE, LOUISIANA 70821-4313
WWW.DEQ.LOUISIANA.GOV

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Implementation

Closed or Undergoing Closure Procedures

Those persons who were issued a standard solid waste permit for a type of *surface disposal*, as defined in the *Standards for the Use or Disposal of Sewage Sludge & Biosolids* regulations (LAC 33:IX.Subpart 3.Chapter 73).

Within 180 days after June 1, 2005

Those persons who were granted an exemption under the Solid Waste Regulations (LAC 33:Part VII) for any form of use or disposal of sewage sludge will have 180 days to submit an application for permit coverage under these regulations.

LDEQ Presently Working on Repermitting

Those persons who were issued a standard solid waste permit under the previous Solid Waste Beneficial Use Regulations for the use, disposal, treatment, or processing of sewage sludge, with the exception of a standard solid waste permit issued for a type of *surface disposal*, as defined in Subsection B of this Section.



Implementation



As of June 1, 2006, facilities which were not addressed in the previous slide shall apply for a permit as follows:

Within 180 days of June 1, 2006

- All sanitary wastewater treatment facilities that receive domestic septage and/or portable toilet waste into their systems.
- All treatment facilities that are for the sole purpose of preparing sewage sludge or sewage sludge mixed with grease that is pumped or removed from a food service.
- All treatment facilities that prepare sewage sludge for land application, and all land applicators of Biosolids who are not presently operating under an effective standard solid waste permit.

June 1, 2009 (three years from June 1, 2006)

- All major sanitary wastewater treatment facilities that do not receive domestic septage and/or portable toilet waste into their systems.

June 1, 2011 (five years from June 1, 2006)

- All minor sanitary wastewater treatment facilities that do not receive domestic septage and/or portable toilet waste into their systems.

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Incineration



**Issued an Air Quality or Title V Permit
With
Sewage Sludge requirements**

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Disposal in a Municipal Solid Waste Landfill (MSWL)



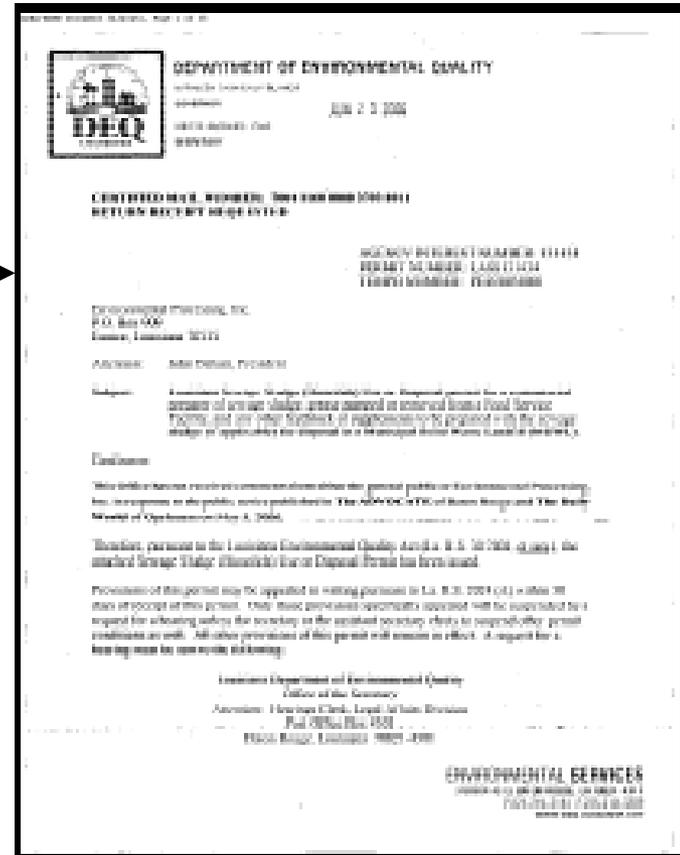
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All Requirements are
in the Permit →



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Report –

- (1) Annual Amount Dispose**
- (2) Daily Records of Amount Disposed**
- (3) Date of Disposal**
- (4) Landfill Where Disposal Occurred**
- (5) Hazardous Characteristics Results**
- (6) Liquid Paint Filter Test (if needed)**

NOTE: Records must be kept for term of permit.





Sewage Sludge (Biosolids) Annual Reporting Form for Disposal in a Municipal Solid Waste Landfill (MSWL)



SEWAGE SLUDGE (BIOSOLIDS) ANNUAL REPORTING FORM
for
DISPOSAL in a MUNICIPAL SOLID WASTE LANDFILL (MSWL)

(A separate form must be filled out if your Use or Disposal Option is: (1) Land Application or (2) Incineration)

Please fill out the form completely and mail the completed form to:

Louisiana Department of Environmental Quality
Office of Environmental Services
Water Permits Division
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313
Attn: J. Kileen Vidrine

Name of Facility:	Contact Person:	
Agency Interest#:	Permit#:	
TEMPO Identification#:	Transporter/Hauler Registration#:	

(1) Date of Report: _____

(2) Reporting Period: From: _____ To: _____

(3) Indicate the Type of Material, annual amount received (prior to the material being prepared) and the annual amount prepared that was accepted and prepared at your facility for the Reporting Period indicated in Number (2) above (Check all that applies):

Sewage Sludge Amount Received: _____ Units: _____
 Amount Disposed: _____ Units: _____

Domestic Septage Amount Received: _____ Units: _____
 Amount Disposed: _____ Units: _____

Portable Toilet Waste Amount Received: _____ Units: _____
 Amount Disposed: _____ Units: _____

Grease Waste Amount Received: _____ Units: _____
 Amount Disposed: _____ Units: _____

(4) Total Annual Amount Disposed: _____ Gallons/Yr: _____ Tons/Yr: _____

(5) Results of: Toxicity Characteristic Leaching Procedure (TCLP) PASS FAIL
 Paint Filter Liquids Test PASS FAIL

(6) Material Disposed at:

Facility Name	Address	Contact Phone Number	Gallons/Yr	Tons/Yr

(7) Certification Statement: "I certify under penalty of law that this report and any attachments were prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: _____ Date signed: _____
 Form_7161_r00
 07/21/06





Sidebar



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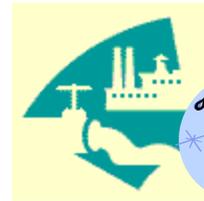
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Sidebar



Same Reporting Requirements Applies When Sewage Sludge is Transported (or introduced) into a Domestic Sewage Treatment Facility (Public or Private).





STORAGE

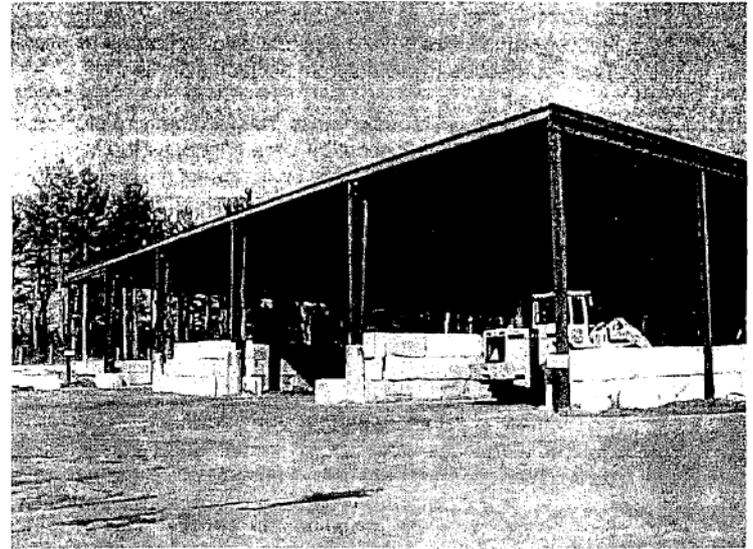
ODORS



STORMWATER



Concrete Storage Bunker with Block Push Walls



Permanent Covered Storage

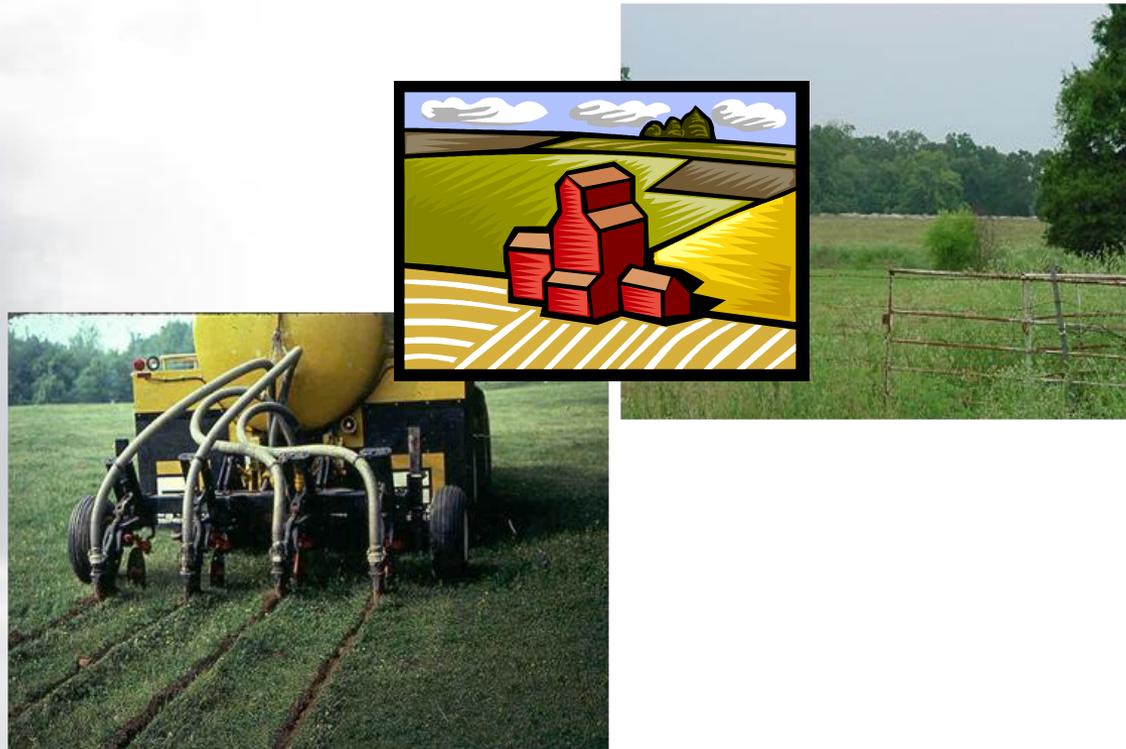
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Land Application



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Preparation/Treatment of Sewage Sludge into a Biosolids that can then be Beneficially Used

(the use of Biosolids for the purpose of soil conditioning or crop or vegetative fertilization in a manner that does not pose a danger of adverse effects upon human health or the environment or cause any deterioration of land surfaces, soils, surface waters, or groundwater.)

as either a Soil Conditioner or Crop Fertilizer through Land Application (the beneficial use of Biosolids by either spraying or spreading onto the land surface, injection below the land surface, or incorporation into the soil.).

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Biosolids shall not be applied to the land until the site has been approved by the administrative authority that the land application site is a legitimate beneficial use site



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Richard M. Broussard
Louisiana Department of
Environmental Quality

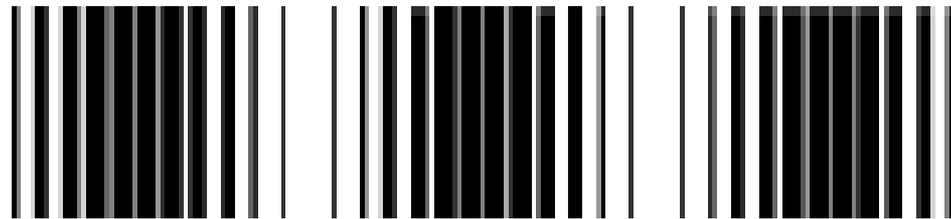
Office of the Public and
Environmental
Affairs

6000 Lakeview Drive
Baton Rouge, LA 70809

EPA

Process Design Manual

Land Application of Sewage Sludge and Domestic Septage



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Exceptional Quality Biosolids

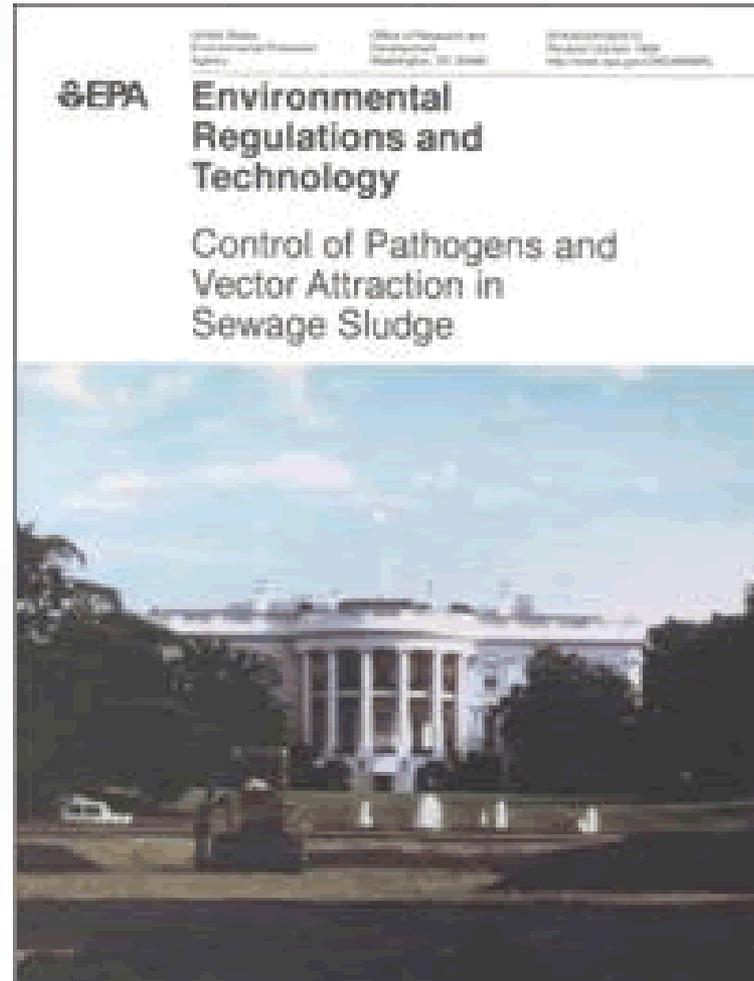
Alternative A1—Time and Temperature	
<ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Sludge temperature (either continuous chart or two readings per day, at least one per shift) Time (days, hours, minutes) temperature maintained 	
Alternative A2—Alkaline Treatment	
<ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Sludge pH (beginning, middle, and end of treatment) Time (hours) pH maintained above 12 (at least 72 hours) Sludge temperature (beginning, middle, and end of treatment and hourly to demonstrate 12 hours above 52°C) Percent solids in sludge after drying (at least 50 percent) 	
Alternative A3—Analysis and Operation	
<ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Analytical results for density of enteric viruses (plaque forming unit/4 grams total solids) prior to pathogen reduction and, when appropriate, after treatment Analytical results for density of viable helminth ova (number/4 grams total solids) prior to pathogen reduction and, when appropriate, after treatment Values or ranges of values for operating parameters to indicate consistent pathogen reduction treatment 	
Alternative A4—Analysis Only	
<ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Analytical results for density of enteric viruses (plaque forming unit/4 grams total solids) Analytical results for density of viable helminth ova (number/4 grams total solids) 	
Alternative A5—Processes to Further Reduce Pathogens (PFRP)	
<ul style="list-style-type: none"> Heat Drying <ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Moisture content of dried sludge < 10 percent Logs documenting temperature of sludge particles or wet bulb temperature of exit gas exceeding 80°C (either continuous chart or two readings per day, at least one per shift) Thermophilic Aerobic Digestion <ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Logs documenting temperature maintained at 55–50°C for 10 days (either continuous chart or two readings per day, at least one per shift) Heat Treatment <ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Logs documenting sludge heated to temperatures greater than 180°C for 30 minutes (either continuous chart or three readings at 15 minute intervals) Pasteurization <ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Temperature maintained at or above 70°C for at least 30 minutes (either continuous chart or two readings per day, at least one per shift) 	<ul style="list-style-type: none"> Composting <ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Description of composting method Logs documenting temperature maintained at or above 55°C for 3 days if within vessel or static aerated pile composting method (either continuous chart or two readings per day, at least one per shift) Logs documenting temperature maintained at or above 55°C for 15 days if windrow compost method (minimum of two readings per day, at least one per shift) Logs documenting compost pile turned at least five times per day, if windrow compost method Gamma Ray Irradiation <ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Gamma ray isotope used Gamma ray dosage at least 1.0 megarad Ambient room temperature log (either continuous chart or two readings per day, at least one per shift) Beta Ray Irradiation <ul style="list-style-type: none"> Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) Beta ray dosage at least 1.0 megarad Ambient room temperature log (either continuous chart or two readings, at least one per shift)
Alternative A6—PFRP Equivalent	
<ul style="list-style-type: none"> Operating parameters or pathogen levels as necessary to demonstrate equivalency to the PFRP Analytical results for density of <i>Salmonella</i> sp. bacteria or fecal coliform (most probable number) 	

Table 15-3. Recordkeeping Requirements for Class B Pathogen Reduction Alternatives (U.S. EPA, 1993b)



Class B Biosolids

Alternative B1—Fecal Coliform Count
<ul style="list-style-type: none"> • Number of samples collected during each monitoring event • Analytical results for density of fecal coliform for each sample collected
Alternative B2—Processes to Significantly Reduce Pathogens (PSRP)
<ul style="list-style-type: none"> • Acrobic Digestion <ul style="list-style-type: none"> - Dissolved oxygen concentration - Mean residence time of sludge in digester - Logs showing temperature was maintained for sufficient period of time (ranging from 60 days at 15°C to 40 days at 20°C) (continuous charts or two readings per day, at least one per shift) • Air Drying <ul style="list-style-type: none"> - Description of drying bed design - Drying time in days - Daily average ambient temperature • Anaerobic Digestion <ul style="list-style-type: none"> - Mean residence time of sludge in digester (between 15 days at 35°C to 55°C and 60 days at 20°C) - Temperature logs of sludge in digester (continuous charts or two readings per day, at least one per shift) • Composting <ul style="list-style-type: none"> - Description of composting method - Daily temperature logs documenting sludge maintained at 40°C for 5 days (either continuous chart or two readings per day, at least one per shift) - Hourly readings showing temperature exceeded 55°C for 4 consecutive hours • Lime Stabilization <ul style="list-style-type: none"> - pH of sludge immediately and then 2 hours after addition of lime
Alternative B3—PSRP Equivalent
<ul style="list-style-type: none"> • Operating parameters or pathogen levels as necessary to demonstrate equivalency to PSRP



<http://www.epa.gov/ord/NRMRL/pubs/625r92013/625R92013.pdf>

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RESTRICTIONS ON WHAT CAN & CANNOT BE PREPARED WITH SEWAGE SLUDGE



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Hazardous Waste



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Materials Prohibited from Preparation with Sewage Sludge

Antifreeze, automotive (lead-acid) batteries, brake fluid, used motor oils

Cleaners (drain, oven, toilet)

Gasoline and gasoline cans

Herbicides, pesticides

Household (dry cell) batteries

Oil-based paint

Photographic supplies

Propane cylinders

Treated wood containing the preservatives CCA and/or PCP

Tubes and buckets of adhesives, caulking, etc.

Swimming pool chemicals

Unmarked containers

Other material if the material has a potential to adversely affect human health or the environment, as determined by the administrative authority



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Solid Waste that meet the criteria that follows is allowed to be prepared with sewage sludge :

residential and commercial food waste;

twigs, branches, leaves, crushed or chipped wood, logs, or trees;

wood chips or sawdust;

ground or crushed cardboard boxes;

paper;

Fly-ash, kiln dust, or other solid waste material that have been approved by the Environmental Protection Agency for the alkaline treatment/stabilization of sewage sludge; and, ...





...industrial sludges that:

(1) contain only the pollutants:

Arsenic, Cadmium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, and Zinc; and,



(2) are demonstrated to be of benefit to the soil and/or crops through soil conditioning and/or crop fertilization or are utilized as a form of alkaline treatment/stabilization of the sewage sludge



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Buffers

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Private potable water supply well - 300 feet, unless special permission is granted by the private potable water supply owner



Public potable water supply well, surface water intake, treatment plant, or public potable water supply elevated or ground storage tank - 300 feet, unless special permission is granted by the Department of Health and Hospitals





**Property boundary -100 feet,
unless special permission is
granted by the property
owner(s)**





Established institution - 1,000 feet, unless special permission is granted by the responsible official of the established institution. The permission must be in the form of a notarized affidavit executed by the owner waiving the 1,000-foot buffer zone. However, in no case shall the application area be located less than 200 feet from an institution.





Occupied residential home or structure - 500 feet, unless special permission is granted by the owner and/or lessee of the occupied residential home or structure.



The permission must be in the form of a notarized affidavit executed by the owner and/or lessee waiving the 500-foot buffer zone.

However, in no case shall land application of sewage sludge be conducted less than 200 feet from the occupied residential home or structure.



A stylized map of Louisiana is the central focus, overlaid with various environmental layers. At the top is a sun, followed by mountains, a river, and a field. Below these are layers representing different types of land use and vegetation, including a field with a path, a field with a fence, and a field with a fence. The map is rendered in a collage style with various colors and textures.

**Proper
Site
Management**

RECORD KEEPING

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AGRONOMIC RATE



Land Appliers SHOULD utilize their local LSU Ag Extension Agent and the LSU AgCenter for Soil Testing and for Nutrient (N and/or P) Recommendations

OR

If an applier prefers to perform calculations on their own, they can make use of other "approved" agronomic rate calculations

Chapter 7, "Process Design for Agricultural Land Application Sites" of *PROCESS DESIGN MANUAL: Land Application of Sewage Sludge and Domestic Septage*, EPA/625/R-95/001.

Agronomic Rate Calculation in: "Land Application of Sewage Sludge" - Ralph Franklin - Faculty of Soils and Land Resources - Clemson University



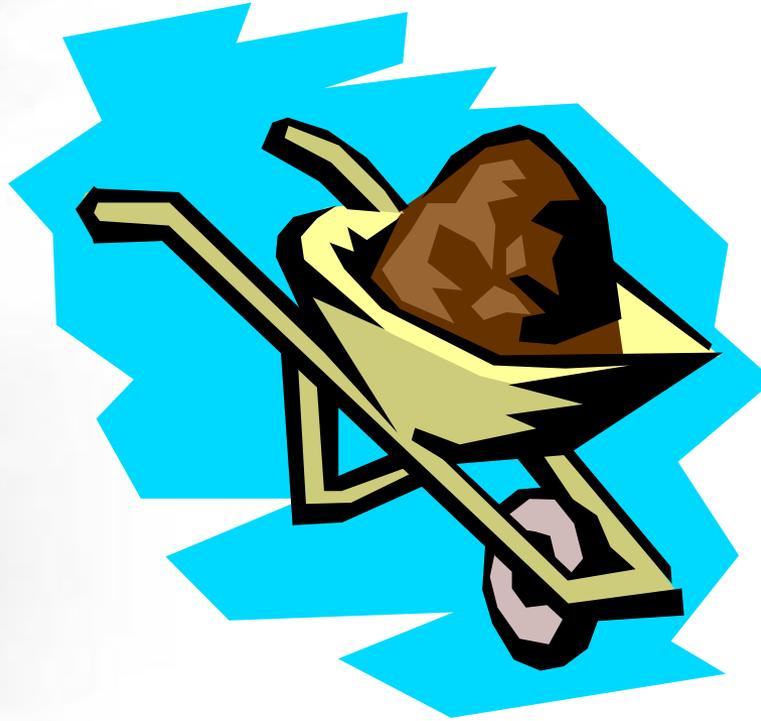
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NUTRIENT MANAGEMENT PLAN



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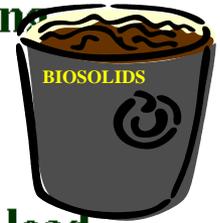
The person who applies Biosolids to agricultural or forest land shall either (a) provide proof to the administrative authority that a full nutrient management plan has been developed for the agricultural or forest land where the sewage sludge or a material derived from sewage sludge is applied. The full nutrient management plan shall be developed by the Natural Resource Conservation Service, a certified soil scientist, a certified crop advisor, or a local LSU Agricultural Center Cooperative Extension Service agent; or, (b) the soil at the site or sites where Biosolids are land applied shall be sampled on an annual basis; or, if double cropping is practiced, prior to the planting of each crop for the following parameters:

1. Total Kjeldal Nitrogen;
2. Total Nitrates;
3. Total Nitrites;
4. Total Phosphorus;
5. Total Potassium; and,
6. pH.





For Biosolids that is sold or given away either in bulk or in a bag, an example of the label or information sheet that will accompany the Biosolids. The label or information sheet shall contain the following information:



- Name and address of the preparer;**
- Concentration (by volume) of arsenic, cadmium, copper, lead, mercury, nickel, selenium, and zinc;**
- Total nitrogen;**
- Percent ammonia (as N);**
- Percent phosphorus;**
- pH;**
- Concentration of PCBs in mg/kg of total solids (dry wt.); and,**
- Application instructions and a statement that application of the Biosolids to the land is prohibited except in accordance with the instructions on the label or information sheet.**

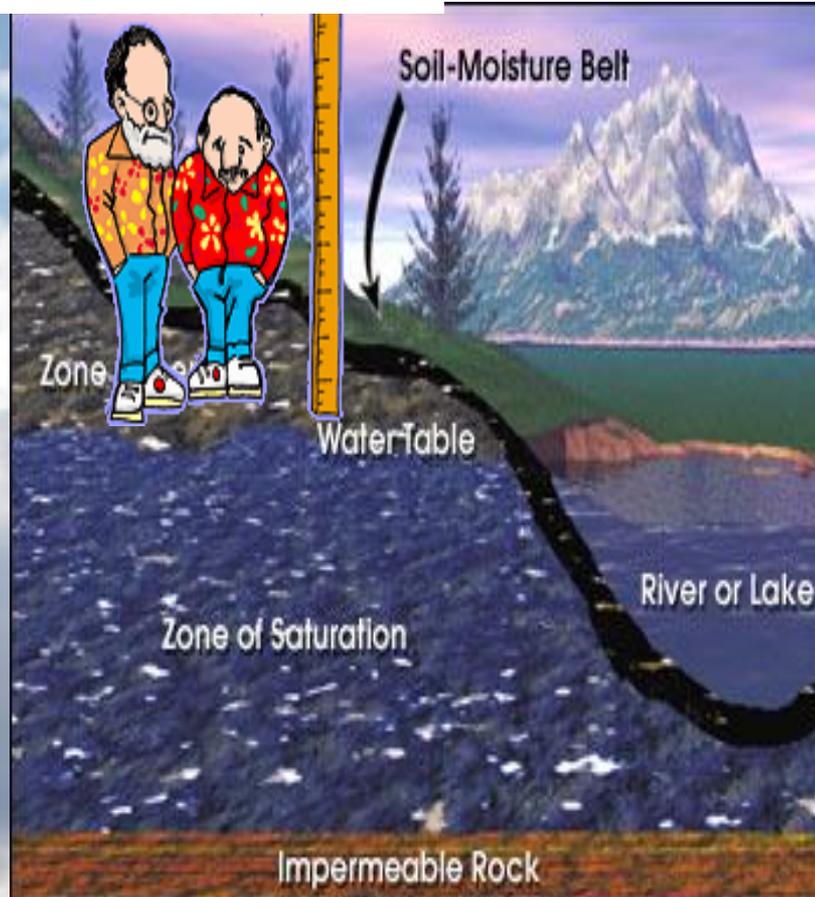




Slope Limitations for Land Application of Biosolids

Slope Percent	Application Restriction
0-3	None, except drainage to prevent standing water shall be provided.
3-6	A 100-foot vegetated runoff area should be provided at the down slope end of the application area if a liquid is applied. Measures should be taken to prevent erosion.
6-12	Liquid material must be injected into the soil. Solid material must be incorporated into the soil if the site is not covered with vegetation. A 100-foot vegetated runoff area is required at the down slope end of the application area for all applications. Measures must be taken to prevent erosion. Terracing may be required if deemed a necessity by the state administrative authority to prevent runoff from the land application site and erosion.
>12	Unsuitable for application unless terraces are constructed and a 200-foot vegetated buffer area with a slope of less than 3 percent is provided at the down slope edge of the application area and the material is incorporated (solid material) and injected (liquid material) into the soil. Measures must be taken to prevent runoff from the land application site and to prevent erosion.





Biosolids shall not be applied to agricultural land, forest, or a reclamation site during the months when the water table is less than or at two feet below the soil surface.





Odors

Untreated or improperly treated sewage sludge “STINKS”!!!



Therefore, all Biosolids Land Application Programs must Consider “Objectionable” Odors as a potential problem

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Factors Contributing to Odors

- Periodic changes in influent characteristics (e.g. fish wastes, textile wastes and other wastewaters with high odor characteristics)
- Type of polymer used and its susceptibility to decomposition and release of intense and pervasive odorants such as amines when biosolids are heated or treated with strong alkaline materials
- Blending of primary and secondary biosolids which may create anaerobic conditions or stimulate a resumption of microbial decomposition
- Completeness of blending and mixing, and quality of products used for stabilization (i.e. type of lime and granule size)
- Effectiveness and consistency of Vector Attraction Reduction Method, use of Part 503 VAR options 1-8 (treatment at WWTP) vs. VAR options 9-10 (at land application site)
- Handling, storage time, and storage method when stabilized biosolids are held at the WWTP prior to transport (e.g. anaerobic conditions developing in enclosed holding tanks when material is held for several days during hot weather).

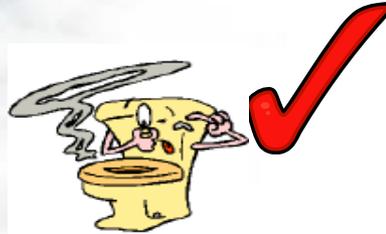
EPA/832-B-00-007





STORAGE

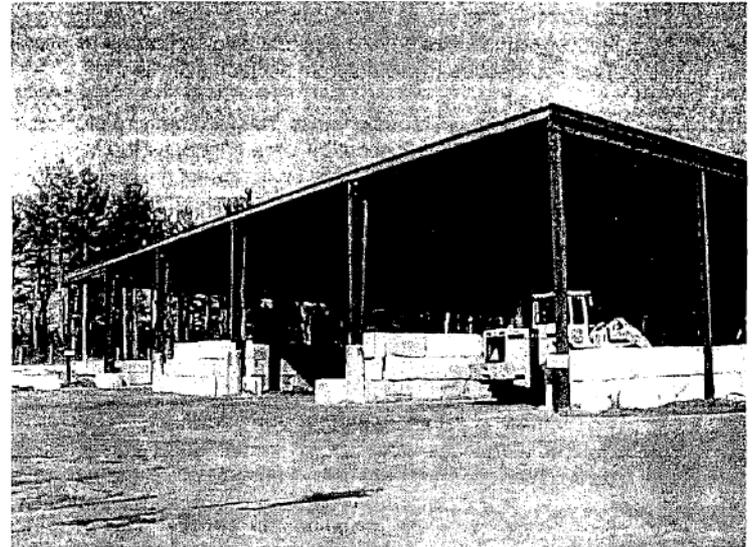
ODORS



STORMWATER



Concrete Storage Bunker with Block Push Walls



Permanent Covered Storage

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Signs

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Example of an appropriate sign



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Treatment by Use of Ponds

The use of a pond or lagoon is allowed for the *treatment of sewage sludge* only after a permit has been granted under these regulations and the applicable air and water discharge permits have been applied for and granted by the administrative authority.

The person who makes use of a pond or lagoon for the treatment of sewage sludge shall:

- i. provide documentation to the Office of Environmental Services, Water Permits Division, that indicates the final use or disposal method for the sewage sludge;
- ii. apply for the appropriate permit for the chosen final use or disposal in accordance with the Standards for the Use or Disposal of Sewage Sludge and Biosolids regulations; and
- iii. provide documentation by a qualified groundwater scientist to the Office of Environmental Services, Water Permits Division, that indicates the area where the pond or lagoon is located and if it will adequately protect against potential groundwater contamination either by natural soil conditions or by a constructed soil or synthetic liner that has a hydraulic conductivity of 1×10^{-7} centimeters per second or less, and protect from the potential to *contaminate an aquifer*, as defined in Subsection B of this Section.

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Storage

The storage of sewage sludge or Biosolids is allowed for a period not to exceed six consecutive months

An extension for storage, greater than six months, may be granted by the administrative authority for commercial preparers of sewage sludge or commercial land appliers of Biosolids if the extended storage has no adverse affect on human health and the environment.





Site Restrictions

Location Characteristics - Buffers

Facility Characteristics - Perimeter Barriers, Security, and Signs

Fire Protection and Medical Care

Receiving and Monitoring Sewage Sludge, Other Materials, Feedstock, or Supplements Used

Facility Surface Hydrology





Site Restrictions

Facility Geology

Facility Operations and Maintenance Manual

Leachate & Odor Management

Facility Closure Requirements





Financial Assurance for:

All Commercial Preparers of Sewage Sludge

All Commercial Land Appliers of Sewage Sludge

Prepare or Land Apply < 15,000 metric tons per 365 day period

Prepare or Land Apply > 15,000 metric tons per 365 day period





CERTIFICATION



The person who prepares sewage sludge, the person who applies Biosolids to the land, and the owner and/or operator of a sewage sludge incinerator who desires to maintain a permit shall obtain adequate training and certification in the processing, treatment, land application, and incineration of sewage sludge.

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CERTIFICATION

Minimum:

Pumped out or Given to Another Person

Disposal in a Landfill





CERTIFICATION



Preparation of an Exceptional Quality Biosolids

Preparation and/or Land Application of a Class B Biosolids

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CERTIFICATION



To maintain certification, sixteen contact units of continuous education shall be obtained on a biannual basis.

Classes, seminars, conferences, or conventions used for units shall be approved by the administrative authority.

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Reminder!

Domestic Septage

&

Portable Toilet Waste



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Haulers/Transporters



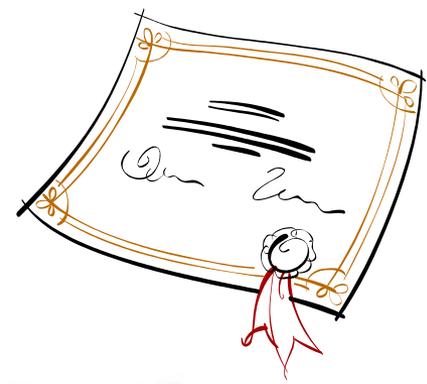
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Registration Period Beginning July 1, 2009



Transfer the Registration of the
Vehicles of
Transporters/Haulers of
Sewage Sludge from...



...to...



LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY



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Sewage Sludge Transporter/Hauler Registration Form



Louisiana Department of Environmental Quality
 OES - Permit Support Services Division
 Notifications & Accreditations Section
 P.O. Box 4313, Baton Rouge, Louisiana 70821-4313
 For information regarding technical questions, contact phone no. (225) 219-3104
 For information regarding submittal of this form, contact phone no. (225) 219-3253

SEWAGE SLUDGE HAULER NOTIFICATION FORM

Please make checks/money orders payable to LDEQ and submit to the address above.

Fees: Initial - \$100 Renewal - \$100
 (Mark appropriate box - Renewal applications due May 1st of each year)

For LDEQ Official Use Only			
AI No: _____	CL/MO: _____	Site ID No: _____	Amount: _____
Date: _____	Initials: _____		

I. Applicant Information (Print Legibly or Type)

Name of Hauler:		AI No. _____ (Complete, if Renewal)	Site ID No. _____ (Complete, if Renewal)
Hauler Physical Location/Street Address:		Contact Name & Title:	
City, State, Zip:	Parish (physical site):	Contact Phone:	Contact Phone Fax:
Hauler Mailing Address: City/State/Zip:		Contact Email Address:	

II. Type of Sewage Sludge to be Hauled (Check each applicable line or box)

<input type="checkbox"/> Sewage Sludge from wastewater treatment plants <input type="checkbox"/> Domestic Septage <input type="checkbox"/> Portable Toilet Waste <input type="checkbox"/> Grease Waste Mixed with Sewage Sludge <input type="checkbox"/> Biosolids (Prepared Sewage Sludge)	Annual Amount of Sewage Sludge Hauled per Year: Gallons per Year _____ Tons per Year _____
---	---

III. Vehicle Information (Please list all vehicles that will be used to haul sewage sludge, including make, model, year, license number, and name of registered owner/hauler) (Add additional rows or duplicate this page, if necessary)

No. of Vehicles: _____ * (Attach a picture or diagram of each vehicle)

Make of Vehicle	Type of Vehicle	Model No.	Year	License Number	Registered Owner/ Hauler

form_7159_r02
02/12/2009

1 of 2



Sewage Sludge Transporter/Hauler Registration Form



SEWAGE SLUDGE HAULER NOTIFICATION FORM

IV. Information Pertaining to Receiving Facility Where the Sewage Sludge will be Hauled (If you haul sewage sludge to more than 1 facility, duplicate Section IV or this page)

Name of Receiving Facility:		AI Number:	
Receiving Facility Physical Location/Street Address:		Contact Name & Title:	
City, State, Zip:	Parish (physical site):	Contact Phone:	Contact Email:
Receiving Facility Mailing Address:			
City/State/Zip:			

IV. (cont'd) Information Pertaining to Receiving Facility Where the Sewage Sludge will be Hauled (If you haul sewage sludge to more than 1 facility, duplicate Section IV or this page)

Name of Receiving Facility:		AI Number:	
Receiving Facility Physical Location/Street Address:		Contact Name & Title:	
City, State, Zip:	Parish (physical site):	Contact Phone:	Contact Email:
Receiving Facility Mailing Address:			
City/State/Zip:			

V. **Certification:** I have personally examined and I am familiar with the information submitted, and I hereby certify under penalty of law that this information is true, accurate, and complete to the best of my knowledge. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Authorized Signature

Print Name and Title

Date

VI. General Information:

Please be aware that, effective September 1, 2005, the Louisiana Department of Environmental Quality (DEQ) placed the regulating and permitting of use or disposal of sewage sludge under the Louisiana Water Quality regulations. The affected regulations, LAC 33:IX, Chapter 73 includes sludge generated at a sanitary wastewater treatment facility, domestic septage, portable toilet waste, and grease that is removed or pumped from a food service facility when the grease is mixed with the sewage sludge. The regulations include requirements for haulers of sewage sludge, including registration. It also includes standards for vehicles that are utilized for hauling sewage sludge.

Effective July 1, 2009, the registration of all haulers of sewage sludge has been transferred from DHH to DEQ. At least 60 days prior to the 2008 expiration of your sewage sludge hauler "License" issued by the Department of Health and Hospitals, you will need to apply for registration with DEQ utilizing this form. The form is available by accessing the DEQ Sewage Sludge/Biosolids Internet Site at: <http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx>.

Note: In addition, the facility receiving your sewage sludge waste must be "legally" permitted by DEQ to accept such waste.
form_7159_r02
02/12/2009

2 of 2





Record Keeping for Transporters/Haulers of Sewage Sludge



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Record Keeping for Transporters/Haulers of Sewage Sludge

- **Date material was pumped/removed**
- **Name and Address where material was pumped/removed**
- **Type of material (sludge from a sanitary treatment plant/domestic septage/portable toilet waste/grease that was removed from a food service establishment and mixed with the sewage sludge)**
- **Amount pumped/removed**
- **Where used or disposed (Contact name, telephone#, name of facility, address)**
- **Amount used or disposed**
- **Date used or disposed**





Transportation & Vehicle Requirements



Transporters of sewage sludge shall only transport the sewage sludge and/or grease mixed with sewage sludge to a permitted facility and shall maintain a daily log or record of activities containing the following information regarding the sewage sludge and/or grease mixed with sewage sludge:

- a. the date obtained, pumped, or removed;**
- b. the origin or source;**
- c. the volume generated at each site;**
- d. the transfer or disposal site; and**
- e. the total amount that was transported or disposed.**





Transportation & Vehicle Requirements



The types and sizes of vehicles shall comply with the regulations and licensing of the Department of Transportation and Development and with applicable local ordinances governing weight and size for the roads and streets that must be traveled during the transporting of sewage sludge.

The bodies of vehicles must be covered at all times, except during loading and unloading, in a manner that prevents rain from reaching the sewage sludge, inhibits access by vectors, prevents the sewage sludge from falling or blowing from the vehicle, minimizes escape of odors, and does not create a nuisance.

The bodies of vehicles that are utilized to transport liquefied sewage sludge or a sewage sludge that is capable of producing a leachate shall be constructed and/or enclosed with an appropriate material that will completely prevent the leakage or spillage of the liquid.





Transportation & Vehicle Requirements



The exterior and interior of the body of the vehicles shall be washed down, at a designated wash-down area, as often as needed to ensure against accumulation of sewage sludge or Biosolids and for the prevention of odors and vector attraction.

The vehicle washdown area shall be designed, constructed, and operated to prevent groundwater contamination and stormwater run-on and runoff.

All water and leachate generated at the designated washdown area shall be contained and discharged in accordance with all applicable state and federal regulations.





Contact

Ms. Suzanne Bordelon

Permits Support Division

(225)219- 3253


 Louisiana Department of Environmental Quality
 DEQ - Permit Support Services Division
 Notifications & Accreditation Section
 P.O. Box 4313, Baton Rouge, Louisiana 70821-4313
 For information regarding technical questions, contact phone no. (225) 219-3104
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SEWAGE SLUDGE HAULER NOTIFICATION FORM

Please make checks/money orders payable to LDEQ and submit to the address above.

Fees: Initial - \$100 Renewal - \$100
(First application fee - Renewal applications are \$00 "1" of each year)

FASTER SERVICE ONLY	
ATN: _____	CA/AD: _____
Int. City: _____	Assess: _____
Dist: _____	Rate: _____

I. Applicant Information (print Legible or Type)

Name of Hauler:		AT No. _____	Site ID No. _____
		(Complete, if Renewal)	(Complete, if Renewal)
Hauler Physical Location/Street Address:		Contact Name & Title:	
City, State, Zip:	Parcel (physical site):	Contact Phone:	Contact Phone Fax:
Hauler Mailing Address:		Contact Email Address:	
City/State/Zip:			

II. Type of Sewage Sludge to be Hauled (Check each applicable line or box)

<input type="checkbox"/> Sewage Sludge from wastewater treatment plants <input type="checkbox"/> Domestic Sewage <input type="checkbox"/> Portable Toilet Waste <input type="checkbox"/> Certain Waste Mixed with Sewage Sludge <input type="checkbox"/> Biosolids (Prepared Sewage Sludge)	Annual Amount of Sewage Sludge Hauled per Year: Gallons per Year _____ Tons per Year _____
---	---

III. Vehicle Information (Please list all vehicles that will be used to haul sewage sludge, including make, model, year, license number, and name of registered owner/hauler. (Add additional rows or highlight this page, if necessary))

No. of Vehicles: _____ * (Attach a picture or diagram of each vehicle)

Make of Vehicle	Type of Vehicle	Model No.	Year	License Number	Registered Owner/ Hauler

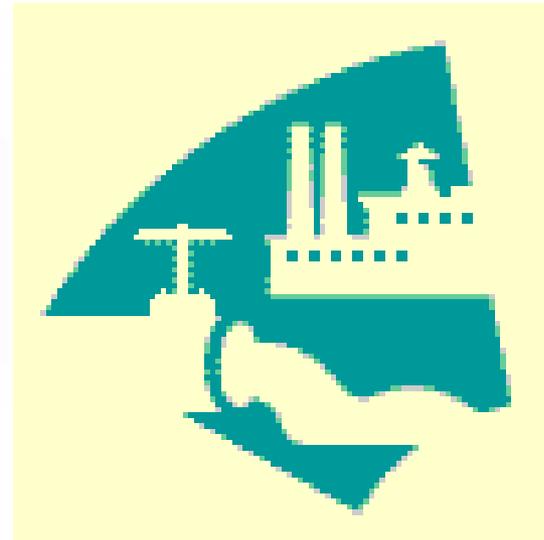
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02/12/2009 1 of 2



Requirements

For

Sanitary Wastewater Treatment Systems



LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY



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A. Notification to DEQ

A general prohibition for the receipt of hauled domestic septage will be placed into all LPDES permits unless the applicant has properly notified the Department. This statement will be in Part II (Other Conditions) and shall read: "The acceptance of hauled domestic septage as defined at LAC 33:IX.2313 is prohibited unless otherwise authorized by this Department."

If already have an LPDES permit – Submit a written notification to DEQ indicating that you are taking in or plan to take in material from haulers/pumpers of sewage sludge.

Upon permit renewal, indicate that you are accepting material from haulers/pumpers in the permit application.



If you do not have an LPDES permit – Indicate that you are accepting material from haulers/pumpers in the permit application





Allowable amount of septage to be received at a treatment facility

Oxidation Ponds

Treatment works utilizing oxidation ponds for treatment of domestic sewage that receive hauled domestic septage may not accept greater than 3% of the effluent flow in hauled domestic septage daily, unless pretreatment of the septage is provided.

Treatment works utilizing oxidation ponds for treatment of domestic sewage that do receive hauled domestic septage will receive 10/15 or more stringent limits¹. Coverage either under the Class IV Sanitary General permit or given an individual permit.

¹ Oxidation ponds that discharge directly into the Mississippi, Red or Atchafalaya Rivers may retain secondary limitations.

Other Treatment Technologies

Treatment works utilizing treatment technology other than oxidation ponds for treatment of domestic sewage that receive hauled domestic septage may not accept greater than 3% of the effluent flow in hauled domestic septage daily, unless pretreatment of the septage is provided.

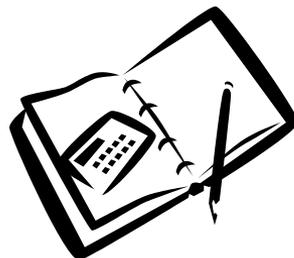
Pretreatment Requirements

Pretreatment of domestic septage may be accomplished by equalization, direct discharge into the digester, or other accepted technology.





B. Record Keeping



Name of Hauler/Pumper and name of Hauler/Pumper Business	Type of Material being Introduced into System (Sludge from another sanitary treatment facility, domestic septage, portable toilet waste)	Amount (Indicate whether in gallons or Tons)	Date
T-John Deaux/Deaux's Pooper-Scouper*	Sewage sludge, domestic septage	7,000 gal	3-15-2007
Tee Sue Deaux/Odor-Out Septic Service*	Domestic septage	650 gal	3-15-2007
Bee Boudreaux/Boudreaux's CleanYouOut*	Domestic septage, portable toilet waste	12,000 gal	3-15-2007

*All Names are fictional and do not represent or attempt to represent any real and presently operating businesses





If you have any questions or need additional information on LPDES Permit requirements when domestic septage (or portable toilet waste) is introduced into a sanitary wastewater treatment system, please contact:

Yvonne Wingate-Baker

LDEQ

Office of Environmental Services

Water Permits Division

(225) 219-3073

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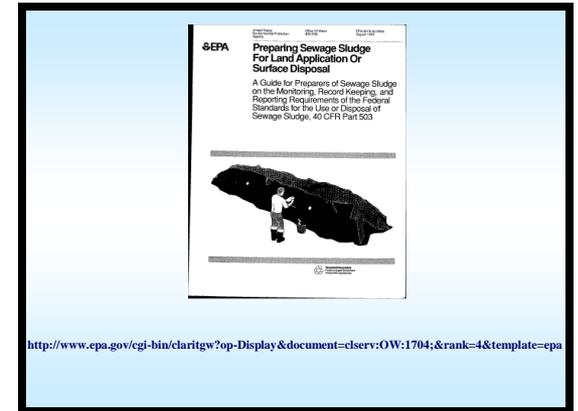


Useful Publications and Resources

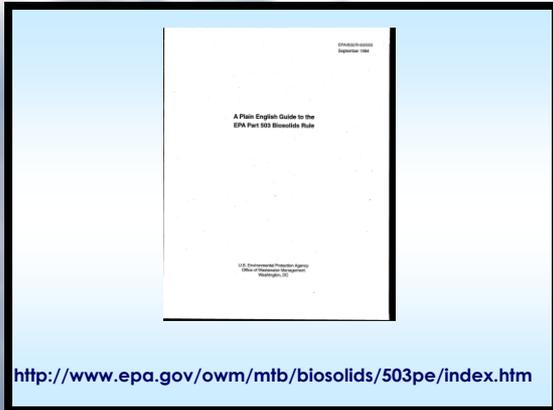
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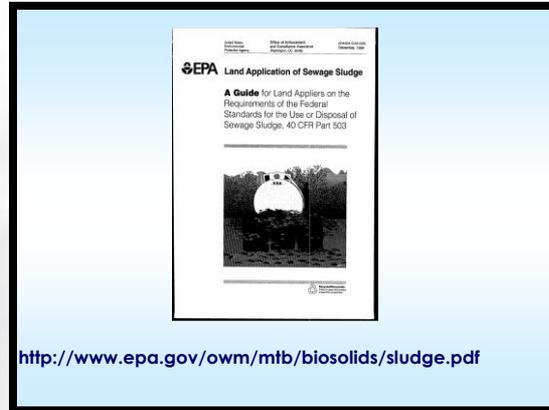
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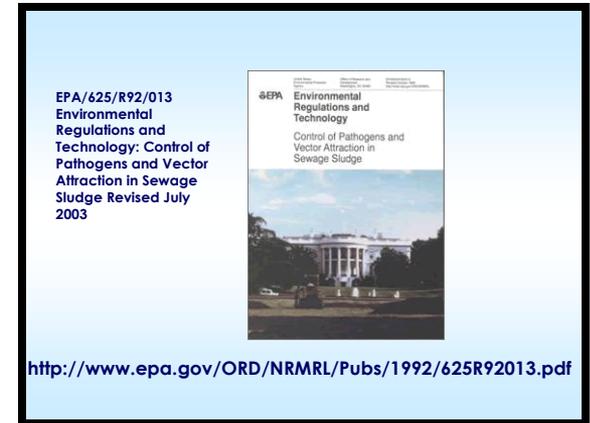
<http://www.epa.gov/cgi-bin/claritgw?op=Display&document=clserv:OW:1704;&rank=4&template=epa>



<http://www.epa.gov/owm/mtb/biosolids/503pe/index.htm>

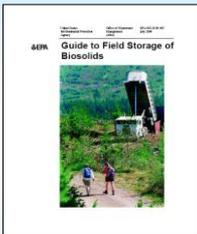


<http://www.epa.gov/owm/mtb/biosolids/sludge.pdf>



<http://www.epa.gov/ORD/NRMRL/Pubs/1992/625R92013.pdf>

**“Guide to Field Storage of Biosolids”,
EPA/832-B-00-007, July 2000**



<http://www.epa.gov/OW-OWM.html/mtb/biosolids/fsguide/fsguide.pdf>

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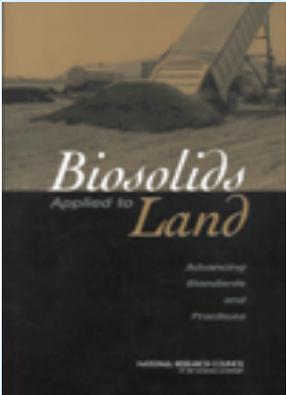


Final National Pollutant Discharge Elimination System General Permit and Reporting Requirements for the Final Beneficial Reuse or Disposal of Municipal Sewage Sludge (LAG650000); Notice

<http://www.epa.gov/earth1r6/6en/w/lasludge.pdf>

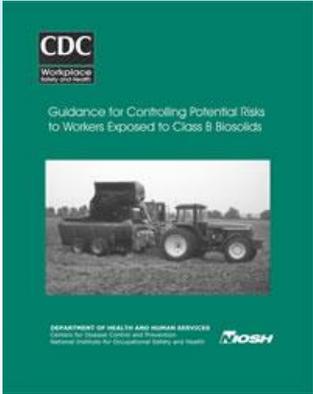
Biosolids Applied to Land: Advancing Standards and Practices (2002)

For Purchase From:



<http://www.nap.edu/catalog/10426.html>

"Guidance For Controlling Potential Risks To Workers Exposed to Class B Biosolids", July 2002



<http://www.cdc.gov/niosh/docs/2002-149/pdfs/2002-149.pdf>

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**Test Methods
for the Examination of
Composting
and
Compost**



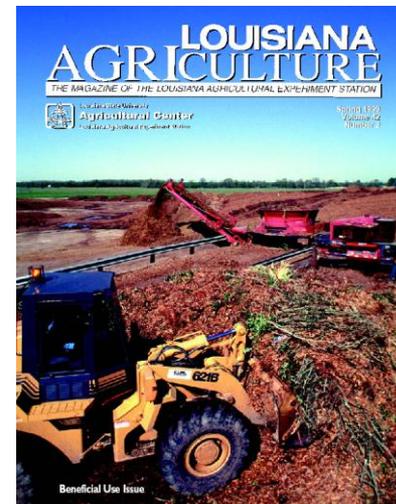
**US COMPOSTING
COUNCIL**

&



United States Department of Agriculture

<http://tmecc.org/tmecc/index.html>



**BASIC PRINCIPLES OF
COMPOSTING**



<http://www.lsuagcenter.com/subjects/compost/pdfs/compost.PDF>



Managing Manure Nutrients at
Concentrated Animal Feeding
Operations
December 2004



**MANAGING MANURE NUTRIENTS
AT CONCENTRATED ANIMAL
FEEDING OPERATIONS**

DECEMBER 2004

EPA Number: 821B04009

Publisher Info:

National Service Center for
Environmental Publications

P.O. Box 42419 Cincinnati, OH 45242-
2419

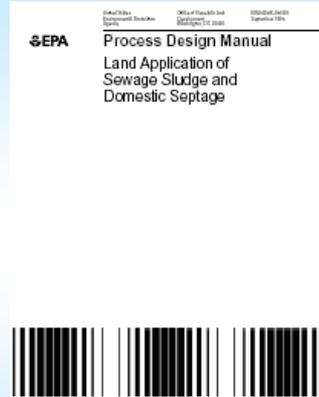
Phone: (800) 490-9198

Fax: (513) 489-8695

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<http://www.epa.gov/ORD/WebPubs/landapp.pdf>



JEQ Journal of Environmental Quality

January-February 2005

<http://jeq.scijournals.org/content/vol34/issue1/cover.shtml>



Environmental Management System Program

http://www.biosolids.org/ems_main.asp?sectionid=48&pageid=71

<http://www.biosolids.org/primer/>

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Department of Environmental Quality Biosolids – Sewage Sludge Internet Page



<http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx>

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Department of Environmental Quality Biosolids – Sewage Sludge Internet Page

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A clean state of mind, for all your environments.

SEARCH:

» HOME DIVISIONS PROGRAMS SERVICES ONLINE SERVICES NEWS ABOUT

» Abita Brewing takes steps to be environmentally sound

The Abita Brewing Company, in Abita Springs, takes environmental responsibility seriously. Even though the company is known more for its amber-colored beer, Abita Brewing has triumphed in the area of going "green" as well. Preserving the environment through conservation and protection of resources is a corporate goal which it meets through energy efficiency and social responsibility. [Download Complete Article](#)

Information: DEQ HOTLINES

living GREEN

WHAT'S NEW:

- ▶ DEQ Employee Directory
- ▶ Debris Site Interactive Map
- ▶ Annual Report
- ▶ Discover DEQ-E-Newsletter
- ▶ Subscribe to EnviroFlash
- ▶ Statewide Ozone Steering Committee
- ▶ Red-Tagged UST Facilities
- ▶ Asbestos and Lead
- ▶ ERIC Online!
- ▶ Events Calendar
- ▶ Groundwater Construction Advisory Documents
- ▶ Mercury Risk Reduction

Latest News

Registration continues for environmental healthcare workshops

DEQ Communications - 3 days ago

Workshops aimed at hospitals and healthcare providers are currently scheduled in Baton Rouge and Metairie. The workshops are intended to educate hospital employees and other healthcare providers on environmental matters, as well as providing useful tools to improve compliance with the Joint Commission's Environment of Care standards.

For registration or more information go to

Enviroschool for communities continues in February 2009

DEQ Communications - 4 days ago

Enviroschool is a training session presented by the Department of Environmental Quality that helps the public better understand the agency and how it operates. In February, the topic for Baton Rouge, Shreveport, Lake Charles and New Orleans will be Water Permits 101: Understanding the Process. The session will introduce the water program's mission, major regulations that govern it, and types and examples of water permits. For Monroe and Alexandria, the topic will be Environmental Regulations 101: A Broad Overview. This session will talk about federal and state environmental regulations and what they are designed to do.

GUSTAV & IKE INFORMATION

Harold Leggett, Ph.D. DEQ SECRETARY

ON AIR! CURRENT AQI DATA

ENVIRO SCHOOL

Katrina & Rita HURRICANE UPDATE

Internet

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Radiological Services
Emergency Response
Contracts & Grants
Air Permits
Waste Permits
Water Permits
Administrative Services
Underground Storage Tank
Business and Community Outreach

LPDES Permits
Water Quality Certifications
Biosolids
WPD Activities

WHAT'S NEW

▶ DEQ Employment

▶ Debris Site Map

▶ Air Quality

▶ Permits

▶ Subscriptions

▶ Statewide Ozone Steering Committee

▶ Red-Tagged UST Facilities

▶ Asbestos and Lead

▶ ERIC Online!

▶ Events Calendar

▶ Groundwater Construction Advisory Documents

▶ Mercury Risk Reduction

biodiesel to protect and improve their air quality

people become enlightened to environmental issues, we see leaders step up to make an effort to... m a variety of sources. An example would be the Monroe Transit System which is committed to... of emissions from city vehicles and reducing carbon emissions now and in the future. All of the... e Transit System use biodiesel, most of them at a 20 percent blend. Download Complete Article

VS

continues for environmental healthcare workshops

- 3 days ago

at hospitals and healthcare providers are currently scheduled in... Metairie. The workshops are intended to educate hospital... her healthcare providers on environmental matters, as well as... ple to improve compliance with the Joint Commission's

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GUSTAV & IKE INFORMATION >>

Harold Leggett, Ph.D. DEQ SECRETARY >>

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LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY



:FOR ALL YOUR ENVIRONMENTS

Department of Environmental Quality Biosolids – Sewage Sludge Internet Page



LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY



:FOR ALL YOUR ENVIRONMENTS



Any Questions?

J. Kilren Vidrine, ES-Staff
Louisiana Department of Environmental Quality
Office of Environmental Services
Water Permits Division
P.O. Box 4313
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