15A NCAC 05H .XXX1 OIL AND GAS INDUSTRIAL WASTE MANAGEMENT

Any person, firm, or corporation shall manage, control and dispose of all waste associated with exploration and production of oil and gas including drill cuttings, brines, drilling fluids, stimulation fluids, well servicing fluids, production fluids, produced water, residual wastes, encountered water and free hydrocarbons resulting from the exploration, development, production, or storage of oil or gas; the transportation of oil or gas; the treatment of oil or gas, or the refinement of oil or gas in a manner that prevents pollution to the land and the waters of the state in accordance with G.S. 113-390 and 113-391.

History Note: *Authority 113-391(a)(5)(e), 113-391(a)(5)(f)*
Eff

15A NCAC 05H .XXX2 DEFINITIONS

The terms used in this Subchapter shall have the definitions assigned by G.S. 113-389. In addition, the words defined in this rule set shall have the following meanings:

(1) "Barrel" means 42 U.S. gallons at 60° F at atmospheric pressure.

(2) "Circulation Pit" means a pit used during drilling in which drilling fluids are circulated during drilling operations. A circulation pit may be part of a mud pit.

(3) "Closed-Loop System" means a system that uses aboveground tanks for the management of drilling and production fluids and drill cuttings without using below grade tanks or pits.

(4) "Completion Pit" means a pit used for storage of completion flowback fluid and drilling fluids or other materials that have been cleaned out of the well bore during the initial completion of a well. Circulation or mud pits may be used as a completion pit when drilling operations conclude.

(5) "Earthen Pit" shall mean any natural or man-made depression in the ground used for oil or gas exploration or production purposes; pit shall not include steel, fiberglass, or other similar material.

(6) "Effluent" shall have the meaning assigned to it in 15A NCAC 02T.0103, which is incorporated by reference including subsequent amendments.

(7) "Emergency Pit" means a pit used for containing fluids at an operating well during an actual emergency and for a temporary period of time.

(8) "Exploration and Production (E&P) Waste" means wastes associated with the exploration, development and production of oil or gas and that are not regulated by the provisions of the Federal Resource Conservation and Recovery Act Subtitle C, and may include the following: produced brine, sand, and water; drill cuttings; water-based drilling fluids; completion, hydraulic fracturing, and workover flowback fluids; storm water in secondary containment and pits at oil and gas facilities; residuals from the onsite treatment of E & P wastes; and any other deposits or residuals removed from piping and equipment and packing fluids during exploration and production activities.

(9) "Flowback fluid" means any of a number of liquid and gaseous fluids and mixtures of fluids, chemicals or solids consisting of drilling fluid, silt, sand and other proppants (for example resin and ceramic grains), debris, water, brine, oil, paraffin, produced water or other materials that are removed from the well bore during the initial completion or recompletion of a well, other additives that flow from a well following hydraulic fracturing, or during production of a well.

(10) "Mud Pit" means a pit used during drilling in which fluids are mixed and circulated during drilling operations.

(11) "Produced water" means the water that exists in subsurface formations and is brought to the surface during oil and gas production.

(12) "Professional Engineer" as defined in 15A NCAC 02H .0103, which is incorporated by reference including subsequent amendments.

(13) "Radioactive waste" as defined in 15A NCAC 11 .1202 (29), which is incorporated by reference including subsequent amendments.

(14) "Residuals" as defined in 15A NCAC 02T .0100, which is incorporated by reference including subsequent amendments. Change definition to refer to MEC permits

(15) "Reserve Pit" means a pit that is not part of the active circulation system, used to store drilling fluids or to contain fluids generated during drilling operations. Such fluids may include cuttings, drilling fluids and produced water.

(16) "Tank" shall mean a stationary vessel that is used to contain fluids, constructed of non-earthen materials (e.g. concrete, steel, plastic) that provide structural support.

(17) "Test Pit" means a pit constructed for use during a well test.

(18) "Tophole water" means water that is brought to the surface while drilling through the strata containing groundwater or water that is from a body of surface water.

(19) "Waste" as defined in G.S. 143-213(18), which is incorporated by reference including subsequent amendments.

(20) "Workover Pit" means a pit used to contain fluids during the performance of remedial operations on a producing well in an effort to increase production.

15A NCAC 05H .XXX3 EXPLORATION AND PRODUCTION WASTE MANAGEMENT REQUIREMENTS

(a) Prior to generation of E & P waste(s) associated with exploration and production, the applicant shall prepare and obtain an approved exploration and production waste management plan under G.S. 113-390 and G.S. 113-391 for the management, control, and disposal of fluids, residual waste(s) and drill cuttings; including brines, drilling fluids, additives, drilling muds, stimulation fluids, well servicing fluids, oil and production fluids from the drilling, alteration, production, plugging or any other activity associated with an oil and gas well or wellpad.

(b) The waste management plan shall identify the management, control, and disposal methods or practices to be utilized by the applicant, and must be consistent with these rules and other

Comment [KM1]: EL-DWM: from 2T rules refers to facilities "permitted under authority of Commission" – refers to the EMC, whereas these regs at on-site facilities should be permitted by MEC. You need to write a definition out that takes into consideration on-site wastewater treatment versus off-site wastewater treatment residuals.

Comment [KM2]: CM and staff to work on definition

Comment [RC3]: (30) "Residuals" means any solid, semisolid, or liquid waste, other than effluent or residues from agricultural products and processing, generated from a wastewater treatment facility, water supply treatment facility or air pollution control facility permitted under the authority of the Commission.

existing rules in the state. The plan shall include the storage and handling of wastewater, residuals, solid wastes and any other non-hazardous and hazardous wastes related to exploration and production activities from the point of initial production to final disposal.

(c) The following components shall be submitted at the time of application to satisfy the waste management plan requirement of the larger oil and gas permit on Form X (Ref permit requirements):

(1) construction, installation, operating, and maintenance specifications and details for all pits, tanks, secondary containment, and other ancillary equipment, such as piping, pumps, and valve systems (Ref permit requirements). This shall include site design and capacity of all pits and tanks installed or constructed onsite;

(2) the applicant shall provide an emergency response plan in compliance with 40 CFR 112 (SPCC; REF Permit Requirement for Emergency Plan);

(3) identify if E & P wastes produced onsite will be reused at the permitted oil or gas well or reused at other permitted oil or gas wells;

(4) identify if the E & P wastes will be taken to an offsite permitted facility. The operator must follow the facility's direction and rules for waste handling including waste characterization; and

(5) the permittee shall provide a pit and tank closure plan that includes final disposal methods for all pit and tank contents within the Reclamation Plan.

(d) The permittee shall revise the plan prior to implementing any changes to the practices identified in the approved plan and operating conditions specified in the permit;

(e) A copy of the approved plan shall be available at the well site during drilling and completion activities to staff of the Department upon request; and

(f) The contact information for the local county emergency management officials and the state emergency operation center (1-800-858-0368) for where the well site is located shall be included in the plan and be prominently displayed at the well site during exploration, drilling, completion and alteration activities in accordance with the (Emergency Response Rule).

(g) The permittee shall submit an annual E & P waste report in accordance with Rule .xx11 (d) of this section;

History Note: *Authority 113-391(a)(5)(e), 113-391(a)(5)(f)*
Eff

15A NCAC 05H .XXX4 CONSTRUCTION REQUIREMENTS FOR WASTE MANAGEMENT INFRASTRUCTURE

(a) The permittee shall ensure that there is sufficient capacity to contain all E & P wastes from the drilling, altering, completing, recompleting, producing, servicing and plugging of the well, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a pit, tank, or series of pits, and tanks in accordance with the requirements of this rule section;

(b) The permittee shall install or construct and maintain the pit, tank, or series of pits and tanks in accordance with the following requirements:

(1) the location of pit(s) and tanks(s) shall be chosen with reasonable consideration to maximize the distance from surface waters and in accordance with the minimum setbacks as required in section (SETBACK RULES);

(2) the structures shall be constructed and maintained with sufficient capacity to contain all substances and wastes which are used or produced during drilling, altering, completing and plugging activities at the well site:

(i) pits shall be certified by a professional engineer to meet the capacity required onsite and be designed, constructed and maintained to be structurally sound and reasonably protected from unauthorized acts of third parties in accordance with section XX10 of this rule;

(ii) tanks shall be commercially produced, tested, and certified structures that are constructed and maintained to be structurally sound and reasonably protected from unauthorized acts of third parties in accordance with section XX10 of this rule. Tanks shall comply with API Specification 12B- Specification for Bolted Tanks for Storage of Production Liquids, Specification 12D- Specification for Field Welded Tanks for Storage of Production Liquids, Specification 12F- Specification for Shop Welded Tanks for Storage of Production Liquids, which can be accessed for free at http://publications.api.org/default.aspx, 12P- Specification for Reinforced Plastic Tanks, which can be purchased for $97.00 from http://www.techstreet.com/api.

(3) all pits and tanks shall be designed, constructed and maintained so that at least two feet of freeboard is available at all times. If open tanks are used, the tanks shall be maintained so that at least two feet of freeboard remain at all times, unless the tank is provided with an overflow system to a standby tank or pit with sufficient volume to contain all excess fluid or waste;

(4) if subsection (3) is violated, the permittee shall notify the Department and immediately take the necessary actions to ensure the structural stability of the pit or tank, prevent spills, and restore the two feet of freeboard by pumping fluids to an emergency tank or pit, transport and disposal at a permitted facility in accordance with section XXX5 of this rule, or reuse at another well in accordance with section XXX5 of this rule;

(5) closed-loop systems shall be commercially produced, tested, and certified structures that are installed and maintained in a leak-free condition (CONSTRUCTION STANDARDS SECTION). The plan for a closed-loop system shall:

(i) use appropriate engineering principles and practices and follow applicable manufacturers' requirements;

(ii) include operating and maintenance procedures and closure plan; and

(iii) incorporate by reference a standard design for multiple projects that the permittee files with the application or has previously filed with the Department.

(6) If the permittee proposes to bury any components associated with a closed-loop system in an on-site trench, the permittee shall provide sufficient information and detail on the site's topography, soils, geology, surface hydrology and groundwater hydrology to enable the Department to evaluate the actual and potential effects on soils, surface water and groundwater and compliance with the siting criteria and any setbacks.

(7) For earthen pits constructed onsite, the permittee shall submit Form X- Earthen Pit Registration Form to the Department prior to the start of construction;

(8) A pit that contains drill cuttings from below the conductor casing seat, substances, wastes or fluids other than tophole water and fresh water shall be impermeable and shall comply with the following standards and any standards defined below and in (CONSTRUCTION STANDARDS SECTION):

(i) with a double thickness of a geomembrane liner of at least 30 mils PVC or 40 mil HDPE thickness. The liner shall be designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the E & P waste or ultraviolet light, and that the liner is resistant to failures or damage during transportation, handling, installation and use. Adjoining sections of liners shall be sealed together to prevent leakage in accordance with the manufacturer's directions. The liner shall be trenched and anchored into the top of the berm

(ii) with a leak detection zone between the two synthetic liners designed to reduce the maximum predicted head acting on the lower membrane liner to less than one inch and that that can detect a leak within 24 hours, function without damaging the liners, and be designed to allow an operator to monitor, record, and remove any leakage within the zone. The permittee shall provide details of the system, either electrical or piped, that will be installed. The permittee shall define an action leakage rate (ALR) and shall prepare an emergency plan of action for exceedance of the ALR;

(iii) the liner sub-base shall be smooth, uniform and free from debris, rock and other materials that may puncture, tear, cut or otherwise cause the liner to fail. The liner sub-base and subgrade shall be capable of bearing the weight of the material above the liner without causing settling that may affect the integrity of the liner. If the pit bottom or sides consist of rock, shale or other materials that may cause the liner to fail, a sub-base of at least six inches of soil, sand or smooth gravel, or a sufficient amount of an equivalent material, shall be installed over the area as the sub-base for the liner;

(iv) the permittee shall provide a berm around the pit(s) to prevent stormwater flow from the site entering the pit(s).

Comment [RC4]: AOG

(a) The internal slopes of the berm or pit shall not be any steeper than 2:1 (horizontal: vertical);

(b) the outer slopes of any berm slope may not be any steeper than 3:1 (horizontal: vertical); and

(c) the top of the berm shall have a minimum width of two feet.

(v) the bottom of the pit shall be at least four feet above the seasonal high ground-water table and bedrock;

(vi) if a liner becomes torn or otherwise loses its integrity, the pit shall be managed to prevent the pit contents from leaking out of the pit. If repair of the liner, or construction of another temporary pit is not practical or possible, the pit contents shall be removed and disposed of in accordance section XXX5 of this rule; and

(vii) if the liner drops below the two feet of freeboard, the pit shall be managed to prevent the pit contents from leaking from the pit and the two feet of lined freeboard shall be restored.

(c) The operator shall provide secondary containment at all pits and tanks of sufficient capacity to contain 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater, and with sufficient freeboard to contain any overflow precipitation. Secondary containment structures shall be constructed of a material compatible with the liquid being stored. The permittee is also subject to tank and containment requirements under Section 05H.0XXX (tank standards).

(d) The permittee may request to use practices other than those specified in subsection (b) that provide functionally equivalent or superior protection by submitting a request to the Department for approval. The request shall be made on forms provided by the Department;

History Note: *Authority 113-391(a)(5)(c), 113-391(a)(5)(d)*
Eff

15A NCAC 05H .XXX5 EXPLORATION AND PRODUCTION WASTE DISPOSAL

(a) Produced water and flowback water shall be tested for the parameters listed below on a frequency and schedule determined by the Director. In addition, the Director of the Division of Energy, Mineral and Land Resources (DEMLR), in consultation with the Director of the Division of Water Resources (DWR), can require additional analysis and scheduling as necessary for the protection of the environment or human health.

Comment [KM5]: STK: add benzene, formaldehyde, and conductivity

(1) Water samples shall be collected according to standard procedures (REF BASELINE) and analyzed by a laboratory certified in accordance with 15A NCAC 2H .0800.

(2) The laboratory analytical procedures shall comply with 15A NCAC 02B .0103.

(3) The analytical records shall be submitted to DEMLR within 30 days of receiving the analytical results, unless different schedule by Director

Comment [RC6]: Investigate

Carbonaceous Biochemical Oxygen Demand (CBOD5)	Ammonia-Nitrogen (NH3-N)	Dissolved Oxygen (DO)	pH	Total Suspended Solids (TSS)
Chlorides	Sulfates	Total Dissolved Solids (TDS)	Oil and Grease	Arsenic, Total Recoverable
Cadmium, Total Recoverable	Chromium (III) , Total Recoverable	Chromium (VI)	Chromium, Total Recoverable	Cobalt, Total Recoverable
Copper, Total Recoverable	Lead, Total Recoverable	Mercury, Total Recoverable	Nickel, Total Recoverable	Silver, Total Recoverable
Tin, Total Recoverable	Zinc, Total Recoverable	Cyanide, Total Recoverable	Bis(2-ethylhexyl)phthalate	Butylbenzyl phthalate
Carbazole	n-Decane	Fluoranthene	n-Octadecane	Radium-226 (Dissolved)
Strontium-90 (Dissolved)	Beta radiation (gross)	Chronic Wet Testing	Bromide	Barium

(b) Hydraulic fracturing flowback fluids and produced fluids may only be disposed of or re-used in the following manner:

(1) for re-use in ~~other~~ hydraulic fracturing operations;

(2) treated onsite for re-use in hydraulic fracturing operations;

(3) transported to a treatment works permitted in accordance with G.S. 143-215.1; or

(4) transported to another state in accordance with their rules.

(c) Residuals from onsite treatment shall be handled in accordance with G.S. 143-215.1, G.S. 130A-294, or transported to another state in accordance with their rules; and

~~(d) Solid wastes, including drill cuttings and solidified muds, shall be characterized in accordance with Toxicity Characteristic Leaching Procedure (TCLP), on a frequency and schedule determined by the Director. In addition, the Director of the Division of Energy, Mineral and Land Resources, in consultation with the Director of the Division of Waste Management, can require additional analysis as necessary for the protection of the environment or human health.~~MOVE TO .xx11 (d)

History Note: *Authority 113-391(a)(5)(f)*
Eff

15A NCAC 05H .XX6 TRANSPORTATION OF WASTES

(a) Permittees shall dispose of gas and oil E & P solid waste by transfer to an appropriate permitted solid waste management facility in accordance with 15A NCAC 13A or 15A NCAC 13B,which is incorporated by reference including subsequent amendments, or applied to a Department-authorized beneficial use;

(b) Permittees may transport recovered drilling fluids to other drilling sites for reuse provided that such fluids are transported and stored in a manner that does not constitute a hazard to water resources, public health, safety or the environment in accordance with 15A NCAC 13B .0105,which is incorporated by reference including subsequent amendments;

(c) Exploration and production waste, when transported off-site for treatment or disposal, shall be transported to facilities authorized by the Department or waste disposal facilities permitted to receive E & P waste by the Department in accordance with 15A NCAC 13B, which is incorporated by reference including subsequent amendments. When transported to facilities outside of North Carolina for treatment or disposal, E & P waste shall be transported to facilities authorized and permitted by the appropriate regulatory agency in the receiving state;

Comment [K7]: CM: (b) Flowback fluid and produced water shall be managed in accordance with the following alternatives:
(i) Reuse in hydraulic fracturing operations;
(ii) Disposal at a plant installed for the purpose of disposing of waste within the State permitted in accordance with N.C. Gen. Stat. § 143-215.1; or
(iii) Disposal at facility located within another state, which is duly permitted to accept flowback fluid and produced water from oil and gas operations.

Any sludge or residual resulting from the reuse process authorized pursuant to subparagraph (i) of this rule or from any on-site pretreatment that may be used in conjunction with subparagraph (ii) and (iii) of this rule shall be managed and disposed of in accordance with subparagraph (ii) and (iii) of this rule or with the Resource Conservation and Recovery Act and regulations promulgated pursuant thereto, 42 U.S.C. §§ 6901 et seq. and 40 C.F.R. Parts 239-282. In addition, prior to disposal of any sludge or residual resulting from the reuse process authorized pursuant to subparagraph (i) of this rule or from any on-site pretreatment that may be used in conjunction with subparagraph (ii) and (iii) of this rule the operator shall demonstrate that the sludge or residual [MEETS RADIOACTIVTY STANDARD FOR DISPOSAL FACILITY].

Comment [RC8]: End 21Nov2013

Comment [KM9]: EL-DWM: MOVE (d) to the .xx11 (d) Waste Management Plan and allow the permittee to state how the wastes are to be characterized, if at all. It is probable that TCLP is not the most appropriate test method now or in future. It is also probable that early on the testing will be required for wastes (since we know so little) but not so much in years to come (if everything is consistent with drilling fluids and shale/gas/oil etc.)

Comment [RC10]: End 24Oct2013

(d) Generators of E & P waste that is transported offsite shall maintain, for no less than five years, copies of each invoice, bill or ticket and such other records as necessary to document the following requirements:

(1) date or dates and time of the transport;
(2) identity and location where the waste was generated;
(3) identity of the waste transporter;
(4) location of the waste pickup site;
(5) type and volume of waste; and
(6) name and location of the treatment or disposal site, with signature, including date and time, of the receiving party.

(e) Such records shall be signed by the transporter, made available for inspection by the Director during normal business hours, and copies thereof shall be furnished to the Director or the Director's representative on request.

History Note: *Authority 113-391(a)(5)(f)*
Eff

15A NCAC 05H .XXX7 EARTHEN PIT CLOSURE REQUIREMENTS

(a) The permittee shall notify the Department 48 hours prior to commencing pit closure activities so that the Department can be onsite during pit closure;

(b) Any synthetic liner used shall be removed to the fullest extent practicable and properly disposed of. If any liner material cannot be removed, it shall be shredded or penetrated so that the base of the pit can be disked, will not create any subsurface hazard, and will promote groundwater flow through it;

(c) The permittee shall collect, at a minimum, a five point, composite sample from the pit sub-base if there are no wet or discolored areas, or any other indications of a release; or collect

individual grab samples from any pit base or sidewall slope areas that are wet, discolored or show other evidence of a release along the pit sidewall slopes or base;

(1) the sample(s) shall be analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) and metals, and if requested by the Department, chlorides, bromides and sulfates, according to approved EPA, USGS, or Department methods in accordance with 15 NCAC 02L. 0412; and

(2) if concentrations of benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH), or metals exceed the soil to groundwater maximum contaminant concentrations, listed by the Division of Waste Management (DWM) at http://portal.ncdenr.org/c/document_library/get_file?uuid=ad84a424-64a3-423c-a34c-8faeb9ffc27b&groupId=38361, or the background concentration if established, then the Department may require additional delineation upon review of the results to ensure compliance with other applicable environmental regulations for soil and water contamination.

(d) The permittee shall ensure that all soil that exceeds limits established in (c) is removed from the pit and properly disposed of at permitted municipal solid waste landfill, hazardous waste facility, or soil reclamation facility;

(e) The location where the pit(s) were constructed shall be returned to grade, reclaimed and seeded according to the approved reclamation plan. The pit(s) shall be reclaimed within a reasonable amount of time, not to exceed 180 days, after the drilling or workover rig is removed from the site.

(1) Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90 days of completion.

(2) Vegetative coverage of 75%, or equivalent to the surrounding landscape, whichever is less, shall be obtained within 180 days of pit closure unless otherwise approved in writing by the Department. Until vegetation is established,

the permittee is responsible for maintaining an effective erosion and sediment control plan in accordance with 15 NCAC 04;

(f) The permittee shall submit a signed copy of the "Notice of Pit Closure" to the Department within 30 days after the pit closure has been completed; and

History Note: *Authority 113-391(a)(5)(c), 113-391(a)(5)(d),*
Eff

15A NCAC 05H .XX8 NATURALLY OCCURRING RADIOACTIVE MATERIALS

The permittee shall ensure compliance with all applicable rules and regulations related to naturally occurring radioactive materials (NORMs) in accordance with 15A NCAC 11, which is incorporated by reference including subsequent amendments.

History Note: *Authority*
Eff

15A NCAC 05H .XX9 SPILLS AND RELEASES

(a) Spills and releases of E & P waste or other materials shall be controlled and contained immediately upon discovery to protect the environment, public health, safety, and wildlife resources. Any damage and impacts resulting from spills and releases shall be investigated and cleaned up as soon as practicable by the permittee;

(b) The Department may require additional activities to prevent or mitigate threatened or actual significant adverse environmental impacts on any air, water, soil or biological resource, or to the extent necessary to ensure compliance with other applicable environmental regulations for soil and water contamination;

(c) The following reporting requirements apply to reportable spills and releases:

(1) spills and releases of any E & P waste or produced water that exceed a volume of one barrel, including those contained within lined or unlined berms, shall be reported on FORM X: Spill and Release Report according to paragraph (d) of this rule;

Comment [KM11]: CO- this threshold is used for areas outside secondary containment (unlined areas)

(2) spills and releases that exceed a volume of five barrels of any E & P waste shall be verbally reported to the Director as soon as practicable, but no more than 24 hours after discovery.

(3) spills and releases of any size that impact, or threaten to impact, any waters of the State, high occupancy buildings or occupied dwellings, livestock or public byway shall be verbally reported to the Director as soon as practicable, but not more than 24 hours after discovery;

(4) spills and releases of any size that impact or threaten to impact any surface water or water supply area shall be reported to the Director and the appropriate local county officials as indicated on the emergency contact list. Spills and releases that impact or threaten to impact a surface water intake shall be verbally reported to the emergency contact for that facility within two hours of the discovery. This initial notification shall include a description of actions to be taken to mitigate the spill and release;

(d) For all reportable spills, the permittee shall submit FORM X: Spill and Release Report, no more than five days after discovery. The report shall include an 8 1/2 by 11 inch topographic map showing the location of the spill, color photographs of the affected area, a description of the initial mitigation, site investigation, and any additional remediation needed. The Director may require additional information or remediation based on the type, size, and extent of the spill or release;

(1) The permittee shall determine the cause of all spills and releases, and shall implement measures to prevent spills and releases due to similar causes in the future; and

(2) Chemical spills and releases shall be reported in accordance with applicable state and federal requirements, including the Emergency Planning and Community Right-to Know Act, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act and the Clean Water Act, as applicable.

(e) The permittee shall notify the affected surface owner or the surface owner's appointed tenant, and any water intake owners downstream, of reportable spills and releases as soon as practicable, but not more than 24 hours, after discovery. The permittee also shall make good faith efforts to notify and consult with the affected surface owner, or the surface owner's appointed tenant, and any water intake owners downstream, prior to commencing operations to remediate E & P waste from a spill or release in an area not being utilized for oil and gas operations; and

Comment [KM12]: STK 39: how are these defined? How far downstream does the operator notify? STEVE LEWIS
Also should have shorter time for reporting, 2 hrs instead of 24 hrs.

(f) When threatened or actual significant adverse environmental impacts on any air, water, soil or other environmental resource from a spill or release exist, or when necessary to ensure compliance with groundwater standards and classifications, the Director may require the permittee to submit a "Site Investigation and Remediation Work Plan," Form X.

History Note: *Authority 113-391(a)(5)k, 113-391(a)(5)(i)*
Eff

15A NCAC 05H .XX10 SAFETY AND SECURITY AT PITS AND TANKS

(a) The permittee shall construct and maintain fencing or other enclosure around any pit or tank in a manner that prevents unauthorized public access. Fences are not required if there is an adequate surrounding perimeter fence that prevents unauthorized access to the well site or facility, including the pit(s) or tank(s). Fencing shall comply with 15A NCAC 05H .XXXX (*refer to the fencing portion of the wellhead rules*). During drilling or workover operations, the

permittee is required to fence the entire perimeter of the pit adjacent to the drilling or workover rig.

(b) The permittee shall use a chain link security fence at least eight feet in height with at least three strands of barbed wire at the top to fence to enclose any pit or tank located within 1,000 feet of a high occupancy building or occupied dwelling . The permittee shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not on-site. During drilling or workover operations, the permittee is not required to fence the edge of any temporary pit adjacent to the drilling or workover rig.

(c) The permittee shall fence any other pit or tank areas to exclude livestock with a four foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level. The Department may approve an alternative to this requirement if the permittee demonstrates that an alternative provides equivalent or superior protection. The Department may impose additional fencing requirements for the protection of wildlife in particular areas; and

(d) The permittee shall ensure that a pit or open tank is screened, netted or otherwise rendered non-hazardous to wildlife, including migratory birds. Where netting or screening is not feasible, the permittee shall on a monthly basis inspect for and, within 48 hours of discovery, report discovery of dead migratory birds or other wildlife to the Department in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring. Any netting or screening installed must comply with the Migratory Bird Treaty Act.

Comment [KM13]: STK 45: may need additional requirements to address keeping deer out of/away from pits (see comments from V. Stancil).

History Note: *Authority*
Eff

15A NCAC 05H .XX11 MONITORING AND REPORTING

(a) The permittee shall monitor all E & P waste storage and disposal structures and facilities onsite for compliance with the approved E & P waste management plan approved under this rule;

(b) The permittee shall inspect any pit or tank after a rain event of one-half (0.5) inch in a 24 hour period to ensure structures have not been adversely affected and have the appropriate height of freeboard;

(1) If damage is noted during the course of inspection, it shall be recorded on a monitoring and maintenance log provided by the permittee. The log shall include the date of inspection, name of the inspector, location of damage, if a spill or release was observed, and any necessary repair work along with the date of completion of any repairs; and

(2) If the damage results in a spill or release, the permittee shall comply with the requirements for reporting, repair, and remediation in accordance with 15A NCAC 05H .XX9 of this section.

(c) If any pits are to remain onsite more than 180 days following the completion of all wells permitted at the wellpad, or for future re-stimulation of any well onsite, the permittee shall provide at least three monitoring wells, one up gradient and two down gradient of the pit that will remain onsite until the pits are closed, to ensure there is no leakage due to the degradation of the liner from longer term storage of waste water. In such a case:

(1) The monitoring wells shall be installed and maintained according to 15A NCAC 02C.0100 Well Construction Standards, which is incorporated by reference including subsequent amendments;

(2) The bond amount for the pits cannot be returned until the pits meet the pit closure requirements of both 15A NCAC 05H .XXX6 and NCAC 05H .XXX7 of this section, and until the monitoring wells have been properly abandoned according to 15A NCAC 02C.0100 Well Construction Standards, which is incorporated by reference including subsequent amendments; and

(3) The monitoring well(s) shall be sampled and analyzed for the chemical constituents outlined water supply sampling rules requirements of NCAC 15H (BASLINE RULES);

(i) If any contamination is detected, the operator must notify the Department in writing within 10 days of the receipt of the analytical results.

(ii) The Department may require additional sampling of remediation.

Comment [KM14]: STK 46: monitoring wells not really necessary due to double lignin and leak detection being required.

(d) The permittee shall submit an annual report to the Department no later than April 1 of each year for the previous calendar year. The annual waste management report shall include:

(1) The quantity of drill cuttings that have been disposed onsite or disposed at offsite solid waste landfills.

(i) If cuttings are disposed onsite, the permittee shall indicate the location of the disposal site on a surveyed site map. This map shall be recorded and filed with the County Register of Deeds; and

(ii) If drill cuttings are disposed of at offsite solid wastes facilities, the report shall indicate the permit number, name and location of the facility.

(2) The monthly quantity in gallons of wastewater fluids produced in the drilling, stimulation, alteration, and production of a well;

(3) Records of when pits were serviced due to inadequate freeboard, and the actions that were taken to restore the two feet of required freeboard.

(4) Analytical reports for any leak detection monitoring wells for the chemical constituents listed in 15A NCAC 05H.XXXX (baseline rules); and

(5) If there are no wells installed at a wellpad for a given year, the permittee shall still file the annual report documenting solid waste and wastewater for a given well or wellpad.

(6) Waste characterization

History Note: *Authority 113-391(a)(5)k, 113-391(a)(5)(i),*
Eff

15A NCAC 05H .0X12 VARIANCE AUTHORITY

(a) The Department may grant a variance from any construction standard under 05H .0XX3-0XX4 of this section. Any variance shall be in writing, and shall be granted upon written application to the Department by the permittee of the well for which the variance is sought, if the Department finds facts to support the following conclusions:

(1) The requested variance to deviate from the standards and rule will provide the same level of protection; and

(2) Construction in accordance with the standards was not technically or economically feasible.

(b) The Department may require the variance applicant to submit such information as the Department deems necessary to make a decision to grant or deny the variance. The Department may impose such conditions on a variance deemed necessary to protect human health and welfare and all water resources. The findings of fact supporting any variance under this Rule shall be in writing and made part of the variance.

(c) The Department shall respond in writing to a request for a variance within 30 days from the receipt of the variance request.

(d) An applicant for a variance who is dissatisfied with the decision of the Department may commence a contested case by filing a petition under G.S. 150B-23 within 60 days after receipt of the decision.

History Note: *Authority*
Eff