

## Fiscal Impacts of Proposed Rules

**Rule Topic:** Federal Definition of Solid Waste Rule Adoption

**Rule Citation:** 15A NCAC 13A .0102  
15A NCAC 13A .0103  
15A NCAC 13A .0106

**Name of Commission:** Environmental Management Commission

**DEQ Division:** Waste Management

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<b>Impact Summary:</b>	State Government:	Yes
	Local Government:	No
	Federal Government:	No
	Substantial Impact:	No

**Authority:** G.S. 130A-294 and G.S. 130A-295

**Necessity:** The EPA is requiring states to adopt certain provisions of the new Definition of Solid Waste Rule that was promulgated on January 13, 2015, 80 Fed. Reg. 1694 (January 13, 2015) (“2015 DSW Rule”) and became effective July 13, 2015. The 2015 DSW Rule retains certain changes originally made in an October 30, 2008 DSW Final Rule, 73 Fed. Reg. 64668 (October 30, 2008), which “revises several recycling-related provisions associated with the definition of solid waste used to determine hazardous waste regulation under Subtitle C of [RCRA].” Its purpose “is to ensure that the hazardous secondary materials recycling regulations, as implemented, encourage reclamation in a way that does not result in increased risk to human health and the environment from discarded hazardous secondary material.”

The EPA revised the 2008 DSW rule because of significant regulatory gaps that resulted in harm to human health and the environment and had a disproportionate impact on minority and low-income populations.

The proposed changes to 15A NCAC 13A .0102, 15A NCAC 13A .0103 and 15A NCAC 13A .0106 would make the State Hazardous Waste Program equivalent to, consistent with, and no less stringent than the federal RCRA program, by incorporating federal changes to 40 CFR 260.10 and 40 CFR 261.

**Frequently Used Acronyms:**

DEQ = North Carolina Department of Environmental Quality

HWS = Hazardous Waste Section

HSM = Hazardous Secondary Material

RCRA = Resource Conservation and Recovery Act

## **Summary**

The purpose of this document is to conduct an evaluation of the costs and benefits associated with amendments of three rules pertaining to the definition of hazardous waste; 15A NCAC 13A .0102, 15A NCAC 13A .0103, and 15A NCAC 13A .0106. These changes are necessary to maintain federally delegated program authority due to recent changes in the applicable federal regulations.

The United States Environmental Protection Agency (“EPA”) has authorized North Carolina to operate the State Hazardous Waste Program in lieu of the federal program under the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. §§ 6901 to 6992k. Because the State Hazardous Waste Program is federally delegated, EPA continues to exercise oversight including the ability to revoke program authorization to ensure consistency with RCRA. Specifically, the State Hazardous Waste Program must remain equivalent to, consistent with, and no less stringent than the federal program.

## **Introduction and Purpose of Rule Changes**

The North Carolina Department of Environmental Quality (formerly the Department of Environment and Natural Resources), Division of Waste Management, Hazardous Waste Section has determined that rulemaking to amend 15A NCAC 13A .0102, 15A NCAC 13A .0103 and 15A NCAC 13A .0106 is necessary due to recent changes to applicable federal regulations, per N.C.G.S. § 150B-21.1(a)(4).

The “State Hazardous Waste Program” consists of the North Carolina Solid Waste Management Act (“the Act”), contained in Chapter 130A, Article 9, of the North Carolina General Statutes and the rules promulgated thereunder and codified in Subchapter 13A of Title 15A of the North Carolina Administrative Code (“the Rules”).

The United States Environmental Protection Agency (“EPA”) has authorized North Carolina to operate the State Hazardous Waste Program in lieu of the federal program under the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. §§ 6901 to 6992k. Because the State Hazardous Waste Program is federally delegated, EPA continues to exercise oversight including the ability to revoke program authorization to ensure consistency with RCRA. Specifically, the State Hazardous Waste Program must remain equivalent to, consistent with, and no less stringent than the Federal program. RCRA § 3006(b), 42 U.S.C. § 6926(b); 40 C.F.R. § 271.4.

The Act instructs the Department to “cooperate . . . with . . . the federal government . . . in the formulation and carrying out of a solid waste management program,” including a program for the management of hazardous waste “designed to protect the public health, safety, and welfare; [and to] preserve the environment.” (N.C.G.S. § 130A-294(a)(2), (b)) The Act mandates the adoption of rules to implement that program. (N.C.G.S. § 130A-294(b)) The rules largely adopt and incorporate the applicable federal regulations by reference.

Another statute prohibits the adoption of rules for the protection of the environment or natural resources that are more restrictive “than those imposed by federal law or rule, if a federal law or

rule pertaining to the same subject matter has been adopted,” unless one of the enumerated exceptions applies. N.C.G.S. § 150B-19.3.

On 30 October 2008, EPA promulgated a final rule concerning the Definition of Solid Waste, 73 Fed. Reg. 64668 (Oct. 30, 2008) (“2008 DSW Rule”), which various entities subsequently challenged through litigation, including claims that the rule contained significant regulatory gaps that could result in harm to human health and the environment and could have a disproportionate impact on minority and low-income populations. The Hazardous Waste Section did not adopt any of the provisions of the 2008 DSW Rule.

On 13 January 2015, EPA promulgated a revised final rule concerning the Definition of Solid Waste, 80 Fed. Reg. 1694 (Jan. 13, 2015) (“2015 DSW Rule”) that became effective on 13 July 2015. The 2015 DSW Rule retains certain changes originally made in the 2008 DSW Rule but “revises several recycling-related provisions associated with the definition of solid waste used to determine hazardous waste regulation under Subtitle C of [RCRA].” Its purpose “is to ensure that the hazardous secondary materials recycling regulations, as implemented, encourage reclamation in a way that does not result in increased risk to human health and the environment from discarded hazardous secondary material.” (Id. at 1694)

The proposed changes to **15A NCAC 13A .0102** will make the State Hazardous Waste Program equivalent to, consistent with, and no less stringent than the federal RCRA program, by incorporating federal changes to 40 C.F.R. § 260.10, with one state wording modification to make explicit a prohibition on releases of hazardous constituents in the definition of “contained.” The federal definition of contained restricts the release of hazardous secondary materials to the environment. By specifying that hazardous secondary constituents cannot be released, the Hazardous Waste Section believes this will be more enforceable if there is a release of hazardous constituents from the hazardous secondary material.

The proposed changes to **15A NCAC 13A .0103** will make the State Hazardous Waste Program equivalent to, consistent with, and no less stringent than the federal RCRA program, by incorporating federal changes to 40 C.F.R. Part 260, Subpart C.

The proposed changes also include a corresponding clerical revision to input the correct updated citation into .0103(a) and (b) instead of the current reference to a rule that no longer exists.

The proposed changes to **15A NCAC 13A .0106** will make the State Hazardous Waste Program equivalent to, consistent with, and no less stringent than the federal RCRA program, by incorporating federal changes to 40 C.F.R. Part 261.

The proposed changes to 15A NCAC 13A .0102, 15A NCAC 13A .0103 and 15A NCAC 13A .0106 do not conflict with N.C.G.S. § 150B-19.3.

## **Cost/Benefit Analysis for the 2015 DSW Rule**

The costs associated with the implementation of the 2015 DSW Rule will primarily be felt by the Hazardous Waste Section (HWS) of the Division of Waste Management. Other state and local government agencies do not regulate hazardous wastes and therefore will not experience any direct impact. The economic benefits of the new rule will be realized primarily by the facilities that are regulated by the HWS. These include private industry, public and private schools and universities that generate hazardous wastes, and the five federal facilities (four military bases plus one Coast Guard facility) located in North Carolina. Based on review of the hazardous waste generators potentially affected by the 2015 DSW Rule, other state agencies will not be affected by the implementation of the new rule. The rule does not affect waste that is generated by homeowners (household hazardous waste), therefore there is expected to be no direct impact on private individuals.

Note: Because land-based units (including surface impoundments and waste piles) are allowed under this rule as a means to contain HSM, the HWS is concerned there could be an increase in releases of hazardous constituents. Land based units are not allowed under the current regulations. This potential cost is shown in the *Costs of the 2015 DSW Rule* section of this document and associated tables, with more detailed information available in Appendix I. HWS staff have not estimated the potential cost to private property owners or other individuals.

## **Benefits of the 2015 DSW Rule**

The benefits of the rule will be realized by the entities that are regulated under the hazardous waste regulations. These are facilities that handle; generate; treat, store, and dispose (TSD); or recycle hazardous wastes that will be redefined as hazardous secondary materials (HSM) under this rule. The majority of the benefit to the regulated entities will be the reduction in annual fees and tonnage fees associated with the management of hazardous waste. Other costs associated with the change of having to manage HSM instead of hazardous waste will take time to recognize. Materials that were previously managed and recycled as hazardous waste will become HSM, which will require shipping documents but will not be required to be shipped on the uniform hazardous waste manifest. HWS staff assume that the recycling and shipping companies of the HSM will pass cost savings to the generators of the HSM.

The industry sectors that could be most affected include: chemical manufacturing, coating and engraving, semiconductor and electronics manufacturing, pharmaceutical manufacturing and industrial waste management industries. Because the 2015 DSW Rule addresses many of the concerns states raised about the 2008 DSW Rule, EPA believes that state adoption rates – and thus cost savings – for the 2015 DSW rule may be much higher than the 2008 DSW final rule. A summary of the current state adoption plans can be found in Appendix L.

EPA estimated that, nationwide, nearly 5,000 facilities will be potentially affected by the 2015 DSW Rule. According to the 2014 Regulatory Impact Analysis, EPA estimates that, under the assumption of forty-four states adopting the final rule and a 54% facility-notification rate, the 2015 DSW Rule may generate an average cost savings nationally of \$51 million per year for the affected industry sectors, with the vast majority of the savings resulting from reduced regulatory costs. The impacts of the rule are dependent on how many states adopt the rule.

The HWS did not adopt any of the provisions of the 2008 DSW Rule, so any cost savings recognized would be a result of the implementation of the 2015 DSW Rule. Facilities in North Carolina affected by

this rule make up approximately 3% of the national affected facilities. Because industry cost savings will not be evenly distributed among facilities, however, North Carolina's share of EPA's national estimated cost savings may be significantly different than 3% (which would be approximately \$1.5 million). The largest generator of hazardous waste in North Carolina, Nucor Steel Hertford County, estimates that if they have a 5% cost savings due to managing what is now a hazardous waste as a HSM, they will save more than \$200,000 annually. If they were able to recognize a 25% reduction, the savings could be in excess of \$1 million annually.

#### Hazardous Waste Generators

There are three categories of hazardous waste generators: Large Quantity Generators (LQG), Small Quantity Generators (SQG) and Conditionally Exempt Small Quantity Generators (CESQG). Generators of hazardous waste that meet the criteria in the 2015 DSW Rule will be able to redefine their hazardous waste as HSM instead. This will result in a reduction in the volume of hazardous waste that they must report and can, in many cases, result in a change to a different (less burdensome) category. This will result in a lower annual fee that they must pay. The annual fees for LQGs and SQGs are \$1,400 and \$175, respectively. There are no annual fees for CESQGs. Based on HWS data and knowledge of the hazardous waste generator operations, HWS staff estimate that 50 LQGs (out of 786) will become SQGs and 90 SQGs (out of 1782) will become CESQGs. The potential total savings in annual fees for generators is \$77,000.

Additionally, generators of hazardous waste currently pay a fee of \$0.70 per ton of hazardous waste generated each year. Generators who meet the criteria in the revised definition will have a reduced tonnage fee based on the amount of material no longer defined as waste. A review of the 2014 tonnage fees assessed to NC generators potentially affected by the 2015 DSW rule, indicated the potential total savings in tonnage fees is \$31,640 per year.

#### Commercial Facilities

There are currently nine commercial facilities in North Carolina permitted to accept hazardous waste from off-site generators. Four of these facilities primarily manage waste that can be defined as HSM under the new rule and they currently pay a monthly fee based on the tons of hazardous waste received during the previous month. A review of the 2014 tonnage fees assessed to NC commercial facilities potentially affected by the 2015 DSW Rule indicates the total savings in tonnage fees for these facilities is expected to be approximately \$5,500 per year. These four facilities may continue to maintain a RCRA permit or may elect to become verified recyclers rather than maintaining a RCRA permit. If these four facilities maintain their RCRA permit status, they will each continue to be a category 1 "Special Purpose Commercial Hazardous Waste Facility" and pay the monthly fee of \$1,332. If these facilities decide not to maintain their RCRA permit, they will no longer need to pay the fee, resulting in a total savings of \$63,936 per year (\$15,984 per year per facility). Additionally, closing the RCRA permit status will result in a permit application fee savings of \$14,000 every 5 years per facility.

The other five commercial hazardous waste facilities will continue to maintain their RCRA permit status because they accept hazardous waste that will not be affected by the revised definition. These facilities may experience a decrease in the volume of hazardous waste they accept due to some waste being re-defined as HSM. If so, this will result in a slight decrease in their monthly tonnage fees. These facilities will continue to manage the same volumes of waste, the waste will just be classified as HSM instead of hazardous waste. The cost savings of the change in management from hazardous waste to HSM will take some time to be recognized by the commercial facilities.

### Recycling Facilities

Currently, recycling facilities that do not have a RCRA permit cannot accept hazardous waste for recycling. Under the 2015 DSW Rule, a recycling facility has the opportunity to expand their business by becoming a verified recycler who can accept and recycle HSM. Becoming a verified recycler is a business decision and not a regulatory requirement, so this fiscal note does not include an estimate of any impact associated with becoming a verified recycler.

An analysis of facilities who applied for recycling tax credits in the last 10 years revealed no instances where this new rule would have prevented the facility from being able to claim the tax exemption for recycling equipment, so there are no impacts anticipated in this area.

Figures in the below table are rounded to account for the imprecision in the underlying estimates.

Summary of Annual Benefits <sup>1</sup> to the NC Regulated Community Due to the 2015 DSW Rule			
Type of Facility		Benefit	Explanation
Generators		\$109,000	Change in status and reduced tonnage fee
Commercial Facilities		\$69,000	Closing permit <sup>2</sup> and reduced tonnage fee
	Total Annual Benefits:	\$178,000	

1. Benefits do not include cost savings estimated by EPA.

2. Permit application fee of \$14,000 every five years is not included.

### **Costs of the 2015 DSW Rule**

The tables below outline the estimated costs calculated for the implementation of this rule. As previously mentioned, the costs associated with this rule are primarily to the HWS. These costs are due to increased time for program implementation and a reduction in operating fees from a reduced volume of hazardous wastes being generated. A discussion of how these numbers were calculated can be found in the Appendices A-K.

The costs of the revised 2015 DSW Rule are divided into three categories: costs, additional costs, and loss of fees. Costs include activities associated with HSM that can be determined on an annual basis. Additional costs are activities associated with HSM determined on a per event basis due to the uncertainty in being able to predict how many of these activities will occur in a year. Loss of fees is a summary of the reduction in the revenue to the HWS associated with the loss of fees collected when the facilities transition from being hazardous waste handlers to handling a HSM.

All of the costs described in the “Summary of Costs to the HWS due to the 2015 DSW Rule” and the “Summary of Additional Costs to the HWS due to the 2015 DSW Rule” tables are opportunity costs. All additional hours will be absorbed by current staff.

Figures in the following tables are rounded to account for the imprecision in the underlying estimates.

<b>Summary of Costs to the HWS due to the 2015 DSW Rule</b>		
Activity	Estimated Annual Total Time (Hours)	Estimated Annual Total Cost (Dollars)
Complaints	120	\$5,000
Inspections	700	\$27,000
Enforcement	246	\$9,000
Education and Outreach	81	\$3,000
Notification	36	\$800
Financial Assurance	26	\$900
Variance Review	576	\$20,000
Verified Recycler Review	640	\$22,000
Commercial Facilities Inspections	-1,135	-\$36,000
<b>Total Ongoing Costs</b>	<b>1,290</b>	<b>\$ 52,000</b>

<b>Summary of Additional Costs to the HWS due to the 2015 DSW Rule</b>		
Activity	Estimated Time (Hours)	Estimated Cost (Dollars)
Environmental Impacts and Corrective Action	280 hours - 1,680 hours (refer to Appendix I)	\$9,800 – \$58,800 per spill
Tax Certification	15 per application	\$0 change

<b>Summary of Costs due to Loss of Fees to the HWS due to the 2015 DSW Rule</b>	
Activity	Estimated Annual Total Cost (Dollars)
Changes to Commercial Facilities and Permits	-\$64,000
Loss of Tonnage Fees from Commercial Facilities	-\$5,000
50 LQGS become SQGs	-\$61,000
90 SQGs become CESQGs	-\$16,000
Loss of Tonnage Fees from Generator Facilities	-\$32,000
<b>Total Loss of Fees Costs</b>	<b>- \$178,000</b>

## **Personnel Time Changes**

Due to the implementation of this rule, there will be an increase of at least 2,425 hours/year (1.2 FTE) at a cost of \$88,000 per year for new notifications, additional inspections and complaints, education and outreach, financial assurance, enforcement, verified recycler reviews, and variance reviews.

Potential environmental impacts and resulting state oversight from storage on the land could add additional staff time and costs from \$9,800 in one-time costs and additional longer-term costs up to \$49,000 over 20 years per incident.

Due to the implementation of this rule, there will be a decrease of 1,135 hours/year (~0.5 FTE or \$36,000) and a decrease of \$178,000 in revenue due to fewer inspections at Commercial Facilities and from loss of annual and tonnage fees from Commercial Facilities, LQGs and SQGs.

Detailed calculations and information are available in the appendices of this fiscal note.

## **Fiscal Impact Summary**

Although HWS staff estimate that the aggregate financial impact of this proposed permanent rule on all persons affected would exceed \$1 million per year, the impacts would not meet the definition of a substantial economic impact rule under G.S. § 150B-21.4(b1) because it is identical to a federal regulation the agency is required to adopt.

## **Certificate of Federal Requirement**

In accordance with requirements outlined in G.S. § 150B-19.1. (g), the DWM is proposing changes to the rules 15A NCAC 13A .0102, 15A NCAC 13A .0103 and 15A NCAC 13A .0106. These changes would make the State Hazardous Waste Program equivalent to, consistent with, and no less stringent than the federal RCRA program, by incorporating federal changes to 40 CFR 260, 40 CFR 260.10, and 40 CFR 261. The United States Environmental Protection Agency (“EPA”) has authorized North Carolina to operate the State Hazardous Waste Program in lieu of the federal program under the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. §§ 6901 to 6992k. Because the State Hazardous Waste Program is federally delegated, EPA continues to exercise oversight—including the ability to revoke program authorization—to ensure consistency with RCRA. Specifically, the State Hazardous Waste Program must remain equivalent to, consistent with, and no less stringent than the Federal program. RCRA § 3006(b), 42 U.S.C. § 6926(b); 40 C.F.R. § 271.4. The Act instructs the Department to “cooperate . . . with . . . the federal government . . . in the formulation and carrying out of a solid waste management program,” including a program for the management of hazardous waste “designed to protect the public health, safety, and welfare; [and to] preserve the environment.” N.C.G.S. § 130A-294(a)(2), (b). The Act mandates the adoption of rules to implement that program. N.C.G.S. § 130A-294(b).

## **List of Appendices**

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Appendix B:	Development of Cost Estimates for Enforcement
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Appendix K:	Development of Loss of Fees Estimates
Appendix L:	Current State Adoption Plans
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## Appendix A

### Development of Cost Estimates for Complaints and Inspections

A portion of the facilities that are affected by this rule will be required to be inspected to assure that they are in compliance with the applicable regulations. If a facility is not in compliance, there can be negative impacts to human health and the environment as the materials still have the same physical (hazardous) properties.

The HWS receives complaints concerning facilities operating out of compliance with the rules from facility employees, other government agencies, neighbors of the facility and the media. Based on historical data on the types and numbers of facilities involved in complaints, it is estimated that there will be 10 complaints per year of facilities affected by this rule.

The HWS conducts an average of 1,000 inspections of hazardous waste generator facilities per year. Based on HWS data and knowledge of the hazardous waste generator operations at these facilities, HWS staff estimate that 5% of the 1,000 facilities will involve HSM. The new rule is complicated, and the regulated entities must meet specific conditions in order to receive the exclusion allowing hazardous waste to be managed as a HSM. Based on HWS staff knowledge of these specific conditions, HWS staff estimate that the HWS will conduct an additional 50 inspections per year.

Inspections and complaint investigation involve several different employees with different job descriptions, positions and salaries including: Inspectors, Chemists, Branch Head, Section Chief and Administrative staff. The breakdown of how the time for each position type involved and the associated cost is outlined on the next three pages.

## Appendix A (cont.)

### Time Analysis for Complaints involving HSM

Receipt of complaint and follow up for more information:	30 minutes
– Gathering facts from call/email	
– Routing complaint to proper person	
– Returning call/email for more information	
Researching Complaint and Preparing for Site Visit	1 hour
– Review of tax/property maps, internet search, Secretary of State, Website, CARA, RCRA Info	
– Directions	
– Prepare equipment, paperwork, camera	
Travel:	2 hours
– To and from facility (average)	
On-site Review:	2 hours
Report Write up and Administrative	2 hours
– Report Write up (with pictures) and coversheets	
– Entering data into databases	
Notice of Violation (NOV) Preparation	2 hours
– NOV preparation and review from Supervisor, Branch Head	
– Signature from Section Chief	
– Entering data into databases, mailing letters	
Sample Review from Chemist	1 hour
Site Visit Follow up:	6 hours
– Travel	
– On-Site Review	
– Follow up report	
– Entering data into databases	

#### Totals:

Best Case: No merit to the complaint (resulting in a report and no NOV):	7.5 hours
Worst Case: NOV with sampling requirements and required follow up:	16.5 hours
Average time per complaint (used to estimate costs):	12 hours

#### Cost/Time breakdown:

- Cost per hour is \$35 (see page 12 for explanation)
- Average time (12 hours) at \$35/hour = \$420 per complaint
- It is estimated that there will be 10 complaints involving HSM a year.
  - 10 complaints is derived from a percentage of the total complaints we currently investigate. Currently we investigate approximately 120 total complaints in a year. It is estimated that less than 10% of the complaints we typically investigate will be HSM complaints.
- 10 Complaints x 12 hours/complaint = 120 hours total for Complaints (used to estimate costs)
- Mileage for each complaint is calculated at an average of 100 miles per complaint. Travel reimbursement per mile is \$.575. 100 miles at \$.575/mile = \$57.50 for mileage/complaint
  - 100 miles was used for the distance since this is an approximate average distance an inspector drives to a complaint.

Final total cost for complaints involving HSM:	10 complaints at \$420/complaint = \$4,200
Plus cost to reimburse mileage:	10 complaints at \$57.50/complaint = \$575

**TOTAL cost:           \$4,775**

## Appendix A (cont.)

### Time Analysis for Inspections involving HSM

Researching Complaint and Preparing for Site Visit	1 hour
<ul style="list-style-type: none"> <li>- Review of tax/property maps, internet search, Secretary of State Website, CARA, RCRA Info</li> <li>- Directions</li> <li>- Prepare equipment, paperwork, camera</li> </ul>	
Travel:	2 hours
<ul style="list-style-type: none"> <li>- To and from facility (average)</li> </ul>	
On-site Review:	4 hours
Report Write up and Administrative	2 hours
<ul style="list-style-type: none"> <li>- Report Write up (with pictures) and coversheets</li> <li>- Entering data into databases</li> </ul>	
Notice of Violation (NOV) Preparation	2 hours
<ul style="list-style-type: none"> <li>- NOV preparation and review from Supervisor, Branch Head</li> <li>- Signature from Section Chief</li> <li>- Entering data into databases, mailing letters</li> </ul>	
Site Visit follow up:	8 hours
<ul style="list-style-type: none"> <li>- Travel</li> <li>- On-Site Review</li> <li>- Follow up report</li> <li>- Entering data into databases</li> </ul>	
<b>Totals:</b>	
Best Case: Compliant Inspection:	9 hours
Worst Case: NOV issued for non-compliance inspection and required follow up:	19 hours
Average time (this was the number used for the table):	14 hours

#### Cost/Time breakdown for Inspections:

- Cost per hour is \$35.00 (see page 12 for explanation)
- Average time (14 hours) at \$35.00/hour = \$490 per inspection
- It is estimated that there will be 50 inspections at facilities involving HSM per year.
  - 50 inspections is derived from a percentage of the total facilities that are currently inspected. It is estimated that 5% of the facilities will involve HSM.
- 50 Inspections x 14 hours/inspections = 700 hours total time spent (on table)
- Mileage for each inspection is calculated at an average of 100 miles per inspection. Travel reimbursement per mile is \$.575. 100 miles at \$.575/mile = \$57.50 for mileage/inspection
  - 100 miles was used for the distance since this is an approximate average distance an inspector drives to an inspection.

Final total cost for inspections involving HSM:	50 inspections at \$490/inspection = \$24,500
Plus cost to reimburse mileage:	50 inspections at \$57.50/inspection = \$2,875

**TOTAL cost:   \$27,375**

## Appendix A (cont.)

### Explanation of the \$35/hour Cost Estimate

Salary Estimates (with benefits included)

For Position

Inspector Salary (\$53,000 with 22 years of service):	\$32.25/hour
Chemist (\$53,000 with 28 years of service):	\$32.57/hour
Supervisor (\$55,000 with 22 years of service):	\$33.39/hour
Branch Head (\$76,000 with 31 years of service):	\$45.84/hour
Section Chief (\$86,000 with 20 years of service):	\$51.09/hour
Admin (\$45,000 with 20 years of service):	\$27.69/hour

The average amount of average time (12 hours) spent on Complaints was weighted from time each position spent on the Complaint from page 11:

<u>Position</u>	<u>Portion of Time (in hours) Spent on Complaint that is 12 hours time total for all positions</u>	<u>Salary/hour x Portion of Time Spent = Cost per hour</u>
Inspector:	(6.5 hrs/12hrs) = 0.54	\$17.42
Chemist:	(2hrs/12hrs) = 0.167	\$ 5.46
Supervisor:	(1hr/12hrs) = 0.083	\$ 2.77
Branch Head:	(1hr/12hrs) = 0.083	\$ 3.80
Section Chief:	(1hr/12hrs) = 0.083	\$4.24
Admin:	(.5hr/12hrs) = 0.04	\$1.11

**Total Cost per hour for Complaints = \$ 34.80 (rounded up to \$35)**

The average amount of average time (14 hours) spent for an Inspection was weighted from time each position spent on the Inspection from page 12:

<u>Position</u>	<u>Portion of Time (in hours) Spent on Inspections that is 14 hours time total for all positions</u>	<u>Salary/hour x Portion of Time Spent = Cost per hour</u>
Inspector:	(8.5 hrs/14hrs) = 0.61	\$19.67
Supervisor:	(3hr/14hrs) = 0.21	\$ 7.01
Branch Head:	(1hr/14hrs) = 0.071	\$ 3.25
Section Chief:	(1hr/14hrs) = 0.071	\$3.62
Admin:	(.5hr/14hrs) = 0.04	\$1.11

Total Cost per hour = \$ 34.66 (rounded up to \$35)

## Appendix B

### Development of Cost Estimates for Enforcement

Informal enforcement actions (Notice of Violation) are already accounted for in the Development of Cost Estimates for Inspections and Complaints section, so this section focuses on enforcement actions that result in a penalty.

The average of the Inspection and Investigation (I&I) costs from FY14 enforcements is \$1,184. When divided by the average cost per hour of time spent on enforcements (\$35/hour), the result shows the average number of hours spent on enforcements by staff other than the compliance order writer (i.e. Inspector, Chemist, Branch Head, Section Chief, Administrative staff).

$$\$1184 \div \$35.00/\text{hour} = 34 \text{ hours}$$

Based on an average of the past four compliance orders, the compliance order writer spends an average of 89.25 hours on a compliance order. This was rounded down to 89 hours.

Total time spent on a compliance order: 34 hours + 89 hours: 123 hours

Over the past five years the average number of enforcement cases per year is 6. The requirements for the management of secondary hazardous materials will be complicated and unfamiliar to the regulated entities, and specific conditions must be properly met in order to qualify for the exclusion that allows for hazardous waste to be managed as a HSM. Based on HWS review of enforcement history, HWS staff estimate that there will be enforcement cases involving the mismanagement of HSM. Due to the HWS efforts to provide education and outreach and because some of the instances will be addressed through issuing a Notice of Violation (see Appendix A), HWS staff estimate that there will be 2 enforcement cases per year.

The total time spent on enforcements per year is estimated to be 246 hours at a cost of \$35/hour.

Total cost for enforcements per year is: \$8,610

## Appendix C

### Development of Cost Estimates for Education and Outreach

To effectively implement the new rule and to adequately inform the entities that would benefit from the rule, the HWS would have to offer educational and informational materials that would require the time of staff. HWS cost estimates are based on previous experience related to educating regulated facilities and providing them with information about new and/or updated regulations. The cost estimates for education and outreach are described below:

Development of Educational Materials:		
	HOURS	TOTAL
- Guidance Documents/ Fact sheets		
o Summarizing Rule	8	
o Writing and proofing	16	
- Power Point for Presentation	16	40
Web Page		
- Summarize and collect documents	16	
- Format and add to existing web page	16	32
Education Presentation:		
- Practice	4	
- Presentations (5/ year)	5	9
o (other associated presentation costs are not considered as it is added to the existing annual training given by the HWS-Compliance Branch)		
<hr/>		
<b>Total:</b>		<b>81</b>

The 81 hours of staff time for education and outreach at the average of \$35/hour results in a cost to HWS of \$2,835.

## **Appendix D**

### **Development of Cost Estimates for Notification**

Based on HWS data and knowledge of the hazardous waste generator operations HWS staff estimate that there will be 144 facilities that will notify the HWS as a result of this rule. Each notification must be reviewed and administratively processed (entered into the HWS database, filed, etc.) by a Processing Assistant. This process is estimated to take a total of 36 hours at \$21.28 per hour, resulting in a cost to the Section of \$766. Currently, the regulated facilities must complete a notification when there is a change to their facility information. There will be no additional cost to the regulated facilities due to the implementation of the 2015 DSW Rule. There will only be additional cost to the HWS having to process the new notifications that are submitted.

## **Appendix E**

### **Development of Cost Estimates for Financial Assurance**

There will be an estimated two facilities that will require a financial assurance review by the HWS with this rule. Each financial assurance submittal must be reviewed by the Financial Analyst. This process is estimated to take 13 hours per application at \$34.30 per hour resulting in a cost to the Section of \$891.80. This cost is rounded up to \$892.

## **Appendix F**

### **Development of Cost Estimates for Variance Review**

A generator may apply for a variance from classifying material as a solid waste or apply for a non-waste determination. Based on five recent projects that are either exclusion requests or variance requests submitted for the 2014 year, the average review time is 144 hours. At a staff rate of \$35 per hour, the estimated review cost will be \$5,040 per request. Under the revised rule, variances and non-waste determinations are effective for 10 years. Previously approved requests will need to be reviewed every 10 years. The estimated cost does not include financial assurance review time. Based on past experience with variance requests and knowledge of the regulated facilities, HWS staff estimate there will be an increase of 4 variance requests and non-waste determinations per year for an annual cost to the section of \$20,160.

## **Appendix G**

### **Development of Cost Estimates for Verified Recycler Review**

Under the revised rule, a generator that wants to recycle its HSM without the material being classified as a hazardous waste must send its material to either a RCRA-permitted reclamation facility or to a verified recycler of HSM that has obtained a solid-waste variance from EPA or the authorized state. In order to obtain a verified recycler exclusion, a reclamation facility will need to provide the following information for review and approval: documentation of legitimate recycling, a closure plan, financial assurance, substantial compliance information, a contingency plan, documentation of training, documentation of proper management of residuals, steps taken to protect communities and reduce risk of releases, and information on proper HSM containment. The information needed is similar to some of the information required for a RCRA permit. Based on permit-review experience, HWS staff estimate that the review and approval process for a verified recycler will be approximately 320 hours, excluding review of financial assurance documentation. At a rate of \$35 per hour, the cost to the section is \$11,200 per review. The four Safety-Kleen commercial facilities may elect to become verified recyclers, and we believe that two non-RCRA permitted recycling facilities may elect to become verified recyclers. Variances granted for verified recyclers are effective for 10 years. Based on this, we estimate that the section could receive two verified recycler applications per year for a cost to the section of \$22,400 per year.

## **Appendix H**

### **Development of Cost Estimates for Commercial Facilities Inspections**

Four of the nine commercial facilities in North Carolina that primarily manage waste that may be defined as HSM under the new rule. With the new rule in place, if these facilities do not maintain their RCRA permit, there will be a reduction of required inspections of commercial facilities. Based on HWS staff knowledge of commercial facility operations and the mandated inspection requirements for these facilities, the estimated annual time spent on inspections at commercial facilities will be reduced by 1,135 hours. Based on an average compensation of the current commercial facilities inspectors of \$32, HWS staff estimate the total reduction in opportunity costs due to reduced commercial facilities inspections to be approximately \$36,000.

## Appendix I

### Development of Additional Cost Estimates for Environmental Impacts and Corrective Action

Because this rule only affects the definition of wastes, the same materials with the same hazards are still being managed at facilities. Because there is still potential for accidents or mismanagement of these hazardous materials, environmental contamination may occur. When environmental damages occur, they must be remediated or monitored if remediation is not possible. These costs are hard to quantify because of the huge variability in the potential extent of contamination, the hazard of the material being released, the type of environmental media contaminated (soil, groundwater, water, etc.). The responsiveness of the facility responsible is also a factor. If the facility is un-cooperative, enforcement, attorney fees etc. increase the cost. In developing the range of time and costs involved, we assumed that the facility was self-notifying (eliminated inspection costs) and cooperative (eliminating enforcement/attorney costs). Two scenarios are presented below, which represent the two major types of remediation/corrective actions scenarios the Section manages: sites with soil contamination only and sites with soil and groundwater contamination. The chart below shows how these costs were developed.

#### Soil contamination only

Note: If the Hazardous Waste Section had to be involved in organizing sampling, contamination removal, cleanup and soil remediation, the costs to the Section would be much higher.

Remediation plan review and comments	10 days
Revised plan review/ approval	10 days
Site visits during work	5 days
Report review and comments	5 days
Additional excavation/ final report review	<u>5 days</u>
<b>Total</b>	<b>35 days (280 hours) = \$9,800</b>

#### Release with soil and groundwater contamination

In addition to the above hours:

Plan review to identify extent of plume	10 days
Report review, additional wells needed	5 days
2 <sup>nd</sup> review additional wells needed	5 days
Site visits	5 days
Remediation plan review and comment	
Up to 4 weeks	20 days
System installation site visits	5 days
Review and comment initial report	<u>5 days</u>
<b>Total</b>	<b>55 days (440 hours) = \$15,400</b>

Quarterly monitoring report review and in-depth 5-year and final report review, Year 5	30 days (240 hours) = \$8,400
Total over 10 years	60 days (480 hours) = \$16,800
Total over 20 years	<b>120 days (960 hours) = \$33,600</b>

#### **Totals:**

Site with potential soil contamination only = 280 hours = **\$9,800**

Site with soil and groundwater contamination; soil remediation and a groundwater remediation installation over 2-5 years = 280+440+240= 720 hours = **\$25,200**

Site with soil and groundwater contamination and monitoring up to 20 years = 280+440+960 = 1,680 hours = **\$58,800.**

*Calculations based on \$35/hr. personnel cost from Appendix A and assuming no increases in personnel costs over time.*

## **Appendix J**

### **Development of Additional Cost Estimates for Tax Certification**

There is not expected to be a change in the type, number, or time involved in any tax certification request from the implementation of this rule. If there were any new applications, it takes an average of 15 hours to review and either approve or disapprove an application.

## Appendix K

### Development of Loss-of-Fees Estimates

Under RCRA, businesses are categorized and regulated by the quantity of hazardous wastes they generate. This rule would allow materials previously classified as hazardous waste to now be classified as HSM instead. This will allow a business to recalculate the quantity of waste they generate and thus change (reduce) their generator category. There are three generator categories: Large Quantity Generator (LQG), Small Quantity Generator (SQG) and Conditionally Exempt Small Quantity Generator (CESQG). The HWS charges a fee based on a business's generator category. LQGs pay \$1,400 per year and SQGs must pay \$175 per year and there is no fee for CESQGs. The annual reports were reviewed for the number of facilities and the quantities of wastes generated in NC that could be affected by this rule. We estimate that 90 SQGs could change status to CESQG and 50 LQG could change to SQG status. The potential loss to the Section is \$77,000.

#### Loss of Tonnage Fees

The HWS reviewed the latest Biennial Hazardous Waste Report (2013) to determine the quantities of wastes that could be affected by this rule. Wastes that were reported under the codes for metal recovery (H010), solvent recovery (H020) and "other recovery or reclamation for reuse" (H039) were reviewed and totaled. This resulted in 45,200 tons of material generated annually that could potentially be removed from the definition of hazardous waste. The HWS charges a fee of \$0.70 per ton of waste generated up to a maximum of 25,000 tons. The potential loss to the Section is \$31,640.

Some examples of hazardous amounts and tonnage fees from the 2013 Biennial Hazardous Waste Report for the largest hazardous waste generators in the state include the following: Nucor Steel Hertford County was the largest generator of these wastes generating in excess of 32,603 tons and were billed for 25,000 tons; Ameristeel generated 4,670 tons; and DSM Pharmaceuticals and Sherwin Williams combined generated 4,504 tons of solvent waste.

#### Loss of Fees from Commercial Facilities

Four of the nine commercial facilities in North Carolina primarily manage waste that may be defined as HSM under the new rule. With the new rule in place, the loss in tonnage fees to the Section from these facilities is expected to be approximately \$5,000 per year. If these facilities do not maintain their RCRA permit, the monthly fee will be eliminated for a loss to the Section of \$64,000 per year.

## Appendix L

### Current State Adoption Plans

Below is the status of the adoption of the 2015 DSW Rule from Association of State and Territorial Solid Waste Management Officials. This information is subject to change but was current as of September 24, 2015.

- EPA administers the program – 2015 DSW Rule already in place: Alaska, Iowa
- 2015 DSW Rule already adopted: New Jersey, Pennsylvania
- Plan to adopt 2015 DSW Rule in full:
  - By December 2015: Tennessee, North Dakota
  - By July 2016: Georgia, Illinois, Oklahoma, Texas, Wisconsin, West Virginia
  - By December 2016: Kentucky, Indiana, New Mexico, Nevada, Montana, South Dakota
  - By September 2017: Arkansas, Idaho, Louisiana
  - By December 2018: Ohio
  - No time frame yet: Alabama, Florida, Hawaii, Nebraska
- Plan to adopt in full (with modifications):
  - By July 2016: North Carolina
  - No time frame yet: Virginia, Minnesota
- Plan to adopt only more stringent parts:
  - By December 2017: Vermont
  - No time frame yet: California, Connecticut, District of Columbia, Massachusetts, Maine, New Hampshire, Rhode Island
- Still deciding what parts of the rule to adopt: Arizona, Colorado, Delaware, Kansas, Guam, Maryland, Michigan, Missouri, Mississippi, New York, Oregon, South Carolina, Utah, Wyoming

## **Appendix M**

### Proposed Amendments

1 15A NCAC 13A .0102 is proposed as a permanent rule as follows:  
2

3 **15A NCAC 13A .0102 DEFINITIONS**

4 (a) The definitions contained in G.S. 130A-290 apply to this Subchapter.

5 (b) 40 CFR 260.10 (Subpart B), Definitions, is incorporated by reference, including subsequent amendments and  
6 editions except that the Definitions for "Disposal", "Landfill", "Management or hazardous waste management",  
7 "Person", "Sludge", "Storage", and "Treatment" are defined by G.S. 130A-290 and are not incorporated by ~~reference,~~  
8 reference and the ~~definitions~~ definition in 260.10 for "Contained" ~~"Facility", "Transfer Facility", "Hazardous~~  
9 ~~secondary material", "Hazardous secondary material generated and reclaimed under the control of the generator",~~  
10 ~~"Hazardous secondary material generator", "Intermediate facility", and "Land based unit" are not incorporated by~~  
11 ~~reference~~ is not incorporated by reference.

12 (c) ~~The following definitions shall be substituted for "Facility" and "Transfer Facility":~~ The following definition shall  
13 be substituted for "Contained":

14 (1) ~~"Facility" means:~~

15 (A) ~~All contiguous land, structures, other appurtenances, and improvements on the land, used~~  
16 ~~for treating, storing, or disposing of hazardous waste. A facility may consist of several~~  
17 ~~treatment, storage, or disposal operational units (e.g., one or more landfills, surface~~  
18 ~~impoundments, or combinations of them).~~

19 (B) ~~For the purpose of implementing corrective action under 40 CFR 264.101, all contiguous~~  
20 ~~property under the control of the owner or operator seeking a permit under Subtitle C of~~  
21 ~~RCRA. This definition also applies to facilities implementing corrective action under~~  
22 ~~RCRA Section 3008(h).~~

23 (C) ~~Notwithstanding Part (B) of this definition, a remediation waste management site is not a~~  
24 ~~facility that is subject to 40 CFR 264.101, but is subject to corrective action requirements~~  
25 ~~if the site is located within such a facility.~~

26 (2) ~~"Transfer facility" means any transportation related facility including loading docks, parking areas,~~  
27 ~~storage areas and other similar areas where shipments of hazardous waste are held during the normal~~  
28 ~~course of transportation.~~

29 (1) "Contained" means held in a unit (including a land-based unit as defined in this subpart) that meets  
30 the following criteria:

31 (A) The unit is in good condition, with no leaks or other continuing or intermittent unpermitted  
32 releases of the hazardous secondary materials or hazardous constituents originating from  
33 the hazardous secondary materials to the environment, and is designed, as appropriate for  
34 the hazardous secondary materials, to prevent releases of hazardous secondary materials to  
35 the environment. Unpermitted releases are releases that are not covered by a permit (such  
36 as a permit to discharge to water or air) and may include, but are not limited to, releases  
37 through surface transport by precipitation

1 runoff, releases to soil and groundwater, windblown dust, fugitive air emissions, and  
2 catastrophic unit failures;

3 (B) The unit is properly labeled or otherwise has a system (such as a log) to immediately  
4 identify the hazardous secondary materials in the unit; and

5 (C) The unit holds hazardous secondary materials that are compatible with other hazardous  
6 secondary materials placed in the unit and is compatible with the materials used to  
7 construct the unit and addresses any potential risks of fires or explosions.

8 (D) Hazardous secondary materials in units that meet the applicable requirements of 40 CFR  
9 parts 264 or 265 are presumptively contained.

10 (d) The following additional definitions shall apply throughout this Subchapter:

11 (1) "Section" means the Hazardous Waste Section, in the Division of Waste Management, Department  
12 of ~~Environment and Natural Resources~~ Environmental Quality.

13 (2) The "Department" means the Department of Environment ~~and Natural Resources (DENR)~~  
14 Environmental Quality (DEQ).

15 (3) "Division" means the Division of Waste Management (DWM).

16 (4) "Long Term Storage" means the containment of hazardous waste for an indefinite period of time in  
17 a facility designed to be closed with the hazardous waste in place.

18 (5) "Off-site Recycling Facility" means any facility that receives shipments of hazardous waste from  
19 off-site to be recycled or processed for recycling through any process conducted at the facility, but  
20 does not include any facility owned or operated by a generator of hazardous waste solely to  
21 recycle their own waste.

22  
23 *History Note: Authority G.S. 130A 294(c); 150B-21.6;*  
24 *Eff. September 1, 1979;*  
25 *Amended Eff. June 1, 1989; June 1, 1988; February 1, 1987; October 1, 1986;*  
26 *Transferred and Recodified from 10 NCAC 10F .0002 Eff. April 4, 1990;*  
27 *Amended Eff. April 1, 1993; October 1, 1990; August 1, 1990;*  
28 *Recodified from 15A NCAC 13A .0002 Eff. December 20, 1996;*  
29 *Amended Eff. August 1, 2000;*  
30 *Temporary Amendment Eff. January 1, 2009;*  
31 *Amended Eff. July 1, 2010.*  
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1 15A NCAC 13A .0103 is proposed as a permanent rule as follows:  
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3 **15A NCAC 13A .0103 PETITIONS PART 260**

4 (a) All rulemaking petitions for changes in this Subchapter shall be made in accordance with ~~15A NCAC 24B~~  
5 ~~.0101~~, 15A NCAC 02I .0501.

6 (b) In applying the federal requirements incorporated by reference in this Rule, "~~15A NCAC 24B .0101~~" 15A NCAC  
7 02I .0501 shall be substituted for references to 40 CFR 260.20.

8 (c) 40 CFR 260.21 through 260.43 (Subpart C), "Rulemaking Petitions," are incorporated by reference including  
9 subsequent amendments and editions, editions. ~~except that 40 CFR 260.30(d), 260.30(e), 260.33(e), 260.34, 260.42~~  
10 ~~and 260.43 are not incorporated by reference.~~

11

12 *History Note: Authority G.S. 130A-294(c); 150B-21.6;*

13 *Eff. November 19, 1980;*

14 *Amended Eff. June 1, 1988; May 1, 1987; January 1, 1986; October 1, 1985;*

15 *Transferred and Recodified from 10 NCAC 10F .0028 Eff. April 4, 1990;*

16 *Amended Eff. April 1, 1993; November 1, 1991; October 1, 1990;*

17 *Recodified from 15A NCAC 13A .0003 Eff. December 20, 1996;*

18 *Amended Eff. August 1, 2000;*

19 *Temporary Amendment Eff. January 1, 2009;*

20 *Amended Eff. July 1, 2010.*

21

1 15A NCAC 13A .0106 is proposed as permanent rule as follows:

2  
3 **15A NCAC 13A .0106 IDENTIFICATION AND LISTING OF HAZARDOUS WASTES - PART 261**

4 (a) 40 CFR 261.1 through 261.9 (Subpart A), "General", are incorporated by reference including subsequent  
5 amendments and ~~editions, editions, except that 40 CFR 261.2(a)(2)(ii) and 40 CFR 261.4(a)(23), 261.4(a)(24), and~~  
6 ~~261.4(a)(25) are not incorporated by reference.~~

7 (b) 40 CFR 261.10 through 261.11 (Subpart B), "Criteria for Identifying the Characteristics of Hazardous Waste and  
8 for Listing Hazardous Waste", are incorporated by reference including subsequent amendments and editions.

9 (c) 40 CFR 261.20 through 261.24 (Subpart C), "Characteristics of Hazardous Waste" are incorporated by reference  
10 including subsequent amendments and editions.

11 (d) 40 CFR 261.30 through 261.37 (Subpart D), "Lists of Hazardous Wastes" are incorporated by reference including  
12 subsequent amendments and editions.

13 (e) 40 CFR 261.38 through 261.41 (Subpart E), "Exclusions/Exemptions" are incorporated by reference including  
14 subsequent amendments and editions.

15 (f) 40 CFR 261.140 through 261.151 (Subpart H), "Financial Requirements for Management of Excluded Hazardous  
16 Secondary Materials" are incorporated by reference including subsequent amendments and editions.

17 (g) 40 CFR 261.170 through 261.179 (Subpart I), "Use and Management of Containers" are incorporated by reference  
18 including subsequent amendments and editions.

19 (h) 40 CFR 261.190 through 261.200 (Subpart J) "Tank Systems" are incorporated by reference including subsequent  
20 amendments and editions.

21 (i) 40 CFR 261.400 through 261.420 (Subpart M), "Emergency Preparedness and Response for Management of  
22 Excluded Hazardous Secondary Materials" are incorporated by reference including subsequent amendments and  
23 editions.

24 (j) 40 CFR 261.1030 through 261.1049 (Subpart AA) "Air Emission Standards for Process Vents", are incorporated  
25 by reference including subsequent amendments and editions.

26 (k) 40 CFR 261.1050 through 261.1079 (Subpart BB) "Air Emission Standards for Equipment Leaks" are incorporated  
27 by reference including subsequent amendments and editions.

28 (l) 40 CFR 261.1080 through 261.1090 (Subpart CC) "Air Emission Standards for Tanks and Containers" are  
29 incorporated by reference including subsequent amendments and editions.

30 ~~(m)~~ (m) The Appendices to 40 CFR Part 261 are incorporated by reference including subsequent amendments and  
31 editions.

32  
33 *History Note: Authority G.S. 130A-294(c); 150B-21.6;*

34 *Eff. November 19, 1980;*

35 *Amended Eff. June 1, 1988; February 1, 1988; December 1, 1987;*

36 *August 1, 1987;*

37 *Transferred and Recodified from 10 NCAC 10F .0029 Eff. April 4, 1990;*

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*Recodified from 15A NCAC 13A .0007 Eff. August 30, 1990;*  
*Amended Eff. January 1, 1996; April 1, 1993; February 1, 1992;*  
*December 1, 1990;*  
*Recodified from 15A NCAC 13A .0006 Eff. December 20, 1996;*  
*Amended Eff. April 1, 2007; August 1, 2000;*  
*Temporary Amendment Eff. January 1, 2009;*  
*Amended Eff. July 1, 2010*