

1                                   **SECTION .2500 –MERCURY RULES FOR ELECTRIC GENERATORS**

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15A NCAC 02D .2501 is proposed for adoption as follows:

**15A NCAC 02D .2501 PURPOSE AND APPLICABILITY**

(a) Purpose. The purpose of this Section is to control mercury emissions from coal-fired electric steam generating units and to comply with the mercury emission caps of 1.133 tons per year between 2010 and 2017 inclusive and 0.447 tons per year for 2018 and thereafter as set out in 40 CFR 60.24.

(b) Applicability. This Section applies to:

- (1) any stationary coal-fired boiler or coal-gasification unit servicing any stationary combustion turbine serving at any time, since the start-up of a unit’s combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale;
- (2) for a unit that qualifies as a cogeneration unit during the 12-month period starting on the date that the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit serving at any time a generator with nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit’s potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale. If a unit that qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be subject to Subparagraph (1) of this Paragraph starting on the day on which the unit first no longer qualifies as a cogeneration unit; or
- (3) the sources identified in the table in Rule .2503, of this Section.

(c) Retired unit Exemption. Any unit that is permanently retired shall be exempted from the annual trading program if it complies with the provisions of 40 CFR 60.4105.

(d) Effect on other authorities. No provision of this Section, any application submitted or any permit issued pursuant to Rule .2504 of this Section, or any exemption under 40 CFR 60.4105, shall be construed as exempting any source or facility covered under this Section or the owner or operator or designated representative of any source or facility covered under this Section from complying with any other requirements of this Subchapter or Subchapter 15A NCAC 2Q.

(e) Additional controls. The Commission shall require additional reductions in mercury emissions when needed to reduce mercury concentrations to levels that do not cause or contribute to mercury-related health problems.

History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);

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15A NCAC 02D .2502 is proposed for adoption as follows:

**15A NCAC 02D .2502 DEFINITIONS**

(a) For the purpose of this Section, the definitions in 40 CFR 60.4102, shall apply.

(b) For the purpose of this Section, the abbreviations and acronyms listed in 40 CFR 60.4103 shall apply.

History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);

Eff.

15A NCAC 02D .2503 is proposed for adoption as follows:

**15A NCAC 02D .2503 MERCURY EMISSION**

(a) Allocations. The table in this Paragraph contains allocations in ounces of total mercury.

<u>FACILITY</u>	<u>SOURCE</u>	<u>ALLOCATION FOR 2010 – 2017 (ounces)</u>	<u>ALLOCATION FOR 2018 AND LATER (ounces)</u>
<u>Duke Energy, Belews Creek</u>	<u>1</u>	<u>3595</u>	<u>1419</u>
	<u>2</u>	<u>3356</u>	<u>1325</u>
<u>Duke Energy, Buck</u>	<u>5</u>	<u>55</u>	<u>22</u>
	<u>6</u>	<u>57</u>	<u>22</u>
	<u>7</u>	<u>62</u>	<u>24</u>
	<u>8</u>	<u>310</u>	<u>122</u>
	<u>9</u>	<u>345</u>	<u>136</u>
<u>Duke Energy, Cliffside</u>	<u>1</u>	<u>64</u>	<u>25</u>
	<u>2</u>	<u>65</u>	<u>26</u>
	<u>3</u>	<u>104</u>	<u>41</u>
	<u>4</u>	<u>90</u>	<u>36</u>

**AGENDA ITEM 10**

<u>FACILITY</u>	<u>SOURCE</u>	<u>ALLOCATION FOR 2010 – 2017 (ounces)</u>	<u>ALLOCATION FOR 2018 AND LATER (ounces)</u>
	<u>5</u>	<u>1567</u>	<u>619</u>
<u>Duke Energy, Dan River</u>	<u>1</u>	<u>107</u>	<u>42</u>
	<u>2</u>	<u>118</u>	<u>47</u>
	<u>3</u>	<u>264</u>	<u>104</u>
<u>Duke Energy, G G Allen</u>	<u>1</u>	<u>365</u>	<u>144</u>
	<u>2</u>	<u>339</u>	<u>134</u>
	<u>3</u>	<u>628</u>	<u>248</u>
	<u>4</u>	<u>684</u>	<u>270</u>
	<u>5</u>	<u>642</u>	<u>254</u>
<u>Duke Energy, Marshall</u>	<u>1</u>	<u>1084</u>	<u>428</u>
	<u>2</u>	<u>1134</u>	<u>448</u>
	<u>3</u>	<u>1880</u>	<u>742</u>
	<u>4</u>	<u>1917</u>	<u>757</u>
<u>Duke Energy, Riverbend</u>	<u>7</u>	<u>195</u>	<u>77</u>
	<u>8</u>	<u>188</u>	<u>74</u>
	<u>9</u>	<u>340</u>	<u>134</u>
	<u>10</u>	<u>337</u>	<u>133</u>
<u>Progress Energy, Asheville</u>	<u>1</u>	<u>649</u>	<u>256</u>
	<u>2</u>	<u>601</u>	<u>237</u>
<u>Progress Energy, Cape Fear</u>	<u>5</u>	<u>362</u>	<u>143</u>
	<u>6</u>	<u>426</u>	<u>168</u>

# AGENDA ITEM 10

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<u>Progress Energy, L V Sutton</u>	1	<u>204</u>	<u>80</u>
	2	<u>207</u>	<u>82</u>
	3	<u>946</u>	<u>373</u>
<u>Progress Energy, Lee</u>	1	<u>200</u>	<u>79</u>
	2	<u>197</u>	<u>78</u>
	3	<u>634</u>	<u>250</u>
<u>Progress Energy, Mayo</u>	1A	<u>1241</u>	<u>490</u>
	1B	<u>1205</u>	<u>476</u>
<u>Progress Energy, Roxboro</u>	1	<u>1087</u>	<u>429</u>
	2	<u>2017</u>	<u>796</u>
	3A	<u>1035</u>	<u>409</u>
	3B	<u>1053</u>	<u>416</u>
	4A	<u>1031</u>	<u>407</u>
	4B	<u>958</u>	<u>378</u>
<u>Progress Energy, W H Weatherspoon</u>	1	<u>117</u>	<u>46</u>
	2	<u>116</u>	<u>46</u>
	3	<u>185</u>	<u>73</u>
<u>Dwayne Collier Battle Cogeneration Facility</u>	1A	<u>119</u>	<u>47</u>
	1B	<u>110</u>	<u>43</u>
	2A	<u>111</u>	<u>44</u>
	2B	<u>113</u>	<u>45</u>
<u>Elizabethtown Power</u>	1	<u>29</u>	<u>11</u>
	2	<u>27</u>	<u>11</u>
<u>Lumberton Power</u>	1	<u>32</u>	<u>13</u>
	2	<u>54</u>	<u>21</u>

<u>Primary Energy, Roxboro</u>	<u>1</u>	<u>100</u>	<u>40</u>
<u>Primary Energy, Southport</u>	<u>1</u>	<u>123</u>	<u>48</u>
	<u>2</u>	<u>124</u>	<u>48</u>
<u>Westmoreland-LG&amp;E Partners</u>	<u>1</u>	<u>512</u>	<u>202</u>
<u>Roanoke Valley</u>	<u>2</u>	<u>179</u>	<u>71</u>

1 (b) The allocations in the table in Paragraph (a) of this Rule shall be reduced under Rule .2508 of  
 2 this Section by:

3       (1) five percent in 2010 through 2017 and

4       (2) three percent in 2018 and thereafter.

5 (c) Compliance. The emissions of mercury of a unit listed in the table in Paragraph (a) of this  
 6 Rule shall not exceed the number of allowances that it has in its compliance account established  
 7 under Rule .2510 of this Section.

8 (d) Emission measurement requirements. The emissions measurements recorded and reported  
 9 according to 40 CFR 60.4170 through 60.4176 shall be used to determine compliance by each  
 10 source identified in this rule with its emissions limitation according to 40 CFR 60.4106(c).

11 (e) Excess emission requirements. The provisions of 40 CFR 60.4106(d) shall be used for  
 12 excess emissions.

13 (f) Liability. The owner or operator of any source covered under this Section shall be subject to  
 14 the provisions of 40 CFR 60.4106(f).

15 (g) Modification and reconstruction, replacement, retirement, or change of ownership. The  
 16 modification or reconstruction of a source covered under this Rule shall not make that source a  
 17 “new” source for the purposes of this Section; it could be considered a new source under Rule  
 18 15A NCAC 2D .0524, New Source Performance Standards, or 40 CFR Part 60. A source that is  
 19 modified or reconstructed shall retain its emission allocation under Paragraph (a) of this Rule. If  
 20 one or more sources covered under this Rule is replaced, the new source shall receive the  
 21 allocation of the source, or sources, that it replaces instead of an allocation under Rule .2508 of  
 22 this Section. If the owner of a source changes, the emission allocations under this Rule and  
 23 revised emission allocations made under Rule .2509 of this Section shall remain with the source.  
 24 If a source is retired, the owner or operator of the source shall follow the procedures in 40 CFR  
 25 60.4105. The allocations of a retired source shall remain with the owner or operator of the retired  
 26 source until a reallocation occurs under Rule .2509 of this Section when the allocation shall be  
 27 removed and given to other sources if the retired source is still retired.

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29 History Note: Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10);

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15A NCAC 02D .2504 is proposed for adoption as follows:

**15A NCAC 02D .2504 PERMITTING**

- (a) The owner or operator of any source covered under this Section shall submit permits applications to comply with the requirements of this Section following the procedures and requirements in 40 CFR 60.4106(a), 60.4121, and 60.4122 and in Subchapter 15A NCAC 02Q.
- (b) The Director shall review applications submitted under Paragraph (a) of this Rule and issue permits for compliance with this Section following the procedures and requirements in 40 CFR 60.4106(a), 60.4120, 60.4123, and 60.4124 and in Subchapter 15A NCAC 02Q.

*History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10); 143-215.108; Eff.*

15A NCAC 02D .2505 is proposed for adoption as follows:

**15A NCAC 02D .2505 MONITORING, REPORTING, AND RECORDKEEPING**

- (a) The owner or operator of a source covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 60.4106(b) and (e) and in 40 CFR 60.4170 through 60.4176.
- (b) To approve or disapprove monitors used to show compliance with Rule .2503 of this Section, the Division shall follow the procedures in 40 CFR 60.4171.

*History Note: Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10); Eff.*

15A NCAC 02D .2506 is proposed for adoption as follows:

**15A NCAC 02D .2506 DESIGNATED REPRESENTATIVE**

- (a) Designated representative. The owner or operator of any source covered under this Section shall select a designated representative according to 40 CFR 6.4110. The designated representative shall have the responsibilities and duties set out in 40 CFR 60.4110.
- (b) Alternate designated representative. The owner or operator of any source covered under this Section shall select an alternate designated representative according to 40 CFR 60.4111. The alternate designated representative shall have the responsibilities and duties set out in 40 CFR 60.4111.

1 (c) Changing designated representative and alternate designated representative. The owner or  
2 operator of any source covered under this Section may change the designated representative or  
3 the alternate designated representative using 40 CFR 60.4112.

4 (d) Changes in owners and operators. Whenever the owner or operator of a source covered  
5 under this Section changes, the provisions in 40 CFR 60.4112(c) shall be followed.

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7 History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);

8 Eff.

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11 15A NCAC 02D .2507 is proposed for adoption as follows:

12 **15A NCAC 02D .2507 COMPUTATION OF TIME**

13 Time periods shall be determined as described in 40 CFR 60.4107.

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15 History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);

16 Eff.

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19 15A NCAC 02D .2508 is proposed for adoption as follows:

20 **15A NCAC 02D .2508 NEW SOURCE GROWTH**

21 (a) The procedures in 40 CFR 60.4142(c) shall be used to create allocations for sources that  
22 commenced construction on or after January 1, 2001 and are not listed in the table in Rule .2503  
23 of this Section.

24 (b) The number of allowances allocated to a source under this Rule shall not exceed the source's  
25 actual emissions of mercury.

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27 History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);

28 Eff.

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31 15A NCAC 02D .2509 is proposed for adoption as follows:

32 **15A NCAC 02D .2509 PERIODIC REVIEW AND REALLOCATIONS**

33 (a) In 2010 and every five years thereafter, the Environmental Management Commission shall  
34 review the emission allocations of sources covered under Rules .2503 of this Section and new  
35 sources covered under this Section that have been permitted but are not named in Rule .2503 of  
36 this Section and decide if any revisions are needed. In making this decision the Environmental  
37 Management Commission shall consider the following:

- 1           (1) the size of the allocation pool for new source growth under Rule .2508 of this
- 2           Section;
- 3           (2) the amount of emissions from sources receiving allocations under Rule .2508 of
- 4           this Section;
- 5           (3) the amount of emissions allocations available through the trading program under
- 6           Rule .2510 of this Section;
- 7           (4) the impact of reallocation on existing sources;
- 8           (5) the impact of reallocations on sources receiving allocations under Rule .2508 of
- 9           this Section;
- 10          (6) impact of future growth; and
- 11          (7) other relevant information on the impacts of reallocation.

12 (b) The Division of Air Quality shall report to the Commission in July 2008, July 2011, and July  
13 2013. Each report shall provide the Commission and public updated information on the regulation  
14 of mercury emissions. The 2008 and 2011 reports shall include the information under  
15 Subparagraphs (1) through (12) of this Paragraph, where available. The 2013 report shall include  
16 all the following information:

- 17           (1) actual emissions from sources covered under this Section since 2010 and all
- 18           other principal sources of mercury;
- 19           (2) estimates of the amounts of the different species of mercury being emitted;
- 20           (3) a mercury balance for North Carolina, including imported, exported, and in-state
- 21           mercury emissions and the fate and transport of mercury in the air and waters of
- 22           the State;
- 23           (4) projected mercury emissions for 2015, 2018, 2023, and 2025;
- 24           (5) the amount of new source growth and projected new source growth through
- 25           2025;
- 26           (6) the state of mercury control technology, including technological and economic
- 27           feasibility;
- 28           (7) an assessment of cost and performance of mercury control technology as it may
- 29           be applied to uncontrolled sources of mercury in North Carolina, including both
- 30           coal-fired electric steam generating units and other sources that emit mercury
- 31           and including as assessment of technology used to satisfy requirements of the
- 32           Clean Smokestacks Act (G.S. 143-215.107D) and other requirements for
- 33           controlling nitrogen oxide and sulfur dioxide emissions.
- 34           (8) a recommendation of mercury control technology, including the cost and
- 35           expected reductions in mercury;

- 1           (9) results of studies and monitoring on mercury in fish in North Carolina, including
- 2           an evaluation of the impact of reduced mercury emissions from coal-fired power
- 3           plants on the levels of mercury observed in fish tissue;
- 4           (10) a summary of mercury-related health problems in North Carolina, including
- 5           accumulation of mercury in humans and mercury exposures from non-air emitting
- 6           sources; and
- 7           (11) results of studies on mercury deposition, applying monitoring techniques, back
- 8           trajectory analysis, source attribution methodology, and any other relevant
- 9           methodologies to assess the role of coal-fired units in North Carolina deposition.
- 10          (12) recommendations, if any, on rule revisions.

11 Based on the 2013 report, the Commission shall determine mercury control requirements for the  
12 units identified in paragraphs (a) and (c) of Rule .2511 and decide if any other rule changes are  
13 needed.

14 (c) Any changes made as a result of the review under Paragraph (a) or report under Paragraph  
15 (b) of this Section shall be made through rulemaking.

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17 History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);  
18 Eff.

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21 15A NCAC 02D .2510 is proposed for adoption as follows:

22 **15A NCAC 02D .2510 TRADING PROGRAM AND BANKING**

- 23 (a) EPA to administer. The United States Environmental Protection Agency (EPA) shall
- 24 administer the allowance tracking system according to the procedures in 40 CFR 60.4151
- 25 through 60.4162.
- 26 (b) Compliance account. The owner or operator of each source covered under this Section shall
- 27 have a compliance account in the EPA administered tracking system that satisfies the
- 28 requirements of:40 CFR 60.4151(a).
- 29 (c) General account. Any person may apply to open a general account to hold and transfer
- 30 allowances by using the procedures and meeting the requirements in 40 CFR 60.4151(b) and
- 31 may close that account using the procedures in 40 CFR 60.4157.
- 32 (d) Allowance transfers. Any person who has a compliance or general account established under
- 33 40 CFR 60.4151 may transfer allowances using the procedures in 40 CFR 60.4160.
- 34 (e) Submittal of information. Persons with accounts shall submit information to EPA following the
- 35 requirement of 40 CFR 60.4152.
- 36 (f) Banking. Any person who has a compliance account or a general account may bank
- 37 allowances for future use or transfer under 40 CFR 60.4155.

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*History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);  
Eff.*

15A NCAC 02D .2511 is proposed for adoption as follows:

**15A NCAC 02D .2511 MERCURY EMISSION LIMITS**

(a) Duke Energy. With the exception allowed under Paragraph (b) of this Rule, the owner or operator of the facilities listed in this Paragraph shall install and operate mercury control technology in compliance with mercury control requirements determined by the Commission under Rule .2509 of this Section on eight of the units listed in this Paragraph by December 31, 2017. Duke Energy shall not operate any unit listed in this Paragraph after December 31, 2022 unless mercury control technology has been installed on each unit and is operating as permitted. The owner or operator shall determine the eight units on which to install and operate mercury control technology by December 31, 2017.

- (1) Duke Energy, Buck units 5, 6, 7, 8, and 9;
- (2) Duke Energy, Cliffside units 1, 2, 3, and 4;
- (3) Duke Energy, Dan River units 1, 2, and 3;
- (4) Duke Energy, Riverbend units 7, 8, 9, and 10.

(b) Duke Energy alternative. Duke Energy may propose mercury reductions from one or more of the Belews Creek; GG Allen and Marshall units in lieu of the installation of mercury control technology on a unit regulated under paragraph (a) of this Rule (a "regulated unit"). The Director shall approve the alternative mercury reductions upon finding that they will result in at least 110 percent of the reductions in mercury emissions that would be achieved through control of the regulated unit in compliance with the mercury control requirements adopted by the Commission.

(c) Progress Energy. With the exception allowed under Paragraph (d) of this Rule, the owner or operator of the facilities listed in this Paragraph shall install and operate mercury control technology in compliance with mercury control requirements determined by the Commission under Rule .2509 of this Section on four of the units listed in this Paragraph by December 31, 2017. Progress Energy shall not operate any unit listed in this Paragraph after December 31, 2022 unless mercury control technology has been installed on each unit and is operating as permitted. The owner or operator shall determine the four units on which to install and operate mercury control technology by December 31, 2017.

- (1) Progress Energy, L. V. Sutton units 1 and 2;
- (2) Progress Energy, Lee units 1, 2, and 3;
- (3) Progress Energy, W. H. Weatherspoon units 1, 2, and 3.

1 (d) Progress Energy alternative. Progress Energy may propose mercury reductions from one or  
2 more of the Asheville, Cape Fear, Mayo, and Roxboro units in lieu of the installation of mercury  
3 control technology on a unit regulated under paragraph (c) of this Rule (a "regulated unit"). The  
4 Director shall approve the alternative mercury reductions upon finding that it will result in at least  
5 110 percent of the reductions in mercury emissions that would be achieved through control of the  
6 regulated unit in compliance with the mercury control requirements adopted by the Commission.

7 (e) Source testing. Duke Energy and Progress Energy shall each test several of its boilers in  
8 North Carolina, but no less than four boilers in North Carolina each, for mercury emissions that  
9 represent boiler types and control device configurations in North Carolina. The tests shall be  
10 conducted before installation of sulfur dioxide control devices and after the installation of sulfur  
11 dioxide control devices. All testing shall occur between effective date of this Rule and January 1,  
12 2009. Either continuous emission monitors that comply with Rule .2505 of this Section or Method  
13 101 or 102 of 40 CFR Part 61 Appendix B shall be used to measure mercury emissions. Each  
14 company shall submit a testing plan within nine months from the effective date of this Rule to the  
15 Director for his approval. The plan shall include:

16 (1) the identity of the boilers to be tested and an explanation of why they were  
17 selected.

18 (2) a schedule for testing the boilers, and

19 (3) a testing protocol including testing procedures.

20 (f) Approval of testing. The Director shall approve the testing plan submitted under Paragraph (e)  
21 of this Rule if he finds that:

22 (1) the elements required under Paragraph (e) of this Rule have been submitted,

23 (2) the boilers selected represent the boiler types and control device configurations  
24 that the company has in North Carolina, and

25 (3) the testing protocol and procedures are appropriate for the testing to be done.

26 (g) New sources.

27 **Option 1:**

28 Any coal-fired electric steam generating unit to which this Section applies and which begins  
29 operation after January 30, 2004 shall reduce its emissions of total mercury to no more than  
30 0.021 pounds per gigawatt hour on an output basis.

32 **Option 2:**

33 Any coal-fired electric steam generating unit to which this Section applies and which begins  
34 construction after the effective date of this Rule shall:

35 (1) reduce its emissions of total mercury by 90 percent by weight across the control  
36 device as calculated under Paragraph (b) of this Rule or to no more than 0.0060  
37 pounds per gigawatt hour averaged over a 12 month rolling average, and

1           (2) have enough allowances in its compliance account established under Rule .2510  
2           of this Section to offset its actual emissions of mercury.

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4   **Option 3:**

5   Any coal-fired electric steam generating unit to which this Rule applies and which begins  
6   construction after the effective date of this Rule shall install and operate best available control  
7   technology for mercury. For purposes of this Rule, “best available control technology” means an  
8   emissions limitation based on the maximum degree of reduction of mercury from coal-fired  
9   electric steam generating units that is achievable for such units taking into account energy,  
10 environmental, and economic impacts and other costs. The Director shall identify best available  
11 control technology on a case by case basis. In no event shall application of best available control  
12 technology result in emissions of any pollutant which would exceed the emissions allowed by any  
13 applicable standard under 40 CFR parts 60, 61, or 63.

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15   History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5);;

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