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STATE OF ILLINOIS
Pollution Control Board

ILLINOIS REGISTER

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED RULES

- 1) Heading of the Part: Procedures for Reporting Releases of Radionuclides at Nuclear Power Plants
- 2) Code Citation: 35 Ill. Adm. Code 1010
- 3)

<u>Section Numbers:</u>	<u>Proposed Action:</u>
1010.100	New Section
1010.102	New Section
1010.104	New Section
1010.106	New Section
1010.108	New Section
1010.200	New Section
1010.202	New Section
1010.204	New Section
- 4) Statutory Authority: 415 ILCS 5/13.6
- 5) A Complete Description of the Subjects and Issues Involved: For a more detailed description of this rulemaking see the Board's December 6, 2007 opinion and order in Procedures Required by P. A. 94-849 for Reporting Releases of Radionuclides at Nuclear Power Plants: New 35 Ill. Adm. Code 1010 (R07-20). This rulemaking is based on a proposal filed with the Board by the Illinois Environmental Protection Agency (Agency) on May 25, 2007. The Agency's proposal is driven by amendments to the Environmental Protection Act (Act) in Public Act 94-849 that, in adding Section 13.6 to the Act (415 ILCS 5/13.6 (2006)), required the Agency to propose rules to the Board to establish standards for detecting and reporting unpermitted releases of radionuclides from nuclear power plants.

The proposed new Part 1010 procedures will allow licensees of power plants to fulfill their obligation under Section 13.6 of the Act to report unpermitted releases of radionuclides to the Agency and the Illinois Emergency Management Agency (IEMA). These procedures establish a requirement that within 24 hours after any unpermitted release of radionuclides into the groundwater, surface water, or soil, the licensee must evaluate the release to determine whether it needs to be reported and, if reporting is necessary, make a report to the Agency and IEMA within that same 24 hours. The proposed rule gives the proper procedure for reporting the releases, including the appropriate reporting phone numbers for the Agency and IEMA as well as instructions on electronic reporting. The proposal further requires a follow-up written report sent to the Agency and the IEMA within five days after reporting the release. This follow-up report must contain the information required for the initial report as well as supplemental

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information on the release utilizing the best data available.

Under the proposed rules, a radionuclide is deemed to have been detected if an unpermitted release of liquids either: 1) results in tritium concentrations of 200 picocuries per liter (pCi/L) or more outside the licensee controlled area, or 2) contains tritium at quantities of 0.002 Curies (Ci) or more.

- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: None
- 7) Will this rulemaking replace any emergency rulemaking currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? No
- 10) Are there any other proposed rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: This proposed rule does not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act. [30 ILCS 805/3(b) (2004)].
- 12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: The Board will accept written public comment on this proposal for 45 days after the date of publication in the *Illinois Register*. Comments should reference Docket R07-20 and be addressed to:

Clerk's Office
Illinois Pollution Control Board
100 W. Randolph St., Suite 11-500
Chicago, IL 60601

Interested persons may request copies of the Board's opinion and order by calling the Clerk's office at 312-814-3620, or download from the Board's Web site at www.ipcb.state.il.us.

For more information contact Marie Tipsord at 312/814-4925 or email at tipsordm@ipcb.state.il.us.

- 13) Initial Regulatory Flexibility Analysis:

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- A) Types of small businesses, small municipalities and not for profit corporations affected: While the reporting requirements apply only to nuclear power plants that may have had an unpermitted releases of radionuclides from their facility, small businesses, small municipalities and not-for-profit organizations would benefit from the information that is required by this proposed rule.
- B) Reporting, bookkeeping or other procedures required for compliance: This proposed rule includes numerous reporting requirements as mandated by P.A. 94-849.
- C) Types of Professional skills necessary for compliance: Compliance with this rule may require the skills of an attorney, chemist, and/or engineer.
- 14) Regulatory Agenda on which this rulemaking was summarized: July 2007

The full text of the Proposed Rules begins on the next page:

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE I: ATOMIC RADIATION
CHAPTER I: POLLUTION CONTROL BOARD

PART 1010
PROCEDURES FOR REPORTING RELEASES OF
RADIONUCLIDES AT NUCLEAR POWER PLANTS

SUBPART A: GENERAL PROVISIONS

Section
1010.100 Purpose
1010.102 Applicability
1010.104 Scope
1010.106 Definitions
1010.108 Severability

SUBPART B: REPORTING

1010.200 Evaluation of Releases
1010.202 Reporting of Releases
1010.204 Follow-up Written Report

AUTHORITY: Implementing and authorized by ~~Section~~Sections 13.6 and 27 of the Environmental Protection Act [415 ILCS 5/13.6 and 27].

SOURCE: Adopted at 32 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL PROVISIONS

Section 1010.100 Purpose

This Part prescribes standards for detecting and reporting unpermitted releases of radionuclides from nuclear power plants pursuant to Section 13.6 of the Illinois Environmental Protection Act ~~(Act)~~ [415 ILCS 5/13.6].

Section 1010.102 Applicability

This Part applies to licensees of nuclear power plants that are required under Section 13.6 of the Act to report an unpermitted release of a radionuclide.

Section 1010.104 Scope

This Part sets forth the procedures licensees of nuclear power plants must follow to satisfy their obligation under Section 13.6 of the Act to report unpermitted releases of radionuclides to the Agency and to IEMA. This Part addresses only the reporting of unpermitted releases of radionuclides required under Section 13.6 of the Act. The requirements of this Part are independent of, and do not replace or supersede, any other reporting requirements in ~~state~~State or federal law or regulation. This Part does not prevent or preclude licensees from reporting releases of radionuclides that are not required to be reported under Section 13.6 of the Act.

Section 1010.106 Definitions

Except as stated in this Section, or unless a different meaning of a word or term is clear from the context, the definition of words or terms in this Part

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shall be the same as that applied to the same words or terms in the Illinois Environmental Protection Act ~~[415 ILCS 5]~~.

"Act" means the Illinois Environmental Protection Act [415 ILCS 5].

"Agency" means the Illinois Environmental Protection Agency.

"Curie" or "Ci" means the quantity of radioactive material producing 37 billion nuclear transformations per second.

"Groundwater" means underground water ~~which~~that occurs within the saturated zone and geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure. [415 ILCS 5/3.64]

"IEMA" means the Illinois Emergency Management Agency.

"L" means liter.

"Licensee" means the holder of a license issued for a nuclear power plant under ~~Chapter~~chapter I of ~~Title~~title 10 of the Code of Federal Regulations.

"Licensee controlled area" means the land or property that is owned, leased, or otherwise controlled by the licensee.

"Picocurie" or "pCi" means the quantity of radioactive material producing 2.22 nuclear transformations per minute. One pCi is one trillionth (10⁻¹²) of one curie.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, ~~state~~State agency, or any other legal entity, or their legal representative, agent, or assigns. [415 ILCS 5/3.315]

"Station generated liquids" means liquids used in, or as a part of, the power generation process at a nuclear power plant and that contain, or potentially could contain, radionuclides.

"Surface water" means all water that is open to the atmosphere and subject to surface runoff.

"Unpermitted release of a radionuclide" means any spilling, leaking, emitting, discharging, escaping, leaching, or disposing of a radionuclide into groundwater, surface water, or soil that is not permitted under State or federal law or regulation. [415 ILCS 5/13.6(c)]. "Unpermitted release of a radionuclide" does not include the discharge of a radionuclide from a point source at a designated process water or cooling water outfall identified in the nuclear power plant's National Pollutant Discharge Elimination System permit, provided the discharge is authorized in the nuclear power plant's United States Nuclear Regulatory Commission operating license.

Section 1010.108 Severability

If any provision in this Part or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of this Part as a whole or of any portion not adjudged invalid.

SUBPART B: REPORTING

Section 1010.200 Evaluation of Releases

Within 24 hours after an unpermitted release of a radionuclide from a nuclear power plant into groundwater, surface water, or soil, the licensee must evaluate the release in accordance with this Section to determine whether it must be reported. The evaluation cannot take into account remedial actions taken in response to the release (i.e., the evaluation must be based on the volumes of station generated liquids and concentrations or quantities of radionuclides released, not on the volumes of station generated liquids and concentrations or quantities of radionuclides remaining after the initiation or completion of response actions). If the release is required to be reported, the licensee must report the release in accordance with Section 1010.202 of this Part.

a) Licensees must report unpermitted releases of station generated liquids that result in tritium concentrations of 200 pCi/L or more outside of the licensee controlled area.

b) Licensees must report unpermitted releases of station generated liquids that contain tritium at quantities of 0.002 Curies or more.

Section 1010.202 Reporting of Releases

a) Reports required under Section 1010.200 must be given within 24 hours after the release to both the Agency and IEMA in accordance with the following:

1) Reports to the Agency must be given by telephone and electronically. The Agency's telephone number for reporting emergencies is 1-217-782-3637.

2) Reports to IEMA must be given by telephone and electronically. IEMA's telephone number for reporting emergencies is 1-800-782-7860, or, if calling from outside Illinois, 1-217-782-7860.

3) Electronic reports must be submitted on forms and in a format prescribed by the Agency and IEMA. The Agency shall consult with IEMA in developing the forms and format for electronic reports required under this Section.

b) Reports required under Section 1010.200 must include, at a minimum, the following information, using the best data available at the time of the report:

1) The name and address of the nuclear power plant where the release occurred;

2) The name, signature, and telephone number of the Principal Executive Officer for the nuclear power plant or the Principal Executive Officer's authorized agent;

3) The specific location of the release;

4) The time and duration of the release;

5) An estimate of the volume and radionuclide concentrations (in pCi/L) of station generated liquids released, and an estimate of the flow rate if the release is ongoing;

- 6) Identification of the radionuclides released and an estimate of the quantities released (in Curies);
 - 7) Whether the release was to groundwater, surface water, or soil, and a description of the area into which the release occurred (e.g., field, ditch, stream, or other description) and the size of the area affected;
 - 8) The actions taken to respond to, contain, and mitigate the release;
 - 9) The known and anticipated impacts to human health and the environment, including but not limited to groundwater and surface water resources, as a result of the release;
 - 10) The names, addresses, and telephone numbers of persons at the nuclear power plant who may be contacted for further information regarding the release; and
 - 11) The name and mailing address of the licensee of the nuclear power plant.
- c) The Agency must post copies of the electronic reports it receives under this Section on the Agency's website.

Section 1010.204 Follow-up Written Report

An owner or operator who reports a release under this Part must provide to the Agency and to IEMA a follow-up written report of the release within five business days after reporting the release.

a) The follow-up report must confirm and update the information provided by the licensee under Section 1010.202 ~~of this Part~~ utilizing the best data available, and must also include the following information:

- 1) Copies of all lab analyses used to confirm the presence of, or conducted in response to, the release if lab analyses have been conducted;
- 2) Plan view and, if available, geological cross-section maps showing, at a minimum, the location of the release, the locations of samples taken to confirm the release if samples have been taken, the locations of samples taken in response to the release if samples have been taken, the measured and modeled extents of the release if known, the groundwater flow direction if known, groundwater contours if known, the boundary of the licensee controlled area, and structures, roads, and other surface features;
- 3) An estimate of the volume and radionuclide concentrations (in pCi/L) of station generated liquids released but not recovered;
- 4) An estimate of the quantities (in Curies) of radionuclides released but not recovered;
- 5) An updated description of activities taken in response to the release;
- 6) If additional activities in response to the release are planned, a description of ~~such~~those activities; and
- 7) The name and signature of the Principal Executive Officer for the nuclear power plant or the Principal Executive Officer's authorized agent.

b) Submission of Follow-up Reports

1) The follow-up report must be submitted electronically on forms and in a format prescribed by the Agency, and must be submitted to addresses prescribed by the Agency and IEMA. Within five business days after submission of the electronic follow-up report, hard copies of the follow-up report must be submitted to the Agency and IEMA at the following addresses:

Illinois Environmental Protection Agency
Bureau of Water
Groundwater Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, ~~Illinois~~ IL 62794-9276

Illinois Emergency Management Agency
Division of Nuclear Safety
Bureau of Environmental Safety
1035 Outer Park Drive
Springfield, ~~IL~~ IL 62704

2) The Agency shall consult with IEMA in developing the forms and format for reports required under this Section.

c) The Agency must post copies of the follow-up reports it receives under this Section on the Agency's website.

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~~NOTICE OF PROPOSED RULE~~

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Rendering set	Standard

Legend:	
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Split/Merged cell	
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Deletions	17
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	40

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TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE I: ATOMIC RADIATION
CHAPTER I: POLLUTION CONTROL BOARD

PART 1010
PROCEDURES FOR REPORTING RELEASES OF
RADIONUCLIDES AT NUCLEAR POWER PLANTS

SUBPART A: GENERAL PROVISIONS

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Section	
1010.100	Purpose
1010.102	Applicability
1010.104	Scope
1010.106	Definitions
1010.108	Severability

SUBPART B: REPORTING

1010.200	Evaluation of Releases
1010.202	Reporting of Releases
1010.204	Follow-up Written Report

AUTHORITY: Implementing and authorized by Sections 13.6 and 27 of the Environmental Protection Act [415 ILCS 5/13.6 and 27].

SOURCE: Adopted at 32 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL PROVISIONS

Section 1010.100 Purpose

This Part prescribes standards for detecting and reporting unpermitted releases of radionuclides from nuclear power plants pursuant to Section 13.6 of the Illinois Environmental Protection Act [415 ILCS 5/13.6].

Section 1010.102 Applicability

This Part applies to licensees of nuclear power plants that are required under Section 13.6 of the Act to report an unpermitted release of a radionuclide.

Section 1010.104 Scope

44 This Part sets forth the procedures licensees of nuclear power plants must follow to satisfy their
45 obligation under Section 13.6 of the Act to report unpermitted releases of radionuclides to the
46 Agency and to IEMA. This Part addresses only the reporting of unpermitted releases of
47 radionuclides required under Section 13.6 of the Act. The requirements of this Part are
48 independent of, and do not replace or supersede, any other reporting requirements in State or
49 federal law or regulation. This Part does not prevent or preclude licensees from reporting
50 releases of radionuclides that are not required to be reported under Section 13.6 of the Act.
51

52 **Section 1010.106 Definitions**

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54 Except as stated in this Section, or unless a different meaning of a word or term is clear from the
55 context, the definition of words or terms in this Part shall be the same as that applied to the same
56 words or terms in the Illinois Environmental Protection Act.
57

58 "Act" means the Illinois Environmental Protection Act [415 ILCS 5].
59

60 "Agency" means the Illinois Environmental Protection Agency.
61

62 "Curie" or "Ci" means the quantity of radioactive material producing 37 billion
63 nuclear transformations per second.
64

65 "*Groundwater*" means *underground water that occurs within the saturated zone*
66 *and geologic materials where the fluid pressure in the pore space is equal to or*
67 *greater than atmospheric pressure.* [415 ILCS 5/3.64]
68

69 "IEMA" means the Illinois Emergency Management Agency.
70

71 "L" means liter.
72

73 "Licensee" means the holder of a license issued for a nuclear power plant under
74 chapter I of title 10 of the Code of Federal Regulations.
75

76 "Licensee controlled area" means the land or property that is owned, leased, or
77 otherwise controlled by the licensee.
78

79 "Picocurie" or "pCi" means the quantity of radioactive material producing 2.22
80 nuclear transformations per minute. One pCi is one trillionth (10^{-12}) of one curie.
81

82 "*Person*" is *any individual, partnership, co-partnership, firm, company, limited*
83 *liability company, corporation, association, joint stock company, trust, estate,*
84 *political subdivision, State agency, or any other legal entity, or their legal*
85 *representative, agent, or assigns.* [415 ILCS 5/3.315]
86

87 "Station generated liquids" means liquids used in, or as a part of, the power
88 generation process at a nuclear power plant and that contain, or potentially could
89 contain, radionuclides.

90
91 "Surface water" means all water that is open to the atmosphere and subject to surface
92 runoff.

93
94 *"Unpermitted release of a radionuclide" means any spilling, leaking, emitting,*
95 *discharging, escaping, leaching, or disposing of a radionuclide into groundwater,*
96 *surface water, or soil that is not permitted under State or federal law or*
97 *regulation. [415 ILCS 5/13.6(c)]. "Unpermitted release of a radionuclide" does*
98 *not include the discharge of a radionuclide from a point source at a designated*
99 *process water or cooling water outfall identified in the nuclear power plant's*
100 *National Pollutant Discharge Elimination System permit, provided the discharge*
101 *is authorized in the nuclear power plant's United States Nuclear Regulatory*
102 *Commission operating license.*

103
104 **Section 1010.108 Severability**

105
106 If any provision in this Part or its application to any person or under any circumstances is
107 adjudged invalid, such adjudication shall not affect the validity of this Part as a whole or of any
108 portion not adjudged invalid.

109
110 **SUBPART B: REPORTING**

111
112 **Section 1010.200 Evaluation of Releases**

113
114 Within 24 hours after an unpermitted release of a radionuclide from a nuclear power plant into
115 groundwater, surface water, or soil, the licensee must evaluate the release in accordance with this
116 Section to determine whether it must be reported. The evaluation cannot take into account
117 remedial actions taken in response to the release (i.e., the evaluation must be based on the
118 volumes of station generated liquids and concentrations or quantities of radionuclides released,
119 not on the volumes of station generated liquids and concentrations or quantities of radionuclides
120 remaining after the initiation or completion of response actions). If the release is required to be
121 reported, the licensee must report the release in accordance with Section 1010.202 of this Part.

- 122
123 a) Licensees must report unpermitted releases of station generated liquids that result
124 in tritium concentrations of 200 pCi/L or more outside of the licensee controlled
125 area.
126
127 b) Licensees must report unpermitted releases of station generated liquids that
128 contain tritium at quantities of 0.002 Curies or more.
129

Section 1010.202 Reporting of Releases

- 130 a) Reports required under Section 1010.200 must be given within 24 hours after the
- 131 release to both the Agency and IEMA in accordance with the following:
- 132
- 133
- 134
- 135 1) Reports to the Agency must be given by telephone and electronically. The
- 136 Agency's telephone number for reporting environmental emergencies is 1-
- 137 217-782-3637.
- 138
- 139 2) Reports to IEMA must be given by telephone and electronically. IEMA's
- 140 telephone number for reporting emergencies is 1-800-782-7860, or, if
- 141 calling from outside Illinois, 1-217-782-7860.
- 142
- 143 3) Electronic reports must be submitted on forms and in a format prescribed
- 144 by the Agency and IEMA. The Agency shall consult with IEMA in
- 145 developing the forms and format for electronic reports required under this
- 146 Section.
- 147
- 148 b) Reports required under Section 1010.200 must include, at a minimum, the
- 149 following information, using the best data available at the time of the report:
- 150
- 151 1) The name and address of the nuclear power plant where the release
- 152 occurred;
- 153
- 154 2) The name, signature, and telephone number of the Principal Executive
- 155 Officer for the nuclear power plant or the Principal Executive Officer's
- 156 authorized agent;
- 157
- 158 3) The specific location of the release;
- 159
- 160 4) The time and duration of the release;
- 161
- 162 5) An estimate of the volume and radionuclide concentrations (in pCi/L) of
- 163 station generated liquids released, and an estimate of the flow rate if the
- 164 release is ongoing;
- 165
- 166 6) Identification of the radionuclides released and an estimate of the
- 167 quantities released (in Curies);
- 168
- 169 7) Whether the release was to groundwater, surface water, or soil, and a
- 170 description of the area into which the release occurred (e.g., field, ditch,
- 171 stream, or other description) and the size of the area affected;
- 172

- 173 8) The actions taken to respond to, contain, and mitigate the release;
- 174
- 175 9) The known and anticipated impacts to human health and the environment,
- 176 including but not limited to groundwater and surface water resources, as a
- 177 result of the release;
- 178
- 179 10) The names, addresses, and telephone numbers of persons at the nuclear
- 180 power plant who may be contacted for further information regarding the
- 181 release; and
- 182
- 183 11) The name and mailing address of the licensee of the nuclear power plant.
- 184
- 185 c) The Agency must post copies of the electronic reports it receives under this Section
- 186 on the Agency's website.
- 187

188 **Section 1010.204 Follow-up Written Report**

189
190 An owner or operator who reports a release under this Part must provide to the Agency and to
191 IEMA a follow-up written report of the release within five business days after reporting the
192 release.

- 193
- 194 a) The follow-up report must confirm and update the information provided by the
- 195 licensee under Section 1010.202 utilizing the best data available and must also
- 196 include the following information:
- 197
- 198 1) Copies of all lab analyses used to confirm the presence of, or conducted in
- 199 response to, the release if lab analyses have been conducted;
- 200
- 201 2) Plan view and, if available, geological cross-section maps showing, at a
- 202 minimum, the location of the release, the locations of samples taken to
- 203 confirm the release if samples have been taken, the locations of samples
- 204 taken in response to the release if samples have been taken, the measured
- 205 and modeled extents of the release if known, the groundwater flow
- 206 direction if known, groundwater contours if known, the boundary of the
- 207 licensee controlled area, and structures, roads, and other surface features;
- 208
- 209 3) An estimate of the volume and radionuclide concentrations (in pCi/L) of
- 210 station generated liquids released but not recovered;
- 211
- 212 4) An estimate of the quantities (in Curies) of radionuclides released but not
- 213 recovered;
- 214
- 215 5) An updated description of activities taken in response to the release;

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- 6) If additional activities in response to the release are planned, a description of those activities; and
 - 7) The name and signature of the Principal Executive Officer for the nuclear power plant or the Principal Executive Officer's authorized agent.

223 b) Submission of Follow-up Reports

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- 1) The follow-up report must be submitted electronically on forms and in a format prescribed by the Agency and must be submitted to addresses prescribed by the Agency and IEMA. Within five business days after submission of the electronic follow-up report, hard copies of the follow-up report must be submitted to the Agency and IEMA at the following addresses:

232 Illinois Environmental Protection Agency
233 Bureau of Water
234 Groundwater Section
235 1021 North Grand Avenue East
236 P.O. Box 19276
237 Springfield IL 62794-9276

238
239 Illinois Emergency Management Agency
240 Division of Nuclear Safety
241 Bureau of Environmental Safety
242 1035 Outer Park Drive
243 Springfield IL 62704

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249
- 2) The Agency shall consult with IEMA in developing the forms and format for reports required under this Section.
 - c) The Agency must post copies of the follow-up reports it receives under this Section on the Agency's website.