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 RECIP. NAME      RECIPIENT AFFILIATION  
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SUBJECT: Forwards response to Generic Ltr 90-06 re resolution of  
           Generic Issue 70 on PORV & block valve reliability & Generic  
           Issue 94 on addl low temp overpressure protection.

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DECEMBER 20 1990  
L-90-435  
10 CFR 50.54 (f)

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

Re: St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Resolution of Generic Issues 70 and 94 (Generic Letter 90-06)

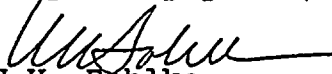
By Generic Letter 90-06 (GL 90-06), dated June 25, 1990, the staff forwarded to its licensees its recommendations concerning the resolution of Generic Issue 70 (GI 70), "Power-Operated Relief Valve and Block Valve Reliability," and Generic Issue 94 (GI 94), "Additional Low-Temperature Overpressure Protection for Light-Water Reactors. "

The staff requested that licensees respond to the recommendations made in GL 90-06 and advise them of the current status of plans relating to power-operated relief valves (PORVs) and block valves. A description of the actions which have been taken to date in response to improvements 1, 2, and 3 as described in Section 3.1 of Enclosure A of GL 90-06 is provided in Attachment 1 to this letter. Additional information pertinent to the St. Lucie units' PORVs is provided in Attachment 2 to this letter.

The staff also requested that it be informed of licensees' intentions to submit a license amendment request to modify the technical specifications and commit to use of the modified technical specifications recommended in Attachment B-1 of Enclosure B to the generic letter. FPL is evaluating the staff's recommendations for low-temperature overpressure protection (LTOP) system limiting conditions for operation for applicability to the St. Lucie units. Additional information pertinent to this evaluation and its completion date are also provided in Attachment 2 to this letter.

Should you have any questions, please contact us.

Very truly yours,

  
W.H. Bohlke  
Vice President  
Nuclear Engineering and Licensing

WHB/JMP/klw  
att.

DAS/PSL #302

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, St. Lucie Plant

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STATE OF FLORIDA

COUNTY OF PALM BEACH

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W.H. Bohlke, being first duly sworn, deposes and says:

That he is Vice President - Nuclear Engineering and Licensing of Florida Power and Light Company, the Licensee herein;

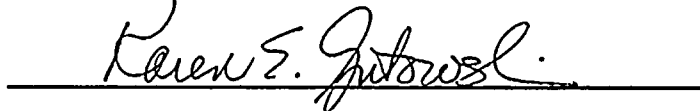
That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.



W.H. Bohlke

Subscribed and sworn to before me this

21st day of December, 19 90.



Notary Public, in and for the County of Palm Beach,  
State of Florida

My Commission expires NOTARY PUBLIC STATE OF FLORIDA  
MY COMMISSION EXP JULY 30, 1994  
BONDED THRU GENERAL INS. UND.



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FLORIDA POWER AND LIGHT  
St. Lucie Units 1 and 2

Attachment 1

GENERIC LETTER 90-06

PROPOSED ACTIONS AND RESPONSE SCHEDULE

Florida Power and Light (FPL) proposes to take the following actions in response to the recommendations promulgated by the staff in Generic Letter 90-06 (GL 90-06):

Recommended Action 1

1. Include PORVs and block valves within the scope of an operational quality assurance program that is in compliance with 10 CFR Part 50, Appendix B. This program should include the following elements:
  - a. The addition of PORVs and block valves to the plant operational Quality Assurance List.
  - b. Implementation of a maintenance/refurbishment program for PORVs and block valves that is based on the manufacturer's recommendations or guidelines and is implemented by trained plant maintenance personnel.
  - c. When replacement parts and spares, as well as complete components, are required for existing non-safety-grade PORVs and block valves (and associated control systems), it is the intent of this generic letter that these items may be procured in accordance with the original construction codes and standards.

FPL Response:

Requested Action 1.a:

FPL has verified that the PORVs and PORV block valves for both St. Lucie Units are classified as ASME Section III Class 1 valves, and are therefore included in the Florida Power and Light Quality Assurance Program for maintenance and procurement activities.

Requested Action 1.b:

FPL has verified that the maintenance/refurbishment programs for the PORVs and block valves which are currently in place at the St. Lucie Plant are based upon the manufacturers' recommendations. As a result of FPL's review of GL 90-06, additions to these programs which are beyond the manufacturers' recommendations are underway, and will be in place in accordance with the schedular requirements set forth in Generic Letter 90-06. At the present time, the end of the first Unit 1 refueling outage which starts six months or later from the date of the Generic Letter is scheduled to be December, 1991; the first such outage on Unit 2 is scheduled to be

completed in June, 1992.

FPL has also verified that programs are in place to ensure that qualified plant and/or contract personnel are responsible for the implementation of these programs.

**Requested Action 1.c:**

FPL confirms its intention to use, at a minimum, the original construction codes and standards as outlined in Section III of the ASME Boiler and Pressure Vessel Code and in 10 CFR 50.55 (a) when procuring replacement parts and spares for existing PORVs and block valves.

**Recommended Action 2**

- 2.1. Include PORVs, valves in PORV control air systems, and block valves within the scope of a program covered by Subsection IWV, "Inservice Testing of Valves in Nuclear Power Plants," of Section XI of the ASME Boiler and Pressure Vessel Code.

**FPL Response:**

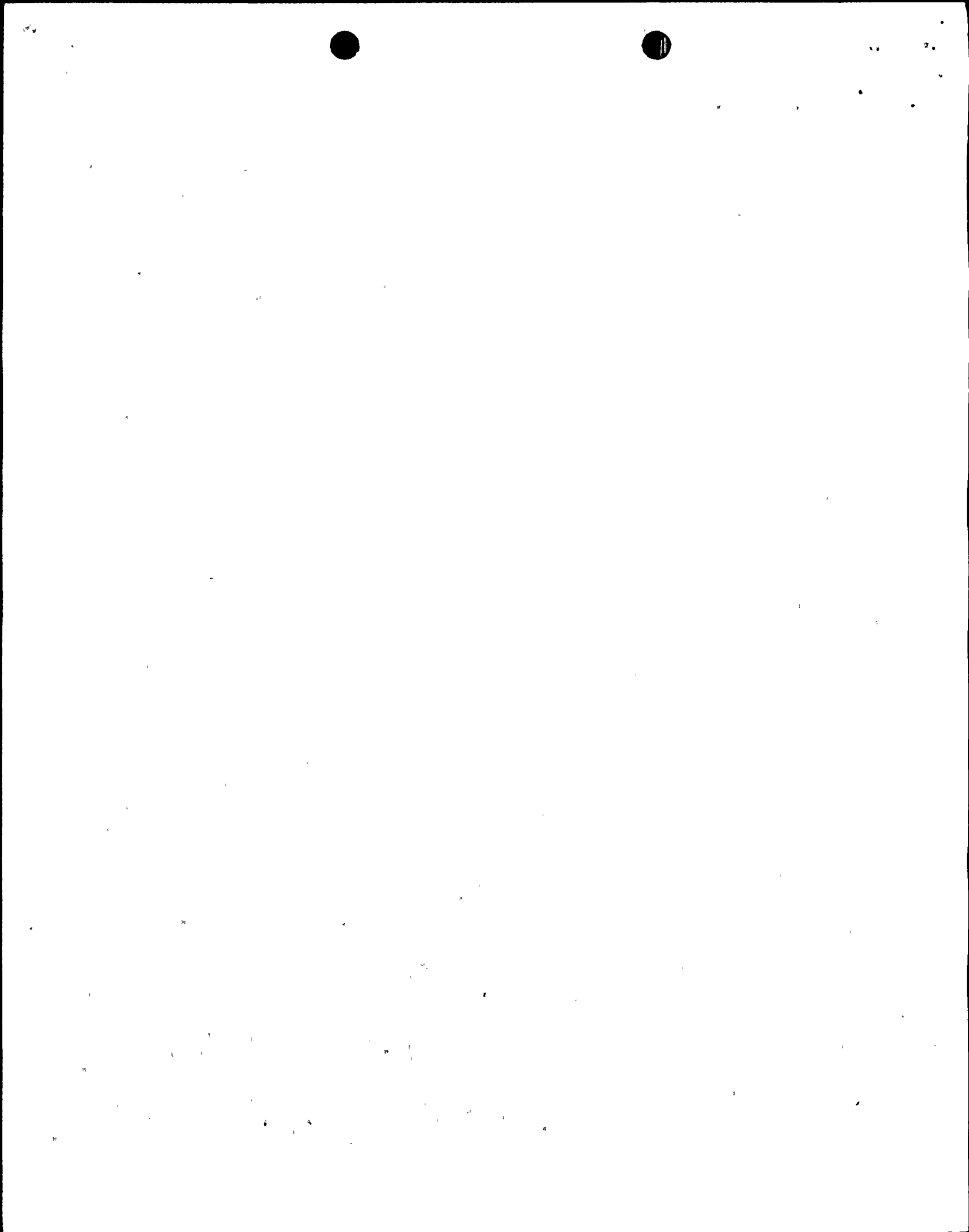
The PORVs and block valves on both St. Lucie Units are included within the St. Lucie Plant Pump and Valve Programs as a part of the plant Inservice Testing Program in accordance with ASME Section XI Subsection IWV-1100.

- 2.2. Stroke testing of PORVs should only be performed during Mode 3 (HOT STANDBY) or Mode 4 (HOT SHUTDOWN) and in all cases prior to establishing conditions where the PORVs are used for low-temperature overpressure protection. Stroke testing of the PORVs should not be performed during power operation.

**FPL Response:**

The PORVs and block valves are tested in accordance with the guidance provided in ASME Section XI Subsection IWV-1100 and the existing Technical Specification Surveillance Requirements. Testing of these valves is performed under conditions which ensure the continued safe operation of the plant.

- 2.3 [T]he PORV block valves should be included in the licensees' expanded MOV test program discussed in NRC Generic Letter 89-10, "Safety-Related Motor Operated Valve Testing and Surveillance," dated June 28, 1989.





FPL Response:

FPL has verified that the PORV block valves have been included within the MOV test program developed in response to Generic Letter 89-10, "Safety-Related Motor Operated Valve Testing and Surveillance."

Recommended Action 3:

3. For operating PWR plants, modify the limiting conditions of operation of PORVs and block valves in the technical specifications for Modes 1, 2 and 3 to incorporate the position adopted by the staff in recent licensing actions.

FPL Response:

Florida Power and Light does not propose to incorporate the proposed Technical Specifications for Modes 1, 2 and 3 as recommended in the Generic Letter. The bases for this decision are discussed in Attachment 2 to this letter.

FLORIDA POWER AND LIGHT  
St. Lucie Units 1 and 2

Attachment 2

GENERIC LETTER 90-06

In Generic Letter 90-06, the staff stated that the role of power-operated relief valves (PORVs) has changed such that these valves are now relied upon by many Westinghouse, B&W and CE designed plants to perform one, or more, of the following safety-related functions:

1. Mitigation of a design-bases steam generator tube rupture accident,
2. Low-temperature overpressure protection of the reactor vessel during startup and shutdown, or
3. Plant cooldown in compliance with Branch Technical Position RSB 5-1 to SRP 5.4.7, "Residual Heat Removal System."

Florida Power and Light has evaluated each of the functions for applicability to the St. Lucie Plant. The results of this evaluation are provided below.

Mitigation of a design-basis steam generator tube rupture accident

The emergency operating procedures (EOPs) in place at St. Lucie Units 1 and 2 adhere to the guidance provided in CEN-152, Revision 3. The strategy for the management of a steam generator tube rupture event is included in these guidelines.

A review of CEN-152, Revision 3, shows that depressurization of the reactor coolant system (RCS) following a steam generator tube rupture event is accomplished using the pressurizer spray valves, the auxiliary spray valves, operation of the charging and letdown subsystem, or the throttling of the high pressure safety injection (HPSI) pumps (where applicable in accordance with specified HPSI throttling criteria). The use of PORVs is not included in the Combustion Engineering accident management strategy as a means of depressurization of the RCS.

A review of the plant-specific operating procedures which implement CEN-152, Revision 3, verifies that plant procedures follow the guidance promulgated in CEN-152 and that PORVs are not credited as a possible success path for the depressurization of the reactor coolant system in a steam generator tube rupture event.

By letter dated August 2, 1988, the staff conditionally approved the use of CEN-152, Revision 3, for use as a guidance document for the preparation of emergency operating procedures for Combustion Engineering plants. As the St. Lucie Units' EOPs follow the guidance provided by this document, FPL considers that the RCS depressurization function for the St. Lucie Units during a steam generator tube rupture event has been adequately addressed without crediting the use of PORVs, and that the staff has approved this strategy through its approval of CEN-152, Revision 3.



Low-temperature overpressure protection of the reactor vessel during startup and shutdown

Both St. Lucie Units credit the use of PORVs for the mitigation of a low-temperature overpressure (LTOP) event during Modes 4 through 5, when the reactor coolant system pressure boundary is intact. St. Lucie Unit 2 also credits the use of the residual heat removal (RHR) or shutdown cooling (SDC) safety relief valves for LTOP event mitigation when the shutdown cooling system is in service.

To ensure that the concerns raised by the staff in Generic Letter 90-06 are appropriately addressed, FPL is evaluating the potential reduction in the risk of an LTOP event which is engendered by limiting the allowed outage time for the PORVs as recommended in Enclosure B of GL 90-06. Completion of this evaluation is scheduled to support submittal of license amendment proposals in accordance with the schedule put forth in the generic letter. At the present time, the end of the first Unit 1 refueling outage which starts six months or later from the date of the Generic Letter is scheduled to be December, 1991; the first such outage on Unit 2 is scheduled to be completed in June, 1992. FPL will notify the staff of the result of the evaluation upon its completion.

Plant cooldown in compliance with Branch Technical Position RSB 5-1

St. Lucie Unit 1

St. Lucie Unit 1 was not licensed in accordance with the requirements of Branch Technical Position (BTP) RSB 5-1. However, FPL has demonstrated that the Unit may be placed on shutdown cooling through the use of the auxiliary spray system and the atmospheric dump valves.

Should the auxiliary spray system not be available, an alternate means of cooldown is provided by utilizing a 'fill and shrink' method of cooling: the pressurizer is filled with relatively cool water from the Boric Acid Makeup Tank (BAMT) or the Refueling Water Tank (RWT). The reactor coolant system is then cooled through the use of the atmospheric dump valves, and, as it cools, loses volume. When the pressurizer level falls to an appropriate point, the cooldown is stopped, and the pressurizer is again filled from the BAMT or the RWT, and the cooldown using the atmospheric dump valves is repeated. This process is repeated until the shutdown cooling system entry window is attained.

St. Lucie Unit 2

St. Lucie Unit 2 was licensed as a Class 2 plant in accordance with the provisions of Branch Technical Position RSB 5-1. The Safety Evaluation Report issued by the staff for Unit 2 (NUREG 0843, dated October, 1981) specifically documents compliance with this position.

The systems which are used to cool the unit down to shutdown cooling entry conditions are the auxiliary feedwater system, the main steam system, the chemical and volume control system, the component cooling water system and the shutdown cooling system. Assuming the loss of offsite power, the most limiting single failure associated with cooldown is the failure of a dc bus and associated diesel generator. Three possible methods are available for the depressurization of the primary plant in this event; use of the PORVs is referenced as one of these methods.



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Review of potential safety-related functions of PORVs

FPL does not concur that the PORVs should be considered as performing a safety-related function. Section 3.2.2 of the St. Lucie Unit 1 and the St. Lucie Unit 2 Updated Final Safety Analysis Reports (UFSARs) provide the following definition of a safety system:

A safety system . . . is any system that functions to shut down the reactor, cool the core or cool another safety system or the containment, and contains, controls, or reduces radioactivity released in an accident.

The PORVs do not meet this definition, based upon the following:

1. PORV functioning does not provide any means of reactivity control, therefore these components cannot provide any means of shutting down the reactor.
2. The PORVs are relief valves, and therefore do not function to provide any cooling to the core or any other safety system, or to the containment.
3. As the PORVs are relief valves, and such components cannot, by design, contain any of the radioactivity released in an accident, nor can they control such radioactivity. Additionally, the PORVs do not serve any radiological function, therefore these valves cannot reduce a potential radioactivity release by their functioning.

Therefore, FPL does not propose to modify the limiting conditions of operation of PORVs or block valves in the St. Lucie Unit 1 or Unit 2 Technical Specifications for Modes 1, 2 and 3 to incorporate the position adopted by the staff in recent licensing actions for the following reasons:

1. these components are not credited for the mitigation of a steam generator tube rupture event for either St. Lucie unit,
2. sufficient redundancy is available to ensure that the requirements of BTP RSB 5-1 are met, and
3. PORVs do not meet the definition of a safety-related system as defined in the St. Lucie Units 1 and 2 UFSARs.