Arizona Public Service Company
P.O. BOX 53999 • PHOENIX, ARIZONA 85072-3999

102-01427-WFC/TDS/TRB
September 27, 1989

WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Reference: (a) Letter from A. E. Chaffee, Deputy Director, Division of Reactor Safety and Projects, NRC to W. F. Conway, Executive Vice President, Nuclear, Arizona Public Service, dated August 29, 1989

(b) Letter from J. N. Bailey, Vice President, Nuclear Safety and Licensing, APS to J. B. Martin, Regional Administrator, NRC, dated September 20, 1989

Dear Sir:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket No. STN 50-528 (License No. NPF-41)
Docket No. STN 50-529 (License No. NPF-51)
Docket No. STN 50-530 (License No. NPF-74)
Reply to Notice of Violations - 528/89-30-01 and 529/89-30-03
File: 89-070-026

This letter is provided in response to the report of the inspection conducted by Messrs. T. Polich, D. Coe, C. Myers, and P. Qualls, on June 12, through August 6, 1989. Based upon the results of the inspection, two (2) violations of NRC requirements were identified. The violations are discussed in Appendix A of reference (a). A restatement of the violations and PVNGS's responses are provided in Appendix A and Attachment 1, respectively, to this letter.

Reference (a) documented concerns with regard to identified deficiencies that remained unresolved for long durations. These concerns are shared by PVNGS management based primarily upon the results of the evaluations of the deficiencies identified with the Atmospheric Dump Valves and the Compressed Gas System. As a result, three (3) separate actions have been undertaken.

First, interviews were conducted with individuals who were involved with the initial startups of Units 1, 2, or 3 to determine if there are issues of long duration, which may require additional attention; these interviews (249 individuals) were conducted by the Quality Assurance/Quality Control Department prior to the restart of Unit 2. These concerns were individually evaluated by the onsite engineering group for validity and potential impact.

Of the 168 concerns identified, nine (9) were classified as Unit 3 pre-restart issues, 117 were classified as requiring additional evaluation but as having no impact on the startup effort and 42 were classified as requiring no action because the concerns were not valid or action had already been taken to resolve the concerns. Those determined to have a potential impact on the Unit 2 startup were dispositioned prior to the restart of the unit, and the remainder have been scheduled for evaluation/disposition. The identified concerns are being tracked by the Quality Assurance Department which will ensure proper resolution.

Second, as a result of the contribution of the leaking pressurizer spray valves to the safety injection event following the Unit 2 trip on July 12, 1989, a review is being conducted of reports from the Failure Data Trending program to identify any repetitive equipment deficiencies. This review will be completed prior to the startup of Unit 3 and corrective actions will be appropriately scheduled.

Finally, the Nuclear Safety Group conducted a case study into the events leading up to the identification of the deficiencies with the Atmospheric Dump Valves and the Compressed Gas System. The case study has been completed and a copy forwarded to the NRC Region V Administrator (reference b). A corrective action plan is currently being developed to address the concerns identified in the Case Study. A copy of the plan will be forwarded to the NRC Region V Administrator when completed.

Reference (a) also documented the NRC's disappointment at the actions taken by PVNGS in response to the main feedwater system overpressurization. This issue was also discussed at the September 1, 1989, management meeting. Based upon the extensive analyses and verifications that have been completed PVNGS management is confident that there are no remaining technical issues. The initial handling of the event did not live up to management's standards and expectations. I believe that valuable lessons were learned from this experience, and these lessons will be applied to future management decisions.

Reference (a) also discusses concerns with regard to performance of safety-related maintenance on important plant components and requests a discussion of the specific quality controls PVNGS is implementing to preclude recurrence of the cited problem. As previously committed, an evaluation was conducted to address this issue specifically as it applied to the work conducted on the Target Rock Pressure Control valves in Unit 2. This evaluation was completed on July 11, 1989, and a copy was provided to the NRC Senior Resident Inspector. The results of that evaluation are also addressed in the attached response to the Notice of Violation.

If you have any questions concerning this response or if I can provide any additional information, please contact me.

Very truly yours,

WFC/TDS/TRB/kj

Attachments

cc: J. B. Martin
T. J. Polich
T. L. Chan
M. J. Davis
E. E. Van Brunt
A. C. Gehr
J. R. Newman

APPENDIX A

NOTICE OF VIOLATION

Arizona Nuclear Power Project
Palo Verde Units 1 and 2

Docket Numbers 50-528 and 529
License Numbers NPF-41 and NPF-51

During an NRC inspection conducted from June 12 through August 6, 1989, two violations of NRC requirements were identified. Violation A pertains to Unit 2, while Violation B pertains to Unit 1. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1988), the violations are listed below:

A. Technical Specification 6.8.1 states, in part, "written procedures shall be established, implemented, and maintained covering...the recommendations in Appendix A of Regulatory Guide 1.33, Revision 2, February, 1978..."

Regulatory Guide 1.33, Revision 2, February, 1978, recommends in Section 9, "Procedures for Performing Maintenance", Paragraph a., "Maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances."

Contrary to the above, from April 14 to 16, 1989, work was performed on the Unit 2 Atmospheric Dump Valve (ADV) Nitrogen Supply Pressure Reducing Regulatory Valve 2JSGAPCV0317, on verbal information, which deviated from the approved work order and approved technical manual.

This is a Severity Level IV Violation.

B. Technical Specification 6.8.1 states, in part, "Written procedures shall be established, implemented, and maintained covering...f. Fire Protection Program implementation..."

Licensee procedure 14AC-OFC03, "Control of Combustible/Flammable Materials and Liquids", Revision 0, Section 3.1 states in part:

"3.1 A "Temporary Storage for Flammable/Combustibles" storage permit, Appendix A, shall be filled out and approved by the Fire Protection Section when temporary storage is necessary. ...This form will be valid only during the time stated, after which time a review will be conducted by the Fire Protection Section to determine if a new storage permit is necessary.

3.1.1 The completed form shall be posted at the location of temporary storage. A copy will be sent to the Fire Protection Section and the Control Room for the respective unit."

Contrary to the above, on August 1, 1989, there was a flammable liquids locker on the Unit 1 roof with a permit which expired on March 2, 1989. Also, on the 120 foot elevation of Unit 1, there were 2 flammable liquids lockers with permits which expired on July 15, 1989.

This is a Severity Level IV Violation.

ATTACHMENT 1

REPLY TO NOTICE OF VIOLATIONS 50-529/89-30-03 AND

50-528/89-30-01

A.I. REASON FOR VIOLATION

On March 25, 1989, Palo Verde Unit 2 mechanical maintenance commenced rework of Target Rock Pressure Control Valve (PCV) 2JSGBPCV323 in accordance with Work Order (W.O.) #349780. The W.O. provided directions for the mechanics to rework the PCV in accordance with the vendor technical manual (Target Rock Technical Manual, JG91-32). To assist in the calibration and maintenance of the PCV's a Target Rock vendor representative had been brought on site.

During reassembly of PCV-323 on March 25, 1989 a method for valve adjustment based on the vendor representative's recommendation was utilized. The methodology recommended by the vendor set the valve adjustment by measuring the gap between the spring retaining ring and the upper bellows assembly. This method differed from the vendor technical manual, which required setting the valve stroke by "turning the adjusting stem clockwise until the seal assembly reaches the full open position." The responsible foreman and supervisor believed the vendor's recommendation met the intent of the technical manual instructions and agreed with utilizing the recommended methodology. The mechanics who perform maintenance on the PCV's were then briefed on the vendor representative's method of setting valve stroke. This technique was subsequently utilized between March 25 and June 3, 1989,

which resulted in the incorrect adjustment of the regulator disc on PCV's 303, 310, 317, and 323.

As a result of continuing valve regulation problems another vendor representative was requested. In response to the request, the vendor provided another representative on June 16, 1989. This representative identified that the method of measuring the gap for regulator adjustment did not meet the technical manual requirements and potentially was the cause of the problems identified with the valves' operation. On June 17, 1989, all four (4) PCV's were reassembled by PVNGS personnel under vendor observation in accordance with the directions provided in the vendor's technical manual. The valves were subsequently retested satisfactorily.

An evaluation of the event identified three (3) causes which led to the incorrect setting of the valves:

1) A failure of the craft and their supervision to ensure that the appropriate reviews and approvals were obtained prior to deviating from the authorized work document.

2) A programmatic deficiency in that the existing procedural controls do not clearly identify how vendor recommendations are received, evaluated, and approved prior to implementation.

3) A failure of the Quality Control Inspector to identify and prohibit the deviation from the authorized work document.

A.II CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

As discussed in Section A.I the affected valves were properly set and satisfactorily tested on June 17, 1989. As an immediate corrective action, the Unit and Central Maintenance Department Managers discussed this incident with their personnel emphasizing the following:

1. The requirement to follow work package instructions even when information supplied by a vendor representative is perceived to perform the intent of the work package; and

2. Additional information or information which is contrary to work package instructions that is necessary for completion of a work task will receive the appropriate review and approval in accordance with appropriate work control procedure and will be documented in the work package.

Also, an Instruction Change Request (ICR) has been submitted revising 30DP-9MP01, "Conduct of Maintenance", to clarify how vendor recommendations may be utilized by the craft. The revision includes:

1. A statement emphasizing that the Work Group Supervisor will ensure that information supplied by a vendor representative receives the appropriate review and approval in accordance with work control procedures; and

2. The requirement that the use of vendor information be documented on the work control continuation sheet.

The procedure changes are scheduled for completion by October 18, 1989.

As a result of the event, the Quality Assurance/Quality Control Department conducted an evaluation to determine why the inspection program did not identify and prevent the violation. It was concluded that the established QC witness/hold points for the activity were appropriate; however, they would not have identified the deviation that occurred. This indicated that implementation of the more performance-based QA verification effort currently in progress has not yet been fully effective. In order to reemphasize management's expectations in this area, the Director of Quality Assurance/Quality Control issued a directive to all Quality Assurance/Quality Control managers and supervisors requiring that they emphasize in briefings to their staffs the importance of applying a more critical and performance-oriented approach to their verification efforts. As of this date, those briefings have been completed.

A.III. CORRECTIVE ACTIONS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

During the course of the investigation, it became apparent that the individuals involved in the setting of the valves believed that the

implementation of the initial vendor representative's recommendation was consistent with the instructions provided in the vendor's technical manual and that the implementation fully met the intent of the work document. Therefore, it has been concluded that the implementation of the corrective actions discussed in Section A.II will be effective in preventing recurrence.

However, the corrective actions discussed in the preceding paragraphs only addressed the specific issues identified in the notice of violation. During the evaluation of this event, a broader scope concern was identified. The concern is that of control of vendors, and in particular, how vendor recommendations are received, evaluated, approved, and documented prior to implementation by any department onsite. To address this concern the Quality Assurance Department has been directed to evaluate the existing programmatic controls in this area. Additional corrective actions will be implemented, if necessary, based upon the results of the evaluation. The evaluation is scheduled for completion by October 20, 1989.

A.IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on June 18, 1989, at the completion of the rework of the four (4) PCV's.

B.I. REASON FOR VIOLATION

As a result of the findings by the NRC inspector on August 1, 1989, the Fire Protection Department conducted an investigation of the cause of the three (3) instances of expired storage permits for flammable materials.

The investigation identified the following deficiencies:

1. Administrative control procedure 14AC-OFP03, "Control of Combustible/Flammable Materials and Liquids", does not provide explicit instructions for controlling storage permits;

2. A manual tracking system used for maintaining status of storage permits does not sort permits listed by expiration dates; and

3. The Fire Captains were only given verbal instructions for enforcing the requirements of 14AC-OFP03. This resulted in various interpretations of the requirements and, therefore, inconsistent application of the requirements.

Additionally, on September 11, 1989, PVNGS management was notified by the NRC Senior Resident Inspector that the expired storage permit for the flammable storage locker on the Unit 1 Auxiliary Building roof (one of the three permits cited in this notice of violation) had not been properly removed. A review of storage permit records showed that

the permit had been renewed, but the new permit had not been posted and the expired permit removed.

This additional concern prompted a more in-depth review of the entire storage permit program and a critical examination of the responsibilities and accountabilities of the Fire Protection Department and its interface with organizations utilizing temporary storage permits. The review identified that although the Fire Protection Department was responsible for the approval of temporary storage permits, the organization requesting the permit was responsible for posting the permit and maintaining cognizance of the permit's expiration date. This split in responsibilities resulted in no single organization being responsible or accountable for maintaining the status of all storage permits.

B.II. CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

As an immediate corrective action, Fire Protection personnel performed a walkdown of all temporary storage permits within Units 1, 2, and 3 on August 11, 1989. All permits, with the exception of the three (3) permits identified by the NRC, were found to be current. The permits for the three (3) cabinets identified as being deficient were evaluated and renewed. Permits identified as approaching expiration were also renewed, as appropriate.

From a programmatic standpoint, Fire Protection's manual tracking

system was replaced with a computer program which tracks issuance, expiration, and reissuance, as required, of temporary storage permits. The implementation of the computer-based program provides Fire Protection personnel the means to ascertain the status of permits on a real time basis. The status, now being provided to the unit work control managers, includes those permits due to expire within five (5) days. Additionally, permits not renewed and due to expire within twenty-four (24) hours are being reported to the respective unit plant manager, assistant plant manager, operations manager, or shift supervisor for resolution. The implementation of this reporting mechanism, including the automatic escalation process, will ensure proper attention is directed to maintaining the permits in an approved status.

In order to ensure proper implementation of the program, fire protection personnel are required procedurally to walk down selected areas within the units on a 24-hour basis to verify that storage permits are correctly posted and current. Deficiencies that are identified are immediately reported to the responsible management.

B.III. CORRECTIVE ACTIONS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Procedure 14AC-OFP03 will be revised to provide specific guidance for the issuance, tracking, and notification of expiration, as well as to delineate and management's responsibilities regarding temporary storage permits. In addition, the permit form will be revised to

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Subject: Palo Verde Nuclear Generating Station (PVNGS)
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Docket No. STN 50-528 (License No. NPF-41)
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Of the 168 concerns identified, nine (9) were classified as Unit 3 pre-restart issues, 117 were classified as requiring additional evaluation but as having no impact on the startup effort and 42 were classified as requiring no action because the concerns were not valid or action had already been taken to resolve the concerns. Those determined to have a potential impact on the Unit 2 startup were dispositioned prior to the restart of the unit, and the remainder have been scheduled for evaluation/disposition. The identified concerns are being tracked by the Quality Assurance Department which will ensure proper resolution.

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Finally, the Nuclear Safety Group conducted a case study into the events leading up to the identification of the deficiencies with the Atmospheric Dump Valves and the Compressed Gas System. The case study has been completed and a copy forwarded to the NRC Region V Administrator (reference b). A corrective action plan is currently being developed to address the concerns identified in the Case Study. A copy of the plan will be forwarded to the NRC Region V Administrator when completed.

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Attachments

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APPENDIX A

NOTICE OF VIOLATION

Arizona Nuclear Power Project
Palo Verde Units 1 and 2

Docket Numbers 50-528 and 529
License Numbers NPF-41 and NPF-51

During an NRC inspection conducted from June 12 through August 6, 1989, two violations of NRC requirements were identified. Violation A pertains to Unit 2, while Violation B pertains to Unit 1. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1988), the violations are listed below:

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"3.1 A "Temporary Storage for Flammable/Combustibles" storage permit, Appendix A, shall be filled out and approved by the Fire Protection Section when temporary storage is necessary. ...This form will be valid only during the time stated, after which time a review will be conducted by the Fire Protection Section to determine if a new storage permit is necessary.

3.1.1 The completed form shall be posted at the location of temporary storage. A copy will be sent to the Fire Protection Section and the Control Room for the respective unit."

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ATTACHMENT 1

REPLY TO NOTICE OF VIOLATIONS 50-529/89-30-03 AND

50-528/89-30-01

A.I. REASON FOR VIOLATION

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As a result of continuing valve regulation problems another vendor representative was requested. In response to the request, the vendor provided another representative on June 16, 1989. This representative identified that the method of measuring the gap for regulator adjustment did not meet the technical manual requirements and potentially was the cause of the problems identified with the valves' operation. On June 17, 1989, all four (4) PCV's were reassembled by PVNGS personnel under vendor observation in accordance with the directions provided in the vendor's technical manual. The valves were subsequently retested satisfactorily.

An evaluation of the event identified three (3) causes which led to the incorrect setting of the valves:

1) A failure of the craft and their supervision to ensure that the appropriate reviews and approvals were obtained prior to deviating from the authorized work document.

2) A programmatic deficiency in that the existing procedural controls do not clearly identify how vendor recommendations are received, evaluated, and approved prior to implementation.

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A.II CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

As discussed in Section A.I the affected valves were properly set and satisfactorily tested on June 17, 1989. As an immediate corrective action, the Unit and Central Maintenance Department Managers discussed this incident with their personnel emphasizing the following:

1. The requirement to follow work package instructions even when information supplied by a vendor representative is perceived to perform the intent of the work package; and

2. Additional information or information which is contrary to work package instructions that is necessary for completion of a work task will receive the appropriate review and approval in accordance with appropriate work control procedure and will be documented in the work package.

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1. A statement emphasizing that the Work Group Supervisor will ensure that information supplied by a vendor representative receives the appropriate review and approval in accordance with work control procedures; and

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The procedure changes are scheduled for completion by October 18, 1989.

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A.III. CORRECTIVE ACTIONS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

During the course of the investigation, it became apparent that the individuals involved in the setting of the valves believed that the

implementation of the initial vendor representative's recommendation was consistent with the instructions provided in the vendor's technical manual and that the implementation fully met the intent of the work document. Therefore, it has been concluded that the implementation of the corrective actions discussed in Section A.II will be effective in preventing recurrence.

However, the corrective actions discussed in the preceding paragraphs only addressed the specific issues identified in the notice of violation. During the evaluation of this event, a broader scope concern was identified. The concern is that of control of vendors, and in particular, how vendor recommendations are received, evaluated, approved, and documented prior to implementation by any department onsite. To address this concern the Quality Assurance Department has been directed to evaluate the existing programmatic controls in this area. Additional corrective actions will be implemented, if necessary, based upon the results of the evaluation. The evaluation is scheduled for completion by October 20, 1989.

A.IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on June 18, 1989, at the completion of the rework of the four (4) PCV's.

B.I. REASON FOR VIOLATION

As a result of the findings by the NRC inspector on August 1, 1989, the Fire Protection Department conducted an investigation of the cause of the three (3) instances of expired storage permits for flammable materials.

The investigation identified the following deficiencies:

1. Administrative control procedure 14AC-OFP03, "Control of Combustible/Flammable Materials and Liquids", does not provide explicit instructions for controlling storage permits;

2. A manual tracking system used for maintaining status of storage permits does not sort permits listed by expiration dates; and

3. The Fire Captains were only given verbal instructions for enforcing the requirements of 14AC-OFP03. This resulted in various interpretations of the requirements and, therefore, inconsistent application of the requirements.

Additionally, on September 11, 1989, PVNGS management was notified by the NRC Senior Resident Inspector that the expired storage permit for the flammable storage locker on the Unit 1 Auxiliary Building roof (one of the three permits cited in this notice of violation) had not been properly removed. A review of storage permit records showed that

the permit had been renewed, but the new permit had not been posted and the expired permit removed.

This additional concern prompted a more in-depth review of the entire storage permit program and a critical examination of the responsibilities and accountabilities of the Fire Protection Department and its interface with organizations utilizing temporary storage permits. The review identified that although the Fire Protection Department was responsible for the approval of temporary storage permits, the organization requesting the permit was responsible for posting the permit and maintaining cognizance of the permit's expiration date. This split in responsibilities resulted in no single organization being responsible or accountable for maintaining the status of all storage permits.

B.II. CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

As an immediate corrective action, Fire Protection personnel performed a walkdown of all temporary storage permits within Units 1, 2, and 3 on August 11, 1989. All permits, with the exception of the three (3) permits identified by the NRC, were found to be current. The permits for the three (3) cabinets identified as being deficient were evaluated and renewed. Permits identified as approaching expiration were also renewed, as appropriate.

From a programmatic standpoint, Fire Protection's manual tracking

system was replaced with a computer program which tracks issuance, expiration, and reissuance, as required, of temporary storage permits. The implementation of the computer-based program provides Fire Protection personnel the means to ascertain the status of permits on a real time basis. The status, now being provided to the unit work control managers, includes those permits due to expire within five (5) days. Additionally, permits not renewed and due to expire within twenty-four (24) hours are being reported to the respective unit plant manager, assistant plant manager, operations manager, or shift supervisor for resolution. The implementation of this reporting mechanism, including the automatic escalation process, will ensure proper attention is directed to maintaining the permits in an approved status.

In order to ensure proper implementation of the program, fire protection personnel are required procedurally to walk down selected areas within the units on a 24-hour basis to verify that storage permits are correctly posted and current. Deficiencies that are identified are immediately reported to the responsible management.

B.III. CORRECTIVE ACTIONS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Procedure 14AC-OFP03 will be revised to provide specific guidance for the issuance, tracking, and notification of expiration, as well as to delineate and management's responsibilities regarding temporary storage permits. In addition, the permit form will be revised to

indicate the permit requestor by name and department and a log number assigned to each permit for tracking purposes. These changes are scheduled to be completed by October 1, 1989.

In order to ensure the corrective actions discussed in the preceding paragraphs are sufficient to address all potential weaknesses in the program, a detailed review is being conducted of the program to identify if additional enhancements can be made to improve the overall process. This review will include evaluations of other utilities' programs as well as those methods utilized by APS Corporate Fire Protection. If additional actions are identified during this review which is scheduled for completion by October 31, 1989, an implementation schedule will be developed to track the required actions. This schedule, if necessary, will be developed by November 15, 1989.

To ensure management that the revised controls are effective in ensuring compliance in this area, an audit/monitoring activity will be conducted by the Quality Assurance Department on a quarterly basis. These audits/monitoring activities will continue until management has sufficient confidence that the corrective actions have been effective.

B.IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on September 12, 1989, when the renewed storage permit was posted on the Unit 1 Auxiliary Building storage locker.