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SUBJECT: Application for amend to License NPF-41, allowing for no further exercise tests of CEA 64.

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161-01572-DBK/BJA
December 23, 1988

Docket No. STN 50-528

Document Control Desk
U. S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Request for a Technical Specification Change-
CEA Testing
File: 88-F-005-419.05; 88-E-056-026

The purpose of this letter is to request a one time only change to the PVNGS Unit 1 Technical Specifications. The change would allow for continued operation of PVNGS Unit 1, until the end of the current cycle, without conducting any further exercise tests of Control Element Assembly (CEA) 64. This one time only allowance would affect Technical Specification Surveillance Requirement 4.1.3.1.2.

ANPP believes that this proposed Technical Specification change will enhance the operational safety of PVNGS Unit 1 by eliminating a potentially challenging operating condition. The plant may be unnecessarily challenged during performance of testing on CEA #64 because this CEA has tended to slip due to an intermittent ground on the CEA's lower gripper coil.

This change is required expeditiously because unnecessary challenges to plant safety would be avoided if the requested change is granted prior to the next required performance of this test. In accordance with the existing Technical Specifications, the next test would be required on or before January 14, 1988. Therefore, pursuant to 10CFR50.91(a)(6), ANPP believes that exigent circumstances exist and requests that NRC act quickly to process the requested change.

The following information is included within this amendment request package.

- A. Description of the Proposed Change.
- B. Purpose of the Technical Specification.

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- C. Need for the Technical Specification Amendment.
- D. Basis for No Significant Hazards Consideration.
- E. Safety Evaluation for the Proposed Change.
- F. Environmental Impact Consideration Determination.
- G. Marked-Up Technical Specification Change Page.

In accordance with the requirements of 10CFR170.12(c), the license amendment application fee of \$150.00 is being submitted with this request. Additionally, by copy of this letter, we are forwarding the proposed change to the appropriate state agency.

If you have any additional questions on this matter, please contact Mr. A. C. Rogers at (602) 371-4041.

Very truly yours,



D. B. Karner
Executive Vice President

DBK/BJA/dlm

Attachment

cc: G. W. Knighton (all w/a)
T. L. Chan
M. J. Davis
J. B. Martin
T. J. Polich
A. C. Gehr
Director - ARRA

ATTACHMENT

A. DESCRIPTION OF THE PROPOSED CHANGE

This proposed change is a one time only change to the Palo Verde Unit 1 Technical Specifications. The change would exempt CEA #64 from the exercise requirements of Surveillance Requirement 4.1.3.1.2 for the remainder of Cycle 2 (approximately 3 months). Surveillance Requirement 4.1.3.1.2 requires that each CEA, that is not fully inserted in the core, be moved at least 5 inches in any direction every 31 days.

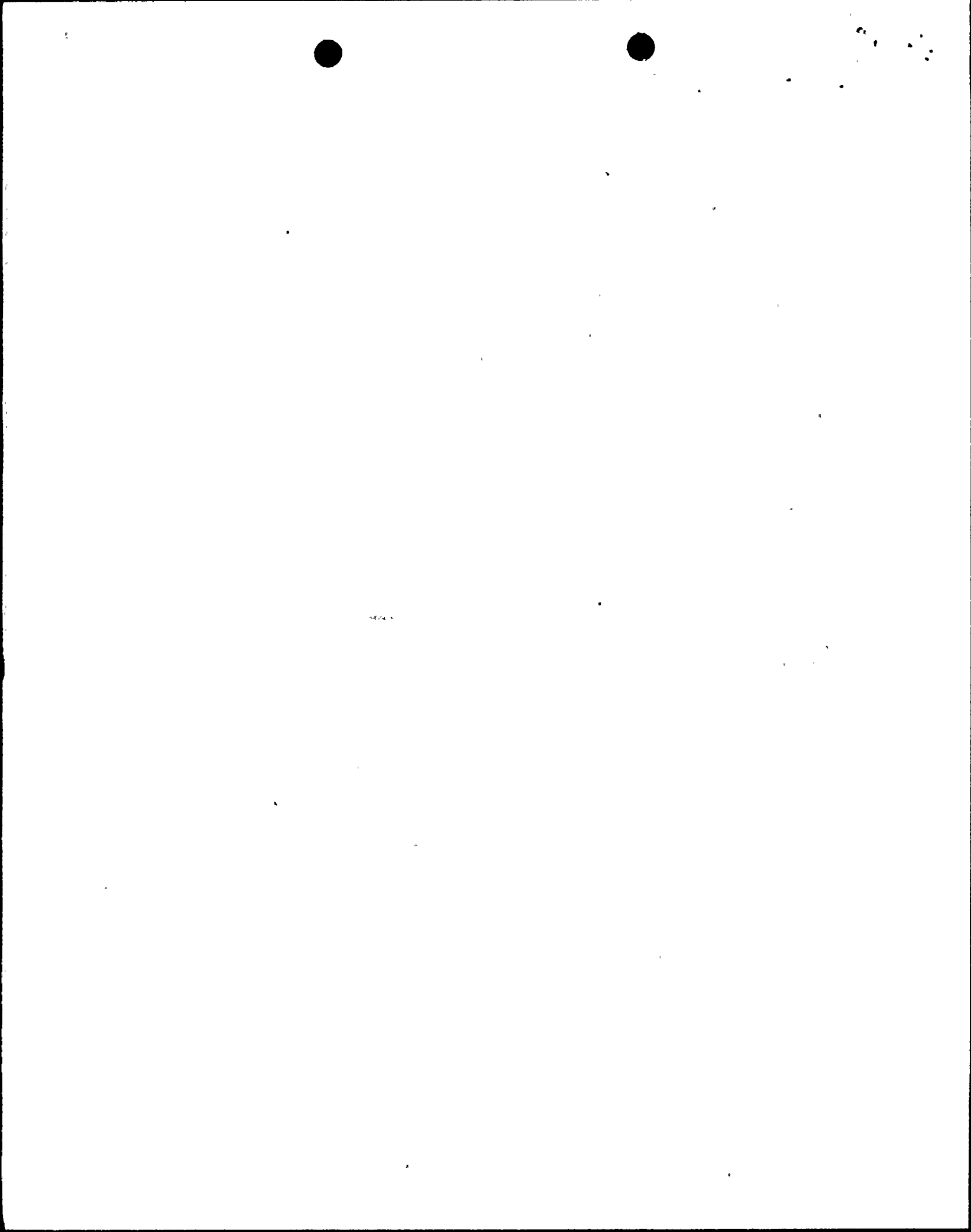
B. PURPOSE OF THE TECHNICAL SPECIFICATION

Surveillance Requirement 4.1.3.1.2 requires the monthly exercising of CEAs that are not fully inserted into the core. This exercise test helps to ensure that the CEAs are not untrippable as the result of excessive friction or mechanical interference. Adequate shutdown margin is assured if all CEAs are properly positioned and are verified to be capable of dropping into the core when required.

C. NEED FOR THE TECHNICAL SPECIFICATION AMENDMENT

An intermittent ground on the lower gripper coil of CEA #64 has caused the CEA to slip during the last three performances of the monthly exercise test. On November 5, 1988, CEA #64 slipped approximately 10 inches below the other CEAs in its group during the test. This resulted in a condition outside of the Technical Specification allowances and a LER was prepared (refer to LER 88-026-00 dated December 5, 1988). The test was last performed in mid-December, 1988. During this test, CEA #64 slipped approximately half way into the core. Additionally, CEA #57 also slipped into the core due to the reduced voltage caused by the intermittent ground on the lower gripper coil of CEA #64.

Intermittent grounds were first identified on the lower gripper coil of CEA #64 in May, 1985. At that time, no slippage problems were occurring. During the first refueling outage for Unit 1, troubleshooting was conducted. This testing could not replicate the



ground problem on CEA #64. Based on this troubleshooting, the decision was made to leave the existing coils installed. CEA #64 operated satisfactorily after Unit 1 restarted from the refueling outage. It was not until October, 1988 that slippage problems began to occur during exercise tests of CEA #64.

ANPP's investigation has found that the ground occurs immediately following the voltage increase associated with energizing the lower lift coil. This places a load on the lower gripper assembly. The magnitude of the ground varies and thus the slip does not occur on every cycle. It should be noted that the lower gripper and lower lift coils are only energized during CEA motion (either insertion or withdrawal). When the CEA is stationary, the CEA is held by the upper gripper coil and the lower gripper coil is not energized. Therefore, there is no danger of CEA #64 inadvertently slipping into the core when no motion is demanded.

The proposed Technical Specification change will allow CEA #64 to remain in the same position for the remainder of Cycle 2 (approximately 3 months). Since no exercise testing will be conducted for CEA #64, the CEA will be held in the same position by the upper gripper coils. This will minimize the likelihood of a CEA drop during the monthly surveillance testing.

The expeditious nature of this request is necessitated by the fact that the next required performance of the CEA exercise tests is scheduled for January 14, 1989. Therefore, relief must be granted on or before this date to exempt CEA #64 from the next required surveillance test. This exemption will enhance the operational safety of Palo Verde Unit 1 by reducing the potential for CEA drops during the monthly exercise test. For the longer term, ANPP plans to replace the lower gripper coil during the next refueling outage.

D. BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION

1. The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10CFR50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1)



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Involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Involve a significant reduction in a margin of safety. A discussion of these standards as they relate to the amendment request follows:

Standard 1 -- Involve a significant increase in the probability or consequences of an accident previously evaluated.

Basis -- The proposed change will not increase the probability or consequences of an accident previously analyzed in the FSAR for the following reasons:

1. The basis for Surveillance Requirement 4.1.3.1.2 is to demonstrate that all applicable CEAs are capable of being inserted into the core when required. All performances of this test to date conclusively show that CEA #64 can be inserted into the core. Additionally, Unit 1 has experienced six reactor trip events during the current cycle of operation. During each reactor trip, CEA #64 fell into the core as required.
2. It is unlikely that an obstruction would develop between now and the end of the current cycle that would render CEA #64 untrippable. However, even if CEA #64 would not drop into the core when required, this condition is within the bounds of the safety analyses. All analyses in which shutdown CEA reactivity is critical require that the most reactive CEA be assumed to remain stuck outside the core (refer to Section 15.0.3.3.3 of the CESSAR FSAR). In addition, SHUTDOWN MARGIN (as defined in Technical Specification bases section 3/4.1.1) would not be adversely affected by this change because it is determined by considering a single malfunction resulting in the highest worth CEA failing to insert.
3. Leaving CEA #64 at the fully withdrawn position for the remainder of Cycle 2 is not expected to significantly increase guide tube wear. Examinations of the guide tubes following Cycle 1 operation showed little guide tube wear (refer to ANPP letter to NRC dated January 8, 1988 for a summary of the



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inspection results).

Standard 2 -- Create the possibility of a new or different kind of accident from any accident previously evaluated.

Basis -- This proposed change will not result in any hardware changes to equipment important to safety. Therefore, the requested Technical Specification change will not create the possibility of an accident or malfunctioning of a different type than those already evaluated in the FSAR.

Standard 3 -- Involve a significant reduction in a margin of safety.

Basis -- The requested change for CEA #64 will not reduce the margin of safety as defined in the basis for the Technical Specifications. All performances of the CEA exercise testing to date have conclusively shown that CEA #64 can be inserted into the core. CEA #64 has successfully fallen into the core as required during 6 reactor trip events during the current cycle of operation. Additionally, the safety analyses already address the condition where the single most reactive CEA fails to drop into the core during design basis events.

2. The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists by providing certain examples (51FR7751) of amendments that are considered least likely to involve a significant hazards consideration. This proposed change does not match any of the examples provided by the Commission. However, this change can be described as a one time exemption from a Technical Specification requirement where the results of the change will not impact safe operation of the facility.

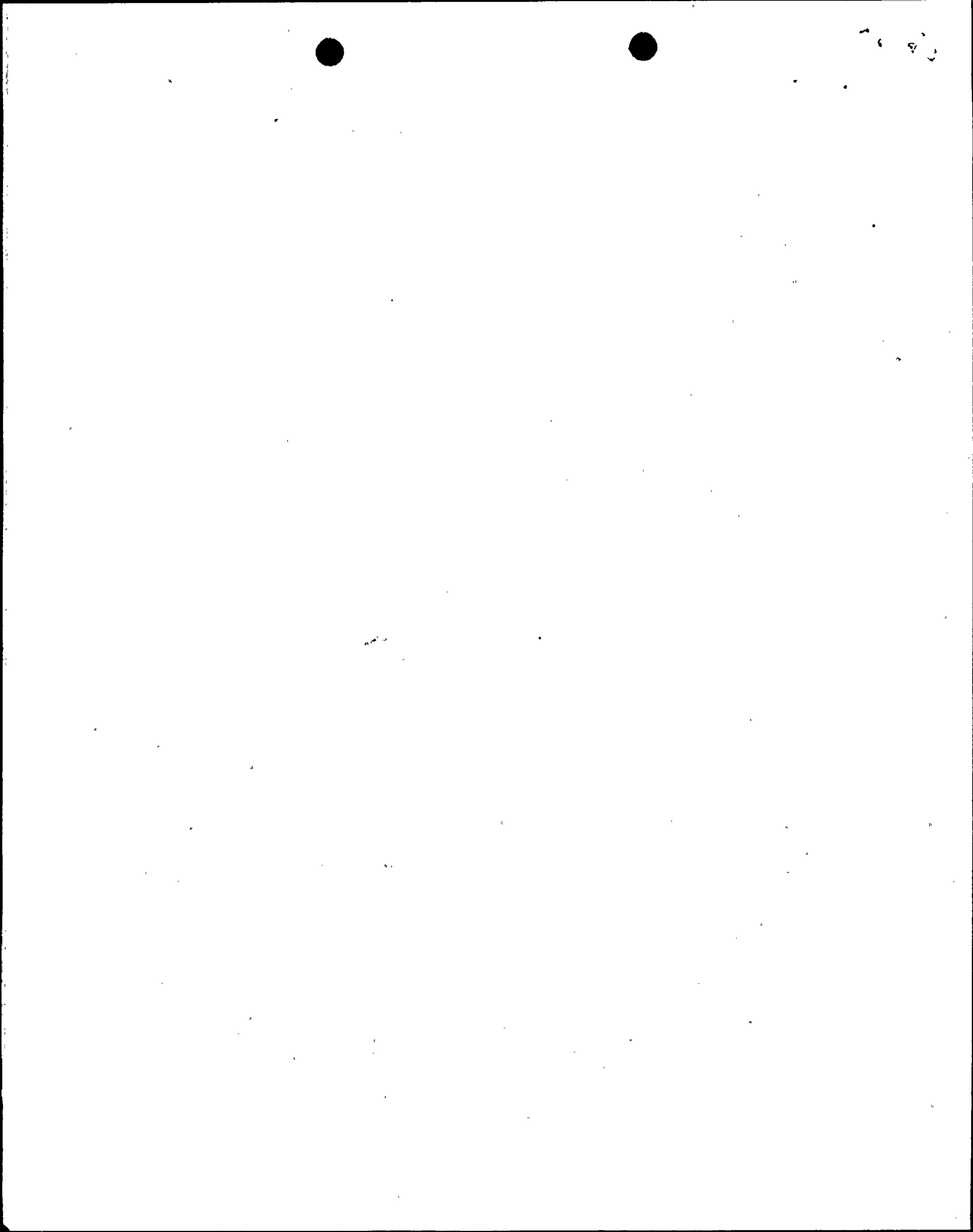
E. SAFETY EVALUATION FOR THE PROPOSED CHANGE

The proposed change will not increase the probability or consequences of any accidents previously analyzed in the FSAR. The proposed change involves a one time only exception from Surveillance Requirement

4.1.3.1.2. This exception would allow for continued operation until the next refueling outage without having to conduct the monthly exercise test (as required by Surveillance Requirement 4.1.3.1.2) for CEA #64. The following reasons explain why this proposed change will not increase the probability or consequences of previously analyzed accidents:

1. The basis for Surveillance Requirement 4.1.3.1.2 is to demonstrate that all applicable CEAs are capable of being inserted into the core when required. All performances of this test to date conclusively show that CEA #64 can be inserted into the core. Additionally, Unit 1 has experienced six reactor trip events during the current cycle of operation. During each reactor trip, CEA #64 fell into the core as required.
2. It is unlikely that an obstruction would develop between now and the end of the current cycle that would render CEA #64 untrippable. However, even if CEA #64 would not drop into the core when required, this condition is within the bounds of the safety analyses. All analyses in which shutdown CEA reactivity is critical require that the most reactive CEA be assumed to remain stuck outside the core (refer to Section 15.0.3.3.3 of the CESSAR FSAR). In addition, SHUTDOWN MARGIN (as defined in Technical Specification bases section 3/4.1.1) would not be adversely affected by this change because it is determined by considering a single malfunction resulting in the highest worth CEA failing to insert.

This proposed Technical Specification change will not create the possibility of a new or different kind of accident from any accident previously analyzed. The proposed change is requested for the duration of Cycle 2 (approximately 3 months) to avoid unnecessary reactor trips and/or the potential operation of the reactor outside the bounds of previously analyzed conditions. Surveillance Requirement 4.1.3.1.2 requires that each CEA, that is not fully inserted in the core, be moved at least 5 inches in any direction every 31 days. CEA #64 has slipped into the core during the last 3 performances of this test. This results in unnecessary perturbations in the core power distribution and could result in a reactor trip. In addition, the potential exists that other CEAs may slip into the core as a result of



the intermittent ground on the lower gripper coil of CEA #64 (this potential only exists when the operators are attempting to move CEA #64). This could potentially put the plant in a configuration outside the analysis reported in the FSAR (i.e., CESSAR Section 15.4.3 describes the analysis for dropping a single CEA but multiple CEA drop events are not analyzed). Therefore, eliminating this test requirement for CEA #64 will reduce the possibility of multiple CEA drops and will reduce the possibility of an event of a different type than any previously evaluated in the FSAR.

The requested change for CEA #64 will not reduce the margin of safety as defined in the basis for the Technical Specifications. All performances of the CEA exercise testing to date have conclusively shown that CEA #64 can be inserted into the core. CEA #64 has successfully fallen into the core as required during 6 reactor trip events during the current cycle of operation. Additionally, the safety analyses already address the condition where the single most reactive CEA fails to drop into the core during design basis events.

F. ENVIRONMENTAL IMPACT CONSIDERATION DETERMINATION

The proposed Technical Specification change request does not involve an unreviewed environmental question because operation of PVNGS Unit 1 in accordance with this change would not:

1. Result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the staff's testimony to the Atomic Safety and Licensing Board (ASLB), Supplements to the FES, Environmental Impact appraisals, or in any decisions of the ASLB; or
2. Result in a significant change in effluents or power levels; or
3. Result in matters not previously reviewed in the licensing basis for PVNGS which may have a significant environmental impact.



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G. MARKED-UP TECHNICAL SPECIFICATION CHANGE PAGES

Enclosed is revised page 3/4 1-22 of the Palo Verde Unit 1 Technical Specifications.

