

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9012280102 DOC.DATE: 90/12/21 NOTARIZED: NO DOCKET #  
 FACIL:STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529  
 AUTH.NAME AUTHOR AFFILIATION  
 HORNE,J.M. Cooper Bessemer Corp.  
 RECIP.NAME RECIPIENT AFFILIATION  
 LEVINE,J.M. Arizona Public Service Co. (formerly Arizona Nuclear Power

SUBJECT: Submits results from investigation re partial welding of  
 jacket water header supports on three engines,during  
 production of KSV nuclear engines in 1979,per LER  
 90-010-00.

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NOTES:Standardized plant.

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EXTERNAL:	EG&G STUART,V.A	4 4	INPO RECORD CTR	1 1
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December 21, 1990

Mr. James M. Levine  
Vice President, Nuclear Production  
Arizona Public Service Company  
Palo Verde Nuclear Generating Station  
P. O. Box 52034  
Phoenix, AZ 85072-2034

Reference: Palo Verde Nuclear Generating Station, Unit 2  
Rocket No. STN 50-529 (License No. NPF-51)  
Licensee Event report 90-010-00

Dear Mr. Levine:

We received a copy of your letter transmitting the subject LER to the NRC, and have investigated the circumstances which led to the partial welding of the jacket water header supports on three of your engines. Our investigation indicates the following:

1. During production of the KSV nuclear engines in 1979, it was recognized that our Manufacturing department was having some difficulty with alignment of the jacket water discharge header and its support brackets, especially on 20 cylinder engines. A new bracket/header system was designed to overcome these problems, and new assembly drawings (KSV-59-27 and KSV-59-29) were completed on 7/31/79. The existing design (KSV-59-12 and KSV-59-23) was made inactive for production and superseded by the new design at that time, but it was decided that all jobs which were already in production would be built to the existing design, to provide continuity.
2. On July 28, 1979, our Manufacturing department requested a drawing change to the existing support bracket, KSV-59-12E, and the assembly drawing KSV-59-12, to permit part of the bracket to be fully welded together and the remainder tack welded during bracket fabrication. The balance of the bracket welding operation was to be done after the brackets were aligned to the header at final assembly. The change was requested to reduce the alignment problems at final assembly while this design was still in use.

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Mr. James M. Levine  
Arizona Public Service  
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3. These changes were approved by the Engineering department, and the drawings were changed on August 31, 1979. The revised drawings (Rev. 9 to KSV-59-12) were entered into our distribution system on September 5, 1979 and September 7, 1979. Because the bracket itself was not considered to be a "critical" part under the single failure criteria, the revision was apparently overlooked by the Quality Control department, and the assembly inspection procedure was not revised to check for the weld-at-assembly operation.
4. The Susquehanna 16 cylinder engines, Waterford 3, Byron, and Braidwood engines were produced prior to this drawing change, and thus were not affected. The Palo Verde, South Texas, and Nine Mile Point engines were built during and subsequent to the change, and thus could potentially have been affected. Both South Texas and Nine Mile Point have indicated verbally that they have inspected the brackets on their engines, and found them to be properly welded. The 20 cylinder Susquehanna engine was built with the KSV-59-27 assembly, so it also is not affected.
5. The Instruction/Parts manual for the Palo Verde engines contains Revision 5 of the KSV-59-12 assembly drawing. This should be updated to Revision 9 to show the weld-at-assembly operation for future reference (note that revisions 6, 7, & 8 were administrative in nature, and have no impact on the current matter). The manual for South Texas presently contains Revision 9 of this assembly. The KSV-59-23 assembly used for Nine Mile Point was never changed to call for the weld operation. We are proceeding to make this drawing change.
6. Because no actual component failures were involved, and it has been determined that there is no generic implication (all engines except the three at Palo Verde had correctly welded brackets), we do not believe this to be a reportable incident under 10CFR Part 21. We are, however, sending a copy of this letter to the NRC and to the other KSV users, to provide additional information with reference to your filing.
7. **CORRECTIVE ACTION:** We have taken the following steps to insure there will be no repetition of this incident:



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- A. One (1) copy of our drawing KSV-59-12, revision 9, is attached. Please file this in your manual, in place of the revision you currently have.
- B. Drawing KSV-59-23 is presently being revised, and will be forwarded to Nine Mile Point for their records when available.
- C. You have already corrected the welding on all of the affected Palo Verde engines.

Since this bracket design has not been used for new production for more than ten years, we feel no other corrective actions are necessary.

Please accept our apology for any inconvenience this incident may have caused you.

Sincerely,

*John M. Horne / RGB*

John M. Horne, Manager  
Nuclear & Analytical Engineering Department

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December 21, 1990



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