

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of )

PACIFIC GAS AND ELECTRIC )  
COMPANY )

(Diablo Canyon Nuclear Power )  
Plant, Units 1 and 2) )

Docket Nos. 50-275  
50-323

(Construction Quality Assurance)

AFFIDAVIT OF M.R. TRESLER, L.R. WILSON, H.W. KARNER, AND J.K. McCALL

STATE OF CALIFORNIA )

COUNTY OF )  
SAN LUIS OBISPO )

ss.

The above, being duly sworn, depose and say:

I, M.R. Tresler, am Assistant to the Unit 1 Project Engineer on the Diablo Canyon Project. I am an employee of Pacific Gas and Electric Company.

I, L.R. Wilson, am Quality Assurance Director for the H.P. Foley Company on the Diablo Canyon Project.

I, H.W. Karner, am Quality Assurance/Quality Control Manager for Pullman Power Products at the Diablo Canyon Power Plant.

I, J.K. McCall, am Group Supervisor, Civil Engineering, for the Bechtel Power Corporation on the Diablo Canyon Project.

8404040417 840319  
PDR ADOCK 05000275  
G PDR

Jl #110 and 111, Motion at 32.

It is alleged that:

According to a current QC inspector, there "are no procedures detailing the proper size, shape or placement" of shims that insure pipe support baseplates are level. These baseplates are installed throughout the plant. (citing 1/16/84, Anon. Aff. at 8-9.)

The uncontrolled installation of shims compromises the plant's safety by raising "serious questions about the reliability of some of the seismic calculation" according to the same inspector. Seismic calculations should be based on distances from the load bearing surface, and as installed the shims bear the weight of the pipe support. Although there also is grout under the baseplates, the shims should be classified as the load bearing surface because they are torqued to the plate and the grout isn't. Grouting is required for seismic installation. To illustrate the significance, shims installed in this manner at other plants have had to be entirely redone. (citing 1/16/84, Anon. Aff. at 9.)

1. The allegation that there are "no procedures detailing the proper size, shape or placement" of shims is correct; however, it has no significance since the remainder of the allegation is incorrect.
2. Pipe supports which attach to floors are designed to provide approximately one inch of grout between the floor and the support base plate. This design assists in precluding corrosion of the base plate in areas subjected to standing water.
3. The base plate installation process begins with anchor bolt installation followed by roughing the concrete surface and placement of the baseplate. The baseplate is placed over the anchor bolts and shimmed to level the plate and provide grouting space. The nuts are then torqued to the value specified by installation procedures.

4. The size, shape and location of the shims is not critical. The shims must be capable only of taking the load from the torquing of the bolts and create no unnecessary stresses in the baseplate. It is obvious that any size shim will be capable of taking the compressive load from bolt torquing and the practice of shim placement adjacent to the bolt, as described by the affiant, prevents unnecessary base plate stresses during torquing.
5. Following construction of the support, it is released for grouting. All supports are grouted by a controlled process under the QC program. Nonshrink grouts are the only grouts used for support base plates. These grouts have the characteristics of either expanding slightly during the curing process or not shrinking at all.
6. Therefore, the plate is in complete contact with the shims and the grout. The grout provides the majority of the bearing area. For this reason, the pipe support calculations are based on the grout/base plate interface being the bearing surface.
7. The anonymous affiant's concern may stem from experience with conventional grouts or concrete which shrink during the curing process. If plants had used conventional grouts for base plates, then shim size, shape and location would require additional control.

DATED: March 18, 1984

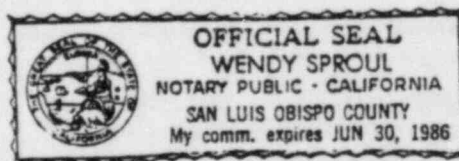
M.R. Tresler  
M.R. Tresler

L.R. Wilson  
L.R. Wilson

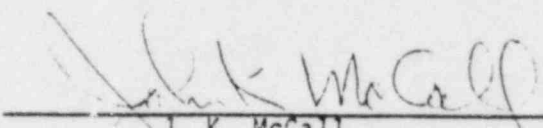
H.W. Karner  
H.W. Karner

Subscribed and sworn to  
before me this 18th day  
of March, 1984

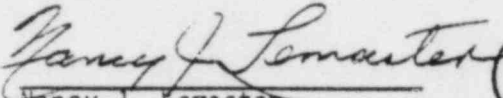
Wendy Sproul  
Wendy Sproul  
Notary Public in and for the  
County of San Luis Obispo,  
State of California.  
My commission expires  
June 30, 1986



DATED March 19, 1984

  
J. K. McCall

Subscribed and sworn to  
before me this 19th day  
of March, 1984

  
Nancy J. Lemaster  
Notary Public in and for the  
City and County of San Francisco  
State of California.  
My commission expires  
April 14, 1986

