UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket Nos. 50-445 and
TEXAS UTILITIES ELECTRIC	)	50-446
COMPANY, et al.	)	
	)	(Application for
(Comanche Peak Steam Electric	)	Operating Licenses)
Station, Units 1 and 2)	)	

AFFIDAVIT OF W.E. BAKER

I, William E. Baker, being first duly sworn hereby depose and state, as follows:

I am the Senior Project Welding Engineer employed by Brown & Root, Inc. at Comanche Peak. My educational and professional qualifications are attached to Applicants Exhibit 177, admitted into evidence in this proceeding at Tr. 9976.

The purpose of this affidavit is to respond to the Licensing Board's request for information as set forth below:

> [T]he Board is concerned with obtaining an explanation for why hold points are required on authorized welds[1] but appear not to be required at all for in-process welds. What is there about repairs of in-process welds which makes it appropriate for the welders to make their own inspection of cleanliness, without a hold point, when such an inspection, solely by the welder, is not considered sufficient for repair of a final

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1 It is my understanding that the term "authorized welds" was clarified by a phone conference of November 1, 1984 with Judge Bloch to mean welds identified as defective during inspections and repaired pursuant to the resultant repair documentation.

> weld? This just does not seem to make sense and we need an explanation. [October 29 Board Memorandum at 1-2.]

In response to the Board's request, I will discuss below the requirements for and purposes of fit-up and cleanliness inspections for both initial and repair welding. (For the purposes of this Affidavit, the term inspections refers to inspections performed by individuals certified in accordance with ANSI N45.2.6, or QC inspectors, as is the case at CPSES.)

For initial welding, the only inspections specifically mandated by the welding codes are final inspections. See e.g., ASME Code, Section NX-5000. However, to assure conformity with the intent of the codes, Applicants' welding program has established in-process inspection hold points. (As it relates to ASME welding, our welding program has been approved by both the ASME and the independent Authorized Inspection Agency.) For example, our welding program requires a fit-up inspection for all full penetration and some partial penetration welds (not fillet welds). (Such fit-up inspections would not be applicable to in-process corrections.) In addition, it is our policy that whenever a fit-up inspection is required, a cleanliness inspection will also be conducted. The purpose of the cleanliness inspection is to assure that the inside diameter of any pipe is clean, all oil or contaminants resulting from machining are removed and all paint is removed, as applicable. (The purpose of such cleanliness hold points are also obviously inapplicable to in-process corrections.)

With regard to welds repaired pursuant to repair documentation, our welding program requires that a standard cleanliness hold point be imposed for all repairs requiring grinding and rewelding. The purpose of the cleanliness hold point is to assure that all paint, rust or other contaminants which may have been introduced subsequent to the completion of the weld but prior to the repair have been removed prior to welding. (This purpose is again not applicable to in-process corrections.)

In addition, neither the welding codes nor our welding program requires a specific hold point immediately before welding a "cover pass" for either initial or repair welding. With specific regard to in-process corrections, welders are taught proper interpass cleaning techniques including not only the physical cleanliness of the welds, but also removal of unacceptable indications such as lack of fusion, porosity etc., prior to depositing additional weld metal.

While the Board's request for information and my response focuses on cleanliness and fit-up inspections or inspections immediately proceeding a cover pass, the ASME Code[2] requires that when necessary, unacceptable defects discovered by required ASME inspections, must be removed and in some cases the cavity inspected to assure removal. The primary purposes of these requirements are (1) to assure that the defect, which for some reason had in the first instance escaped the welder's detection,

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2 Testimony reflects that Mr. and Mrs. Stiner were only qualified to perform limited ASME welding, i.e., welding supports to ASME piping systems (Tr. 9981-82).

is indeed found and removed, and (2) to attempt to minimize the number of repairs on a specific weld. After repair, the weld must undergo the same level of inspection which detected the original defect.

I might add that neither the AWS nor ASME Code requires in-process corrections to be inspected. Further, in my opinion these inspections are not necessary, warranted or justifiable to produce structurally sound welds. I know of no other welding engineers or code specialists who would advocate such inspections. Indeed, to my knowledge no one in the entire welding industry requires such inspections.

A weld is not technically "defective" or cannot be said to have a "defect" until inspected and evaluated by the designated authorities (e.g., QC personnel) to the acceptance criteria specified by the applicable code.

W.E. Baker

W.E. Baker*

STATE OF TEXAS
COUNTY OF SAN PATRICIO

Subscribed and sworn to before me this 9th day of November, 1984.

Bill J. Hodgins

Notary Public Bill J. Hodgins
MY COMMISSION EXPIRES MARCH 25, 1985

* This is a telecopy of the original last page of W.E. Baker's Affidavit. The original will be provided under separate cover.

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(Comanche Peak Steam Electric Station, Units 1 and 2)	)	Operating Licenses)
	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicants' Response to Board Request for Raw Data Regarding Cinching Down U-Bolts" and "Applicants' Response to Board Request for Additional Information Regarding In-Process Weld Repair Hold Point" in the above-captioned matter were served upon the following persons by deposit in the United States mail, first class, postage prepaid, this 9th day of November, 1984.

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