SEP 14 1984

ENCLOSURE

SAFETY EVALUATION OF
FIELD SPLICES INSIDE
CONTROL PANELS

COMANCHE PEAK

In Amendment 44 to the Comanche Peak FSAR, the applicant took exception to IEEE-Std-420, "Trial Use Guide For Class 1E Control Switchboards For Nuclear Power Generating Stations" in including use of wire splices inside control panels. Since this standard has not been endorsed by NRC, our evaluation of this design provided below is based on staff's engineering judgement.

At Comanche Peak, wire splices are only used in limited applications where the field wires were not long enough to terminate on the terminal block. The wire splices are only allowed on low energy circuits and are used inside control panels which provide reasonable assurance that the splices are well protected from any postulated external event effects. The cables are already pulled and the splices are made at the end of the cable, thereby precluding any tensile stresses on the splices which have potential to degrade them. In addition, the wire splices are butt splices. The crimping technique used for the splices are extensively used for terminal lugs at almost all nuclear plants. As added assurance, we require that adequate provisions be included in the installation procedures to verify operability of those circuits for which splices are being used. Also, we require that the wire splices used are adequately qualified for expected service and staggered within the panel so that they are not adjacent to each other in the same bundle

pressing against one another. We request the Region to verify that these wire splices, as a minimum, conform with the above stated requirements.

Based on the above rationale, we conclude that the limited use of cable splices in low energy circuits within control panels in Comanche Peak is acceptable.