



June 8, 1990

U. S. Nuclear Regulatory Commission
Vendor Branch
Washington, D.C. 20555

Attention: K. Naidu

This letter is in response to the Part 21 Report issued by Connecticut Yankee, Haddam Neck Plant concerning the ABB K-Line circuit breakers on April 4, 1989.

The problems reported were mainly workmanship problems or misunderstanding of instructions, but not generic in nature.

All of the problems were resolved with Connecticut Yankee and closed out to their satisfaction. In most cases the problems were reworked by ABB personnel at the job site, or in the case of circuit breaker instruction book misunderstandings, clarification was provided by letters.

Specific answers to the concerns expressed by Connecticut Yankee are addressed below. These responses are in the same sequence and are answered by the same number included in their report.

1. The loose hardware was corrected by ABB personnel at the jobsite. Corrective action in the factory was initiated in the factory by additional training of assembly and inspection personnel.
2. The instruction books were revised for the K-225 through K-2000 circuit breaker tripper bar load to be no greater than 29 ounces for the electro-mechanical trip (no minimum value is specified), and no greater than 50 ounces for the solid state trip systems. The trip devices at Haddam Neck were all of the solid state type. The Connecticut Yankee report cited the trip values as being between 30.4 and 43.2 ounces. These values are all within specification. The "failures" reported were failures to meet the values listed in the old instruction book for the electro mechanical trip device.
3. The adjustment instructions for the shunt trip device have been clarified to prevent the misunderstanding that occurred here and in the next Item #4 on the magnetic latch. In both cases Connecticut Yankee reported that "there was insufficient travel

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on the trip rod (and the latch adjustment) to reach this position"! In both cases these statements are incorrect. The adjustments were being made incorrectly. No hardware changes were required to correct these conditions. The instructions have been revised to clarify adjustments of both the mag latch and the shunt trip. It is unfortunate that the Connecticut Yankee report implies a design deficiency. This is not so. In addition to letters sent to Connecticut Yankee with instructions for adjusting the shunt trip and magnetic latch, revised instruction books were mailed to them on April 1990. Copies of these revised manuals are enclosed with this letter for your information.

4. Magnetic latch adjustment (see #3 above).
5. The control wire termination that was reported to be crimped incorrectly was corrected at the job site.
6. A retaining ring was missing from one side of a pin that connects the connecting rod to the jack shaft. This was apparently left off during assembly operations in the factory. Inspection procedures have been added to push the pin to each side to check for proper installation of the ring since this is difficult to check visually on the fully assembled circuit breaker.
7. Terminal strips were reported to be cracked on two circuit breakers. The cracks would not affect the circuit breaker operation but the devices were changed out.
8. Four (4) motor disconnect switches were broken. This was apparently due to shipping or handling damage. They were replaced with new switches.
9. On one circuit breaker two (2) retaining rings on one side of the pins used to secure the primary contact fingers in the contact assembly were missing. This was an assemblers omission that was not detected by inspection. Assembly and inspection personnel have been instructed to check all retaining rings for correct and complete installation.



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10. The instruction book for the K-3000 circuit breaker does not contain a requirement to check the tripper bar load. This should not have been reported as a problem. There is no requirement to check tripper bar load on this circuit breaker. The design of this circuit breaker is different from the K-1600.
11. Two arc chutes were found broken on one K-3000 circuit breaker. This was attributed to shipping and handling damage. Both items were replaced with new parts.

E. W. Rhoads
Manager, Quality Assurance

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Enclosures