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Subject: Additional Information Pertaining to 10CFR Part 21 Report Regarding ABB
Circuit Breaker Lubrication

Reference: ABB Power Distribution, Inc. letter of March 21, 1989 (copy enclosed)

This letter is submitted to provide additional information to that provided in the referenced letter which addressed a 10 CFR Part 21 report filed by D.C. Cook nuclear plants of Indiana and Michigan Power on March 3, 1989.

In performing refurbishment activities on circuit breakers during the past few months, ABB has found that the condition of the lubricant (i.e., the extent of hardening and contamination) cannot easily be determined without complete disassembly of the breaker mechanism. This is due to the fact that some of the mechanism components requiring lubrication are not visible or accessible for inspection without completely disassembling the mechanism of the breaker.

The specific types of circuit breakers where hardened lubricant has been found recently are as follows:

600V Class - K600/800S - 225A/600A/800A
K1600A - 1600A
K3000 - 3000A

5KV Class - 5HK 250/350 - 1200A/2000A/3000A

7.5KV Class - 7.5 HK 500 - 1200A and 3000A

The evaluation of these breakers revealed that operational failures (i.e., failure to charge, close or trip on command) were associated with hardening lubricants on the K3000 and all HK breakers. Smaller frame K-Line breakers operated satisfactorily although sluggishly.

The above list should not be considered a complete list of all types of ABB breakers where this condition could occur.

Based on our experience, it is the recommendation of ABB that breakers be completely disassembled to the component level in order to effectively evaluate the condition of the lubricants. Based on the results of the evaluation of the condition of the lubricants, the breaker should then be relubricated as needed.

If further information regarding this issue is needed, please contact me at:

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