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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

August 15, 1986

IE INFORMATION NOTICE NO. 86-66: POTENTIAL FOR FAILURE OF REPLACEMENT AC COILS SUPPLIED BY THE WESTINGHOUSE ELECTRIC CORPORATION FOR USE IN CLASS 1E MOTOR STARTERS AND CONTACTORS

Addressees:

All nuclear power reactor facilities holding an operating license or a construction permit.

Purpose:

This notice is to alert licensees that certain Westinghouse Electric Corporation ac coils have shown a higher failure rate than previously experienced. These coils are similar to Class 1E coils manufactured and supplied by Westinghouse as replacement parts for use in Class 1E motor starters and contactors.

It is expected that the licensees will review this information for applicability to their facilities and consider actions, if appropriate, to preclude the use of the defective coils. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written notice is required.

Description of Circumstances:

On June 19, 1986 Westinghouse Water Reactor Division (WRD) submitted a 10 CFR Part 21 report to the NRC indicating a higher-than-normal failure rate for ac coils. The report stated that most of the failures had been encountered during the initial hours of energization. These coils were manufactured at the Westinghouse Control Division (WCD) facility in Coamo, Puerto Rico, between June 1, 1984 and December 31, 1985 and are provided as replacement parts for use in motor starters and contactors.

Discussion:

During early June 1986, Westinghouse concluded that the Class 1E coils used in certain motor starters and contactors in nuclear plants could be subject to failure. This conclusion was based on information from various non-nuclear customers about failures of similar coils. However, it should be noted that up to this time no nuclear power plant Class 1E coil failures had been reported to WRD.


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Discussions between Westinghouse divisions have determined that the non-Class 1E coils manufactured between June 1, 1984 and December 31, 1985 experienced a significant increase in failure rate compared to prior history. These reported coil failures occurred primarily less than 1 hour to several hours after the coils had been continuously energized. To correct the problem, WCD made a number of manufacturing changes that included revised materials and processes. Westinghouse tests performed on newly manufactured coils have indicated that the modified coils are not subject to the same failures as those coils manufactured during June 1, 1984 through December 31, 1985. Westinghouse states, "Any coil manufactured since the beginning of 1986 is free of the potential for such failures."

WRD has determined that any coil which has been successfully energized continuously (not cumulative) for 5 days or more is expected to perform satisfactorily and need not be replaced. Attached is a list of the plants with potentially defective coils that have been notified by WRD, followed by the WRD list of date codes of potentially defective coils.

For facilities not on the list and using or stocking any WCD coils with one of the listed date codes, it is suggested that the Westinghouse Water Reactor Division be contacted for information on the need for corrective action.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact the Regional Administrator of the appropriate NRC regional office or this office.


Edward L. Jordan, Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

Technical Contact: L. B. Parker, IE
(301) 492-7190

Attachments:

1. List of Facilities and Date Codes
2. List of Recently Issued IE Information Notices

FACILITIES NOTIFIED BY WESTINGHOUSE

1. Maine Yankee
2. Oconee
3. Prairie Island
4. San Onofre
5. Three Mile Island
6. Turkey Point
7. Vermont Yankee

DATE CODES OF POTENTIALLY DEFECTIVE COILS

	<u>WEEK OF MANUFACTURE NUMBERS</u>	<u>1984 DATE CODES</u>	<u>1985 DATE CODES</u>
	01		CRSEC
	02		CRWEC
	03		CRIEC
	04		CRTEC
	05		CRCEC
	06		CRHEC
	07		CRGEC
	08		CREEC
	09		CRAEC
	10		CSREC
	11		CSSEC
	12		CSWEC
Approx 3-31	13		CSIEC
	14		CSTEC
	15		CSCEC
	16		CSHEC
	17		CSGEC
	18		CSEEC
	19		CSAEC
	20		CWREC
Approx 6-1	21	CWSET	CWSEC
	22	CWWET	CWWEC
	23	CWIET	CWIEC
	24	CWTET	CWTEC
	25	CWCET	CWCEC
Approx 7-1	26	CWHET	CWHEC
	27	CWGET	CWGEC
	28	CWEET	CWEEC
	29	CWAET	CWAEC
	30	CIRET	CIREC
	31	CISET	CISEC
	32	CIWET	CIWEC
	33	CIJET	CIIEC

	<u>WEEK OF MANUFACTURE NUMBERS</u>	<u>1984 DATE CODES</u>	<u>1985 DATE CODES</u>
	34	CITET	CITEC
	35	CICET	CICEC
	36	CIHET	CIHEC
	37	CIGET	CIGEC
	38	CIEET	CIEEC
Approx 9-30	39	CIAET	CIAEC
	40	CTRET	CTREC
	41	CTSET	CTSEC
	42	CTWET	CTWEC
	43	CTIET	CTIEC
	44	CTTET	CTTEC
	45	CTCET	CTCEC
	46	CTHET	CTHEC
	47	CTGET	CTGEC
	48	CTEET	CTEEC
	49	CTAET	CTAEC
	50	CCRET	CCREC
	51	CCSET	CCSEC
Approx 12-31	52	CCWET	CCWEC

NOTE: Any coil with one of these date codes should be treated as potentially defective and appropriate action taken.

LIST OF RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
86-65	Malfunctions Of ITT Barton Model 580 Series Switches During Requalification Testing	8/14/86	All power reactor facilities holding an OL or CP
86-64	Deficiencies In Upgrade Programs For Plant Emergency Operating Procedures	8/14/86	All power reactor facilities holding an OL or CP
86-63	Loss Of Safety Injection Capability	8/6/86	All PWR facilities holding an OL or CP
86-62	Potential Problems In Westinghouse Molded Case Circuit Breakers Equipped With A Shunt Trip	7/31/86	All power reactor facilities holding an OL or CP
86-61	Failure Of Auxiliary Feed-water Manual Isolated Valve	7/28/86	All power reactor facilities holding a CP
86-60	Unanalyzed Post-LOCA Release Paths	7/28/86	All power reactor facilities holding an OL or CP
86-31 Sup. 1	Unauthorized Transfer And Loss Of Control Of Industrial Nuclear Gauges	7/14/86	All NRC general licensees that possess and use industrial nuclear gauges
86-59	Increased Monitoring Of Certain Patients With Implanted Coratomic, Inc. Model C-100 and C-101 Nuclear-Powered Cardiac Pacemakers	7/14/86	All NRC licensees authorized to use nuclear-powered cardiac pacemakers
86-58	Dropped Fuel Assembly	7/11/86	All power reactor facilities holding an OL or CP

OL = Operating License
CP = Construction Permit