

DONALD C. COOK NUCLEAR PLANT - UNITS NO. 1 AND 2  
ASME B & PV CODE SECTION XI  
Pump Inservice Test Program

- A. The pump test program shall be conducted in accordance with Section XI, Subsection IWP of the 1983 Edition of the ASME Boiler and Pressure Vessel Code through Summer 1983 Addenda, except for specific code relief, requested in accordance with 10 CFR 50.55a(g)(5)(iii). Exemptions or amendments are identified in Code Relief Request I.
- B. This pump test program is for the 2nd ten year inspection/test interval commencing July 1, 1986 for both Unit 1 and Unit 2.
- C. The pump test program was developed employing the classification guidelines contained in Regulatory Guide 1.26, Revision 2 for Quality Groups B and C, and the definition of the reactor coolant system boundary contained in 10 CFR 50.2 (v) for Group A. (Quality Groups A, B, and C are the same as ASME Class 1, 2, and 3, respectively). Using these guidelines and IWP-1100, the pump list attached as Table A was developed. Table A identifies the following:
  - i. The pump number and service it performs along with the drawing identification number on which it is found.
  - ii. The applicable test parameters:
    - 1. Speed
    - 2. Inlet Pressure
    - 3. Differential Pressure - determined as the difference between discharge and suction pressures
    - 4. Flow Rate
    - 5. Vibration Amplitude
    - 6. Bearing Temperature
  - iii. The test frequency required.

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DONALD C. COOK NUCLEAR PLANT - UNITS NO. 1 AND 2  
PUMP INSERVICE TEST PROGRAM  
TABLE A  
PROGRAM SUMMARY

TEST PARAMETERS

Pump Service (Drawing No.)	Pump Number	Speed N	Inlet Pressure $P_i$	Differential Pressure DP	Flow Rate Q	Vibration Amplitude V	Bearing <sup>c</sup> Temperature $T_b$	Test Frequency (1)
Auxiliary <sup>a</sup> Feedwater (5106A)	PP-3W	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-3E	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-4	Yes	Yes	Yes	Yes	Yes	Yes	Quarterly
Essential <sup>b</sup> Service Water (5113)	PP-7W	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-7E	No	Yes	Yes	Yes	Yes	Yes	Quarterly
Centrifugal Charging (5129)	PP-50W	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-50E	No	Yes	Yes	Yes	Yes	Yes	Quarterly
Boric Acid <sup>b</sup> Transfer (5131)	PP-46-1	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-46-2	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-46-3	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-46-4	No	Yes	Yes	Yes	Yes	Yes	Quarterly
Component Cooling Water (5135A)	PP-10W	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-10E	No	Yes	Yes	Yes	Yes	Yes	Quarterly
Safety <sup>a</sup> Injection (5142)	PP-26N	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-26S	No	Yes	Yes	Yes	Yes	Yes	Quarterly
Residual <sup>a</sup> Heat Removal (5143)	PP-35W	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-35E	No	Yes	Yes	Yes	Yes	Yes	Quarterly

# TEST PARAMETERS

Pump Service (Drawing No.)	Pump Number	Speed N	Inlet Pressure $P_i$	Differential Pressure DP	Flow Rate Q	Vibration Amplitude V	Bearing <sup>c</sup> Temperature $T_b$	Test Frequency
Containment <sup>a</sup> Spray (5144)	PP-9W	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-9E	No	Yes	Yes	Yes	Yes	Yes	Quarterly
Diesel Fuel <sup>d</sup> Oil Transfer (5151A & C)	QT-106-AB1	No	No	No	Yes (1)	Yes	No	Quarterly
	QT-106-AB2	No	No	No	Yes (1)	Yes	No	Quarterly
	QT-106-CD1	No	No	No	Yes (1)	Yes	No	Quarterly
	QT-106-CD2	No	No	No	Yes (1)	Yes	No	Quarterly
Spent Fuel Pit Cooling (5136)	PP-31N	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	PP-31S	No	Yes	Yes	Yes	Yes	Yes	Quarterly
Jacket Water (5151B & D)	QT-130-AB1	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	QT-130-AB2	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	QT-130-CD1	No	Yes	Yes	Yes	Yes	Yes	Quarterly
	QT-130-CD2	No	Yes	Yes	Yes	Yes	Yes	Quarterly

a These pumps are tested on test, bypass or minimum flow loops - per Section XI Subarticle IWP-1400.

b Inlet pressure is in head of liquid, ft.

c Bearing temperatures will be measured annually, per Section XI IWP-3300, except as noted.

d These positive displacement pumps are tested in full accordance with ASME/ANSI OMa-1988 Addenda to ASME/ANSI Standard OM-1987, "Operation and Maintenance of Nuclear Power Plants", Part 6. Under Part 6, differential pressure and bearing temperatures are not required test parameters for positive displacement pumps. Per Table A, Inservice Test Parameters, discharge pressure is the required test parameter rather than differential pressure for this type of pump. Reference values will be established for discharge pressure only. Code relief request for exemption from bearing temperature measurement is rescinded. Testing in accordance with Part 6 of ASME/ANSI OM-1987 is allowed per Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability": Code Case N-465, "Alternate Rules for Pump Testing - Section XI, Division 1".

(1) Refer to Code Relief Request I

DONALD C. COOK NUCLEAR PLANT - UNITS NO. 1 AND 2  
PUMP INSERVICE TEST PROGRAM  
CODE RELIEF REQUEST I  
Duration of Tests

Request that the duration of pump operation for testing, per Section XI Subarticle IWP-3500, be amended for the Diesel Fuel Oil Transfer Pumps.

These pumps supply the diesel generator fuel oil day tank. A conservative level is maintained in the tank to meet the minimum capacity per Technical Specification requirements. Due to the limited capacity of this tank, the pump operating test range is restricted. It is requested to record test parameters immediately after pump operation has stabilized.