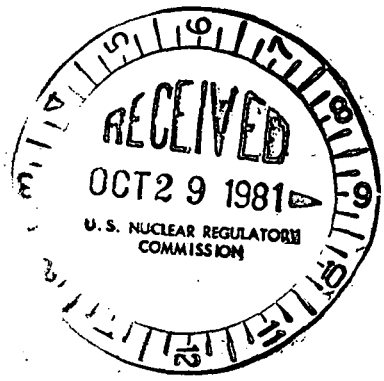
Consumers Power Company

General Offices: 212 West Michigan Avenue, Jackson, MI 49201 • (517) 788-0550

October 27, 1981



Director, Nuclear Reactor Regulation
Att Mr Dennis M Crutchfield, Chief
Operating Reactors Branch No 5
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 -
PALISADES PLANT - UPDATE OF INSERVICE PUMP TESTING PROGRAM

Consumers Power Company Palisades Plant is updating its inservice pump testing program to comply with requirements of the ASME B & PV Code, Section XI; 1977 edition with Addenda through Summer 1979. This is done in accordance with 10 CFR 50.55a.

Pursuant to 10 CFR 50.55a (g) and the Palisades Technical Specifications, the relief request from certain code items is the same as the one submitted by Consumers Power Company April 25, 1980. A copy of this request is provided for your information as Attachment 1.

Brian D Johnson
Senior Licensing Engineer

CC JGKeppler, USNRC
NRC Resident Inspector - Palisades

Attachment

A047
S11

ATTACHMENT I

INSERVICE TESTING OF PUMPS
REQUESTS FOR EXEMPTIONS
TO SECT XI 77S78

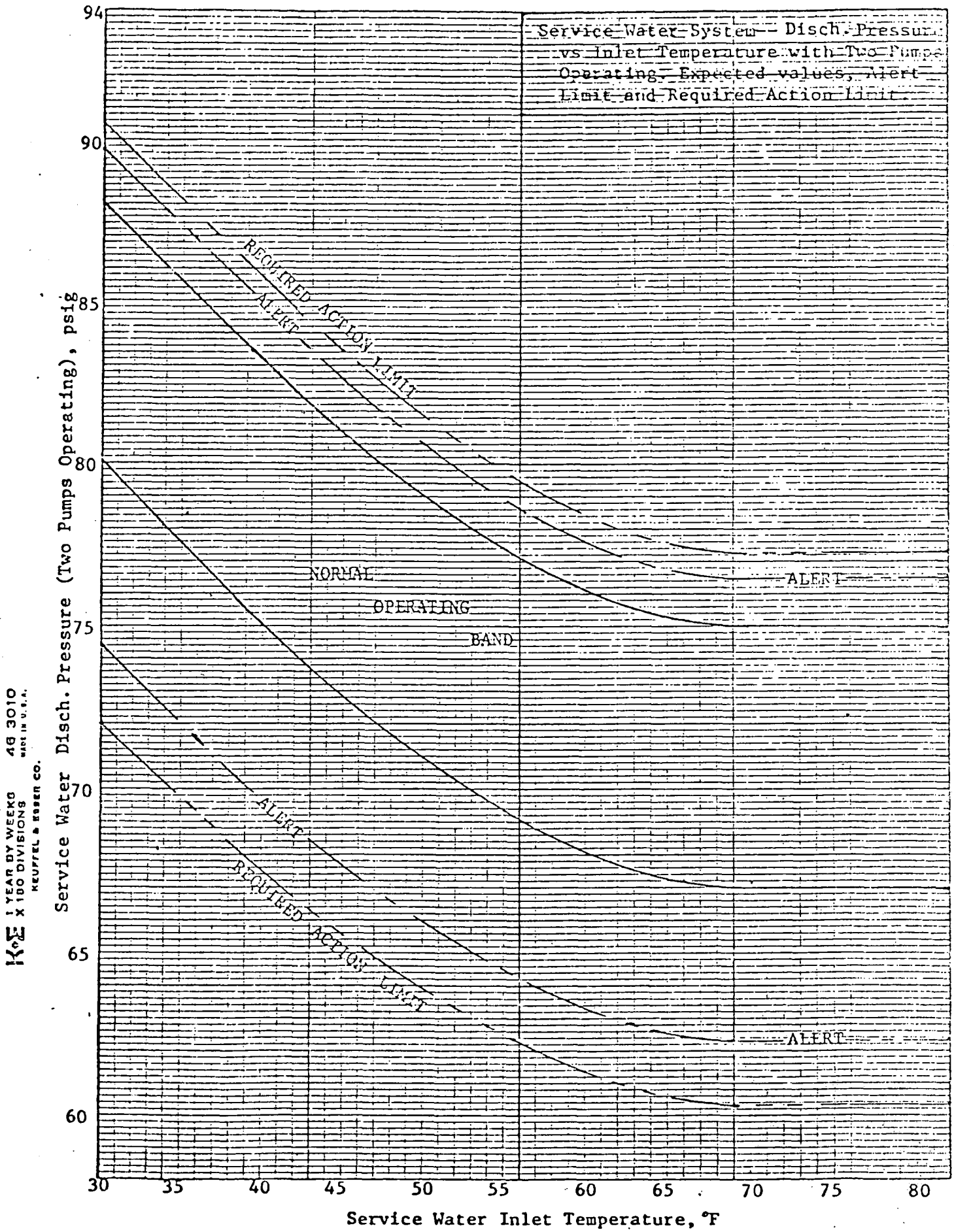
1. In general, instrumentation is not available to measure both flow and discharge pressure of the pumps included in the test program. Previous Code editions allowed measurement of either flow or differential pressure on pumps in fixed-resistance systems, but the 1977 edition now requires both to be measured. For systems in which the test flow path configurations are duplicated (i.e., system resistance essentially constant), both flow and differential pressure are responsive to pump hydraulic performance, and therefore, either parameter will give adequate information to verify acceptable pump operation.

   For monthly tests of pumps in systems which have essentially fixed operating configurations and flow resistance characteristics, therefore, either flow or pressure, but not necessarily both, will continue to be monitored. This approach is adequate to allow early detection and correction of degrading pump performance.

2. In the case of the service water system, there is no installed flow instrumentation. This system can not be considered a fixed resistance system, however, in that pump flows will vary because of numerous temperature control valves which automatically change flows to supplied components. Since the system heat loads during normal plant operation are essentially constant, pump flows and the resulting discharge pressures can be considered as functions of Lake Michigan water temperature. On this basis, a graph of expected pump discharge pressures vs Lake temperature was developed using approximately three years operating data (see attachment), and this graph, in turn, has been used as the basis for the pump discharge pressure acceptance criteria as allowed by Article IWP-3210 of the Code. In the 2 1/2 years this graph has been used, it has shown itself to predict the pump pressures with reasonable accuracy.

   In addition, the flow requirement for service water during normal plant Operation, per the FSAR, is almost identical to the flow required following an MHA (14,275 gpm vs 14,330 gpm). Therefore, the ability of the service water pumps to handle cooling requirements during normal operation is, in itself, continuous confirmation of the ability of the system to handle the peak heat load following an MHA.

   Therefore, for the monthly service water pump tests, a graph of expected pump performance based on historical data will continue to be used to monitor the performance of the pumps. This method is adequate to allow early detection and correction of degrading service water pump performance.


Service Water System -- Disch. Pressure vs Inlet Temperature with Two Pumps Operating, Expected values, Alert Limit and Required Action Limit.
Service Water Disch. Pressure (Two Pumps Operating), psig
94
90
85
80
75
70
65
60
30
35
40
45
50
55
60
65
70
75
80
Service Water Inlet Temperature, °F
REQUIRED ACTION LIMIT
ALERT
NORMAL
OPERATING
BAND
ALERT
ALERT
REQUIRED ACTION LIMIT
K&E 1 YEAR BY WEEKS 46 3010
X 180 DIVISIONS
KEUFFEL & ESSER CO.