

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 666-6911

July 13, 1984

Docket No. 50-423
B11266

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

- Reference:
- (1) W. G. Council letter to B. J. Youngblood, Submittal of Responses to Draft SER Open Items, dated April 12, 1984.
 - (2) W. G. Council to B. J. Youngblood, Submittal of Revised Responses to Effluent Treatment System Open Items, dated June 19, 1984.
 - (3) W. G. Council to B. J. Youngblood, Revised Response to Effluent Treatment System Open Item, dated June 29, 1984.
 - (4) B. J. Youngblood letter to W. G. Council, Draft SER for Millstone Nuclear Power Station, Unit No. 3, dated December 20, 1983.

Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3
Submittal of
Revised Response to Effluent Treatment System Open Item

References (1), (2) and (3) responded to Effluent Treatment System open items identified in Reference (4). As a result of further discussions with the NRC, we

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PDR ADOCK 05000423
E PDR

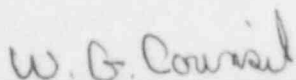
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are providing a revision to ETSB-1 on instrumentation for ESF Atmospheric Cleanup Systems.

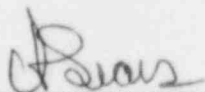
Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.

BY NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent



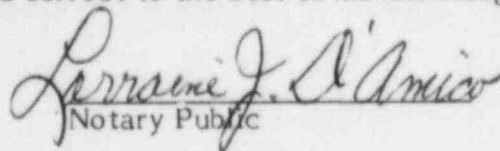
W. G. Council
Senior Vice President



BY: C. F. Sears
Vice President
Nuclear and Environmental Engineering

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me C. F. Sears, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.



Notary Public

My Commission Expires March 31, 1988

Open Items

Effluent Treatments Branch

ETSB-1: ESF Atmosphere Cleanup System

2. Pressure drop across filter sections is verified to be not more than the Technical Specification pressure drop with a specified flow rate through the filter.
 - o At least once per 18 months.
3. In-place testing will establish the design flow with system resistance corresponding to design dirty filter condition. The dp alarm setpoints for each ESF filter train system can be set to correspond to the (-10%) flow condition through the respective filter train system to ensure that during all operating conditions flow is maintained within $\pm 10\%$ of design flow.

The ESF systems fans are fixed speed fans, and the system flow rates vs. pressure drops will be verified during plant operation utilizing the attached fan curves.

4. The surveillance tests and controls described ensure that the pressure drop across filter sections and flow rates through the ESF filters are maintained within the Tech. Spec. limits, which will ensure that the ESF filters will perform their safety function.

With the above system design and surveillance requirements, there are no credible events which would cause the flow to vary such that the filters would not properly function. All of the air operated dampers are designed to fail in the safe position. Manually operated dampers are not postulated to change position. This will insure minimum flow rates through the filters.

Open Items

Effluent Treatments Branch

ETSB-1: ESF Atmosphere Cleanup System

SRP Section 6.5.1, Revisions 1 and 2, and RG 1.52, Revisions 0, 1, and 2, call for each ESF atmosphere cleanup system to be instrumented to signal, alarm, and record pressure drop and flow rate at the control room. Millstone Unit 3 ESF atmosphere cleanup systems are provided with only local pressure differential indicators across each filter with a common alarm in the control room for high pressure differential across the filter bank. The pressure differentials across each filter are transmitted to the plant computer in the main control room. The applicant stated in the FSAR that periodic surveillance tests will be performed to ensure design flow rates through each ESF atmosphere cleanup system. The staff will complete its evaluation after further discussion with the applicant regarding indicators and recorders in the main control room. This issue will be addressed in the final SER. This is an open item.

Response:

For the ESF atmosphere cleanup system, high differential pressure across a filter section is alarmed in the control room and monitored by the plant computer to identify the section having the high differential pressure. In the event of a high differential pressure alarm, operator action can be taken to start the standby filter train. In addition, the standby system will start automatically if air flow through the filter is low.

As described in FSAR section 1.9, continuous indication or recording of air flows through individual ESF filtration units is not considered necessary to ensure reliable system operation. Periodic surveillance tests ensure that system balancing is adequate to maintain operating flow rates through filtration units within design limitations. Failure of system fans to function is sensed by flow sensors which automatically start standby units. Sensors to detect high air flow conditions are not necessary since the system is balanced such that the flow is limited to ensure proper performance of the filtration units.

Periodic surveillance tests, as described herein, ensure that system flow rates will be within unit design parameters.

Surveillance tests that will be conducted on ESF atmosphere cleanup systems include the following:

1. Filter flow rate verified to be equal or greater than the flow rate as specified in the Technical Specification
 - o At least once per 18 months
 - o After any structural maintenance on the HEPA filter or charcoal absorber housing
 - o Following painting, fire, or chemical release in any ventilation zone communicating with the system while in operation.

20,630 CFM



PERFORMANCE CURVES

BUFFALO FORCE CO.
FOR **NORTHEAST UTILITIES - STONE & WEBSTER - MILLSTONE #3**
SIZE & TYPE **28B ADJUSTAX ARR 4,**
3500 RPM **70 °F**

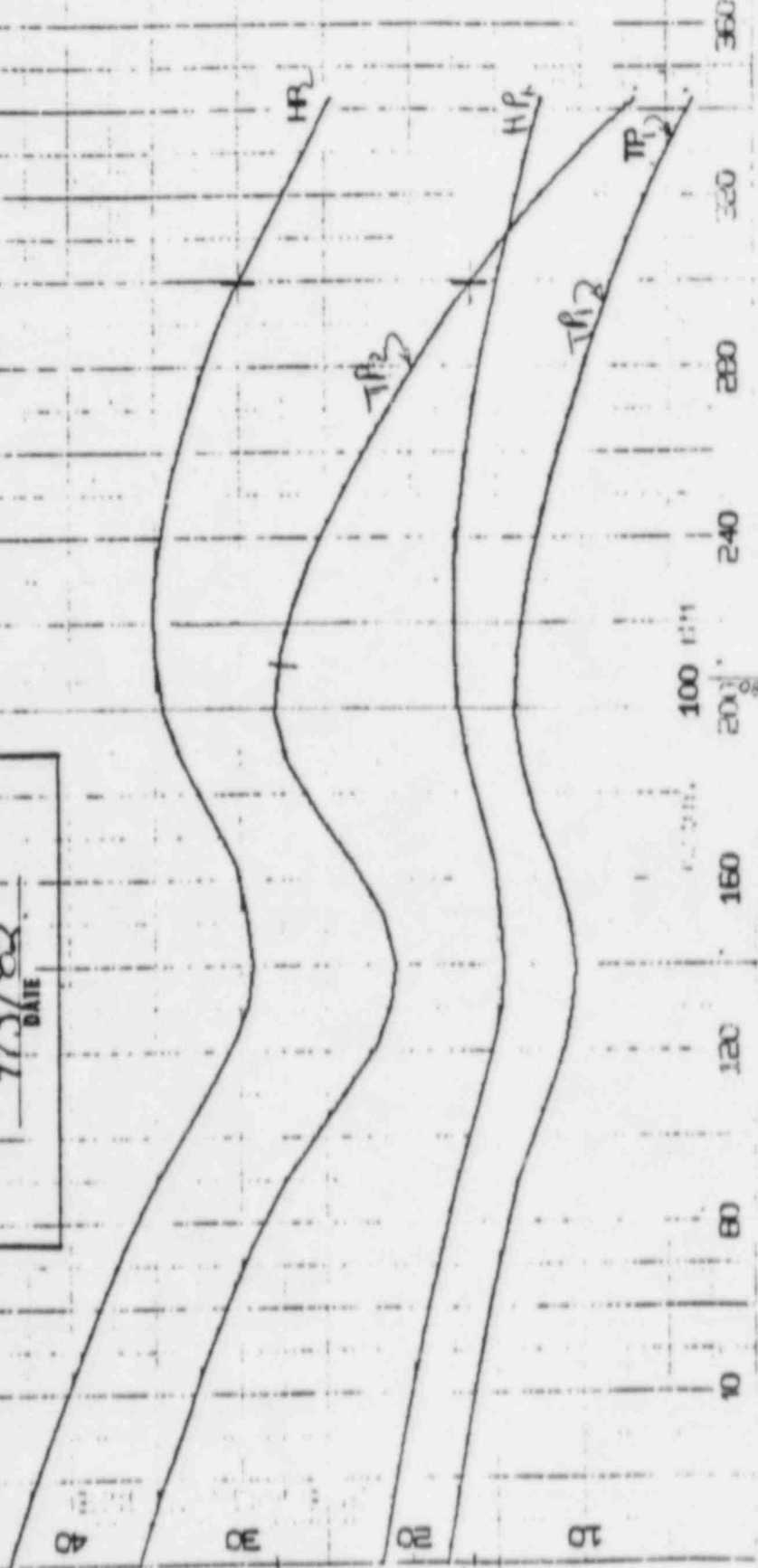
RUFFALO, N.Y.

PD **115416**
ORDER **8235023-026**
DATE **9/3/82**
BY **CBI**

28 BLADE SETTING 3HVR*FN10A/10B
29.92 WPM; 0.0750 LB/LU FT

PERFORMANCE OF 2 FANS IN SERIES
4-66, 50 FT OUTLET AREA
0.38 ACCESSORY LOSS

CERTIFIED TO BE CORRECT
C Bradford Palmer
PROJECT ENGINEER
9/3/82
DATE



951

Buffalo

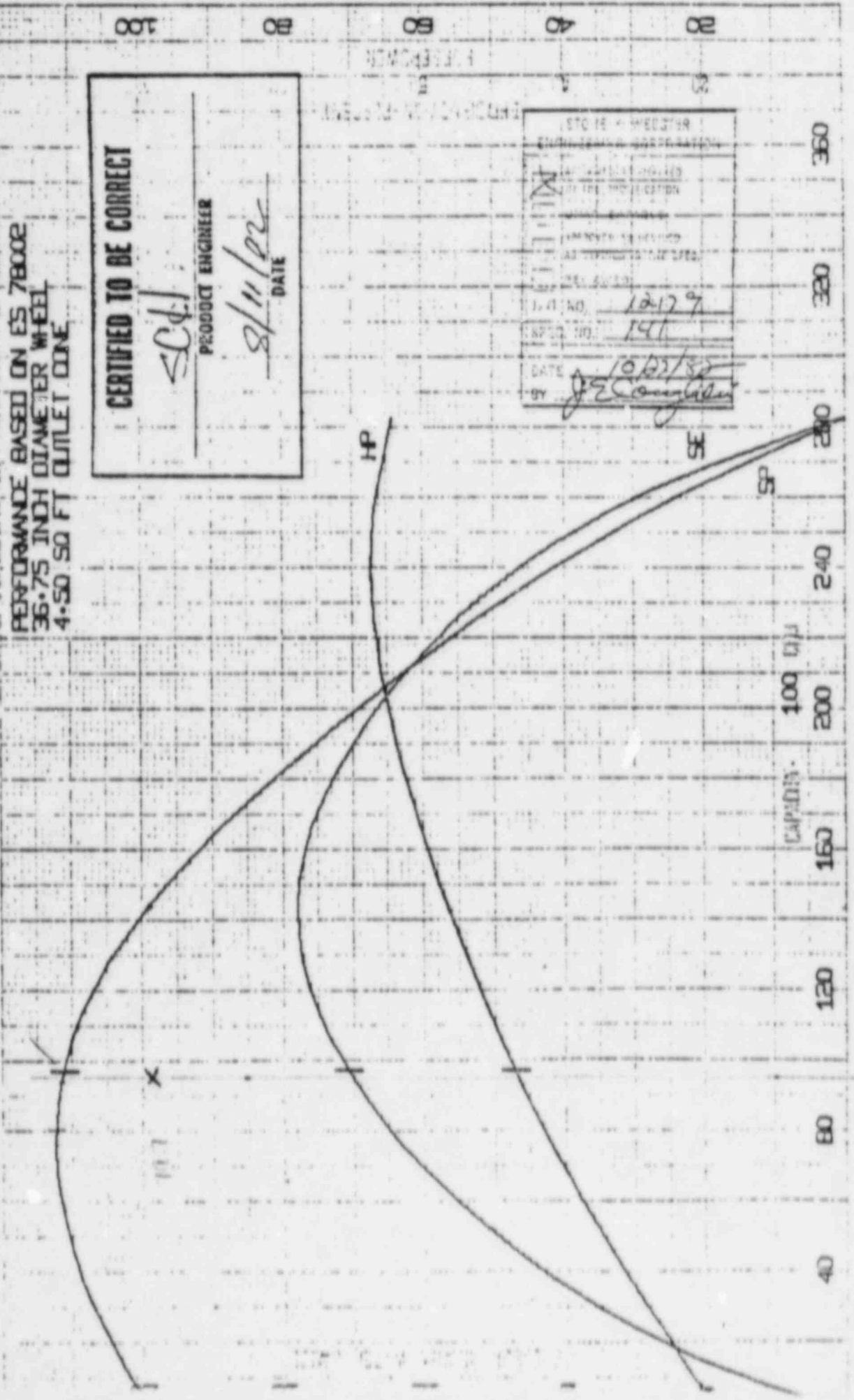
BUFFALO FORGE CO. PERFORMANCE CURVES
FOR NORTHEAST NUCLEAR ENERGY CO.-STONE&WEBSTER
SIZE & TYPE 730 L-21 SMSI 3MR-12B ITEM 7
1780 RPM 125.°F 29.92 IN.HG 0.0750 LB/CU FT

PD 114180
ORDER 82325479
DATE 7/27/82
BY DW

BUFFALO, N.Y.

PERFORMANCE BASED ON ES 78002
36.75 INCH DIAMETER WHEEL
4-50 50 FT OUTLET CONE

CERTIFIED TO BE CORRECT
SCD
PRODUCT ENGINEER
8/11/82
DATE



STONE & WEBSTER
ENGINEERING CORPORATION
ALL RIGHTS RESERVED
AS SHOWN TO THE PROJECT
DATE 10/27/82
BY J.E. Conroy

PROJECT NO. 12-179
SPEC. NO. 191

Handwritten signature

3500 RPM
70.0°F

NORTH EAST NUCLEAR ENERGY CO. - STONE AND WEBSTER
TYPE 5 E BLOWER (F.S. HSG) SWSI 3MC-FNLA/19 ITEM #1

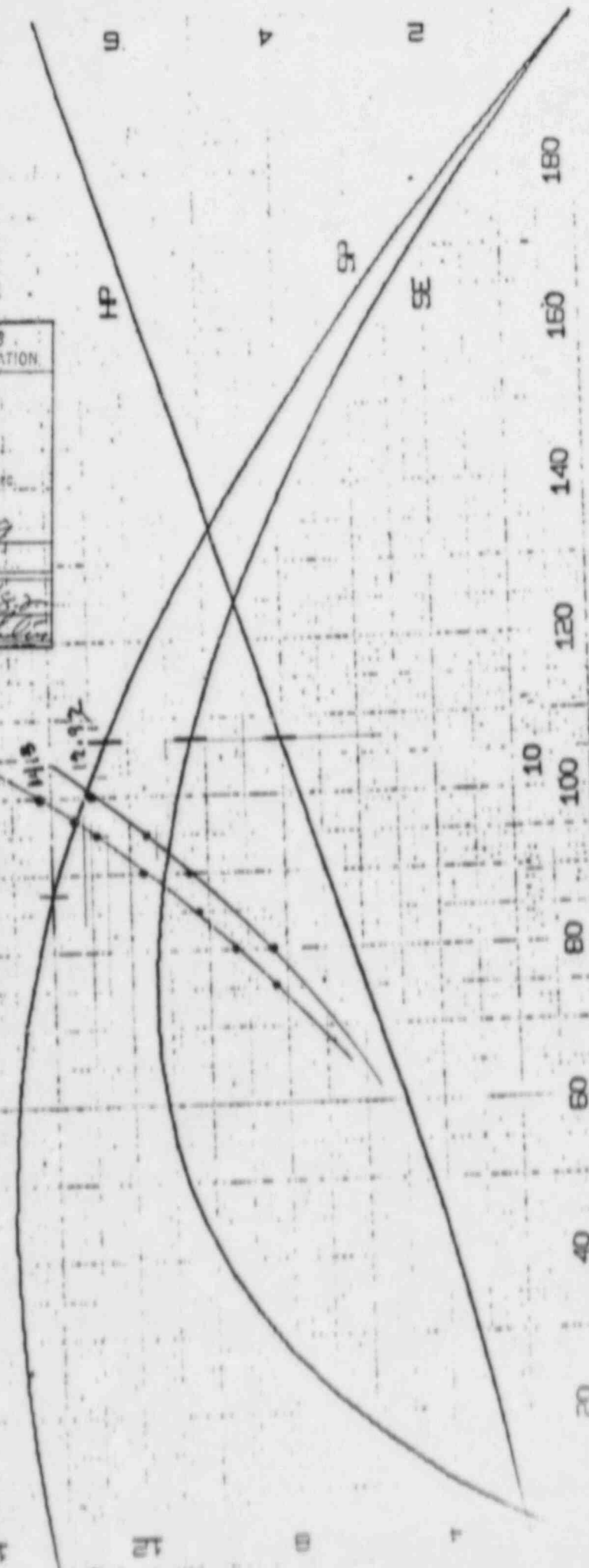
ENTAILMENT

ID 110897
ORDER 82325472-73
DATE 4/13/82
BY KAC

PERFORMANCE BASED ON ES 78036
15.00 INCH DIAMETER WHEEL
0.22 SQ FT OUTLET AREA

CERTIFIED TO BE CORRECT
David O. Walker
PROJECT ENGINEER
4/21/82
DATE

STONE & WEBSTER ENGINEERING CORPORATION	
<input checked="" type="checkbox"/>	TESTED TO DRAWING IN THE SPECIFICATION
<input type="checkbox"/>	UNACCEPTABLE REWORK REQUIRED AS DEFINED IN THE SPEC.
DATE:	12/17/82
BY:	<i>J.P. Conroy</i>
SPEC. NO.:	141
REVIEWED:	



Q. Smith

Barrett Forge Co.

PERFORMANCE CURVES

FOR NORTHEAST UTILITIES - STONE & WEBSTER - MILLSTONE

Site & Unit 2827 ADLSTAX ARR 4, 25 BLADE SETTING 3MR-FN13MB

3500 RPM 70.1

29.92

0.0750 LB/CU FT

Barrel/day

PO 112158

Order No. 82325009-4

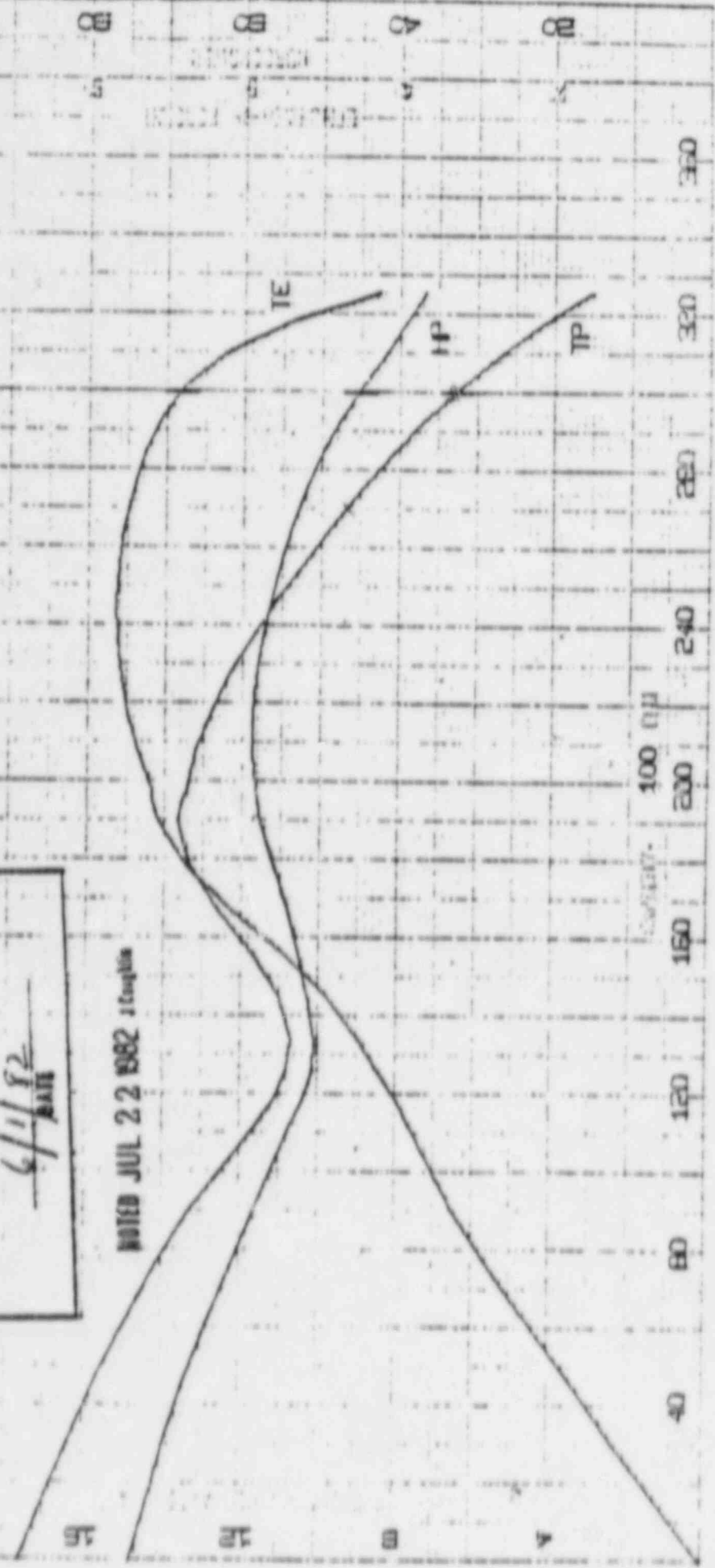
Date 5/17/82

BY KAC

FAN PERFORMANCE WITH
4-86 50 FT OUTLET AREA

CERTIFIED TO BE CORRECT
Keith Caraway
Product Manager
6/1/82
KAC

NOTED JUL 22 1982 J. Douglas





PERFORMANCE CURVES

BUFFALO FURGE CO. BUFFALO, N.Y.
 FOR NORTHEAST UTILITIES-S&W
 SIZE & TYPE 29B7 ADJUSTAX ARR 4, 33 BLADE SETTING 3MR-FNGA,B
 3500 RPM 70. °F 29.92 IN/HG 0.0750 L/W/O FT

PO 125524
 ORDER BNU
 DATE 9/14/83
 BY G.S.

FAN PERFORMANCE WITH
 4.66 SQ FT OUTLET AREA
 & VIV CLOSURE D 58

