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DESCRIPTION:

Ltr. re their ltr. of 10-31-75.. Information providing additional info regarding final determination of the changes to be made related to water hammer!.... W/attahced Schedule for Installation in 1976...

(1 Copy Received)

PLANT NAME: RE Ginna # 1

ENCLOSURES:

ACKNOWLEDGED
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ASSIGNED AD

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PROJECT MANAGER

LIC. ASST. SHEPPARD W/16 CYS ACRS

ASSIGNED BRANCH CHIEF

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KEITH W. AMISH
EXECUTIVE VICE PRESIDENT

TELEPHONE
AREA CODE 716 546-2700

Regulatory File Cy

January 30, 1976

50-244

Director of Nuclear Reactor Regulation
Attention: Robert A. Purple, Chief
Branch No. 1
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Purple:

In our letter of October 31, 1975, we provided information concerning secondary system fluid flow instabilities ("water hammer"). That information was requested in your letter of May 13, 1975. At the time we submitted our letter, final determination of the specific changes to be made at Ginna Station relative to "water hammer" had not been made. The purpose of this letter is to provide information concerning these changes.

Various administrative controls, steam generator mechanical modifications, and piping support modifications were evaluated to determine their effectiveness in either preventing the occurrence of "water hammer," or reducing its consequences should it occur. In evaluating these changes, we considered the effect of other changes to the plant which have been or are being made; and the overall reliability and integrity of the steam generators.

It is our determination that the best alternative currently available for precluding "water hammer" is administrative control of auxiliary feedwater flow. As discussed in our previous letter, "water hammer" has been found to occur during recovery of the steam generator feed rings while feedwater flows are above a threshold value of approximately 200 gpm per generator. The applicable operating procedures at Ginna Station have been revised to administratively limit auxiliary feedwater flow during recovery of the steam generator feed rings from normal and abnormal transients. In these situations, the auxiliary feedwater flow rate to either steam generator will be limited to a maximum of 150 gpm by manual operator action from the main control board. This limitation will apply whenever steam generator level is below the low-low level set point, 15% of narrow range, and until the level is recovered to 25%. The limitation will not be applied in the event of safety injection system actuation involving steam generator levels far below the feed ring.

Also, the flow control instrumentation on the motor driven auxiliary feedwater pumps will continue to be set at a minimum of 200 gpm during normal plant operation. It is judged that these limitations will adequately preclude "water hammer" since the low-low level set point is approximately 2 inches below the bottom of the feed ring and the 25% level is approximately 1 inch above the top of the ring.

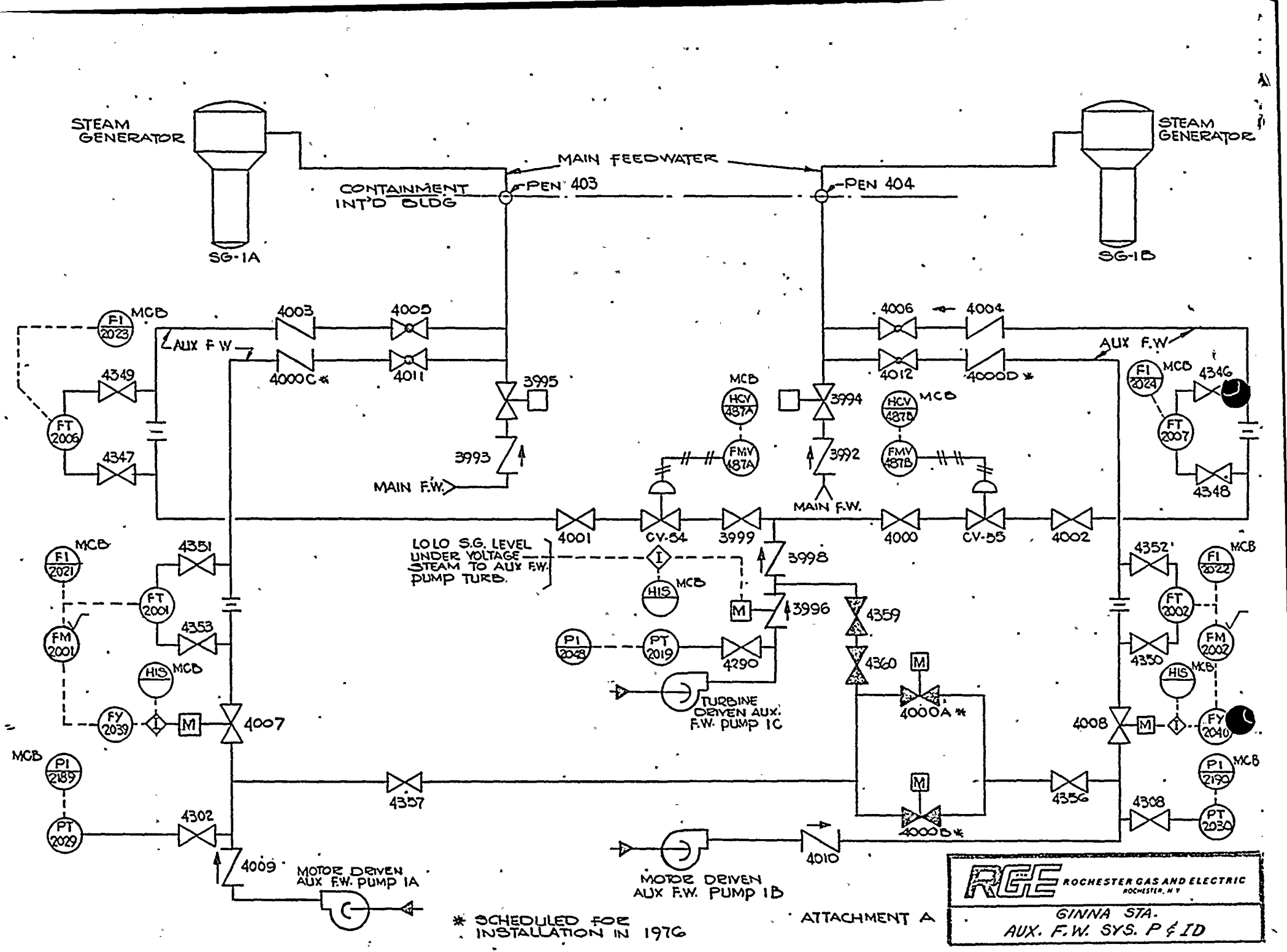
A schematic of the present auxiliary feedwater system at Ginna Station is shown in Attachment A. The system consists of three pumps, two motor driven and one turbine driven; and two separate, interconnected piping systems from the pumps to the main feedwater lines. The drawing shows the valves in the positions for normal plant operation.

Control of auxiliary feedwater flow rate is achieved either through motor operated valves 4007 and 4008 or pneumatically operated valves CV-54 and CV-55. All of these valves are normally in the full open position. Upon receipt of a signal for pump start, valves 4007 and 4008 are automatically throttled by the flow control system shown to a flow of 200 gpm or more. The flow control system can be manually over-ridden to achieve lower flow rates through valves 4007 and 4008 by a switch on the main control board. The flow rate through valves CV-54 and CV-55 can be varied manually from a control station on the main control board. The flow from the motor driven auxiliary feedwater pumps can be directed through valves CV-54 and CV-55 by opening valves 4000A or 4000B, and 4359 and 4360; and closing valves 4007 and 4008. The flow rate through all 4 auxiliary feedwater lines can be monitored by flow indicators on the main control board.

Very truly yours,

Keith W. Amish
Executive Vice President

KWA:af
Attachment


STEAM GENERATOR
SG-1A
MAIN FEEDWATER
CONTAINMENT INT'D BLDG
PEN 403
PEN 404
STEAM GENERATOR
SG-1B
MCB
FI 2023
AUX F.W
4003
4005
4000C *
4011
4349
4347
FT 2006
3995
3993
MAIN F.W.
4006
4004
4012
4000D *
AUX F.W
MCB
FI 2024
4346
FT 2007
4348
MCB
HCV 487A
FMV 487A
3994
3992
MCB
HCV 487B
FMV 487B
MAIN F.W.
4001
CV-54
3999
4000
CV-55
4002
LO LO S.G. LEVEL UNDER VOLTAGE STEAM TO AUX F.W. PUMP TURB.
3998
MCB
HIS
M
3996
PI 2028
PT 2019
4290
4359
4360
M
TURBINE DRIVEN AUX. F.W. PUMP 1C
4000A *
MCB
FI 2021
4351
FT 2001
4353
FM 2001
HIS
MCB
FY 2039
I
M
4007
4352
MCB
FI 2022
FT 2002
FM 2002
4350
HIS
MCB
4008
M
I
FY 2040
MCB
PI 2189
PT 2029
4302
4009
4357
4356
4308
PT 2030
PI 2190
MCB
4000B *
4010
MOTOR DRIVEN AUX F.W. PUMP 1A
MOTOR DRIVEN AUX F.W. PUMP 1B
* SCHEDULED FOR INSTALLATION IN 1976
ATTACHMENT A
RGE ROCHESTER GAS AND ELECTRIC ROCHESTER, N.Y.
GINNA STA.
AUX. F.W. SYS. P & ID