Consumers Power Company

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December 1, 1980

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 - AUXILIARY
FEEDWATER MODIFICATIONS

Consumers Power Company, by letter dated October 2, 1980, agreed to provide a description of proposed modifications to the auxiliary feedwater system and a schedule for implementing the proposed modification. The purpose of this modification is to reduce, by means of rerouting the auxiliary feedwater lines, the potential for water hammer during auxiliary feedwater operation and to assure that sufficient auxiliary feedwater flow is provided to the steam generators to facilitate operation during normal, abnormal, and emergency conditions. The following is presented to fulfill our commitment to provide the above information by December 1, 1980.

The existing auxiliary feedwater system (described in Palisades FSAR Chapter 9) discharges through two independently controlled branches and through check valves to the main feedwater lines immediately outside the containment. From this point, the flow of auxiliary feedwater is through the main feedwater lines as they proceed through containment penetrations to the steam generators, and through the existing main feedwater spargers internal to the steam generators.

The modification consists of disconnecting the auxiliary feedwater lines from the main feedwater lines, routing the lines through existing spare containment penetrations to existing auxiliary feedwater nozzles (labeled Emergency Feedwater Nozzle on Figure 1) on the steam generators, and providing a separate auxiliary feedwater sparger inside each steam generator. The piping arrangement is shown in Figure 2 and the nozzle and sparger assembly are shown in Figure 3.

The additional piping and supports will be designated seismic Category I, designed and supported in accordance with Appendix A of the Palisades FSAR.

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The existing auxiliary feedwater nozzle forgings will be equipped with thermal liners to allow cold feed injections, and the acceptable number of such cycles will be analytically determined. The piping reaction at the nozzles will also be evaluated for acceptability. The new spargers for auxiliary feedwater will be designed in accordance with the current design practice for CE steam generators. A number of design features will be incorporated specifically to reduce the susceptibility to water hammer. The piping in the vicinity of the steam generators will be sloped down away from the generators (see Figure 2). The sparger will be arranged with a top discharge and provided with a water trap as shown on Figure 3 to prevent the sparger from draining when the steam generator water level drops below the sparger. A vent will be provided at the highest point of the sparger water trap as shown.

Consumers Power Company plans to install the proposed modification at the next refueling outage presently scheduled for late 1981.

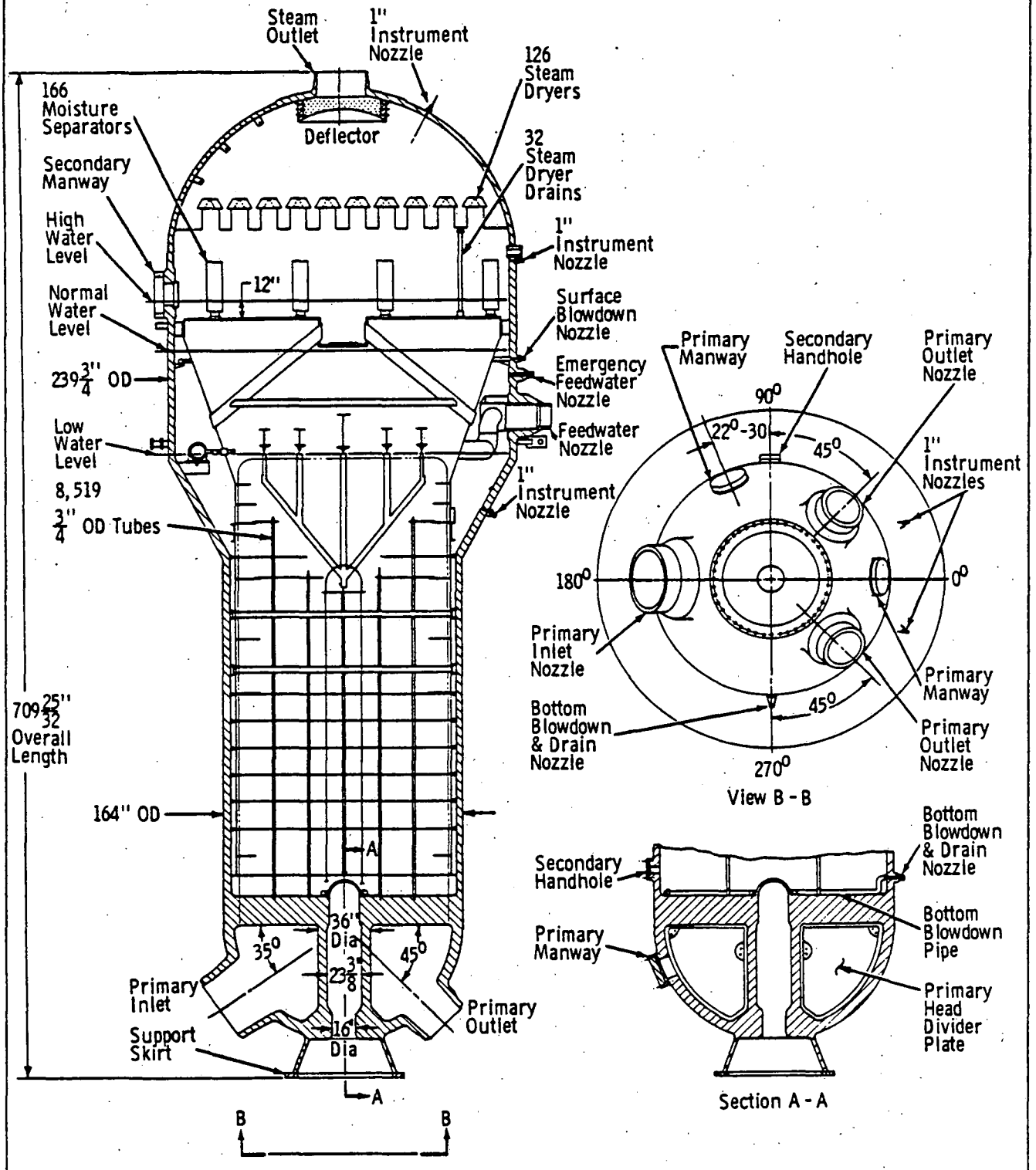
David P. Hoffman

David P Hoffman
Nuclear Licensing Administrator

CC Director, Region III, USNRC
NRC Resident Inspector-Palisades

Attachments Figures 1, 2 and 3

STEAM GENERATOR

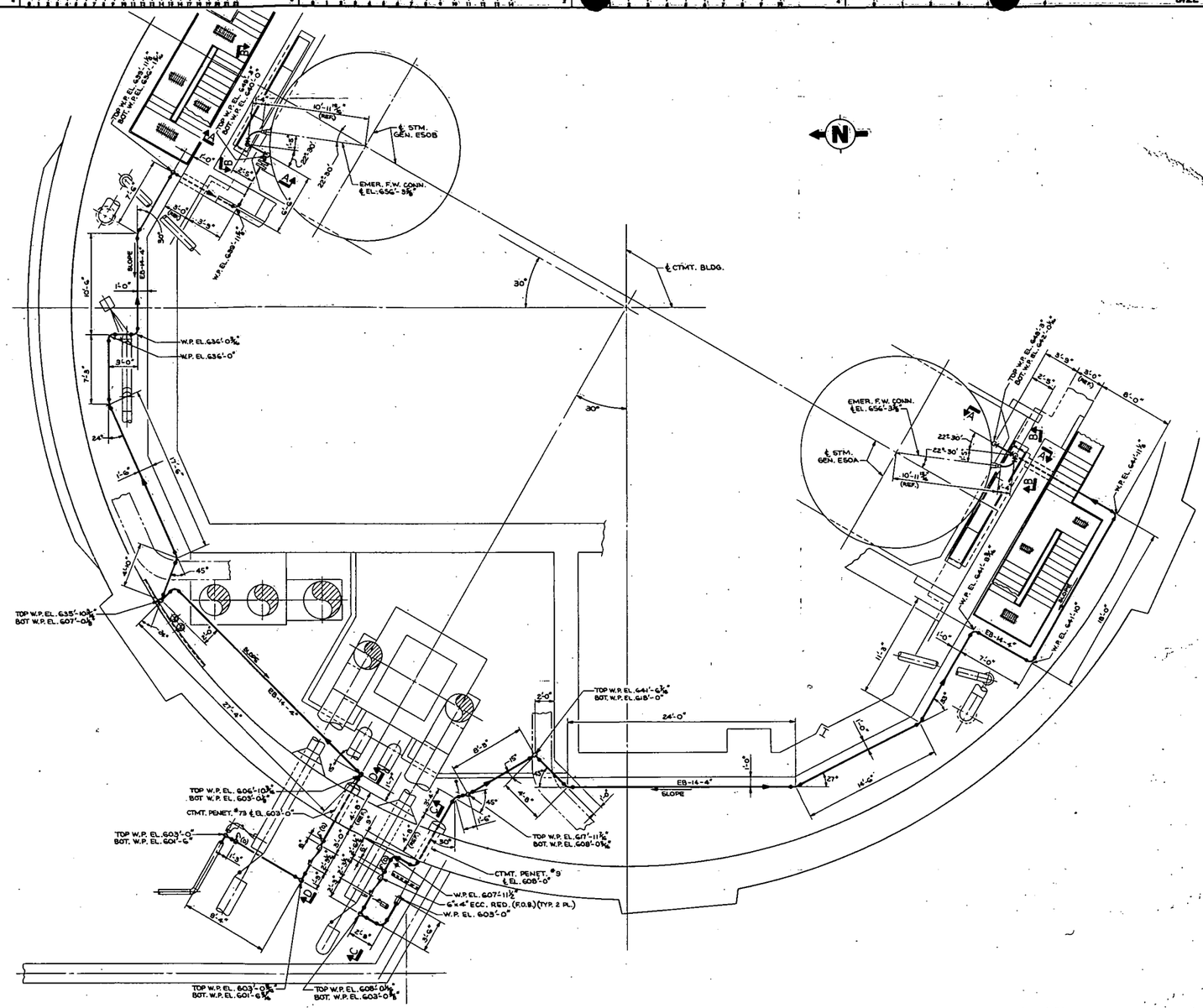


COMBUSTION ENGINEERING, INC.
WINDSOR, CONNECTICUT

Figure 1

SCALING SIZES

SIZE E



NO.	DATE	REVISIONS	BY	CHK'D	QA	MGR.	PROJECT ENGR.	PROJECT MGR.	DATE

SCALE ⅛"=1'-0" DESIGNED GINDLESPERGER DRAWN GINDLESPERGER

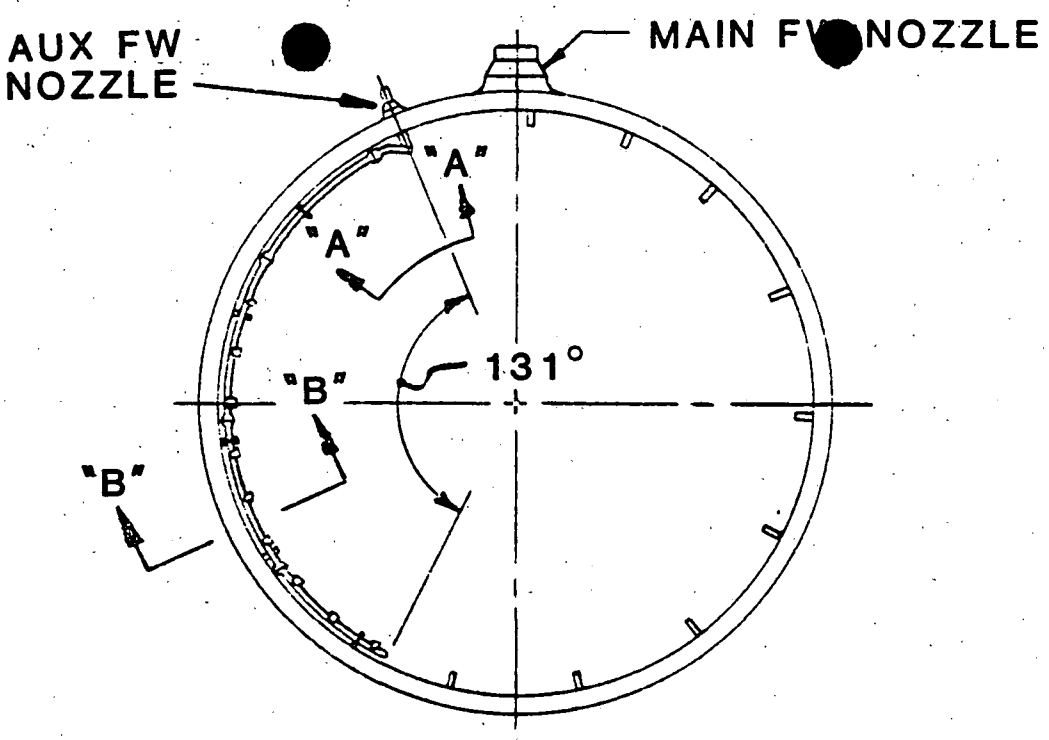
BECHTEL
ANN ARBOR, MICHIGAN

PALISADES PLANT
CONSUMERS POWER COMPANY
GWO

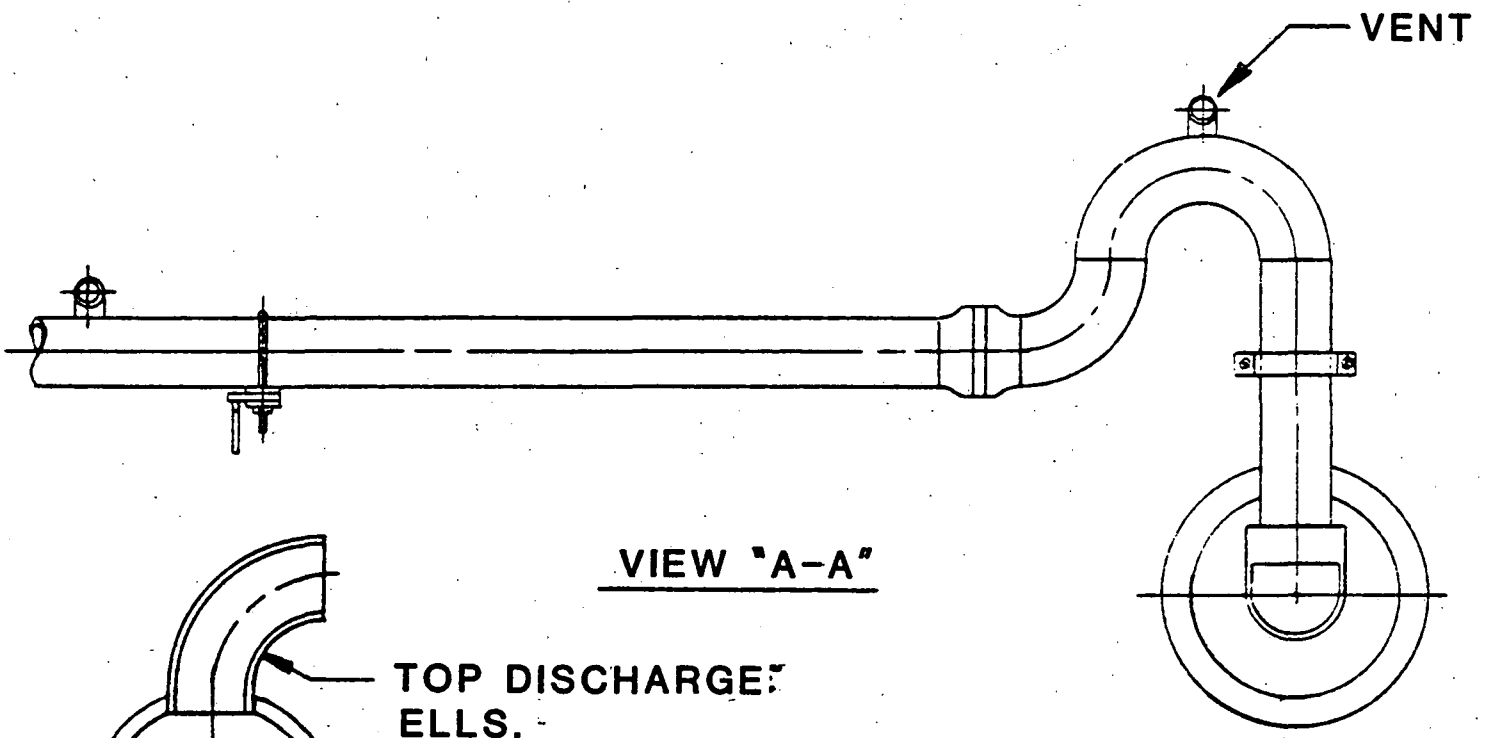
PIPING AREA DRAWING
AUXILIARY FEEDWATER SYSTEM MODIFICATION

JOB No.	DRAWING No.	REV.
12447-051	FIGURE 1.	11/29/60

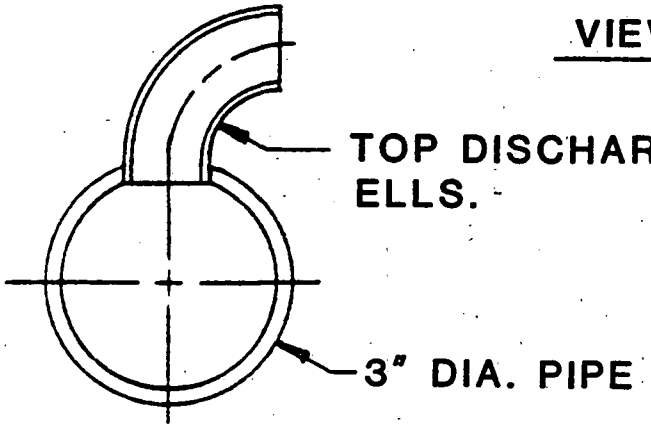
CPC - FIGURE 2



PLAN VIEW



VIEW "A-A"



SECTION "B-B"

AUXILARY FEEDWATER PIPING
CONSUMERS POWER CO.
PALISADES SITE
FIG. 3