May 2, 2000

MEMORANDUM TO: Michael R. Johnson, Section Chief
Inspection Program Branch
Division of Inspection Program Management

FROM: August K. Spector /RA/
Inspection Program Branch
Division of Inspection Program Management

SUBJECT: REACTOR OVERSIGHT PROCESS TO DISCUSS COMBUSTION ENGINEERING PERFORMANCE INDICATORS PUBLIC MEETING - APRIL 26, 2000

The NRC conducted a public meeting on April 26, 2000, to discuss Combustion Engineering Performance Indicator proposal to amend NEI-99-02. The meeting was held at the Nuclear Regulatory Commission, One White Flint North, Rockville, MD. A list of participants and handouts distributed are attached.

Attachments:
1. Participants
2. NEI-99-02 RHR Draft for CE Design

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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NRC/NEI Meeting
April 26, 2000

NAME	ORGANIZATION
Alan Madison	NRC/NRR
Tom Houghton	NEI
Robert Vincent	Consumers Energy
John Butler	NEI
Don Kissinger	NEI
Steve Coffman	Entergy
Kenneth Greene	Baltimore Gas & Elec
M. Scott Burns	Pinnacle West
Greg Casto	FPL, St. Lucie
Don Hickman	NRC/NRR
Mel Fields	NRC/Projects

Attachment 1

NEI 99-02 RHR DRAFT FOR CE DESIGN, FINAL DRAFT

Certain CE ECCS designs are significantly different from the standard Westinghouse PWR designs. One of these CE designs runs all ECCS pumps during the injection phase (Containment Spray (CS), High Pressure Safety Injection (HPSI), and Low Pressure Safety Injection (LPSI)), and on Recirculation Actuation Signal (RAS), the LPSI pumps are automatically shutdown, and the suction of the HPSI and CS pumps is shifted to the containment sump. The HPSI pumps then provide the recirculation phase core injection, and the CS pumps by drawing inventory out of the sump, cooling it in heat exchangers, and spraying the cooled water into containment support the core injection inventory cooling.

In NEI 99-02 the RHR indicator has two monitored functions. The first is repeated below.

> "The ability of the RHR system to take a suction from the containment sump, cool the fluid, and inject at low pressure into the RCS."

The CE plant design described above uses HPSI to "take a suction from the sump", CS to "cool the fluid", and HPSI to "inject at low pressure into the RCS". Due to these design differences, CE plants with this design should monitor unavailability in the following manner.

The HPSI pumps and their suction valves are already monitored under the HPSI function, and no monitoring under the RHR PI is necessary or required.

The two containment spray pumps and associated coolers should be counted as two trains of RHR providing the post accident recirculation cooling, function 1.

The second NEI 99-02 RHR indicator monitored function is:

> "The ability of the RHR system to remove decay heat from the reactor during normal shutdown for refueling and maintenance."

The CE plant design uses LPSI pumps to pump the water from the RCS, through the SDC heat exchangers, and back to the RCS. Due to this CE design difference the SDC system should be counted as two trains of RHR providing the decay heat removal, function 2.

For the CE designed plants four trains should be monitored, when the particular affected function is required by Technical Specifications, as follows:

Train 1 (recirculation mode)
Consisting of the "A" containment spray pump, the required spray pump heat exchanger, and associated flow path valves.

Train 2 (recirculation mode)
Consisting of the "B" containment spray pump, the required spray pump heat exchanger, and associated flow path valves.

Train 3 (shutdown cooling mode)
Consisting of the "A" SDC pump, associated flow path valves, and heat exchanger.

Train 4 (shutdown cooling mode)
Consisting of the "B" SDC pump, associated flow path valves, and heat exchanger.

Attachment 2

NRC PERFORMANCE INDICATORS

CE PLANT PROPOSAL

FOR RHR SYSTEM

NEI 99-02 CE Plant Proposal and St. Lucie Plant Residual Heat Removal (RHR) Performance Indicator Applicable Systems

(Note: Unit 2 is used. Unit 1 is similar in design.)

UNIT-2 SAFETY INJECTION / CONTAINMENT SPRAY SYSTEM

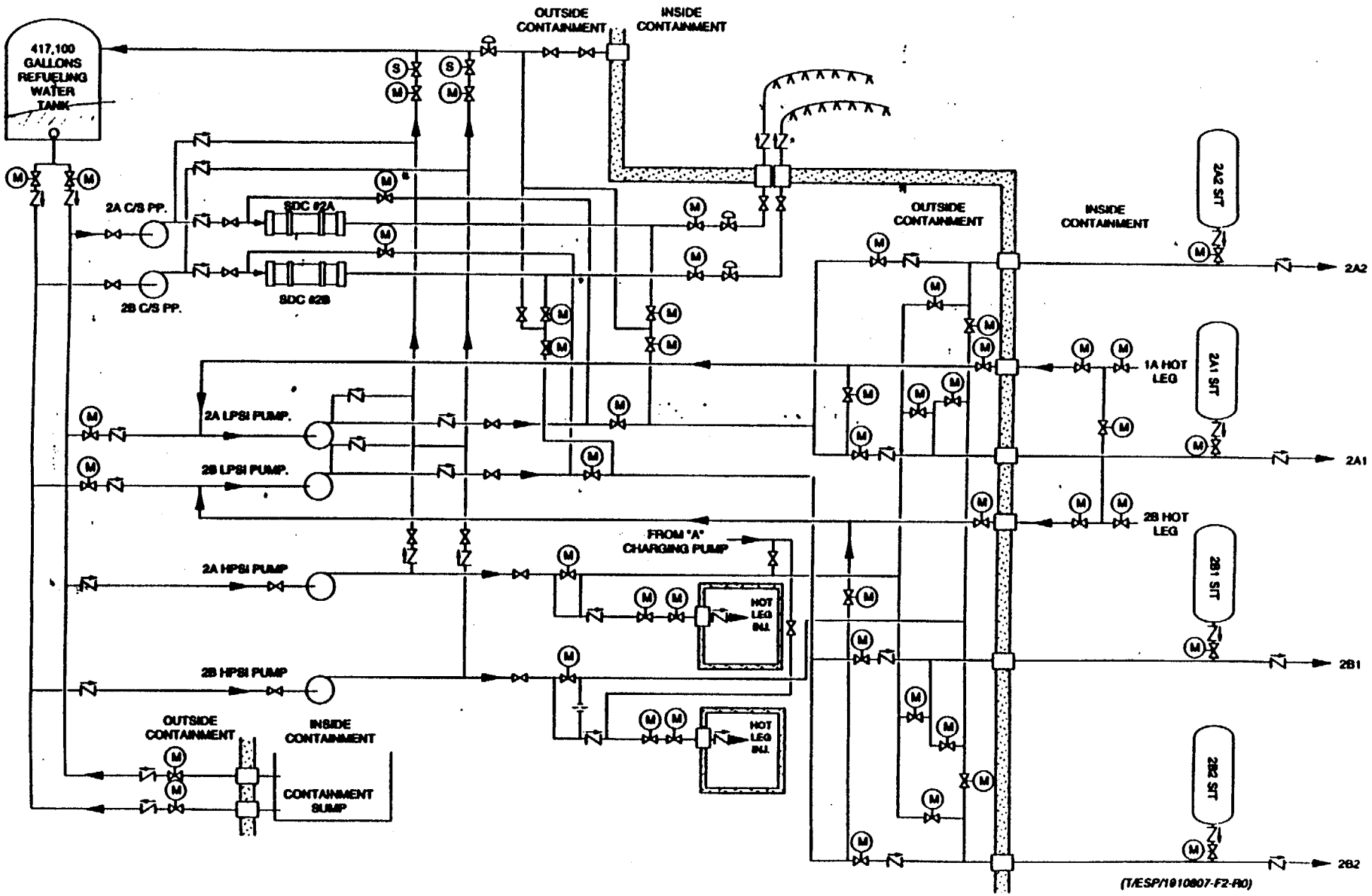

Figure 2

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RHR Performance Indicator

(Trains 1 and 2)

RHR P1

A = TRAIN 1

B = TRAIN 2

UNIT-2 CONTAINMENT SPRAY SYSTEM

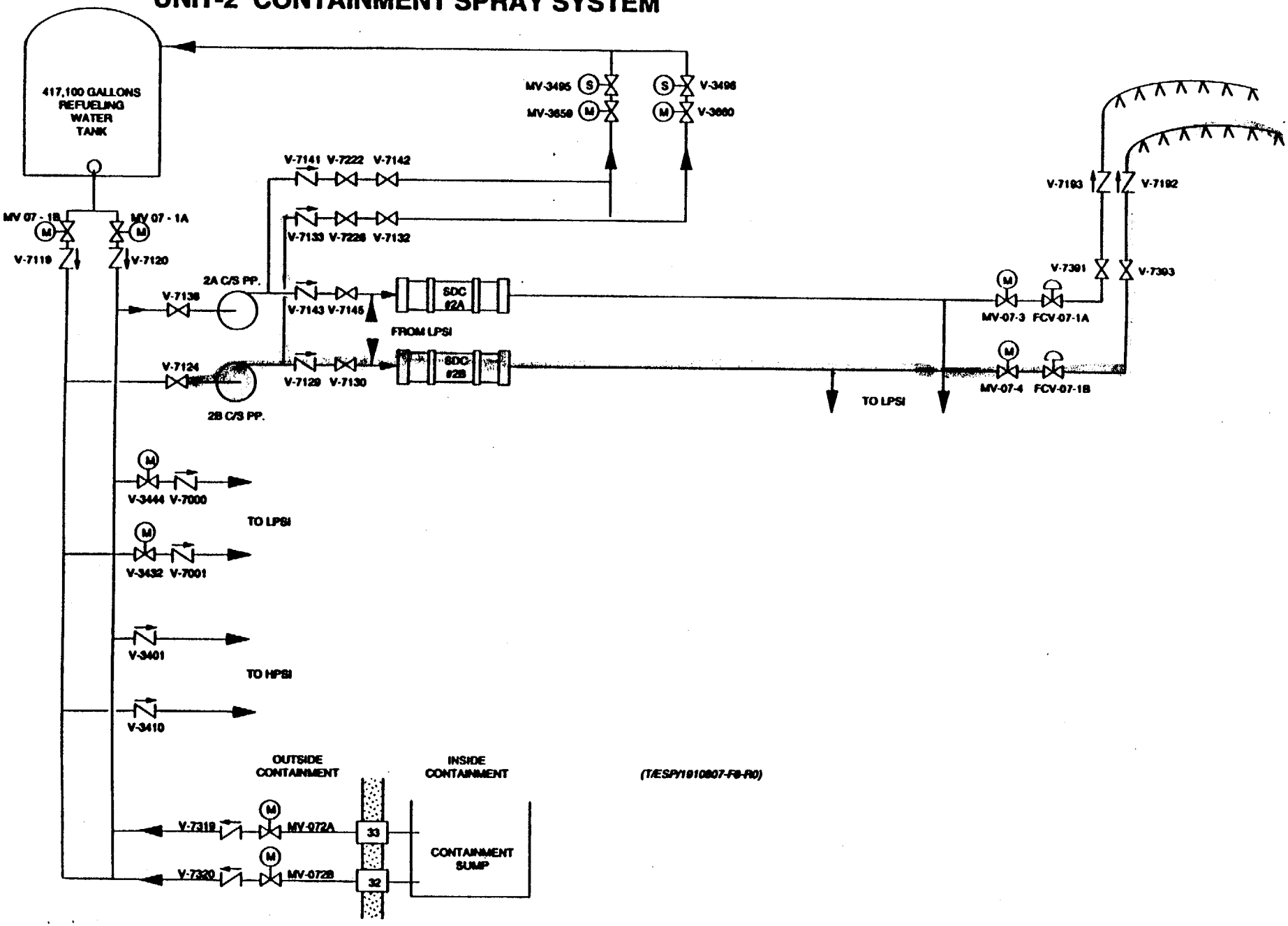

Figure 8

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RHR Performance Indicator

(Trains 3 and 4)

RHR 1

SHUTDOWN COOLING

A = TRAIN 3

B = TRAIN 4

UNIT-2 SAFETY INJECTION / CONTAINMENT SPRAY SYSTEM

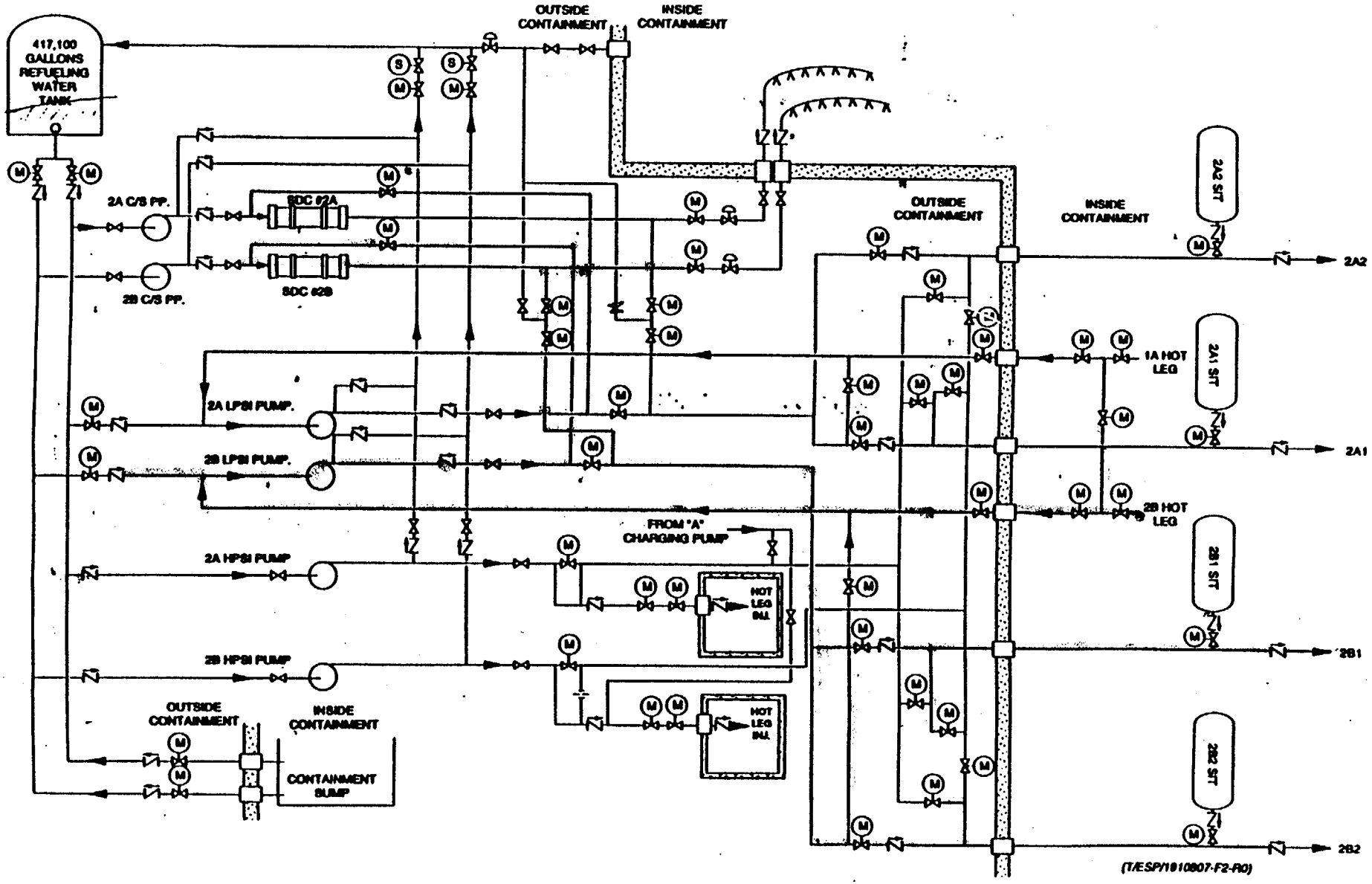

Figure 2

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