PLAINTIFF'S EXHIBIT
DOW-2110

JOB STEPS
DOWTHERM® SYSTEM - Cold Start

June 1978
E.T.W.

A. PRE-STARTUP CHECKS

1. All DOWTHERM-open ended vents closed; check areas of recent work
2. D19-C depadded and N_2 pressure control set to "0"
3. D19 depadded and N_2 pad pressure shut off
4. Control Room start-stop switch set to "run"
5. DOWTHERM pressure controller on D319 on manual and valve position set to 10%
6. Fire eyes set on bypass
7. Start and stabilize a P319 pump
8. Establish a level in D319 by pumping forward
9. Reset the gas Maxon valves

B. START

1. Fire off one burner and set burner pressure at 3 to 5 psig
2. Set the fire eyes to "flame on" by depressing the burner start button
3. Turn the fire eyes to "operate" position

C. VENT OFF OPERATION

As the DOWTHERM warms up it shouldn't build any pressure until it gets to 260°C. If it does, carefully vent off the pressure at the vent on D319.

C. CIRCULATION AND LOW PRESSURE OPERATION TO 20 psig

When the DOWTHERM has reached 20 pounds pressure in D319:

1. Open as many reboilers and heaters as you can to DOWTHERM
2. As D19 level rises to its 30% control point, turn on a P-10 pump
3. Establish the 20 pounds N_2 pad on D19 by opening the N_2 regulator.
4. Raise the pressure controller on D19 to 30 pounds
5. As D19-C level comes up, start P335 - TAKE CARE NOT TO PUMP D19-C DRY - YOU MAY HAVE TO START AND STOP P335 SEVERAL TIMES
6. Continue to monitor the pressure - temperature of D319 as when you start forwarding DOWTHERM you can get water to D319
7. Vent if the D319 pressure is in excess of its temperature to rid D319 of water vapor
8. When D19 liquid reaches 260°C you may light off more burners and go to D319 auto pressure control

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E. RUNNING UP TO 80 PSIG

1. When D319 reaches 50 psig, set pad pressure of D19-C to 45 psig or you may gradually pad D19-C up to 45 psig keeping it 5 psig lower then D319 pressure, if you wish

2. By the time you reach 35 psig, you should have stopped venting

3. Set the auto pressure control to desired pressure on D319 and roll on

Normal Set Points and Levels

	Press	Temp	Level
D19	35	305/320°C	30%
D19C	50-55		20-50%
D319	80-82	360/365°C	50%

N_2 pad pressure D19 - 20 psig

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