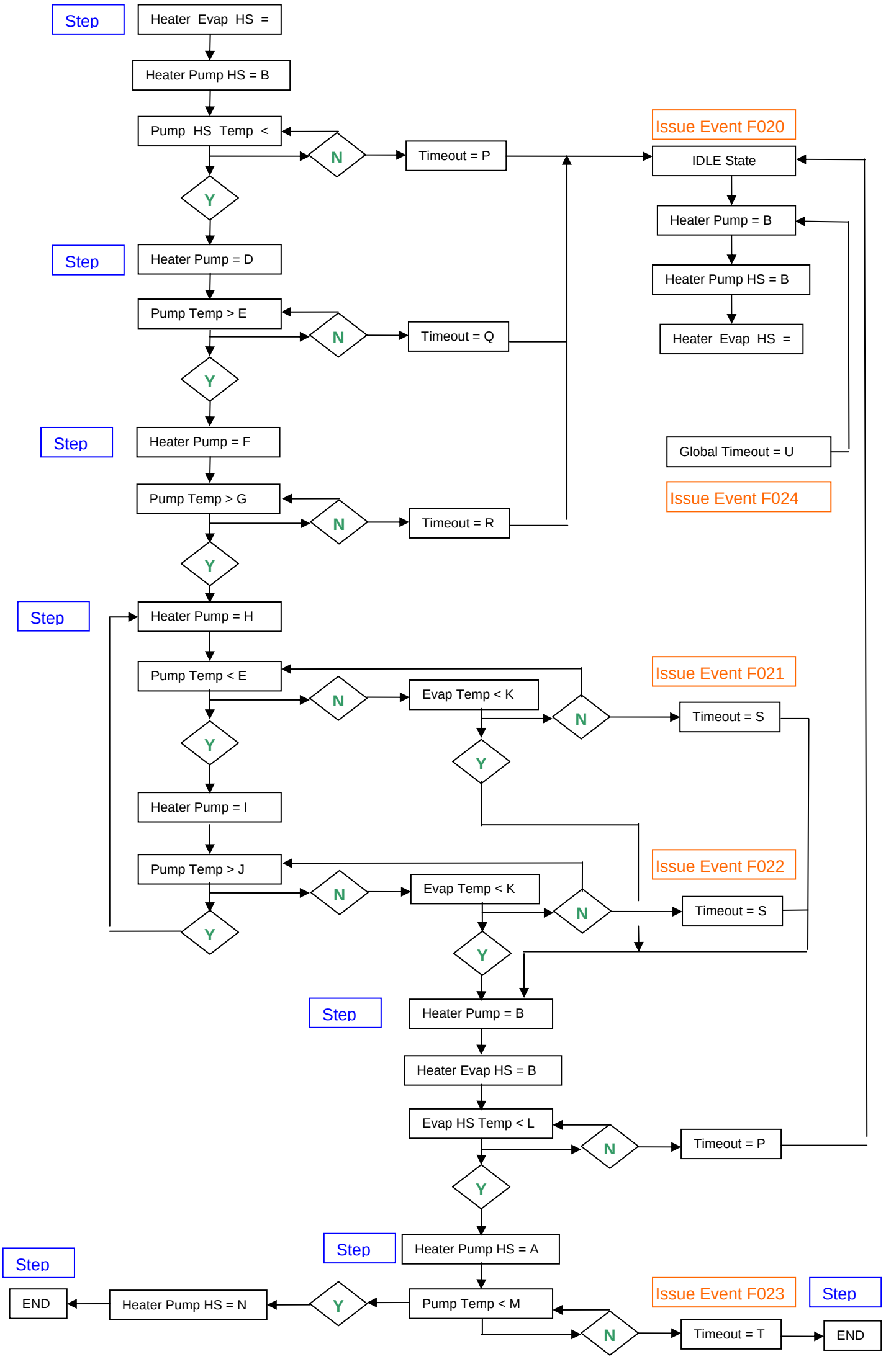
This document gives the flowchart and parameter specification for the Automatic Cooler Recycle Command List.

Version 4.6 for use in ILT test PFM4


Step
Heater Evap HS =
Heater Pump HS = B
Pump HS Temp <
N
Timeout = P
Issue Event F020
IDLE State
Heater Pump = B
Heater Pump HS = B
Heater Evap HS =
Y
Step
Heater Pump = D
Pump Temp > E
N
Timeout = Q
Y
Step
Heater Pump = F
Pump Temp > G
N
Timeout = R
Global Timeout = U
Issue Event F024
Y
Step
Heater Pump = H
Pump Temp < E
N
Evap Temp < K
N
Timeout = S
Issue Event F021
Y
Y
Heater Pump = I
Pump Temp > J
N
Evap Temp < K
N
Timeout = S
Issue Event F022
Y
Y
Step
Heater Pump = B
Heater Evap HS = B
Evap HS Temp < L
N
Timeout = P
Y
Step
Heater Pump HS = A
Step
Step
END
Heater Pump HS = N
Y
Pump Temp < M
Issue Event F023
Step
N
Timeout = T
END

Param	Description	Setting	Current	Voltage	Hex
A	Heater Heat Switch ON (during Recycling)	0.8 mW	1.4 mA	0.56V	0x0DEB
B	Heaters OFF	0 mW	0.0 mA	0V	0x0000
C	Pump Heat Switch – Actuation Temperature	12 K	-	-	0xBF9B
D	Heater Pump Dissipation 1	400 mW	31.54 mA	12.7V	0x0A25
E	Pump Temperature Condensation 1	45 K	-	-	0x8E76
F	Heater Pump Dissipation 2	100mW	15.77mA	TBC	0x0513
G	Pump Temperature Condensation 2	46K	-	-	TBC
H	Heater Pump Dissipation 3	10mW	4.987mA	2V	0x019C
I	Heater Pump Dissipation 4	70mW	13.197mA	5.3V	0x043F
J	Pump Temperature Condensation Threshold	45.1K	-	-	0x8E49
K	Evap Temperature Condensation	2 K	-	-	0x7EBE
L	Evaporator Heat Switch Actuation Temperature	15K	-	-	0xB764
M	Pump Temperature Threshold	2 K	-	-	0xEFAE
N	Heater Heat Switch ON (during Recycling)	~ 0.4 mW	1.022 mA	0.41V	0x0A2A
O	Loop Sampling (secs)	10 sec	-	-	10
P	Heat Switch Timeout[2] (min)	½ hr	-	-	30
Q	Pump Heating Timeout 1[2] (min)	1hr	-	-	60
R	Pump Heating Timeout 2[2] (min)	1hr	-	-	60
S	Evaporator Timeout[2] (min)	1 hr	-	-	60
T	Pump Cooling Timeout[2] (min)	1hr	-	-	60
U	Global Timeout[12] (min)	2hr	-	-	120

Note 1: A global timeout variable should be implemented – it should stop the script U minutes after the first command has been sent should the script still be running.

Note 2: All timeouts are now specified in time rather than number of sample loops