

## Multi-tank Batch Control

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Additional internal memory:

Symbol	Address	
RUN	B3/0	On while batch running
STEP_1 to STEP_22	B20/1 to B20/22	Step-in-progress bits
DELAY_TMR	T4:1	Delay after emptying half of tanks
REACTION_TMR	T4:2	Times reaction

Conversion formulas

$$WT10x\_VAL = ((WT10x\_MEAS - 3277) / 13107) * (1000)$$

$$TT103\_VAL = ((TT103\_MEAS - 3277) / 13107) * (100)$$

Start/Stop/Pause. Initial start

Start push button,  
on (closed) to start

START\_PB

I:1/0

Stop push button,  
off (open) to stop

STOP\_PB

I:1/1

Process running

RUN

B3/0

Process running  
RUN

B3/0

Process running  
RUN

B3/0

STEP\_1

B20/1

STEP\_2

B20/2

STEP\_3

B20/3

STEP\_4

B20/4

STEP\_5

B20/5

STEP\_6

B20/6

STEP\_7

B20/7

STEP\_8

B20/8

STEP\_9

B20/9

STEP\_10

B20/10

STEP\_11

B20/11

STEP\_12

B20/12

STEP\_13

B20/13

STEP\_14

B20/14

STEP\_15

B20/15

STEP\_16

B20/16

STEP\_17

B20/17

STEP\_18

B20/18

STEP\_19

B20/19

STEP\_20

B20/20

STEP\_21

B20/21

STEP\_22

B20/22

STEP\_1

B20/1

Step 1. Make sure Run is on (especially after a pause).

STEP\_1

B20/1

Process running

RUN

B3/0

STEP\_1

B20/1

STEP\_2

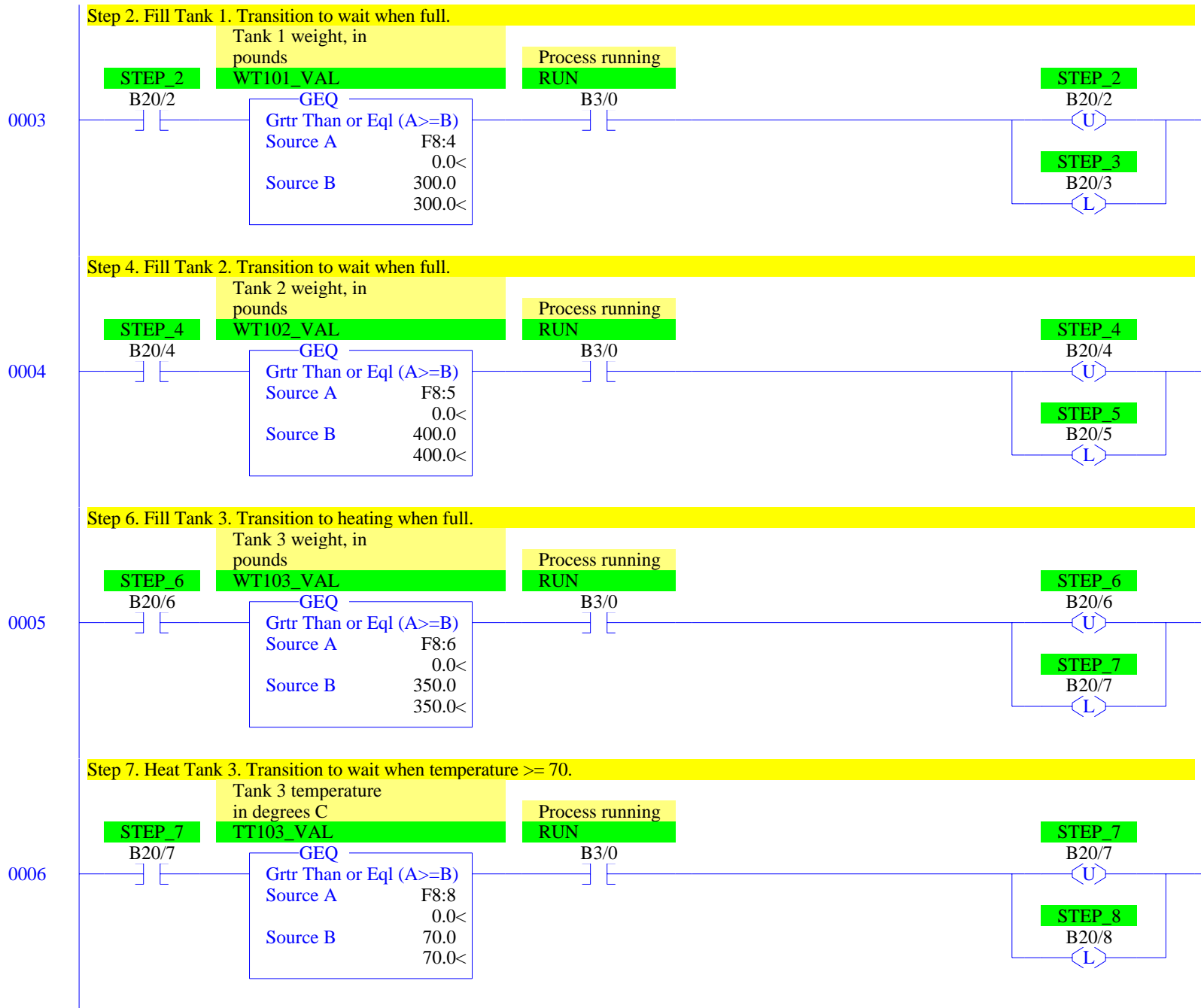
B20/2

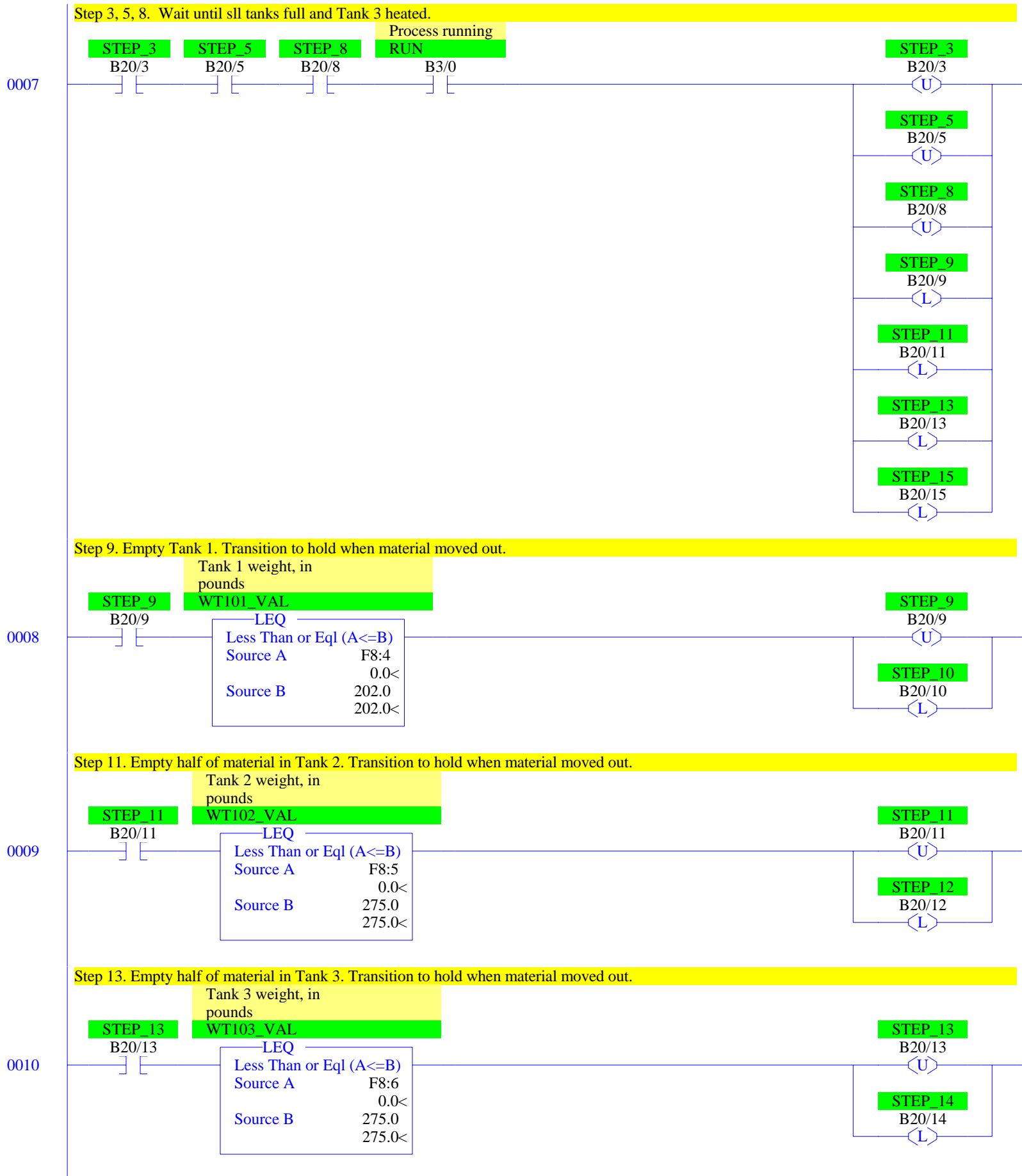
STEP\_4

B20/4

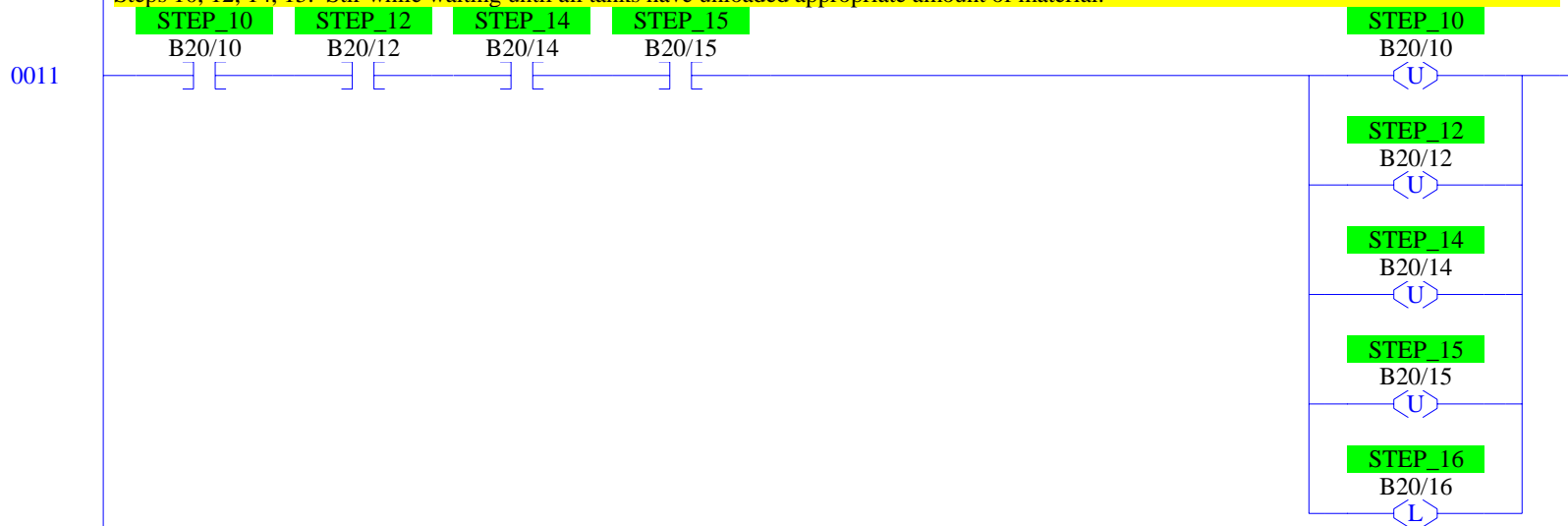
STEP\_6

B20/6

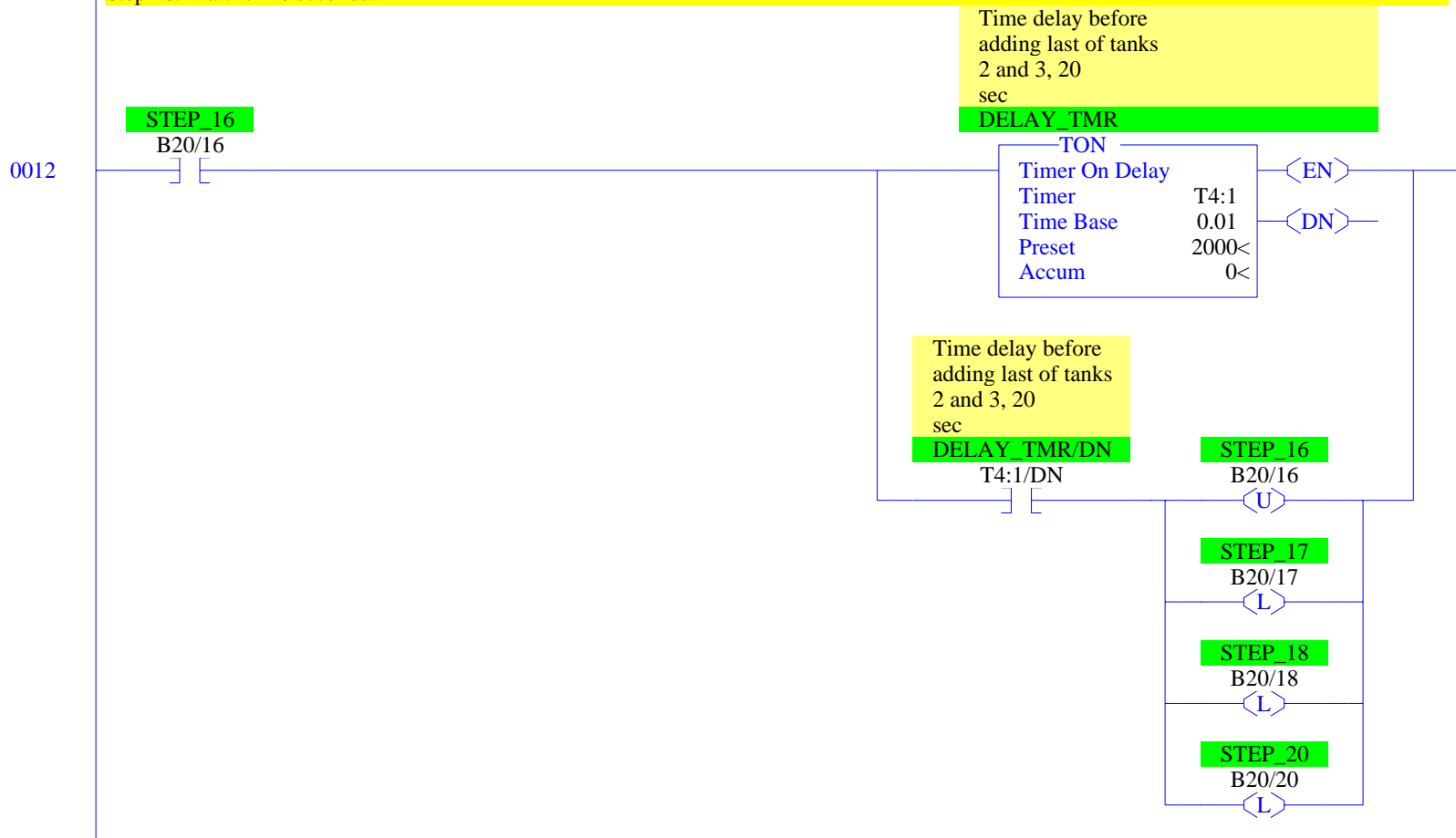


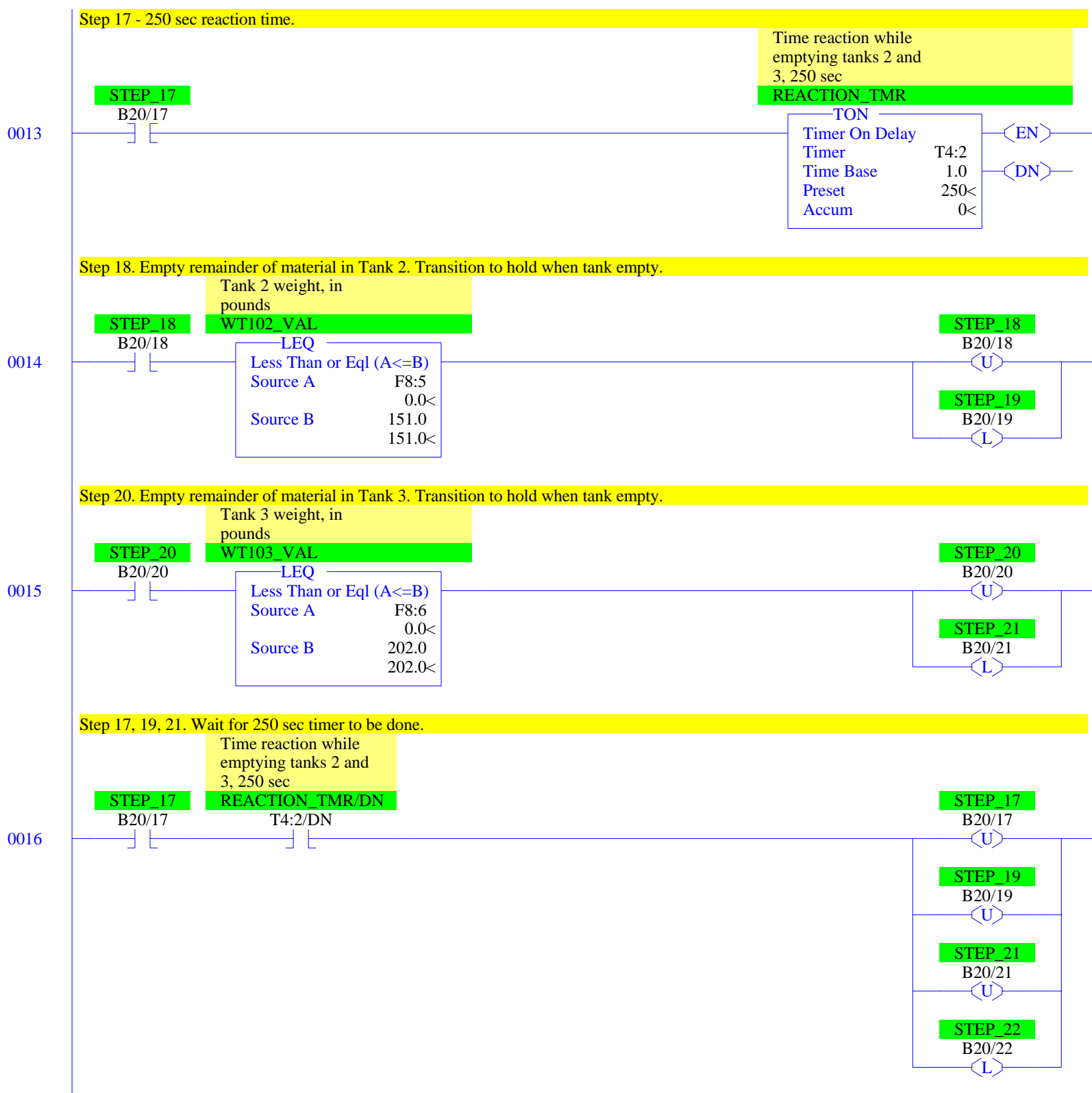


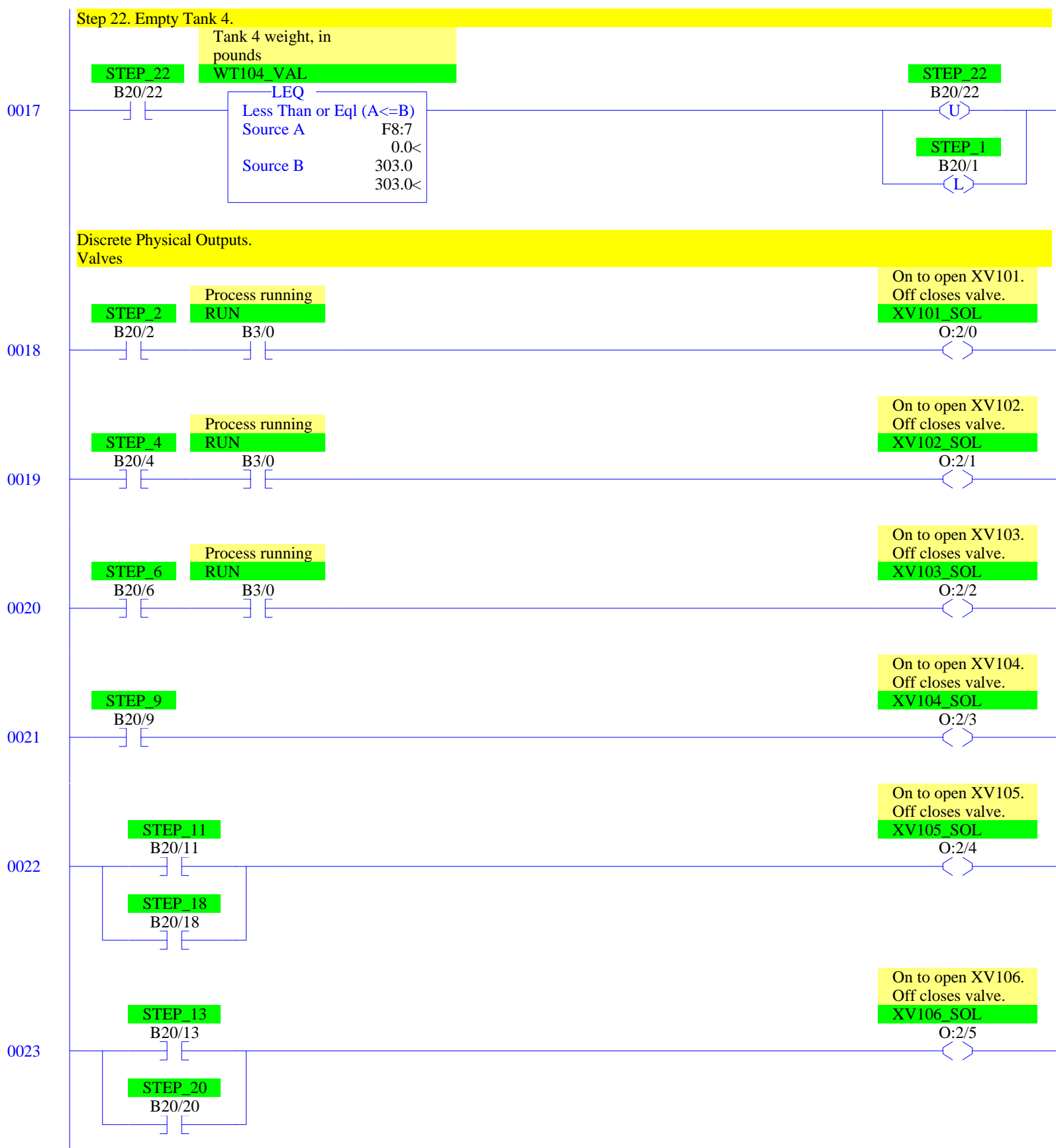
Steps 10, 12, 14, 15. Stir while waiting until all tanks have unloaded appropriate amount of material.

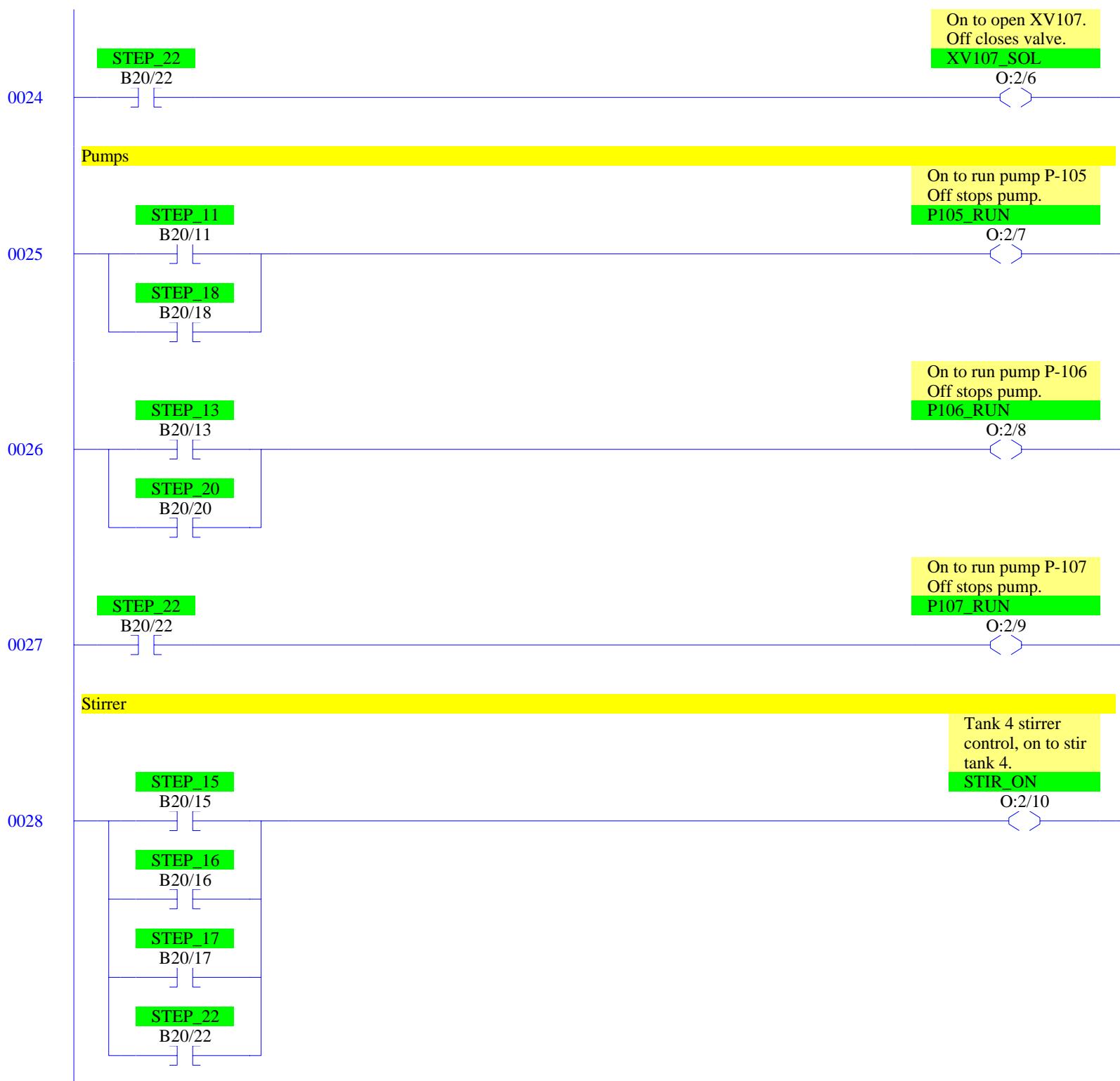


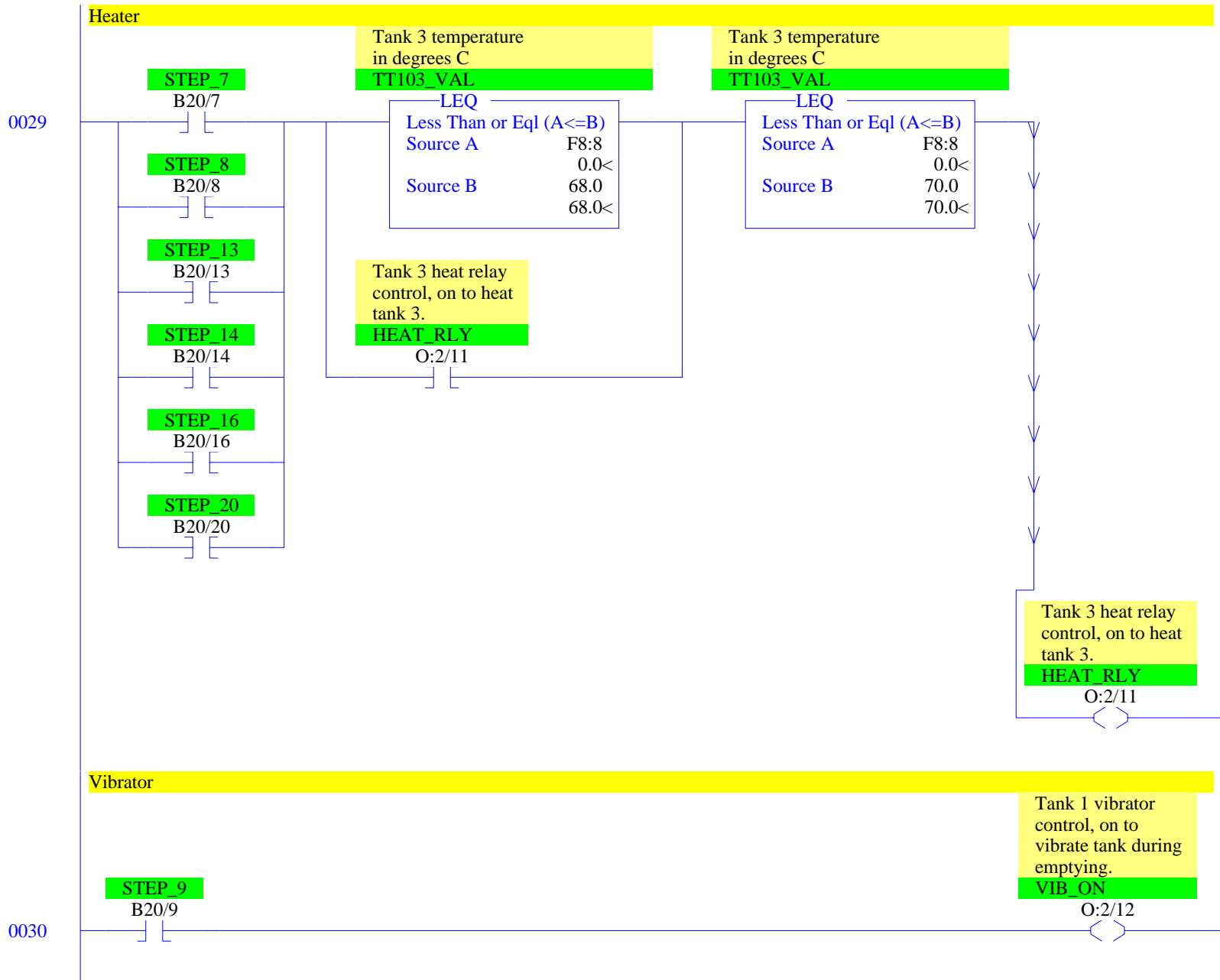
Step 16. Wait for 20 seconds.













0031

**Calculations  
Weights**Tank 1 weight, in  
pounds

WT101\_VAL

CPT

Compute  
DestF8:4  
0.0<

Expression (( I:3.0 - 3277.0 ) \* 1000.0 ) | 13107.0

Tank 2 weight, in  
pounds

WT102\_VAL

CPT

Compute  
DestF8:5  
0.0<

Expression (( I:3.1 - 3277.0 ) \* 1000.0 ) | 13107.0

Tank 3 weight, in  
pounds

WT103\_VAL

CPT

Compute  
DestF8:6  
0.0<

Expression (( I:3.2 - 3277.0 ) \* 1000.0 ) | 13107.0

Tank 4 weight, in  
pounds

WT104\_VAL

CPT

Compute  
DestF8:7  
0.0<

Expression (( I:3.3 - 3277.0 ) \* 1000.0 ) | 13107.0

**Temperature**Tank 3 temperature  
in degrees C

TT103\_VAL

CPT

Compute  
DestF8:8  
0.0<

Expression (( I:4.0 - 3277.0 ) \* 100.0 ) | 13107.0

0032

0033

&lt;END&gt;

## RSLogix 500 Cross Reference Report - Sorted by Address

O:2/0	- {XV101_SOL} On to open XV101. Off closes valve. OTE - File #2 - 18
O:2/1	- {XV102_SOL} On to open XV102. Off closes valve. OTE - File #2 - 19
O:2/2	- {XV103_SOL} On to open XV103. Off closes valve. OTE - File #2 - 20
O:2/3	- {XV104_SOL} On to open XV104. Off closes valve. OTE - File #2 - 21
O:2/4	- {XV105_SOL} On to open XV105. Off closes valve. OTE - File #2 - 22
O:2/5	- {XV106_SOL} On to open XV106. Off closes valve. OTE - File #2 - 23
O:2/6	- {XV107_SOL} On to open XV107. Off closes valve. OTE - File #2 - 24
O:2/7	- {P105_RUN} On to run pump P-105 Off stops pump. OTE - File #2 - 25
O:2/8	- {P106_RUN} On to run pump P-106 Off stops pump. OTE - File #2 - 26
O:2/9	- {P107_RUN} On to run pump P-107 Off stops pump. OTE - File #2 - 27
O:2/10	- {STIR_ON} Tank 4 stirrer control, on to stir tank 4. OTE - File #2 - 28
O:2/11	- {HEAT_RLY} Tank 3 heat relay control, on to heat tank 3. OTE - File #2 - 29 XIC - File #2 - 29
O:2/12	- {VIB_ON} Tank 1 vibrator control, on to vibrate tank during emptying. OTE - File #2 - 30
I:1/0	- {START_PB} Start push button, on (closed) to start XIC - File #2 - 0
I:1/1	- {STOP_PB} Stop push button, off (open) to stop XIC - File #2 - 0
I:3.0	- {WT101_MEAS} Tank 1 weight measurement, represents 0-1000 pounds CPT - File #2 - 31
I:3.1	- {WT102_MEAS} Tank 2 weight measurement, represents 0-1000 pounds CPT - File #2 - 31
I:3.2	- {WT103_MEAS} Tank 3 weight measurement, represents 0-1000 pounds CPT - File #2 - 31
I:3.3	- {WT104_MEAS} Tank 4 weight measurement, represents 0-1000 pounds CPT - File #2 - 31
I:4.0	- {TT103_MEAS} Tank3 temperature measurement, represents 0-100 C CPT - File #2 - 32
B3/0	- {RUN} Process running OTE - File #2 - 0 XIC - File #2 - 0, 1, 2, 3, 4, 5, 6, 7, 18, 19, 20
T4:1	- {DELAY_TMR} Time delay before adding last of tanks 2 and 3, 20 sec TON - File #2 - 12
T4:1/DN	- XIC - File #2 - 12
T4:2	- {REACTION_TMR} Time reaction while emptying tanks 2 and 3, 250 sec TON - File #2 - 13
T4:2/DN	- XIC - File #2 - 16
F8:4	- {WT101_VAL} Tank 1 weight, in pounds CPT - File #2 - 31 GEQ - File #2 - 3 LEQ - File #2 - 8
F8:5	- {WT102_VAL} Tank 2 weight, in pounds CPT - File #2 - 31 GEQ - File #2 - 4 LEQ - File #2 - 9, 14
F8:6	- {WT103_VAL} Tank 3 weight, in pounds CPT - File #2 - 31 GEQ - File #2 - 5 LEQ - File #2 - 10, 15
F8:7	- {WT104_VAL} Tank 4 weight, in pounds CPT - File #2 - 31 LEQ - File #2 - 17
F8:8	- {TT103_VAL} Tank 3 temperature in degrees C

## RSLogix 500 Cross Reference Report - Sorted by Address

	CPT - File #2 - 32
	GEQ - File #2 - 6
	LEQ - File #2 - 29
B20/1	- {STEP_1}
	OTL - File #2 - 1, 17
	OTU - File #2 - 2
	XIC - File #2 - 2
	XIO - File #2 - 1
B20/2	- {STEP_2}
	OTL - File #2 - 2
	OTU - File #2 - 3
	XIC - File #2 - 3, 18
	XIO - File #2 - 1
B20/3	- {STEP_3}
	OTL - File #2 - 3
	OTU - File #2 - 7
	XIC - File #2 - 7
	XIO - File #2 - 1
B20/4	- {STEP_4}
	OTL - File #2 - 2
	OTU - File #2 - 4
	XIC - File #2 - 4, 19
	XIO - File #2 - 1
B20/5	- {STEP_5}
	OTL - File #2 - 4
	OTU - File #2 - 7
	XIC - File #2 - 7
	XIO - File #2 - 1
B20/6	- {STEP_6}
	OTL - File #2 - 2
	OTU - File #2 - 5
	XIC - File #2 - 5, 20
	XIO - File #2 - 1
B20/7	- {STEP_7}
	OTL - File #2 - 5
	OTU - File #2 - 6
	XIC - File #2 - 6, 29
	XIO - File #2 - 1
B20/8	- {STEP_8}
	OTL - File #2 - 6
	OTU - File #2 - 7
	XIC - File #2 - 7, 29
	XIO - File #2 - 1
B20/9	- {STEP_9}
	OTL - File #2 - 7
	OTU - File #2 - 8
	XIC - File #2 - 8, 21, 30
	XIO - File #2 - 1
B20/10	- {STEP_10}
	OTL - File #2 - 8
	OTU - File #2 - 11
	XIC - File #2 - 11
	XIO - File #2 - 1
B20/11	- {STEP_11}
	OTL - File #2 - 7
	OTU - File #2 - 9
	XIC - File #2 - 9, 22, 25
	XIO - File #2 - 1
B20/12	- {STEP_12}
	OTL - File #2 - 9
	OTU - File #2 - 11
	XIC - File #2 - 11
	XIO - File #2 - 1
B20/13	- {STEP_13}
	OTL - File #2 - 7
	OTU - File #2 - 10

## RSLogix 500 Cross Reference Report - Sorted by Address

	XIC - File #2 - 10, 23, 26, 29
	XIO - File #2 - 1
B20/14	- {STEP_14}
	OTL - File #2 - 10
	OTU - File #2 - 11
	XIC - File #2 - 11, 29
	XIO - File #2 - 1
B20/15	- {STEP_15}
	OTL - File #2 - 7
	OTU - File #2 - 11
	XIC - File #2 - 11, 28
	XIO - File #2 - 1
B20/16	- {STEP_16}
	OTL - File #2 - 11
	OTU - File #2 - 12
	XIC - File #2 - 12, 28, 29
	XIO - File #2 - 1
B20/17	- {STEP_17}
	OTL - File #2 - 12
	OTU - File #2 - 16
	XIC - File #2 - 13, 16, 28
	XIO - File #2 - 1
B20/18	- {STEP_18}
	OTL - File #2 - 12
	OTU - File #2 - 14
	XIC - File #2 - 14, 22, 25
	XIO - File #2 - 1
B20/19	- {STEP_19}
	OTL - File #2 - 14
	OTU - File #2 - 16
	XIO - File #2 - 1
B20/20	- {STEP_20}
	OTL - File #2 - 12
	OTU - File #2 - 15
	XIC - File #2 - 15, 23, 26, 29
	XIO - File #2 - 1
B20/21	- {STEP_21}
	OTL - File #2 - 15
	OTU - File #2 - 16
	XIO - File #2 - 1
B20/22	- {STEP_22}
	OTL - File #2 - 16
	OTU - File #2 - 17
	XIC - File #2 - 17, 24, 27, 28
	XIO - File #2 - 1