	Operational SOP		Doc. No.	OPS.03.0001
	Start Up the North Evaporator		Date	June 23, 2022
			Revision	2.0

Purpose: To start the North Evaporator System for normal operation.

Required PPE:



Safety Glasses



Hearing Protection



Steel Toed Shoes



Nitrile Gloves



North Evaporator System

Potential Hazards:



In the automatic mode the equipment may start without warning. Keep hands clear unless the unit is locked out in a safe condition.



Fall hazard exists on ladder and the raised platform. Use three-point contact when climbing up to or down from the platform.




The vessels, heat exchangers and piping for have hot surfaces which could cause burns. Avoid contact with these hot surfaces.




Reference Documents:


- Acme Model 642 Evaporator O&M Manual
- QA Checklist 87383-B



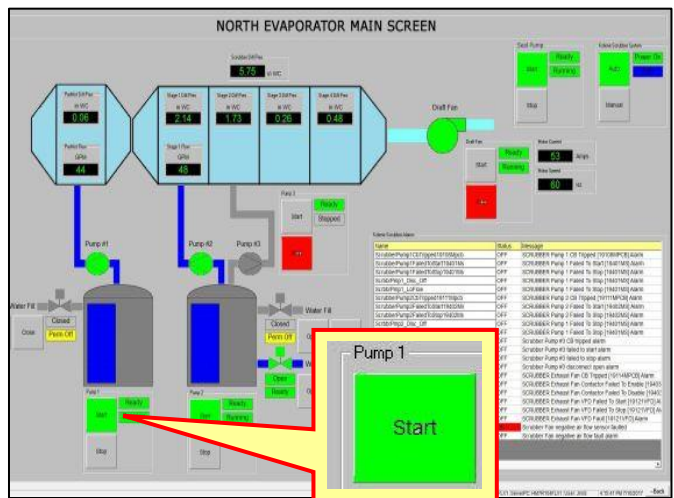
Required Equipment & Materials:


- Standard Operator Tool Kit
- Acme Brix Meter
- Acme pH tester
- Product Order Sheet

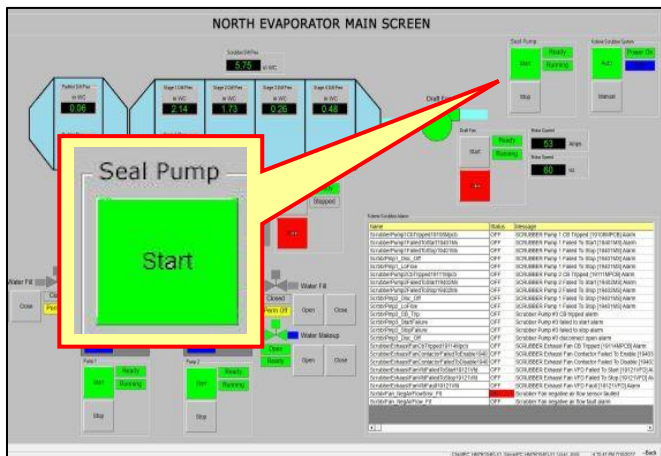


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Steps	Key Points
Line Up Cooling Tower Water	Note: if the cooling tower is already in operation, proceed to the next section.
1. Verify that the cooling tower CT1 WATER SUPPLY VALVE is open.	
2. Power up the system: <ul style="list-style-type: none"> a. Press the MACHINE START button at the Main control panel. b. Verify that green light on the button is lit. c. Wait for HMI to boot up before proceeding. 	
3. Place the ADJ/PROD switch in the ADJ position to allow startup adjustments.	




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Steps	Key Points
4. Open Cooling Water INLET valve CWP-4.	
5. Turn on Disconnect Switch for COOLING TOWER FAN.	
6. At the North Evaporator MAIN HMI screen, press the PUMP #1 START button.	



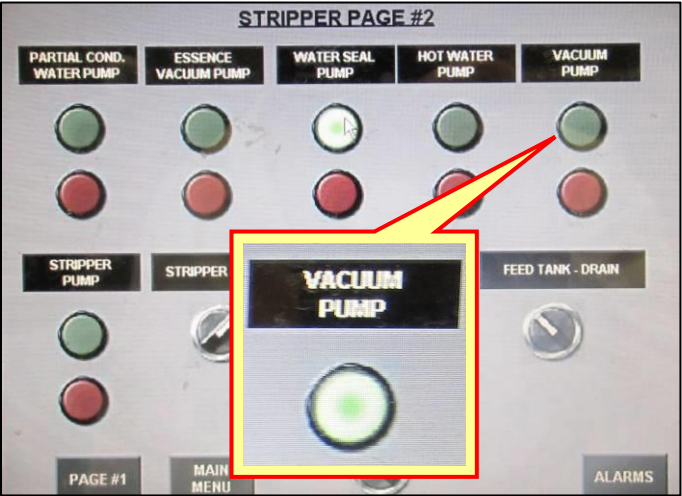

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Steps	Key Points
Start the Seal Water System	Note: if the seal water system is already in operation, proceed to the next section.
7. At the North Evaporator MAIN HMI screen, start the SEAL PUMP.	
8. Verify water seal return flow to tank.	 <p>Flow should be visible here</p>
9. Inspect evaporator system pumps for seal water leaks.	 <p>No water should be visible here</p>


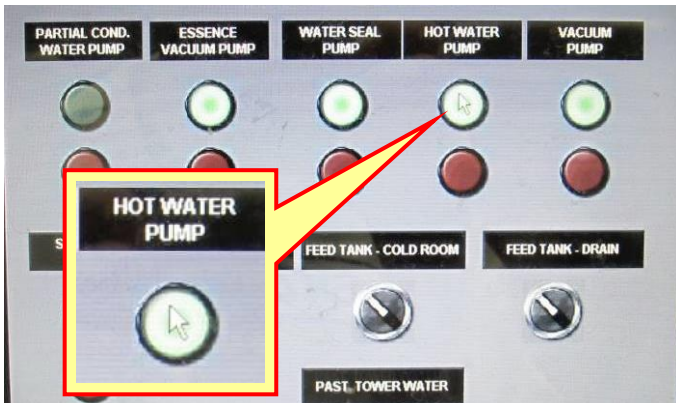

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Steps	Key Points
Start Up the Evap System	
10. Remove and inspect filter screen.	
11. Clean screen if any debris or foreign material is found.	
12. Open Recovery Water Valve.	


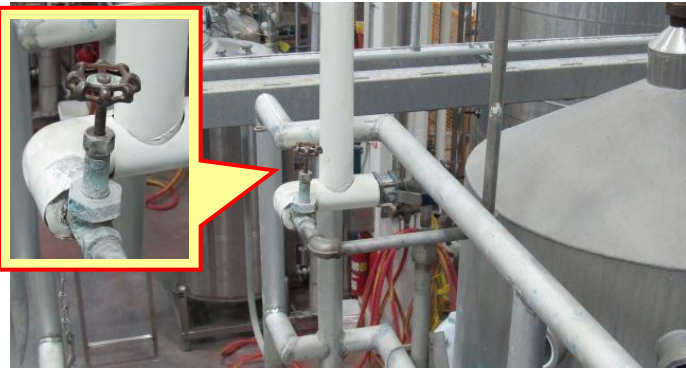

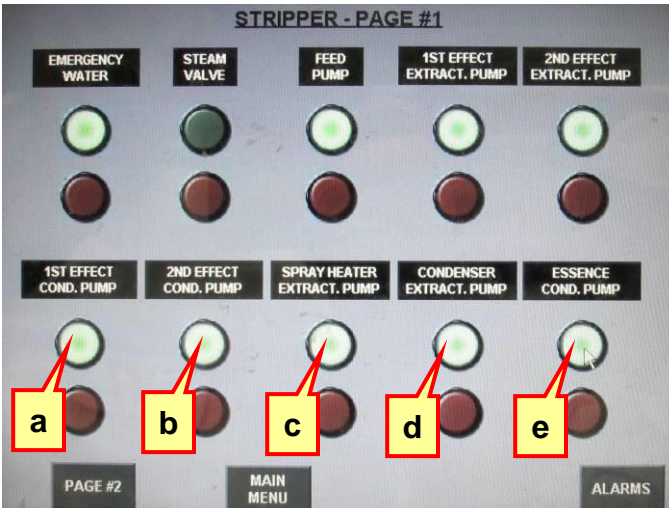
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Steps	Key Points
13. Verify that the vacuum break valve is closed.	
14. At the <i>Stripper</i> HMI (Page 2) Start the VACUUM PUMP.	<p> WARNING: Do not start the vacuum pump with the cooling tower offline or damage may occur.</p> 
15. Start the ESSENCE VACUUM PUMP.	




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Steps	Key Points
16. Verify that system is building vacuum.	<p>Gauge must read at least 10 inHg. before continuing to the next step.</p> 
17. Start the HOT WATER PUMP at the Evap System HMI.	
18. Set injection spray water valve to 45-degree position as shown.	


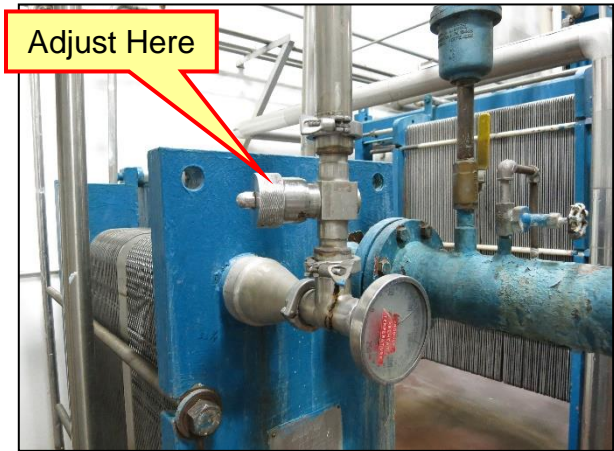
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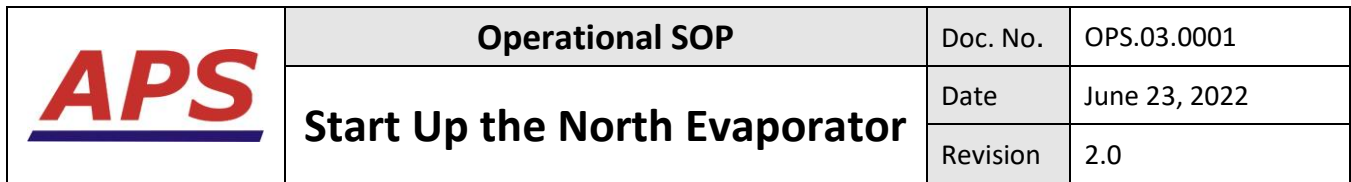
Steps	Key Points
19. Open fluid column water supply valve.	 
20. Prime the fluid column by adjusting the fluid column water supply valve until there is a level visible in the middle third of the sight glass.	
21. At the <i>Stripper</i> HMI (Page 1) Start the condensate and extract pumps: <ul style="list-style-type: none"> a. 1ST EFFECT COND PUMP b. 2ND EFFECT COND PUMP c. SPRAY HEATER EXTRACT PUMP d. CONDENSOR EXTRACT PUMP e. ESSENCE COND PUMP 	

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Steps	Key Points
22. Open steam supply valve to hot set.	
23. Open steam supply valve (Chain Operated).	
24. Drain the condensate: <ol style="list-style-type: none"> Open condensate valve to drain water from the system. Close valve when only steam (without water) flows from drain. 	

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Steps	Key Points
25. Open the manual inlet valve to balance tank.	
26. Adjust product flow rate as needed to achieve desired concentration as specified in the product order sheet.	

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