RUNNING THE LOOP FROM HRP VIA 600 LINE BYPASSING DAF/ADDING ALKALINITY TO SN RETURN SUMP

1. Procedure summary

This procedure describes how to run the loop from HRP via the 600 column.

Related Procedures

Valve set up	Refer to
HRP depth verification	Figures 1.1 and
Strainer removal	1.2
HMI Control	
	Refer to figure 1.1

Procedure impacts and concerns

Safety	Standard PPE and nitrile gloves
Quality	Ensure all valves are properly open/close
Communication	Always have proper communication on when loop has begun and ended
Compliance	The procedure below should be followed by any personnel assigned to running the loop

Responsibilities and owners

Document Owner	Manage content and distribution	Leo Willis
Process Owner	Responsible for content and process validation	Jose Perez
Site Manager	Responsible for implementation and conformance	Rebecca White

2. Process

HMI controller should always check with person setting up loop that he or she has a proper understanding of which valves need to be opened

DFP Grates and Strainers

1. Prior to opening any valves grates in DFC must be cleared of any debris. Refer to DFC grate cleaning SOP.
2. Strainer in DFP must also be removed. Refer to DFP basket strainer replacement and cleaning.
3. There are two sets of valves at the DFC strainers that will need to be open and closed prior to opening lid to remove strainer.
4. Valves AH-V703 and AH-V704 control one side of the strainers and valves AH-V701 and AH-V702 control the other side.
5. There are also 2 pressure release valves located at the bottom of the strainer pipe that need to be opened prior to opening lid.

Refer to Figure 1.1 for valve diagram

6. When opening strainer valves on closed side need to be opened in this order (i.e.: AH-V704, AH-V703) or (AH-V702, AH-V701)
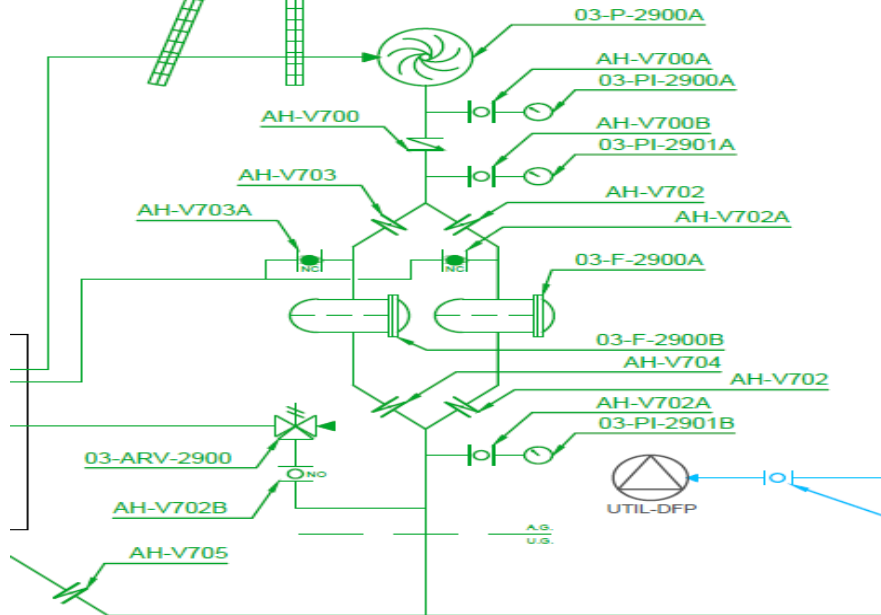

Figure 1.1

Harvest Area Valve Setup

1. SN-V103 Open
2. AH-V708 Open
3. SN-201 Open
4. SN-V200 Closed
5. AH-V709 Closed
6. Valves SN-V103 and AH-V708 are both manual valves
7. Valves SN-V201, SN-V200, AH-V709 are all controlled from the HMI

Refer to Figure 1.2 for valve location
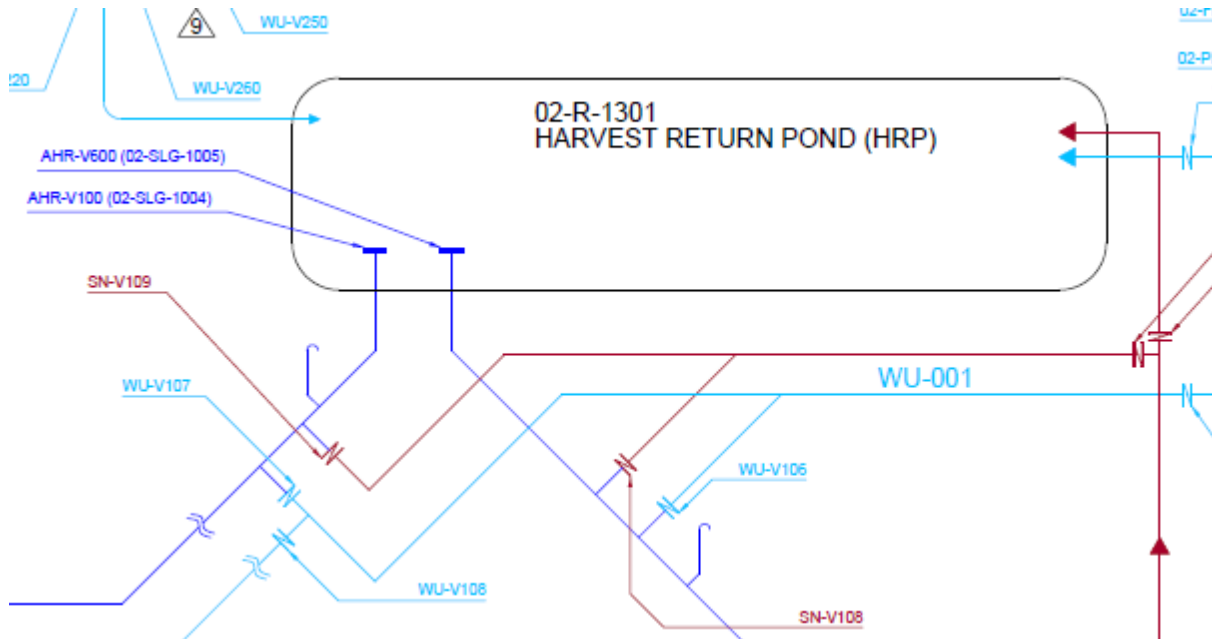
Figure 1.2

HRP Valve Set Up

All valves in HRP must be checked to ensure valves are closed or opened properly to prevent any damage to the lines.

SN-V106 Open
SN-V107 Close
AHR-V600 Open

Refer to Figure 1.3 for valve location.

Figure 1.3

600 column valve set up

2.
4

1. When setting up valves in the 600 column valves must be opened starting at the slide gate in the channel and working your way back towards the HRP to avoid pressurizing a line.
2. A checklist will be needed when setting valves. Checklist must include time valves were opened or closed and operator's initials.
3. Refer to the map located in HMI or front office to find valve locations

Date/Operator _____

Running Loop from HRP via 600 line

Verify ALL Valve and Slide Gates are In the Correct Positions

Valve Number:	Position:	Initials:	Time:
AH-V602	OPEN		
AHR-V0106	CLOSED		
AHR-V0206	CLOSED		
AHR-V0306	CLOSED		
AHR-V0406	CLOSED		
AHR-V0506	CLOSED		
AHR-V0606	CLOSED		
AHR-V0706	CLOSED		
AHR-V0806	CLOSED		
--------→	CLOSED		
AHR-V0906	CLOSED		

AHR-V1006	CLOSED		
AH-V600	CLOSED		
SNV106	OPEN		
SNV107	CLOSED		
AHR-V600	OPEN		

INITIAL	DEPTH	TIME	INITIALS
HRP			
DFP			

Valve Number:	Position:	Initials:	Time:
AHR-V602	OPEN		
AHR-V0108	CLOSED		
AHR-V0208	CLOSED		
AHR-V0308	CLOSED		
AHR-V0408	CLOSED		
AHR-V0508	CLOSED		
AHR-V0608	CLOSED		
AHR-V0708	CLOSED		
AHR-V0808	CLOSED		
AHR-V601	OPEN		
AHR-V0908	CLOSED		
AHR-V1008	CLOSED		
AHR-V600	CLOSED		
AHR-V602	CLOSED		
AH-V602	CLOSED		
SNV-103	CLOSED		
AHV-708	CLOSED		
SN-201	CLOSED		
SN-200	CLOSED		
AHV-709	CLOSED		
SNV-106	CLOSED		
SNV-107	OPEN		

	FINAL	DEPTH	TIME	INITIALS
	HRP			
	DFP			

2. HRP valve set up IF bypassing HRP

5 Checklist remains the same EXCEPT for valves listed below:
1. Close SN-V109
2. Open SN-V108
3. Open SN-V107
4. Close SN-106

3. Loop Startup

Checklist Verification
1. Once all valves are open HMI operator should go over checklist to make sure valves are all opened or closed.

3. Controlling the loop from HMI

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1. When starting, subnate pump must always be turned on first
2. Turn on DFP pump and set to desired GPM
3. Refer to daily instructions for the GPM and duration of running loop
4. While loop is running HMI controller must stay in HMI to ensure loop is running properly and no pumps have shut off

NOTE: Max GPM when running the loop is 2000-2500. Due to, too much pressure in lines and will shoot out of pressure relive valves.

4. Nutrient Replenishment when running loop

1. Alkalinity Addition can be added to sump when advised by QAQC

2. Add Sodium Bicarbonate/Sodium Carbonate mix in a 2:1 ratio to the Subnatant Return Sump using the Tele-handler.

3. Top off ponds with Alkalinity replenished return media from Harvest Return Pond. Refer to corresponding transfer checklist located in Columbus Drive L:\field operations/checklists

NOTE: Make sure that extra PPE is worn for task.

5. Shutting Down
1. When gallons ran have been met AHR-V600 must be closed.
2. Once channel has been taken down to a low depth DFP pump can be shut down
3. When pumps have been shut off these valves must be closed in this order

NOTE: DFP pump will start turning off when DFC

4. SN-V201 Closed   depth at 9".
5. SN-V103 Closed
6. AH-V708 Closed
7. AH-V602 Closed
8. AHR-V602 Closed
9. AHR-V601 Closed
10. SN-V106 Open
11. SN-V107 Closed
12. After all valves are closed HRP and DFC depths need to be recorded on checklist that was made prior to beginning the loop

Revision history

R0 – Initial Release – <Editor name>	<Date>
R1 – <Editor name> Jose/ Leo	<Date>01/08/2015

Document approval

<Name>   <Approval date>

Document reviewers

<Name>   <Last reviewed date>
<Name>   <Last reviewed date>

3. Risk analysis

<Risk name>	<Mitigation plan>	<Owner>	<RPN>