

- NOTES**
1. DELETED.
 2. DELETED.
 3. SPRAY ADDITIVE TANK TO BE INSTALLED BY 12 INCH TEST CONNECTION AT 100 PSI TEST PRESSURE.
 4. REMOVABLE SPRAY NOZZLES SPRING LOADED.
 5. VALVE SWAPPING IS ALLOWED WITH AN AWT PROCEDURE CHECKING SPRING, SEE P-120000-1.
 6. VENTURE SURVEILLANCE RELATED SPEC. BY P-120000-1, SEE P-120000-1.

USAR FIG. 6.2.2-1-00

ESSENTIAL DRAWING

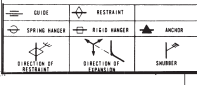
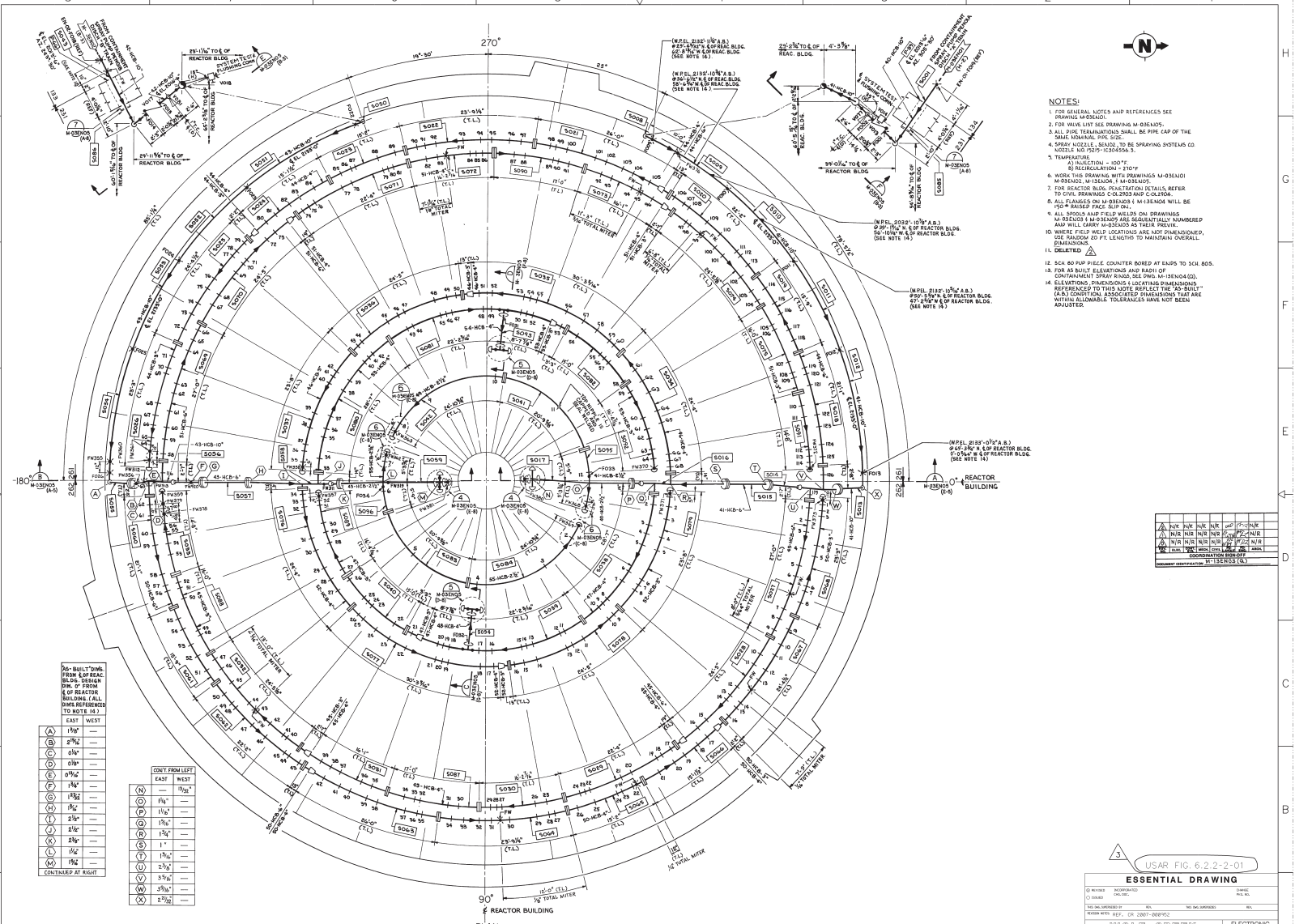
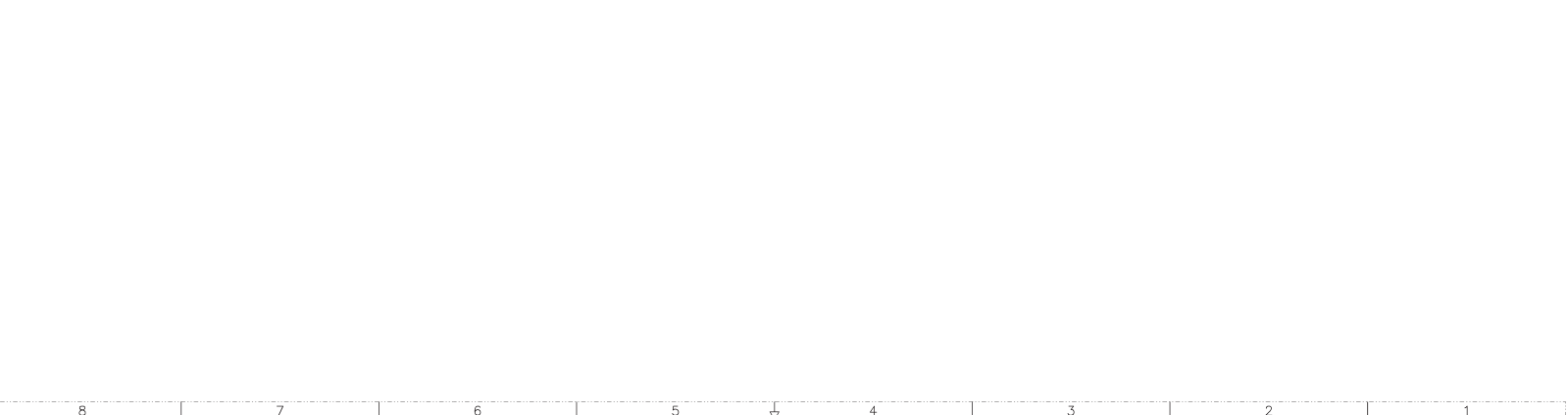
REVISION	DATE	BY	CHKD

REVISION WITH REVISION TO CORRECT A TYPO PER AF 05-001 TABLE A TYPE 1

WOLF CRIER **ELECTRONIC APPROVAL**

PIPING AND INSTRUMENTATION DIAGRAM CONTAINMENT SPRAY SYSTEM

DATE: **M-12EN01** SHEET NO: **14**



CONTINUED AT RIGHT

EAST WEST	
A	7'6"
B	2'7 1/2"
C	0'10"
D	0'10"
E	0'10"
F	1'6"
G	1'6"
H	1'6"
I	2'5"
J	2'5"
K	1'6"
L	1'6"
M	1'6"

ONLY FROM LEFT	
N	1'6"
O	1'6"
P	1'6"
Q	1'6"
R	1'6"
S	1'6"
T	1'6"
U	1'6"
V	1'6"
W	1'6"
X	1'6"

- NOTES:**
- FOR GENERAL NOTES AND REFERENCES SEE DRAWING M-13EN01.
 - FOR WELD LIST SEE DRAWING M-13EN01.
 - ALL JOINT TERMINATIONS SHALL BE THE CAP OF THE SMALL NOMINAL PIPE SIZE.
 - SPRAY NOZZLES SHALL BE TO BE SPRAYING SYSTEMS CO. NOZZLE NO. 7529-1C30455A.
 - TEMPERATURE:
A) INJECTION - 100°F
B) REGULATION - 210°F
 - WORK THIS DRAWING WITH DRAWINGS M-13EN01, M-13EN02, M-13EN03, M-13EN04.
 - FOR REACTOR BLD. PENETRATION DETAILS, REFER TO CIVIL DRAWINGS C-1000 AND C-1001.
 - ALL FLANGES ON M-13EN03 & M-13EN04 WILL BE 150#.
 - ALL SHROUD AND FIELD WELDS ON DRAWINGS M-13EN03 & M-13EN04 SHALL BE FULLY NUMBERED AND FULLY SIZED WELDS AS THEIR RESPECTIVE.
 - WHERE FIELD WELD LOCATIONS ARE NOT DIMENSIONED, USE REVISION 20 FT. LENGTHS TO MAINTAIN OVERALL DIMENSIONS.
 - DELETED.
 - SEE 600 RUP WHEEL COUNTER BORED AT ENDS TO SIZE 80S.
 - FOR AS BUILT ELEVATIONS AND RADI OF CONTAINMENT SPRAY BLDG. SEE DWG. M-13EN04 (D).
 - ELEVATIONS, DIMENSIONS (LOCATING DIMENSIONS), REFERENCES TO THIS NOTE EXCEPT THE "AS BUILT" (A,B) CONDITION. ASSOCIATED DIMENSIONS THAT ARE WITHIN ALLOWABLE TOLERANCES HAVE NOT BEEN ADJUSTED.

NO.	DATE	BY	CHKD.	DESCRIPTION
1	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
2	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
3	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
4	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
5	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
6	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
7	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
8	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
9	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
10	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
11	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
12	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
13	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
14	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
15	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
16	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
17	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
18	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
19	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION
20	11/15/78	W.C.	W.C.	ISSUED FOR CONSTRUCTION

USAR FIG. 6.2.2-2-01

ESSENTIAL DRAWING

DESIGNED BY: W.C. DATE: 11/15/78
 CHECKED BY: W.C. DATE: 11/15/78
 DRAWN BY: W.C. DATE: 11/15/78
 REVISIONS: SEE DRAWING M-13EN01

WOLF CREEK ELECTRONIC APPROVAL

PIPING ORTHOGRAPHIC CONTAINMENT SPRAY SYSTEM REACTOR BUILDING "A" & "B" TRAINS

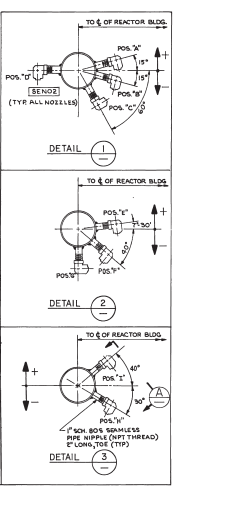
SCALE: NONE SHEET NO: M-13EN03 DATE: 03 1978

TABLE FOR PIPE NOZZLES. A grid listing nozzle specifications including size, material, and dimensions.

Continuation of the nozzle table, listing various nozzle types and their corresponding dimensions.

Continuation of the nozzle table, listing nozzle types and their corresponding dimensions.

Table listing various spray nozzle models and their specifications, including part numbers and dimensions.

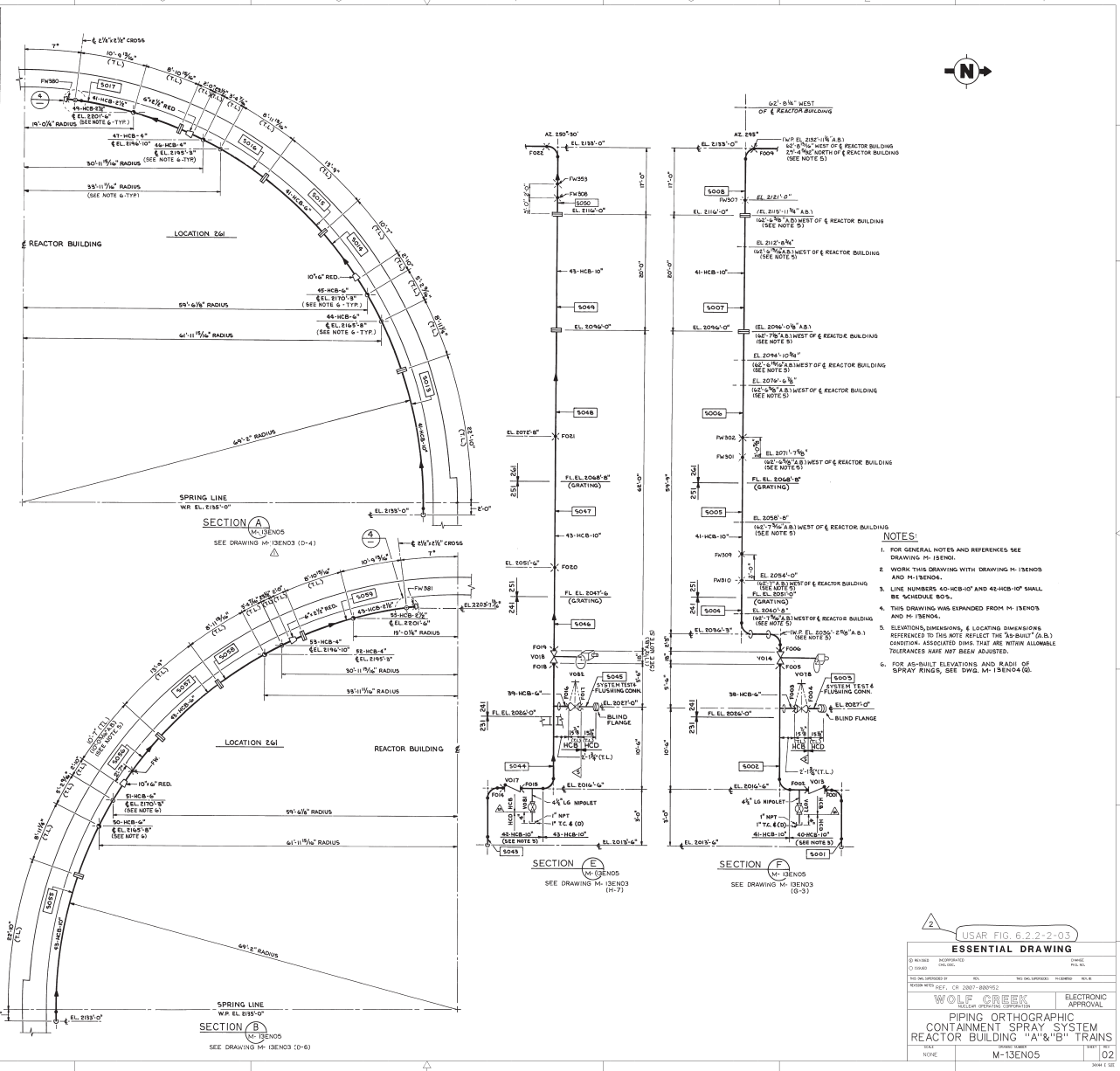
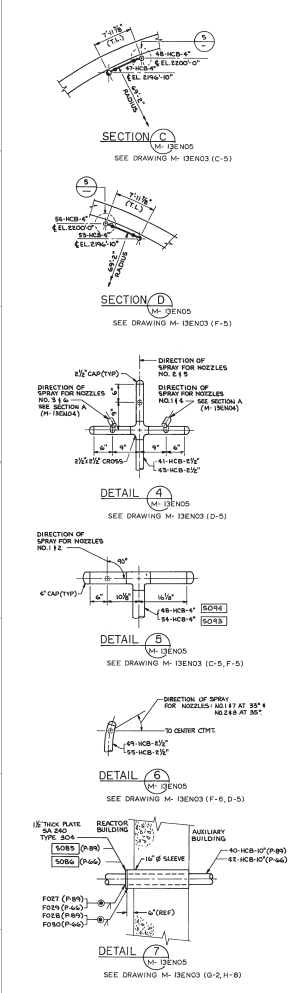


NOTES: 1. FOR GENERAL NOTES AND REFERENCES SEE DWG M-02EN01. 2. WORK THIS DRAWING WITH M-02EN05 (M-02EN05).

USAR FIG. 6.2.2-2-02 ESSENTIAL DRAWING. Includes project information and company logos for WOLF CREEK ELECTRONIC APPROVAL.

Released by Document Services Release Date: 08/31/07

VALVE INFORMATION TABLE						
VALVE NO.	CTR. OF GRAVITY FOR VALVE & OPR.	LOC.	VALVE WEIGHT	VALVE PRINT NO.	VENDOR	ROL. ITEM NO.
VOB8	X	Y	2	ISO	N-221008	BECHTEL 2.07
VOB8	-	+0.3%	-	ISO	N-221008	BECHTEL 2.07
VOB8	+24.1%	+5.3%	-5.3%	ISO	N-221008	BECHTEL 2.07
VOB8	-5%	+3%	+3%	ISO	N-221008	BECHTEL 2.07
VOB8	+17.3%	+5.3%	+5.3%	ISO	N-221008	BECHTEL 2.07
VOB8	-7.1%	+3.3%	+3.3%	ISO	N-221008	BECHTEL 2.07
VOB8	-	-	-	ISO	N-221008	BECHTEL 2.07



- NOTES:**
- FOR GENERAL NOTES AND REFERENCES SEE DRAWING M-15EN01.
 - WORK THIS DRAWING WITH DRAWING M-15EN01 AND M-15EN04.
 - LINE NUMBERS 40-HCB-10" AND 45-HCB-10" SHALL BE SCHEDULE 80 S.
 - THIS DRAWING WAS EXPANDED FROM M-15EN01 AND M-15EN04.
 - ELEVATIONS, DIMENSIONS, & LOCATING DIMENSIONS REFERENCED TO THIS NOTE REFLECT THE "AS-BUILT" (A.B.) CONDITION. ASSOCIATED DIMS THAT ARE WITHIN ALLOWABLE TOLERANCES HAVE NOT BEEN ADJUSTED.
 - FOR AS-BUILT ELEVATIONS AND RADII OF SPRAY ARCS, SEE DWG. M-15EN04-06.

USAR FIG. 6.2.2-2-03

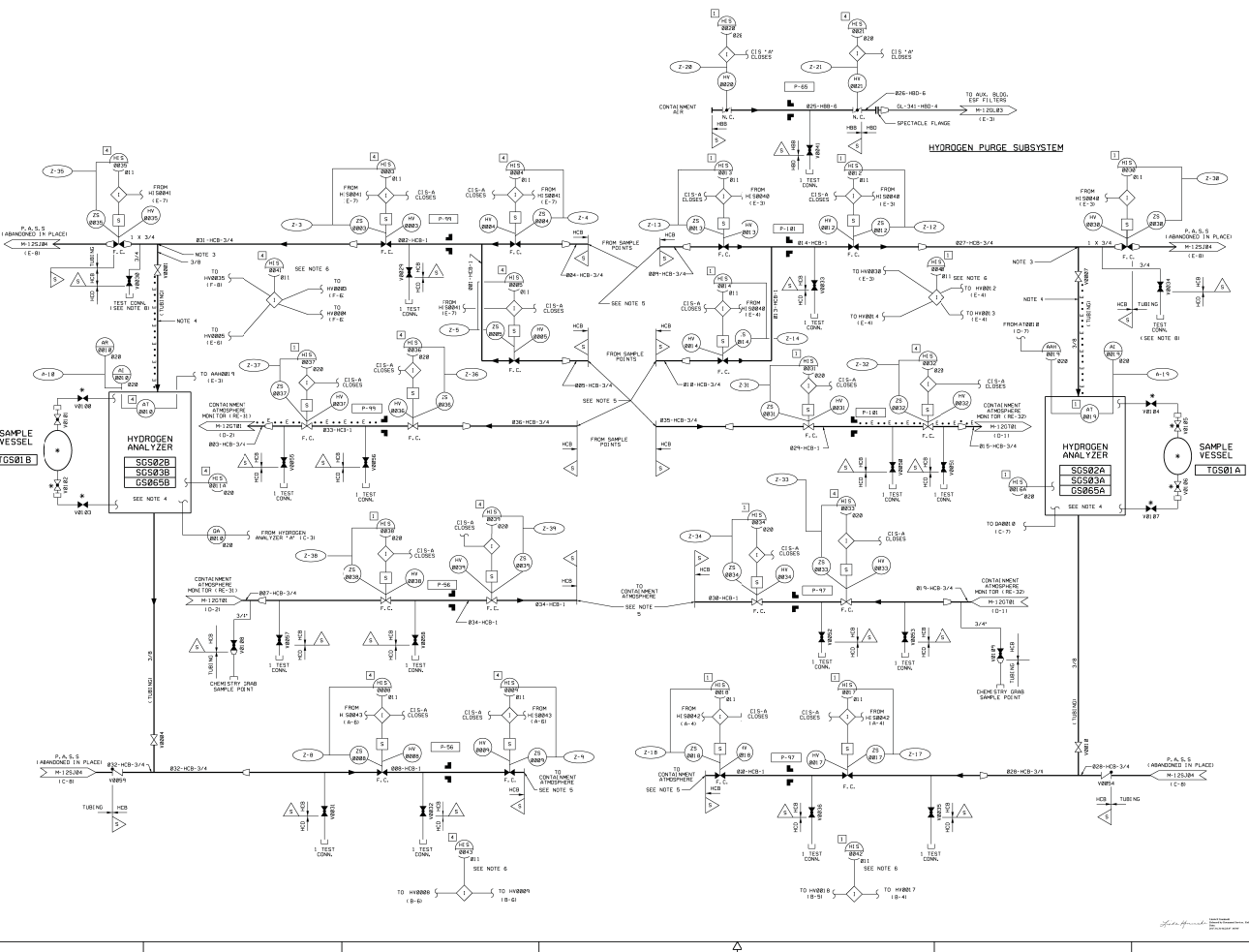
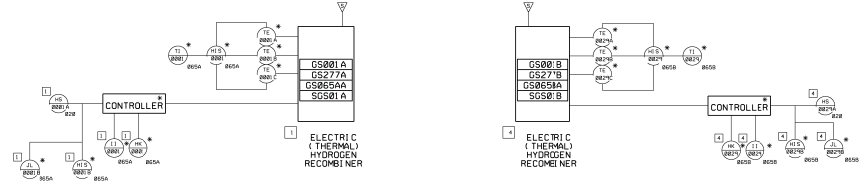
ESSENTIAL DRAWING

WOLF CREEK
ELECTRONIC APPROVAL

PIPING ORTHOGRAPHIC
CONTAINMENT SPRAY SYSTEM
REACTOR BUILDING "A" & "B" TRAINS

M-15EN01

DATE: 02



- NOTES**
1. THE HYDROGEN PURGE MAKEUP SUPPLY AT THE TOP OF THE PURGE LINE SHALL BE SUPPLIED BY THE CHARGED HSB 3/4" AND 1/2" SIZES ON P. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
 2. THE HYDROGEN PURGE LINE SHALL BE SUPPLIED BY THE CHARGED HSB 3/4" AND 1/2" SIZES ON P. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
 3. THIS CONNECTION SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PURGE LINE.
 4. THE PURGE LINE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PURGE LINE.
 5. THE PURGE LINE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PURGE LINE.
 6. THE PURGE LINE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PURGE LINE.
 7. THE PURGE LINE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PURGE LINE.
 8. THE PURGE LINE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PURGE LINE.

USAR FIG. 6.2.5-1

ESSENTIAL DRAWING

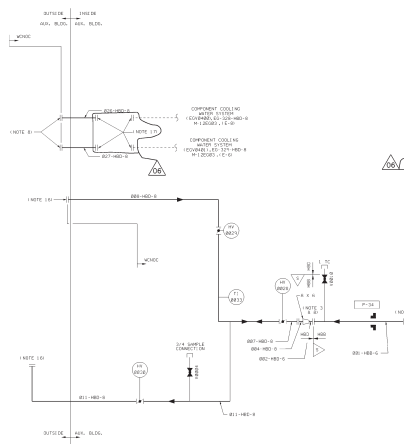
DESIGNED BY	APPROVED BY	DATE
DRAWN BY	DATE	SCALE
NO. OF SHEETS	TOTAL NO. OF SHEETS	REV.

WOLFF CREEK ELECTRONIC APPROVAL

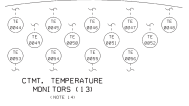
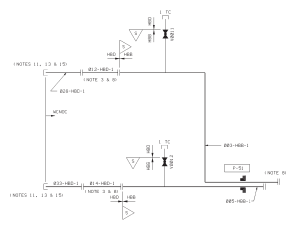
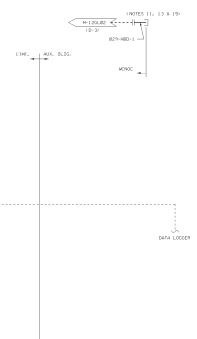
PIPING & INSTRUMENTATION DIAGRAM CONTAINMENT HYDROGEN CONTROL SYSTEM

TITLE	M-12CS01	NO. OF SHEETS	15
DATE		NO. OF SHEETS	13

8 7 6 5 4 3 2 1



- NOTES**
1. BLINDED.
 2. BLINDED.
 3. SPOL FITS TO BE INSTALLED ONLY DURING START AND STOP.
 4. SPOL FITS TO BE USED FOR COOLING.
 5. BLINDED.
 6. BLINDED.
 7. BLINDED.
 8. BLINDED.
 9. BLINDED.
 10. BLINDED.
 11. BLINDED.
 12. BLINDED.
 13. CAP TO BE INSTALLED FOR NORMAL PLANT OPERATION.
 14. CHECK INSTRUMENTATION WITH THE FOLLOWING EQUIPMENT AND OPERATED BY THE FOLLOWING PERSONNEL:
 - 14.1. INSTRUMENTATION TO BE PROVIDED BY WISE AT THE TIME OF START.
 - 14.2. INSTRUMENTATION TO BE PROVIDED BY WISE AT THE TIME OF STOP.
 15. INSTRUMENTATION TO BE PROVIDED BY WISE AT THE TIME OF START.
 16. INSTRUMENTATION TO BE PROVIDED BY WISE AT THE TIME OF STOP.
 17. BLIND FLANGES TO BE INSTALLED. SPOL FITS TO BE REMOVED.



USAR FIG. 6.2.6-1-00

ESSENTIAL DRAWING

DESIGNED BY	DATE	SCALE
DRAWN BY	DATE	SCALE
CHECKED BY	DATE	SCALE
APPROVED BY	DATE	SCALE

WOLF ELECTRONIC

ELECTRONIC APPROVAL

PIPING & INSTRUMENTATION DIAGRAM

CONTAINMENT INTEGRATED LEAK RATE TEST

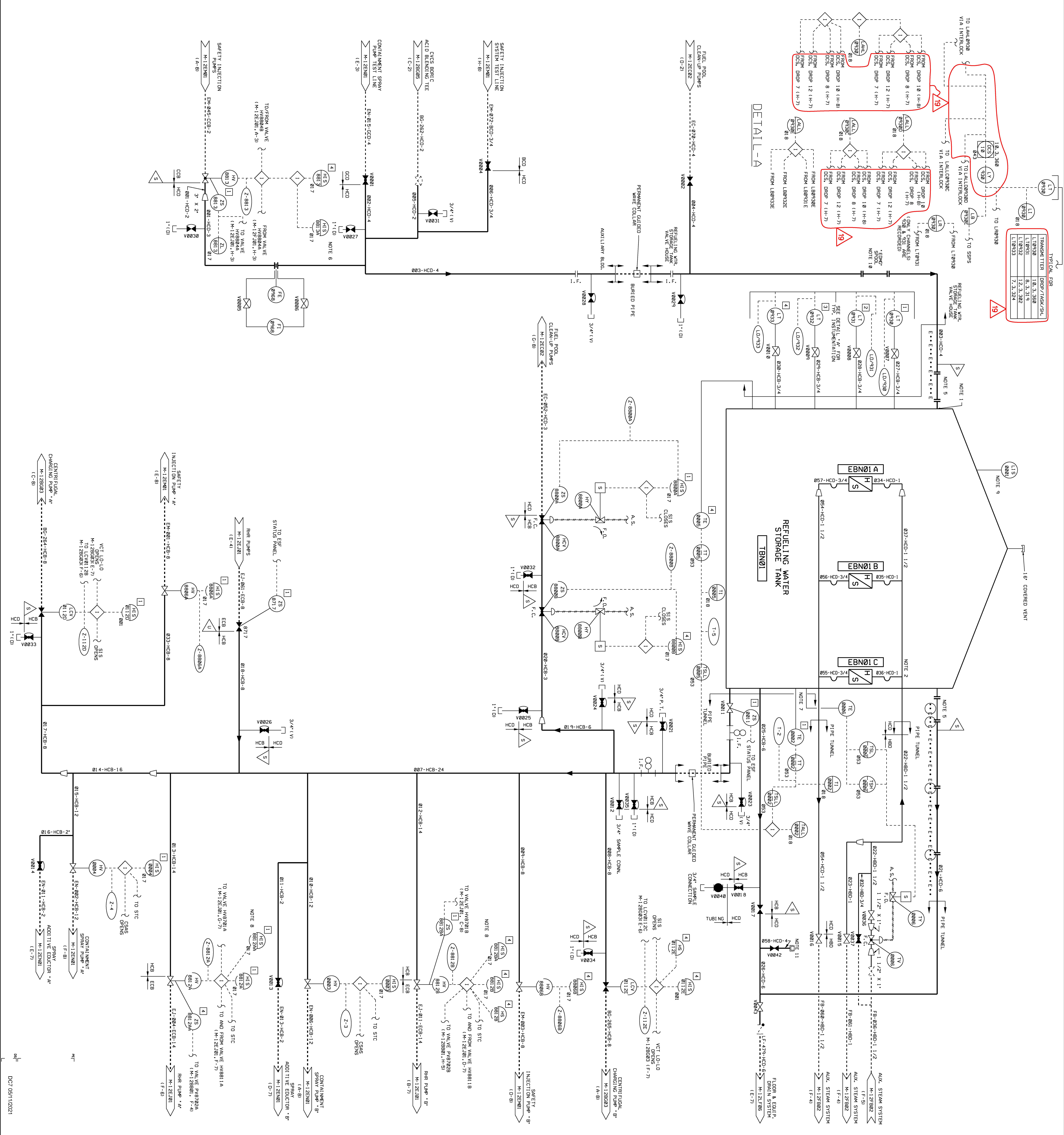
DATE: M-12GP01

REV: 06



H
G
F
E
D
C
B
A

Revised by Document Services Release Date: 03/01/10



TYPICAL FOR

TRANSMITTER	DPDP/TASK/SH
L10930	1.6, 3.3, 8.0
L10931	8.3, 31.9
L10932	1.2, 3.3, 3.92
L10933	7.3, 3.24

NOTES

1. LOCATE CONNECTION ABOVE NORMAL WATER LEVEL.
2. HEATING COIL AND STEAM SUPPLY AND RETURN.
3. REFERENCED INSTRUMENTATION OPERATIONALS: M-729-08027, M-729-08028, M-729-08021, M-729-08022, M-729-08023, M-729-08024.
4. DELETED.
5. REMOVABLE SPOOL PIPE REQUIRED FOR HYDROTESTING.
6. ISOLATION SWITCH PROVIDED IN THE CONTROL ROOM.
7. THE THERMOWELL FOR T-6 WILL BE IN ACCORDANCE WITH SPEC. J-5639.01.
8. TEST AND/OR SWITCH TO VERIFY CIRCUIT.
9. INSTRUMENT INSTALLED, BUT NOT IN SERVICE.
10. REMOVABLE SPOOL FOR EXTENSIVE DRAINAGE ATTENTION. QUANTIFYING ENGINEER TO REMOVE SPOOL AND FRESHENING WATER STORAGE TANK PER TO FLOOD CONTROL PLAN.
11. THIS CONNECTION IS FOR BEYOND-DESIGN-BASIS (FLEX) USE ONLY.

REFERENCE:

ANY REFERENCE TO THIS DRAWING MAY REQUIRE A REVISION TO THE HCD FOR DESIGN/CONSTRUCTION SYSTEMS TEST LINE P & I. D. M-12EN003.

USAR FIG. 6.3-1-01

ESSENTIAL DRAWING

DESIGNED BY: [Blank] INCORPORATED WFO-M-12EN0108-A-1

CHECKED BY: [Blank] INCORPORATED WFO-M-12EN0108-A-1

DATE: [Blank]

SCALE: NONE

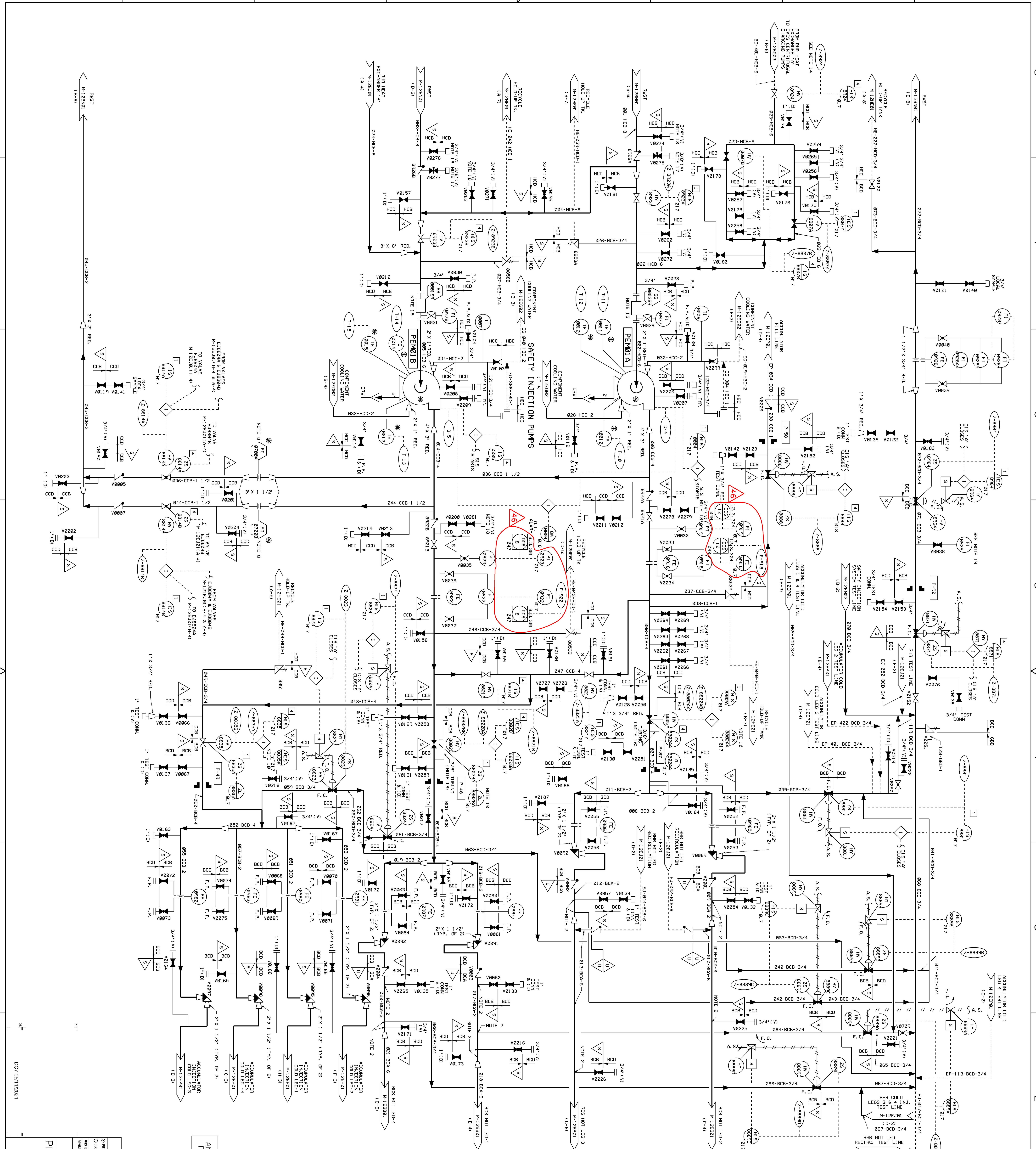
PROJECT NO: M-12EN01

DATE: 1/19

WOLF CRETEK
NATION'S OPERATING CORPORATION

ELECTRONIC APPROVAL

PIPING & INSTRUMENTATION DIAGRAM
BORATED REFUELING
WATER STORAGE SYSTEM



NOTES

1. DELETED
2. DELETED
3. DELETED
4. DELETED
5. DELETED
6. PIPING DRAWING 2 PRESENT SHOWS 0.5\"/>

USAR FIG. 6.3-1-02

ESSENTIAL DRAWING

INCORPORATED W/ M-12E01-045-A-1

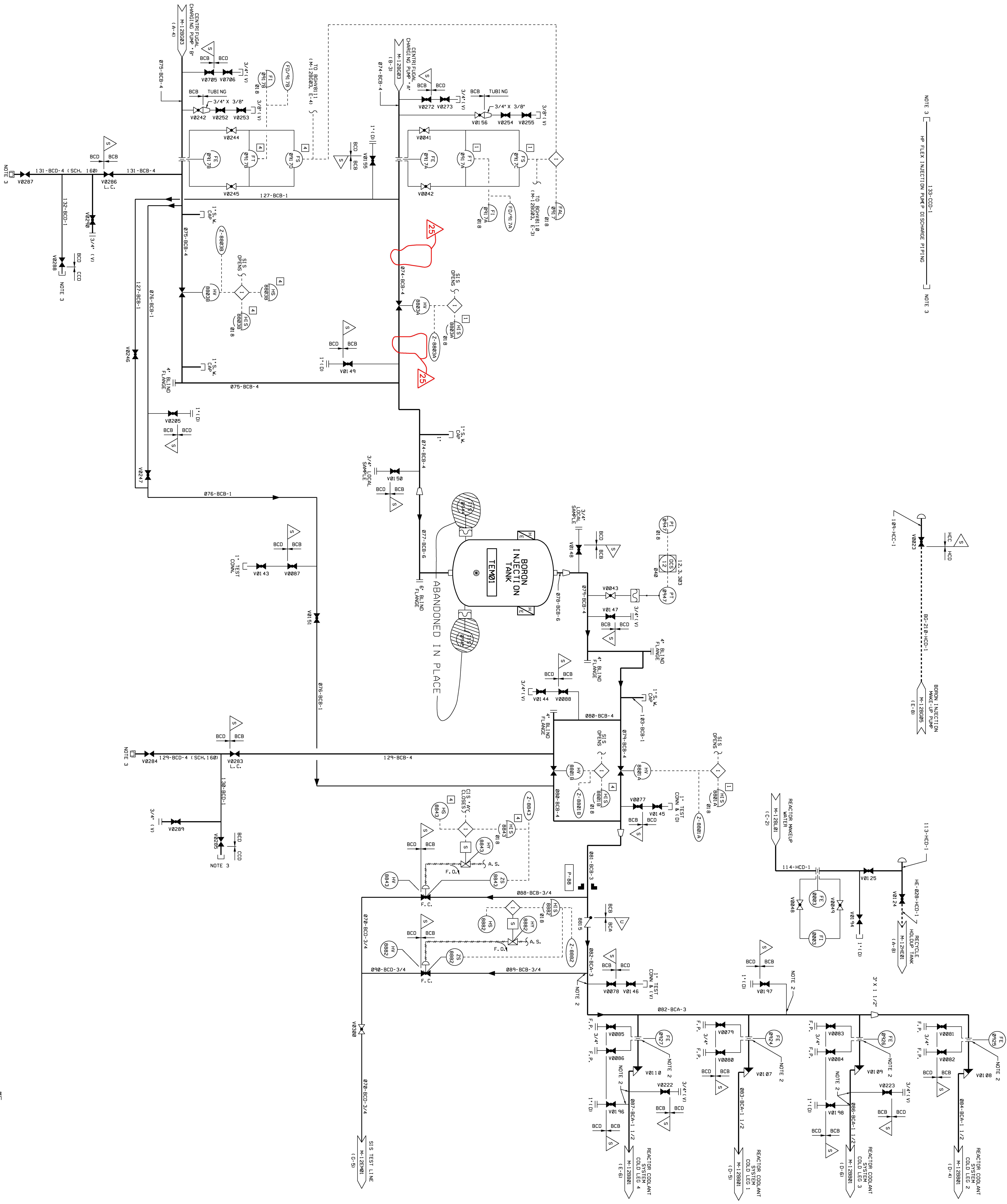
CHANG 012324

DATE 05/11/2021

SCALE NONE

SHEET NO. 1 46

3/4\"/>



NOTE 3 HP FLEX INJECTION PUMP'S DISCHARGE PIPING

109-HDC-1
BORON INJECTION
M-128095
FE 0

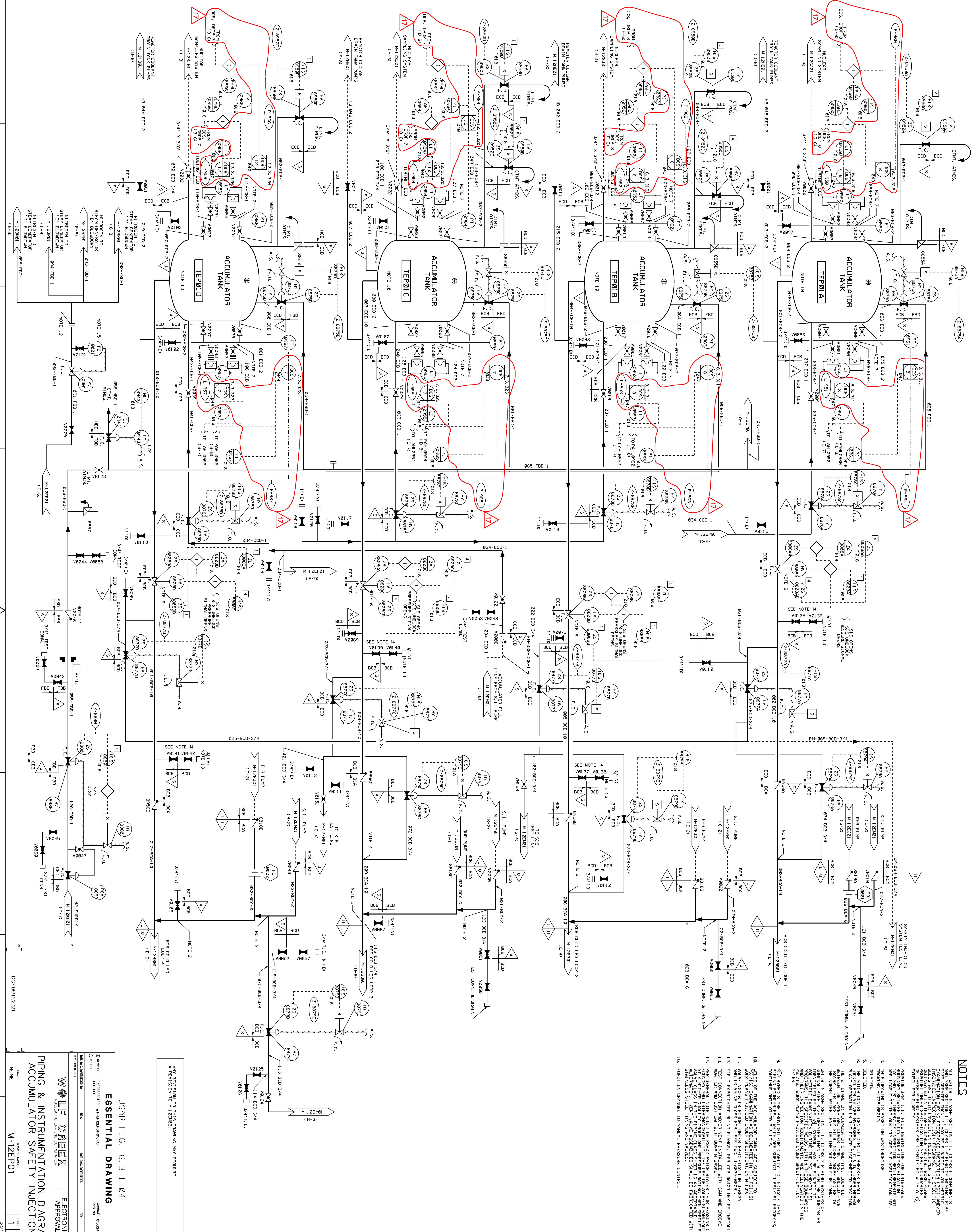
NOTES

1. FOR GENERAL NOTES & REFERENCES SEE Dwg. M-128001.
2. SEE DRAWINGS M-138002, M-138009 AND M-138010 FOR EQUIPMENT NOT SHOWN ON THIS DRAWING THAT HAS BEEN PERMANENTLY REMOVED FROM SERVICE.
3. THESE CONNECTIONS ARE FOR BEYOND-DESIGN-BASIS (FLEB) REACTOR COOLANT SYSTEM MAKE-UP.

ANY REVISION TO THIS DRAWING MAY REQUIRE A REVISION TO M-128002.

ESSENTIAL DRAWING

REVISED	INCORPORATED	WFP-M-128002-023-B-1	CHANG	02/03/99
DESIGNED	BY	CHANG	02/03/99	
THIS Dwg. SUPERSEDES				
REVISION NOTES				
PIPING & INSTRUMENTATION DIAGRAM HIGH PRESSURE COOLANT INJECTION SYSTEM				
SCALE	NONE	SHEET NO.	25	TOTAL SHEETS
DDC7 07/26/2021				



- ### NOTES
1. ALL METERS IN ASME SECTION III, CLASS 1 COMPONENTS ARE INSTALLED TO MEASURE MASS FLOW RATE. FOR ALL METERS THE METER SHALL BE INSTALLED IN THE FLUID FLOW DIRECTION.
 2. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.
 3. THIS DRAWING IS BASED ON MESTINHOUSE
 4. DELETED.
 5. DELETED.
 6. DELETED.
 7. THE 2" DIAMETER ACCUMULATOR STAINLESS STEEL LOUVER TRANSFER TAPS LOCATED 8" INCHES ABOVE AND BELOW THE TRANSFER TAPS SHALL BE INSTALLED ON THE INSIDE OF THE ACCUMULATOR.
 8. THE 2" DIAMETER ACCUMULATOR STAINLESS STEEL LOUVER TRANSFER TAPS LOCATED 8" INCHES ABOVE AND BELOW THE TRANSFER TAPS SHALL BE INSTALLED ON THE INSIDE OF THE ACCUMULATOR.
 9. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.
 10. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.
 11. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.
 12. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.
 13. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.
 14. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.
 15. BOUNDARY BEWEL QUALITY GROUP REGISTRATION NO. 104394, BEWEL QUALITY GROUP REGISTRATION NO. 104395, BEWEL QUALITY GROUP REGISTRATION NO. 104396, BEWEL QUALITY GROUP REGISTRATION NO. 104397, BEWEL QUALITY GROUP REGISTRATION NO. 104398.

USAR FIG. 6.3-1-04

ESSENTIAL DRAWING

CHANG: 02324

DATE: 08/11/12

SCALE: M-12EP01

1/17

3044 E. 502

PIPING & INSTRUMENTATION DIAGRAM ACCUMULATOR SAFETY INJECTION

FUNCTION CHANGED TO MANUAL PRESSURE CONTROL.

