

Development Services

From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201

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APPEAL SUMMARY

Status: Decision Rendered

Appeal ID: 20697	Project Address: 7124 N Marine Dr
Hearing Date: 8/7/19	Appellant Name: Charles Beckwith
Case No.: M-001	Appellant Phone: 5036891200
Appeal Type: Mechanical	Plans Examiner/Inspector: Joe Thornton, Ali Soheili
Project Type: commercial	Stories: NA Occupancy: F-1 Construction Type: Demo
Building/Business Name: Ajinomoto Windsor	Fire Sprinklers: No
Appeal Involves: other: Removal of diffusion tank	LUR or Permit Application No.: 19-185255-MT
Plan Submitted Option: pdf [File 1]	Proposed use:

APPEAL INFORMATION SHEET

Appeal item 1

Code Section 606.12.3

Requires 606.12.3 Ammonia refrigerant. Systems containing ammonia refrigerant shall discharge vapor to the atmosphere through an approved treatment system in accordance with Section 606.12.4, a flaring system in accordance with Section 606.12.5, or through an approved ammonia diffusion system in accordance with Section 606.12.6, or by other approved means.

Exceptions:

Ammonia/water absorption systems containing less than 22 pounds (10 kg) of ammonia and for which the ammonia circuit is located entirely outdoors.

When the fire code official determines, on review of an engineering analysis prepared in accordance with Section 104.7.2, that a fire, health or environmental hazard would not result from discharging ammonia directly to the atmosphere.

Proposed Design Removal of the diffusion tank is being requested based on the presence of the following systems:

Emergency Pressure Control System: This system moves any pressure from a relief device from a vessel of higher pressure to lower pressure. This allows for any over pressure vessel to relieve internally and prevent release of ammonia outside the system.

Engine Room Fire Suppression: The EPCS may be overwhelmed during a major fire event, which the engine room fire suppression is in place to reduce.

Lower Back Pressure: Removing the relief diffusion tank decreases the back pressure in the relief piping inherent with the end of the relief piping under standing water. With less back pressure the piping system would have a larger capability to handle pressure relief.

This system change is in alignment with the current IIAR and ASHRAE standards for ammonia relief systems. The customer would like to use these key points to obtain an exception by Fire Code Official under 606.12.3.

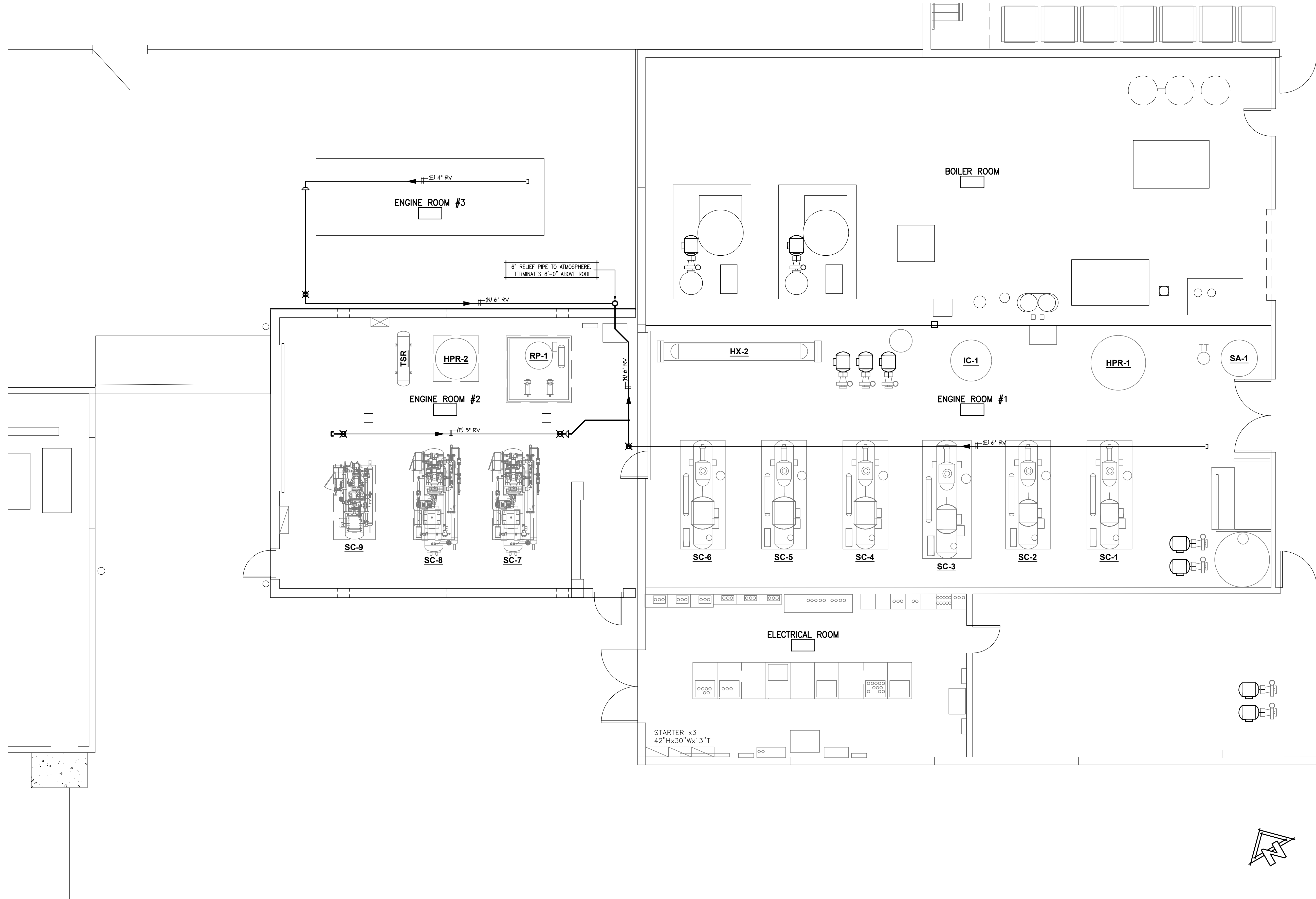
Reason for alternative Removal of the diffusion tank is aligned with current standards for IIAR and ASHRAE for new construction of ammonia refrigeration systems. Removing the currently installed tank would drop the inherent back pressure in such a system to effectively increase the capacity of the relief system to handle any over pressure situations. The plant uses a current PSM program with JHA's to avoid and respond to emergency situations, reducing the likely hood of a release event, in conjunction with the fire suppression system and EPCS in place.

APPEAL DECISION

Omission of Ammonia / water absorption system: Denied. Proposal does not provide equivalent Life Safety protection.
Appellant may contact Joe Thornton (503 823-4280) with questions.

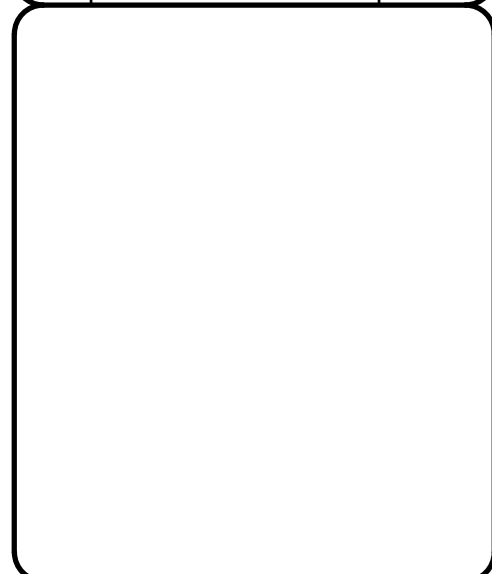
Pursuant to City Code Chapter 27.02, you may appeal this decision to the Mechanical Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process and costs, including forms, appeal fee, payment methods and fee waivers, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.

ABBREVIATIONS / SYMBOLS												DRAWING INDEX		
PIPING ABBREVIATIONS		EQUIPMENT ABBREVIATIONS		P&ID SYMBOLS				INSTRUMENTATION SYMBOLS				REFRIGERATION		
ABBR.	ABBR. DESCRIPTION	ABBR.	ABBR. DESCRIPTION	SYMBOL	ABBR.	SYMBOL DESCRIPTION	SYMBOL	ABBR.	SYMBOL DESCRIPTION	SYMBOL	SYMBOL DESCRIPTION	SHEET	DESCRIPTION	
B BD BP	BLEED BOOSTER DISCHARGE BY-PASS	ADT AH AP AU	AMMONIA DIFFUSION TANK AIR HANDLER AMMONIA PUMP AUTO-PURGER		SV	SOLENOID VALVE		GV	GLOBE VALVE		PROGRAMMABLE LOGIC CONTROL UNIT (PRIMARY)	R0.0 R3.0	TITLE SHEET PLAN VIEW PIPING – NEW RELIEF MAIN	
CD CPL CWR CWS	CONDENSER DRAIN CONTROL PRESSURE LIQUID CHILLED WATER RETURN CHILLED WATER SUPPLY	BC BR	BOOSTER COMPRESSOR BRINE CHILLER		MV	MOTORIZED VALVE		BV	BALL VALVE		MICROPROCESSOR CONTROL UNIT (PRIMARY)	RD-01 RM-01	EXISTING RELIEF VALVE SYSTEM – DEMO EXISTING RELIEF VALVE SYSTEM – MODIFIED	
DC DR	DEFROST CONDENSATE DEFROST RELIEF	CP CPR CT	CHILLED WATER PUMP CONTROL PRESSURE RECEIVER COOLING TOWER		MB	MOTORIZED BALL VALVE		BU	BUTTERFLY VALVE		CONTROL PANEL (PRIMARY)			
EQL ES	EQUALIZING ECONOMIZER SUCTION	EC EF EP	EVAPORATIVE CONDENSER EXHAUST FAN EVAPORATOR – PRECOOLER		HC	HIGH STAGE COMPRESSOR		HX	HAND EXPANSION VALVE		MOTOR CONTROL CENTER (PRIMARY)			
FD FG	FIRE DIFFUSION FOUL GAS	ES ET EV	EVAPORATOR – STORAGE EXPANSION TANK EVAPORATOR/FAN COIL/AIR HANDLER		HPHR HX	HIGH PRESSURE RECEIVER HEAT EXCHANGER		CV	CHECK VALVE		MOTOR STARTER PANEL			
GR GS	GLYCOL RETURN GLYCOL SUPPLY	FP	FAN – PRECOOLER		IB	ICE BUILDER		CS	CHECK/STOP VALVE		VALVE STATION			
HGD HPL HPSCL HSD	HOT GAS DEFROST HIGH PRESSURE LIQUID HIGH PRESSURE SUB-COOLED LIQUID HIGH STAGE DISCHARGE	GC GP	GLYCOL CHILLER GLYCOL PUMP		IC	INTERCOOLER		AF	AUTOMATIC FLOW REGULATOR WITH CHECK VALVE		SC			
HSS HTRL HTRS HTS	HIGH STAGE SUCTION HIGH TEMPERATURE RECIRCULATED LIQUID HIGH TEMPERATURE RECIRCULATED SUCTION HIGH TEMPERATURE SUCTION	HC HPR HX	HIGH STAGE COMPRESSOR HIGH PRESSURE RECEIVER HEAT EXCHANGER		IF	ICE CREAM FREEZER		ST	STRAINER		RV WV			
LIC LIQ LSS LTL LTRL LTRS LTS	LIQUID INJECTION COOLING LIQUID LINE LOW STAGE SUCTION LOW TEMPERATURE LIQUID LOW TEMPERATURE RECIRCULATED LIQUID LOW TEMPERATURE RECIRCULATED SUCTION LOW TEMPERATURE SUCTION	IB IC IF IM	ICE BUILDER INTERCOOLER ICE CREAM FREEZER ICE MAKER		IT	LIQUID TRANSFER		SC	SELF-CLOSING VALVE W/PLUG		RV WV			
MTRL MTRS MTS	MEDIUM TEMPERATURE RECIRCULATED LIQUID MEDIUM TEMPERATURE RECIRCULATED SUCTION MEDIUM TEMPERATURE SUCTION	OP OS PR	OIL POT OIL SEPARATOR PILOT RECEIVER		PR	DIFFERENTIAL PRESSURE REGULATOR W/ GAUGE & GAUGE VALVE		RV WV	DUAL PRESSURE SAFETY RELIEF W/3-WAY VALVE		RV WV			
OD OR OS	OIL DRAIN OIL RETURN OIL SUPPLY	RC RP RS	REFRIGERATION COMPRESSOR RECIRCULATOR PACKAGE REMOTE SUMP		RR	RELIEF REGULATOR W/ GAUGE & GAUGE VALVE		GC	GAS POWERED CHECK VALVE		RV RD WV			
PLR PLS PO	PUMPED LIQUID RETURN PUMPED LIQUID SUPPLY PUMP-OUT	SA SC SD ST SF	SUCTION ACCUMULATOR SWING COMPRESSOR SURGE DRUM STORAGE TANK/SILO SPIRAL FREEZER		RR	RELIEF REGULATOR W/ GAUGE & GAUGE VALVE		WV	3-WAY VALVE W/ PILOT SOLENOID		RV RD WV			
RTN RV	RETURN RELIEF VENT	TV	THERMOSIPHON VESSEL		PR	ELECTRICALLY COMPENSATED INLET PRESSURE REGULATOR W/ GAUGE & GAUGE VALVE		SG	SIGHT GLASS INDICATOR		RV RD WV			
SCL SUC SUP	SUB-COOLED LIQUID SUCTION LINE SUPPLY	WC WJP WP	WATER CHILLER WATER JACKET PUMP WATER PUMP		PR	DUAL PRESSURE REGULATOR W/ GAUGE & GAUGE VALVE		SG	INLINE SIGHT GLASS INDICATOR		RV RD WV			
TSR TSS TSV	THERMOSIPHON RETURN THERMOSIPHON SUPPLY THERMOSIPHON VENT				PR	DUAL PRESSURE REGULATOR W/ GAUGE & GAUGE VALVE		SG	REDUCER – CONCENTRIC		RV RD WV			
VENT	VENT LINE				PR	DUAL PRESSURE REGULATOR W/ GAUGE & GAUGE VALVE		SG	REDUCER – ECCENTRIC		RV RD WV			
WJR WJS WR WS WTR	WATER JACKET RETURN WATER JACKET SUPPLY WATER RETURN WATER SUPPLY WATER				PR	TEMPERATURE COMPENSATED INLET PRESSURE REGULATOR W/ GAUGE & GAUGE VALVE		SG	LINE CAP		RV RD WV			
YFR XOVR	TRANSFER CROSS-OVER				PR	TEMPERATURE COMPENSATED INLET PRESSURE REGULATOR W/ GAUGE & GAUGE VALVE		SG	UNION		RV RD WV			
MISC. ABBREVIATIONS		INSTRUMENTATION ABBREVIATIONS			TX	THERMOSTATIC EXPANSION VALVE		SG	FLEXIBLE CONNECTOR		RV RD WV			
		ACL AS DPS	ACROSS THE LINE STARTER AMMONIA SENSOR DIFFERENTIAL PRESSURE SWITCH					SG	ROOF/WALL PENETRATION		RV RD WV			
B.O.P. (E) HP LBS N.C. N.O. PNL TR T.O.R. VFD W.P.	BOTTOM OF PIPE EXISTING HORSEPOWER POUNDS NORMALLY CLOSED NORMALLY OPEN PANEL TONS OF REFRIGERATION TOP OF RACK VARIABLE FREQUENCY DRIVE WATER PRESSURE	HLS HPC	HIGH LEVEL ALARM HIGH LEVEL SHUTDOWN HIGH PRESSURE CUTOUT		AC	AIR COMPENSATED CONTROL VALVE		GA	GATE VALVE		RV RD WV			
		LLA LLS LPC	LOW LEVEL ALARM LOW LEVEL SHUTDOWN LOW PRESSURE CUTOUT					NV	NEEDLE VALVE		RV RD WV			
		OL	OPERATING LEVEL					HB	HOSE BIBB		RV RD WV			
		SS	SOLID STATE STARTER								RV RD WV			
		VFD	VARIABLE FREQUENCY DRIVE								RV RD WV			
		YD	WYE DELTA STARTER								RV RD WV			
 2019 RELIEF SYSTEM MODIFICATIONS PORTLAND, OREGON FACILITY												REFRIGERATION SYSTEMS		
												REFRIGERANT: AMMONIA, R-717 (OMSC CLASS: B2)		
												TOTAL REFRIGERANT CHARGE: 26,298 LBS		
												REFRIGERANT CLASSIFICATION: HIGH PROBABILITY		
												OPERATING PRESSURES: LOW STAGE SUCTION 7.4 " HG (-38°F)		
												HIGH STAGE SUCTION 23.8 PSIG (+10°F)		
												CONDENSING 151.4 PSIG (+85°F)		
												NO. REVISION DATE BY		
												SEAL:		
												CUSTOMER:		
												PROJECT ADDRESS:		
												7124 N. MARINE DRIVE PORTLAND, OREGON 97203		
												PROJECT:		
												2019 RELIEF SYSTEM MODIFICATIONS		
												DESCRIPTION:		
												TITLE SHEET		
												JOB NO.: #1910032		
												DRAWN: PLC		
												DATE: 06/20/19		
												CHECKED:		
												SCALE: NONE		
												APPROVED:		
												DRAWING NO.:		
												R0.0		



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NO.	REVISION	DATE BY
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Apcco
Applied Process Cooling Corporation

CA LIC.# 419612
OR LIC.# 204317

LOCATIONS TO SERVE - (WWW.APCCO.NET):
MODESTO CA, (209) 578-1000, SANGER CA, (559) 875-7720
WINDSOR CA, (707) 545-2464, SALEM OR, (503) 689-1200

CUSTOMER:

AJINOMOTO

Windsor

PROJECT ADDRESS:
7124 N. MARINE DRIVE
PORTLAND, OREGON 97203

PROJECT:

2019 RELIEF SYSTEM
MODIFICATIONS

DESCRIPTION:

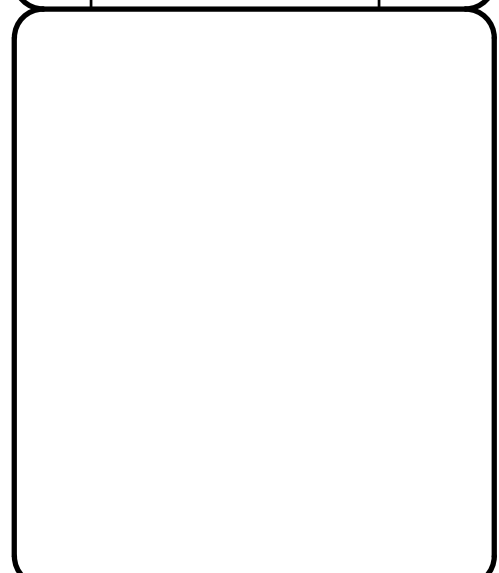
PLAN VIEW
PIPING - NEW
RELIEF MAIN

JOB NO.:	DRAWN:
#1910032	PLC
DATE:	CHECKED:
06/20/19	
SCALE:	APPROVED:
3/16" = 1'-0"	

DRAWING NO.:

R3.0

NO.	REVISION	DATE BY
1		
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SEAL:

CUSTOMER:

PROJECT ADDRESS:

7124 N. MARINE DRIVE
 PORTLAND, OREGON 97203

PROJECT:

2019 RELIEF SYSTEM MODIFICATIONS

DESCRIPTION:

EXISTING RELIEF VALVE SYSTEM - DEMO

JOB NO.:

#1910032

DATE:

06/20/19

SCALE:

NONE

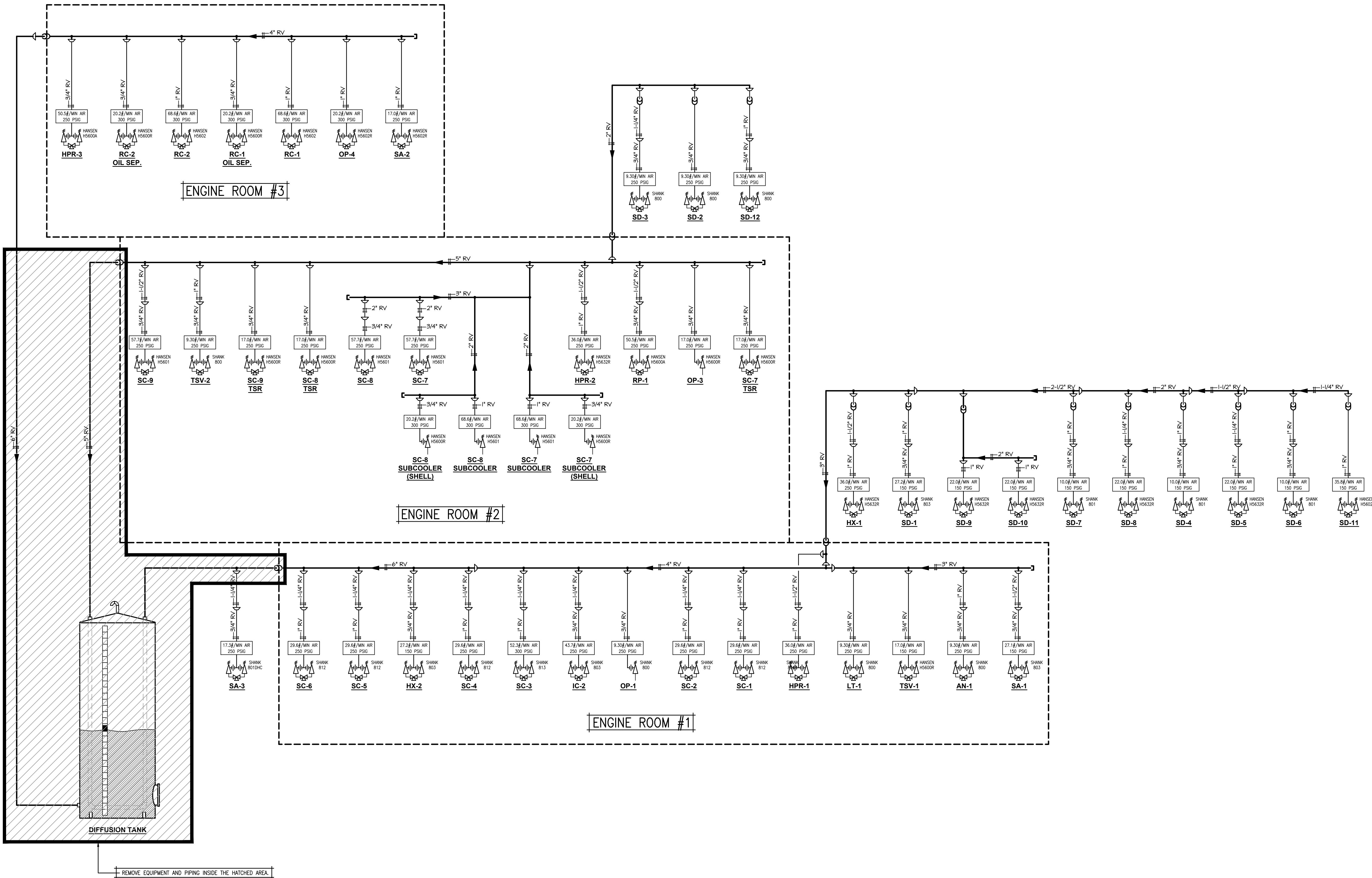
DRAWN:

PLC

CHECKED:

APPROVED:

DRAWING NO.: RD-01



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CUSTOMER:

PROJECT ADDRESS:

7124 N. MARINE DRIVE
 PORTLAND, OREGON 97203

PROJECT:

2019 RELIEF SYSTEM MODIFICATIONS

DESCRIPTION:

EXISTING RELIEF VALVE SYSTEM - DEMO

JOB NO.:

#1910032

DATE:

06/20/19

SCALE:

NONE

DRAWN:

PLC

CHECKED:

APPROVED:

DRAWING NO.: RD-01

