DOCKETED	
Docket Number:	09-AFC-05C
Project Title:	Abengoa Mojave Compliance
TN #:	254939
Document Title:	Atlantica Comments - 5-Mojave Solar Project 2023 Annual Compliance Report
Description:	N/A
Filer:	System
Organization:	Atlantica/Mahnaz Ghamati
Submitter Role:	Applicant Representative
Submission Date:	3/8/2024 2:39:08 PM
Docketed Date:	3/8/2024

Comment Received From: Mahnaz Ghamati Submitted On: 3/8/2024 Docket Number: 09-AFC-05C

#### 5-Mojave Solar Project 2023 Annual Compliance Report (09-AFC-5C)

Additional submitted attachment is included below.



# **Automated Fire Systems Inspection Checklist**

		Plant: A		ETA:		Date:		0	perator
				Valv	re She	d # 1 by	Condense	er 👘	
No.		System		F	N.	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	B1-1		10	76	C/C	y	Y 🖡 N 🗖	
2	SG Unit 7	81-2			60	@/C	8	7 🖬 N 🗖	
3	Reheaters	B1-3		1	66	<b>Ø</b> /C	4	YE NO	
4	Rack 2 West HTF	31-4		1	60	đ∦/C	1	YE NO	
5	Rack 2 East HTF	81-5		r	60	. €/C	X	YUNU	
6	Nrinh Steel Pro	B1-6		1	66	@YC	Y	Y DE NE	
7	HTF Pumps	61.7		14	20	4/C	¥		
Б	- I'F Heaters	3148		1	40	€%/C	4		
- 2	South Steel Pro	B1-9		1	96	GVC	7		
10	Lube Oil	81-10		46	. 4	#0/C	V.		
11	Turbine Hose Stations	B1 11		14		0/C	4		
12	Turbine Bearings	65-12		Va	60	ad # 2 ha	Overfie		
				Val	ve Sn	Viu Bor	Signage	Locked	Comments
No.		System			10	VIV. POS.	- V	ZE NT	
1	Exponsion Vessels	BZ-1			40	GA/C		YE NT	
2	Tillage Area	82-2		-4	In	9/6		Y	
3	Ullage Structure	22 11 22 5		F	6.0	9/6	Y	Y N	
4	GCC I MIDDle Arga	27.0		1	6/1	0/C	+1	YO NO	
5	Overlidw Tanks	82.6		1	10	Q/C	1	YE NO	
5	Rack 1 South Area	BU-J		1	C.C	@/C	1	YE ND	
	Rack I West	82-4		1	60	CH/C	N	VE NE	
5	Over flow AFFF	82-8		1	6.0	QHC	Y		
10	Evolution Variat AFEE	87.3		r	1.0	- B/C	-9	YE NO	
10	Texpansion vessel AFFF	02-0	Valve S	hed	#3b	y Bldg 35	GE Elect	rical Bldg	
No	1	System	Turre P	1	PSI	Viv. Pos.	Signage	Locked	Comments
140,	Transformer Aux	System		10	. *	√/C	Y	YP NO	
2	Transformer Main			-1	60	1C	Y	YO NO	
	Transide triger to gain		Valve S	hed	#46	y Cooling	Tower V	Vest Side	
No		System			PSI	Viv. Pos.	Signage		Conments
1	Conlino Tower West Si	CE		10	.0	€/C	2	YONE	
	Providence in the second		Va	lve	Shed	# 5 by Co	ontrol Bld	lg 10	
No.		System			PSI	Viv. Pos.	Signage	Locked	Commente
1	Control Bonra	34-5	1 40	7		O/C		YU ND	
7	Offices	84-3	1 occ	ч		0/0	-		
3	Electrical Room	84-4	0			CI/C		YO NO	
		Turbing	Sprinkler Va	alve	s (The	ese are to	be locke	d in the c	open position)
No.		System		Lo	cked	Viv. Pos.			Comments
	Bearing 2	20		Y	NG	0/0			
2	Bearing 3			YE	ND	0/C			
3	Scaring 4			YE	NO	C/C			
d	Briating 5			YZ	ND	D/C		-	- Desition
2		HTH	Dejuge Syst	em	Valve	s (To be I	Locked in	the Ope	n Position)
No.		System		Lo	cked	Viv. Pos.			çomments
1	MP-201			YE	NA	P/C			
2	MP-200A			Y	NU	- C			
3	MP-2008			YL	N	D/C			
- 1	MP 200C			Y		e)/C			
÷	MP-200D			YU	ND	W/C	aluga Cur	tom	
	-		F	ire F	ump	House D	eiuge sys	lem	C-marante
No.		System			PSI	0/C	Locked		Comments
1	Fire Pump House Delu	ige		1	10	0	Y 🖉 N 🗖		
PIV Checks									
		Sectors		Po	sitten	Cycled	Date		Comments
No.		aystern			0.0	sjera	Cycled	-	
	Maintenance Shop Dr	ve Way #7		-	070	-		-	
2	Maintenance Shop Dri	No Way #8		-	C AL	-	-	-	
3	West Side Fower Blou	(by VS-2 # 9		-	dir.	-		-	
4	West Side Fower Block	C by VS-1 / 10		-	and and a second se	-		-	
5	West Side Cooling To	Ner by VS-4 # 11		1		-	-		
6	West side Cooling To-	ver by VS-4 # 12		1	201- 201-2	-		-	
7	N.W. Comer Chemical	Storage #1		-	Φ/i. OHC	-	-	-	
θ	N. Corner Chemical	storage ¥ 2		-	- 10 - 10		-		
9	East Side W.T. by Mult	imedia Filters # 3	5	-	1-		-		
10	East Side W.1. by Mult	media Filters # 5		-	0/0		-	-	
11	North Side Bidg 10 *	u		-	10 L	-	-	-	
12	Between MP-444's and	o Weler Treat # 4		-	CIQ.				
12	West Side Priwer Bloc	k valve Sheri #1	To Bo	Curl	ed Ei	rst Sature	av of Eve	ry Month	1
			10 86	cyci	labrie	100	ing of Lee	., month	Comments / Actions C70.16-0040-MT-FOR-000
No.		System		0	epris	408	TADE 1 OF 1		CIC In standing of the standin
		C1		x V 1	1.1100 (1.11)	sector of a sector	1.7.9.7.1.61		



<b>Fire Pum</b>	p Weekly	Test Log
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General Inf	ormation				
Plant Alpha 🗆 Beta 🖉	Date: 0 23				
Operator: Erick Carrillo	*To be completed each time unit is operated.				
Reason for running pumps: Weekly test Maintena	ance F Emergency _				
Jockey Elect	tric Pump				
Pre-start Inspection: Electrical Feed Mechanic	alt Valvest				
Check the jockey pump on pressure drop. Start up pressure:	15.5 ·				
Discharge Pressure: 162	Volu (USC)				
Pump Suction Pressure: N/A P	ump Discharge pressure: 162				
Comments:					
Electric	Pump				
Pre-start Inspection: Electrical Feed Mechanic	al vaives e				
Start the pump on pressure drop. Start up pressure: 142	*				
Start time:					
Pump Suction Pressure: 172 Pu	mp Discharge prossure.				
top time: Total time rol	ining				
Comments:					
Diesel	Pump				
Pre-start Inspection: Coolant Oil Mechanic	al Valves Water Jacket Heater				
Fuel level > 2/3: Yes 🔽 No 🗔 Mr	onthly Fuel Consumption: [760 RPM -				
Battery volt Crank 1: 27.   Battery volt Crank 2: 27.	Battery Condition: Good				
Starting hour meter: 131.9	Start time: 12:50				
Oil pressure start: 55	Oil Pressure finish: 34psi				
Pump Suction Pressure: 24 P	ump Discharge pressure: 150				
Coolant temperature after 30 minutes running: 136"F 54	ht. /205.				
Stop time: 19:00 Stop hour meter: 32 Total run time: 1	On in January 1 <sup>st</sup> hour meter: Total YTD hours:				
Comments: High HMP, Churge Gir Cooler.					
NOTE TESTING FOR NFPA COMPLIANCE ONCE 10 HOURS YTD RUN TIME IS EXCEEDED					
Sulfur Concentrations (less than or equal to 0.0015% on a weight p	er weight basis).				
his new direct drive fire pump engine shall be limited to use for onergency fire suppression, defined no more than 30 minutes in any one nour and no more than 10 hours per year for initial state-up test pumper or hours necessary to comply with the testing requirements of the National Hire Protocher. Systems (runner, soliton), in ensure of control on for yource testing will not be control to a soliton of solitons for any one for any one for a soliton of yource testing will not be control to wards environments of the requirements of the National Hire Protocher. Systems (runner, soliton), in environments of control on for yource testing will not be control towards environments of the requirements of the requirements of the National Hire Protocher. There is no limit on engine operation for correspond use, Title 17 CCR 93115.(Val)(9)	Lakin response to a fire or due tolow fire water pressure. In addition, this engine shall be operated sting and compliance demonstrations. Additionally, this engine shall not be operated more than the Association. (NEGA: 25- Standards for the Inspection, Testing, and Maintenance of Water Based Fin- ither of the allowable annual limits above.				



		) DET4.	Data	10/2/	23	Frick
	Plant: ALPHA U	Valvé She	Date:	Condens	er Op	erator V100-t-
Mo	Sustant	PSI	Viv. Pas.	Slonage	Locked	Comments
1	SG Unit 1 B1	105	J 0/C	1	YOND	
2	SG Unit 2 B1 2	160	JO/C	~	YERNO	
3	Reheaters B*+3	165	/0/C	1	P D	
- 1	Rack 2 West HTF 31-7	100	✓ D/C	1	Y D ND	
5	Rark 2 Fast 1 R1 5	160	1 OK	1	VA NO	
e	NORM Stee Pro B1 0	112	Low	1	YZND	
2	HTE Heating 51-8	1/21)	1 DIC	1	YP. ND	
9	South Steel Pro B1-9	115.	J 0/C	V.	YUND	
10	Lupe Oil 3' 10	165	J,0/C	1	YOND	
11	Turbine Hose Stations 37-11	100	V 0/C	1	YP, ND	
12	Lurbine Bearings B1-12	160	VO/C	- Ourseller		
		valve Sn	ed # 2 D	Classes	Indend	Comments
NO.	System	Visit	VIC POS.	Signage	YOND	Comments.
2	Expansion vessels be-n Elliane Area B2-2	170	20/0	1	YA ND	
3	Ulace Structure B2 11	Cett	10/0	1	VO VO	
4	Back I Middle Area B2 5	105	DIC	1	MOND	
5	Overflow Tanks B2-9	1.65	J 0/C	J	YPND	
6	Rack 1 South Area 62-6	645	20/C	V	YDIND	
7	Rack 1 West 52-7	100	VOK	1	VD ND	
8	Rack L North Anna 52 4	160	JOR	Y.		
9	Civen Now All B2 5	1405	100	1	VEND	
IU	Valv	ve Shed # 3 b	v Bldg 35	GE Elect	trical Bldg	
No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
ì	Iransformer Aux	155	- O/C	V	YD ND	
2	Transformer Main	130	10/C	V	VIND	
	Val	ve Shed # 4 b	y Cooling	Tower V	Nest Side	
No.	System	1 PSI	Viv. Pos.	Signage	22 NO	Comments
1	Cooling Town West Side	Valve Shed	# 5 by Co	antrol Bid	10	
Ne	Suctam	PST	Viv. Pos.	Signage	Locked	Comments
1	Central Roura B4 5	165	V 0/C	V.	YZND	
2	Offices B4 3	146	J0/C	J,	VD, ND	
3	Electrical Room B4-4	160	, /0/C	1	YZ NO	
	Turbine Sprinkle	er Valves (The	se are to	be locke	d in the op	en position)
No.	System	Locked	Viv. Pos.			Comments
1	Bearing 2	VZ NU	V0/C			
2	Begining 3	V LA NU	loic			
3	Bearing 4	VI NU	VOIC			
9	HTF Deluge	System Valves	s (To be l	ocked in	the Open	Position)
No.	System	Locked ,	Viv. Pos.			Comments
1	WP 201	MINZ	/ O/C			
- 2	MP-200A	YO NØ	V 0/C			
3	MP 2008	N N D	10/C			
4	MP-200C		V D/C			
- 0	און אונאן	Fire Pump	House D	eluge Svs	tem	
		BET	0.0	Locked		Comments
No.	System	1/17	0/1	VII NIT		
1	Fire Pump House Deluge	175	PIV Cher	KS NL		
		Bastitum	Contest	Date		Comments
No.	System	Position	Cycled	Cycled		2000 million (million
1	Maintenance Shop Drive Way #7					
2	Maintenance Shop Drive Way #8	10/0		-		
3	West Nice Power 5 box by VS-3 # 9 West Side Dower 3'edd og US-1 # 10	100				
-	West Side Frower block by V5 1 # 10	10%				
6	West side Cooling Tower by VS-4 + 12	¥ 0/C				
7	N.W. Corner Chemical Storong (4)	/ 0/0				
8	N.E. Comer Chemical Storage # 2	✓ 0/C		-		
9	Fast Side W.L. by Multimedia Filters # 3	10/C	-			
10	East Side W.T. by Multimedia Tillers #5	✓ 0/C				
11	North Side Bldg 10 # 6	J 0/2				
17	Between MP 444's and Water Treat 44	0/5	-			
13	Iwest Side Power block valve Shed #1	Be Cycled Fir	st Saturd	ay of Eve	ry Month	
	Sustam	Debris		1		Comments / Actions
1	Transformer hard Refuse Check	YO NO	110	lange and the second se		573 16 6040 MI-FOR COURT
		Page 1	1 of TReuser	109/24/2019		

## Automated Fire Systems Inspection Checklist



Fire Pump Weekly Test Log	
General Information	
Plant: Alpha 🖬 Beta 🗆 Date: 12620	
Operator: Fock To be completed each time unit is operated.	
Reason for running pumps: Weekly test 💋 Maintenance 🗆 Emergency 🛛	
Jockey Electric Pump	
Pre-start Inspection: Electrical Feed Mechanical Valves	
Check the jockey pump on pressure drop. Start up pressure: 155 ps (	
Discharge Pressure: 165	
Pump Suction Pressure: NA Pump Discharge pressure: 165	
Comments:	
Electric Dump	
Pre-start Inspection: Electrical Feed Wethanical Provide Participal	
Start the pump on pressure drop. Start up pressure.	
Start time: 18.34	
Pump Suction Pressure: 12 p3 Total time running 10 0010	-
Lop time: 18,44 Total time forming 101/111	
Comments:	
Diesel Pump	
Pre-start Inspection: Coolant L Oil Mechanical Valves Water Jacket Heater	
Fuel level > 2/3: Yes E No Z 1/3 Monthly Fuel Consumption:	
Battery volt Crank 1: 27.3 Battery volt Crank 2: 27. 3 Battery Condition: Good Corresion on 2	A.
Starting hour meter: 129.2 Start time: 18:46	
Oil pressure start: 59 Oil Pressure finish: 39 PS1	
Pump Suction Pressure: 15 PS Pump Discharge pressure: 165	
Coolant temperature after 30 minutes running: 29075tert, - 207.	
Stop time: 19/64 Stop hour meter: 129.3 Total time running: 9 Min).	
comments: RPM'S 1763, Fault Charge Air Coder. Jemp out of RAnge	+
Corrective Action, Increase run water Flow.	
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).	corated up
his new direct drive fire pumplengine shall be "imited to use for one-gency fire suppression, defined as in response to a fire or due to low fire watch pressure, in addition, this end no both by one than 30 minutes in any one hour end no more than 10 hours per year for initial start-up resting and compliance bencetations, Additionally, this end restand mute than to more than 30 minutes in any one hour end no more than 10 hours per year for initial start-up resting and compliance bencetations, Additionally, this end restand mute than to more than 30 minutes in any one hours end that 10 hours per year for initial start-up resting and compliance bencetations, Additionally, this end restand mute than to do minutes in any one hours end and 10 hours per year for initial start-up resting and compliance bencetations, Additionally, this end restand mute than to do minutes in any one hours end on a time of the National Fire Protection Addition (NFPA) 25-15 and area for the Inspection. Tealing, and Maintenance of Water Desert Fire restand for the fourth edition). The hours of operation for source towing will not be counted towards either of the allowable and the body to four operation for source towing will not be counted towards either of the allowable and to its above, the fourth consumption 27 gal/ his percentently.	ye number 9 Systemis



#### Automated Fire Systems Inspection Checklist Operator Diup R. BETA: D Date: 11/25/23 Plant ALPHA 🗹 Valve Shed # 1 by Condenser PSI Signage Comments Viv. Pos. Locked No. System YE NO 100 **9**40. SG unit YEND -1/C SG Unit 2 **B**15 YEND DIC Reheaters 1 140 Z/C YZND ~ Rack 2 West HTF 31-4 4 92/C 102/C YOND Rack 2 East HTF 5 81 $\sim$ YZIND North Steel Pro 140 6 E1-6 $\checkmark$ YNND 155 **9**/C HTF Pumps φ/C YEND 4 HTF Heaters 9 140 91C 150 ØIC 146 ØIC Valve Shed # 2 by Overflow grc YZIND 9 South Steel Pro Y 🖉 . N 🖬 Luba Oil 10 YZND 81-11 11 **Turbine Hose Stations** YD ND 12 **Turbine Bearings** Signage Comments PSI Viv. Pos. Locked System No. YZ VO Ø/C ~ 40 Expansion Vessels 1 YE NO De 62 60 4 2 Ullage Arca YEND where over open P/C P/C 140 -3 Illage Structure 82-1 82-5 YOND ~ Δ Rack 1 Middle Arra YDND 160 Overflrow Tanks R7-9 ØK YDIND 6 Rack 1 South Area $\sim$ ØK. YZND 160 Rack 1 West 7 YZND ICO Ø/C YØ N□ ICO Ø/C YØ N□ ICO Ø/C YØ N□ ISS ØØ YØ N□ Valve Shed # 3 by Bidg 35 GE Electrical Bidg Horizontal Bidg Horizontal Bidg Rack 1 North Area 5 82-8 Over flow AFFF 9 YOND VAIved OUT / Closed. Expansion Vessel AFFF 82-3 Ċ Comments Viv. Pos. Signage Locked PSI System No. YAVD 20 140 Transformer Aux 1 PIC $\mathbf{z}$ YD VO Valve Shed # 4 by Transformer Main **Cooling Tower West Side** Viv. Pos. Signage Comments PSI System No. Valve Shed # 5 by Control Bldg 10 YZ NO NELOS NEW sign. Cooling Tower Wow Side Comments PSI Viv. Pos. Signage Locked System No. YZND Øic 60 -1 Control Room VEND ~ 160 2.73 Offices ż DINO Electrical Roam Turbine Sprinkler Valves (These are to be locked in the open position) $\mathcal{D}(C)$ 3 Locked Viv. Pos. Commants System NO. 1 Bear og 2 YZND O/Z Bearing B YNND ON 3 Bearing 4 012 YDIND 4 Bearing 5 HTF Deluge System Valves (To be Locked in the Open Position) Comments Locked Viv. Pos. System No. POK. YONDY MP-201 1 YDND Ø. MP 200A 2 \$10 YEND MP-20DB NOND MP-2000 4 Fire Pump House Deluge System MP-200D 5 Locked Comments PSI Q/C System Nø. ND 1000 PIV Checks 145 151 Fire Pump House Deluge 1 Date Comments Position Cycled System No. Cycled Maintenance Shop Drive Way #7 (M)( Maintenance Shop Drive Way #8 JØ/C DIC DIC West Side Power Block by VS-3 # 9 3 West Side Power Block by VS-1 # 10 4 West Side Cooling Tower by VS-4 # 11 JØ/~ West side Cooling Towar by VS-4 # 12 Ø10 Б Ø1: N.W. Corner Chemical Storage #1 Ø/C N.E. Corrier Chemical Storage # 7 6 Cast 5 de W.T. by Multimooia Filters # 3 0/1 9 9/C cast Side W.T. by Multimedia Filters # 5 10 No th Side Bldg 10 # 6 11 940 Ø/C Between MP-444's and Water Treat # 4 12 West Side Power 8 ock Valve Shed #1 13 To Be Cycled First Saturday of Every Month **Comments / Actions** Debris 570 Report MT-FOR-000027 Automated Stratemics Inspection Obecklist. Transformer Yard Refuse Checkli 670 16 0040 MT-404-000027 YD NØ

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Fire	Pump	Weekly	Test	Log
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1101 with 1111 1 1 2 3					
General Information					
Plant: Alpha V Beta E Date: 11/17/23					
Operator: Dieno Rodniguus *To be completed each time unit is operated.					
Reason for running pumps: Weekly test 🖌 Maintenance 🛛 Emergency 🗆					
Jockey Electric Pump					
Pre-start Inspection: Electrical Feed Mechanical D Valves					
Check the jockey pump on pressure drop. Start up pressure: 155 pS/					
Discharge Pressure: 10505					
Pump Suction Pressure: A Pump Discharge pressure: 165pS					
Comments:					
Electric Pump					
Pre-start Inspection: Electrical Feed Velves Valves					
Start the pump on pressure drop. Start up pressure: 195pcl					
Start time: 1930					
Pump Suction Pressure: 10 pS1 Pump Discharge pressure: 150 pS1					
p time: 1940 Total time running 10Mins.					
Comments:					
Diesel Pump					
Die start Increation: Coolant D. Collul Mechanical D. Valves 1 Water Jacket Heater D.					
Fueldaval > 2/3: Ver D No. 5/ Monthly Fuel Consumption: ~7A					
Pattery volt Crank 1: 9/1 S Battery volt Crank 2: 9 (1.5) Battery Condition: Argent Clause in a					
Starting hour meter: 1901 1 Start time: 1049					
Oil pressure finish: HH ps/					
Pump Discharge pressure: 165051					
Content temporature after 30 minutes running: 0 (0) 4					
Stop time: 10:00 Stop hour meter: 10:00 Total time running: 10 Min S					
Stop line. PS-2 Stop hour meter [2].					
Comments.					
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).					
hs new direct drive fire pump or gine shall be limited to use for energency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no					
more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additions 19, this engine shell not be uperated more than the number of hours non-wary to comply with the testing requirements of the National Fire Protontion Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Waler Based Fire Systems"					
current echilion). The Hours of operation for source testing will not be counted rowards of for of the allowable annual linits above. Fuel consumption 27 geV h approximate y.					
2					



		A	utomated	d Fire	: Sj	ystems	Inspe	ction C	hecklis	t	
		Plants		BETA:		Date:	11/18	5/23	perator 7	Frick	Ċ,
			/	Valv	e Sł	ned # 1 by	Conden	ser			
1	CG Lupit 1	System		P	IZ	Viv. Pos.	Signage	Locked		Cor	nmonts
	20 Unit 1 20 Unit 1	51-1		19	25	10/0	1	YV VD			
2	Behaster	151-52		142	0	10/6		YDND			
4	Reneaters Real-DWest UTC	0.10		16	0	J G/L	1	Y NO			
	Bark 2 West H1-	B1-4		1	e D	10/0	1	NA VD			
, L	March Steel Dee	0.5		10	0	10%		Y'P NO			
7	North Steel Pro	81-0		14	00	J 0/C	V.	YTND			
-	LITE Handback	D -7		13	5	V D/C	1	YZ, ND			
0	HIF Heaters	61.8		10	0	V,0/C	V	Y'D NO			
-0	South Steel Pro	D -9		16	b	1,0/C	1	MA NO			
	Danie Qia	67-10		16	0	V C/C	4	YZ NO			
	Turcine Hose Stations	61-11		15	5	1.015	1,	YZ NO			
14	Turbine Bearings	B1-17			0	10/0		YZ NO			
	1			Valv	e SI	hed # 2 b	y Overflo	w '			
NO.	E	System		PS	SI	Viv. Pos.	Signage	Locked		Соп	iments
	Expansion Vessels	82-1		10	U	₩Q/C	/	YDND			
2	Urlage Area	B2-2		1,6	2	- O/C	6	YAND			
	Of age String Lang	32 11		16	5	∠O/C	-	YPND			
4	Rack T Middle Arna	82.5		16	5	V0/5	~	TEND			
5	Overflow Tanks	82-9		16	5	-0/C	~	NO			
5	Rack 1 South Area	32.6		13	Tu	U/C -	4	YP ND			
1	Rack 1 West	82-7		11	.0	LeO/C	~	YZND	-		
3	Rack 1 North Area	82-4		110	5	<b>₩0/</b> C	V	YEND			
9	Over flow AFFF	82-8		16	3	D/C	~	YC NO	Pro-	Gum.	
10	Expansion Vessel AFFF	R2 3	a second s	160	5	JO/C	V	YEND	0.0	Gunon	*
			Valve	Shed #	36	y Bldg 35	GE Elect	trical Bldg	ne	FUILIN	
No.		System		PS	I	Viv. Pos.	Signage	Locked		Com	monte
1	Transformer Aux			14	12	10K	1	YZND			
2	Transformer Main			17	č.	<b>1</b> 0/C	1	YDEND			
			Valve	Shed #	46	y Cooling	Tower V	Vest Side			
No.		System		PS	I	Viv. Pos.	Signana			Con	manta
1	Cooling Tower West Sid	de		16	2	10/C		YDIND		Com	ments
			V	alve St	hed	# 5 by Co	ntrol Bld	a 10			
No.		System		PS	T	Viv Pos	Cianaga	Inched			
1	Control Room	RA-5		10		viv. rus.	signage	LOCKED		Com	ments
2	Offices	B4-3		10		-0/C	4	1000			
3	Electrical Boom	84-4		160	-	all all	~	YOND			
		Turbin	e Sprinkler	Jalves	The	se are to	he locker	in the of	an noriti	201	
No.		System	e oprimiter i	lash		July Des	De locke	u ni the o	ben positi	on)	
1	Bearing 2	Sjatem		VIT		VIV. POS.			U	omments	
2	Searing 3			11		1/0/					
3	Bearing 4			14		Join					
4	Bearing 5			11		# 0/C					
-	locaring 1	HT		torn Va	lun	To bol	ocked in	Ales Anon	Desident		
No.		Sustem	. beinge sys	Lock	nve.	Whe Bas	ockeu m	the open	Position)		
1	MP-201	a joreni		VIII		VIV. POS.				omments	
2	MP-200A			VD Y	1	0,000	_				
3	MP-2003			VEN	VIII I	LOC	_				
4	MP-200C			VEN		V COF					
5	MP-200D			YO A	VDF	100	_				
-	and the second second			ire Pur	hn	House De	lune Surt	em			
No		Current a				in the second	age syst	sin			
	10 B	aystem		PSI		O/C	Locked			Comments	
1	Pire Pump House Delug	e		190		U	YUND	_			
					_	PIV Check	(S)				
No.		System		Positio	on	Cycled	Date	1		Comments	
1	Maintenance Shep Drive	e Way 47		0/0	Y		sycled				
2	Maintenance Shop Drive	: Way #8		100							
3	West Side Power Block b	y VS-3#9		100							
4	West Side Power Block b	y Va-1 # 10		200							
5	West Side Cooking Trues	r by VS-4 # 14		11101	-						
6	West sice Cooling Towe	r by VS-4 # 12		010							
1	N.W. Corner Chemical St	torage #1		100							
3	N.F. Corner Chemical Str	stage # 2		U 08					_		
9	Last Sida WT he Multim	ordia Filtare -	,	V U/L				-			
10	East Side W.T. by Multim	ordia Eiltere # 1		1000	-						
11	North Side Bide 10 # 4	eona rinters # 3		V 0/C							
12	Return MD 444	Watan too too		V 0/C	-						
12	West Class Developed	vater freat # 4		O/C	V I						
15	west side Power Birach	raiwe Sined #1	Teller	JC/C	-				_		
de.	Contraction of the second s		10 86	cycled	rirs	t Saturda	y of Ever	y Month	_		
190040	MI-FOR-00027 Automated F	10-15 Hims Inspec	ction Checklist	Debri	15				Comme	nLs / Actions	
1	r anstormer fard kefuse	- unerje		VU N	Ψ						G70-16-0040-MT-FOR
				Pa	ide 1	of 1Revised (	09/24/2019				and the second state



Fire Pump Weekly Test Log						
General Information						
Plant: Alpha 🏨 🛛 Beta 🗆	Date: 4/5/2073					
Operator: ABON // MAN	*To be completed each time unit is operated.					
Reason for running pumps: Weekly test 🐲 Maintenance	e 🗋 Emergency 🛛					
Jockey Electr	ic Pump					
Pre-start Inspection: Electrical Feed V Mechanical	Valves					
Check the jockey pump on pressure drop. Start up pressure: 🖌	55					
Discharge Pressure: ) ( ち						
Pump Suction Pressure: Pump E	Discharge pressure:					
Comments:						
Electric P	ump					
Pre-start Inspection: Electrical Feed  Mechanical	Valves D					
Start the pump on pressure drop. Start up pressure: 145						
Start time: 10:2000						
Pump Suction Pressure: 20 Pump Di	ischarge pressure: 150					
bp time: 10,30 Total time running	IOmin					
Comments:						
Diesel Pr	unip					
Pre-start Inspection: Coolant Oil Mechanical	Valves 🖉 Water Jacket Heater 🕗					
Evel level $> 2/3$ : Yes $\square$ North Monthly	/ Fuel Consumption:					
Battery volt Crank 1: ZQ Battery volt Crank 2: 2 CV B	Battery Condition: 9060					
Starting hour meter: D 9 &	start time: i(): 3) and					
Dil pressure start: 1 Oil Pressure finish: 40						
Pump Suction Pressure: 20 Pump Discharge pressure: 150						
Coolant temperature after 30 minutes running: 190						
Stop time: 10 .4 Stop hour meter: 120	1.6 Total time running: 18m					
Comments:						
Sulfur Concentrations (less than or equal to 0.0015% on a weight per v	veight basis).					
his new direct drive this pump engine shall be firrited to use for emergency fire suppression, seffind as the more than 30 minutes in any one hour and no noise than 10 hours per year for fulfial start-up testing and of hours necessary to comply with the testing requirements of the National Fire Protection Association (current edition). The hours of operation for source training will not be counted towards either of the allow operation for conceptory use (little 17 (CR 93115.6(z)P)).	n response to all fire or due to low fire water pressure. In addition, this ongine shall be operated no controllance commissions. Additionally, this origine shall not be operated more than the number (NEPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (able annual infits above.					



# **Automated Fire Systems Inspection Checklist**

a.         Style         PSI         Vis. Res.         Bysage         Locked         Comments           64 Unit 12         31-3         1000         65         65         700         100<				Valve She	ed # 1 by	Condens	er	
□         0 Unit         9*1         0 St 20         0 O         0	No.	T	System	P\$I	Viv. Pas.	Signage	Locked	Comments
2         bit W2         3:-0         I/O         CC         ✓ Y Y R R           Refactors         3:-3         I/O         CC         ✓ Y Y R R         I/O           Refactors         3:-3         I/O         CC         ✓ Y Y R R         I/O           Refactors         1:-0         I/O         I/O         V/O         N/O           Refactors         1:-0         I/O         I/O         V/O         N/O           Intel Science         1:-0         I/O         I/O         I/O         V/O         N/O           Intel Science         1:-0         I/O         I/O         I/O         I/O         I/O         I/O           Intel Science         1:-0         I/O         I/O </td <td>1</td> <td>SG Unit 1</td> <td>31.1</td> <td>55</td> <td>RIC</td> <td>N</td> <td>YEND</td> <td></td>	1	SG Unit 1	31.1	55	RIC	N	YEND	
a         Particle         Yes No           Check EVF1         P14         Yes No           Sonk Name No         P14         Yes No           Check EVF1         P14         Yes No           C	2	SG Unit 2	51-2	160	6/C		YPYND	
1         Control 2014         Control 2014         Control 2014           1         Control 2014         Control 2014         Control 2014         Control 2014           1         Control 2014         Control 2014         Control 2014         Control 2014           1         Control 2014         Control 2014         Control 2014         Control 2014         Control 2014           1         Control 2014         Control 2014         Control 2014         Control 2014         Control 2014           1         Control 2014         Control 2014         Control 2014         Control 2014         Control 2014           1         Control 2014         Control 2014         Control 2014         Control 2014         Control 2014           1         Contro 2014         Contro 201	3	Reheaters	51-3	Kas	O/C	V	YPIND	
Box 2 Sult P1         B13         <	4	Stack 2 West HTF	81-4	lint	DOIC	1	YZND	
Series Seel Pro2	5	Rack 2 Level HTC	B1-5	6115	DIC	V	YPND	
at Purget         b17         b17         b17         b17           b17         b17         b17         b17         b17         b17           b17         b17         b17         b17         b17         b17           b17         b17         b17         b17         b17         b17         b17           b17         b17         b17         b17         b17         b17         b17         b17         b17           b17	6	Modb Steal Pro	11.6	1105	DIC	1	YRND	
a. df: Henris:         10:4         10:0         20:0         10:0         10:0           a. Ude Ol         51:10         10:0         10:0         10:0         10:0         10:0           a. Ude Ol         51:10         10:0         10:0         10:0         10:0         10:0           b. Unite Resting         31:12         Volve Sheed 21 by Overflow N         10:0         10:0         10:0           a. Bandion Vessels         56:4         10:0         10:0         10:0         10:0         10:0           a. Bandion Vessels         56:4         10:0         10:0         10:0         10:0         10:0           b. Bandion Vessels         56:4         10:0         10:0         10:0         10:0         10:0           c. Unide Area         20:0         10:0         10:0         10:0         10:0         10:0         10:0           c. Back 1:0 out         50:2         10:0	1	HTE Pumps	P1 7	155	D/C	V	VICINI	
Sector Status         Point	G	-TTE Heature	B1.8	100	ZC	V	YEND	
a         b	8	HIF HEaters	81.0	1100	odic	- V	VEND	
0 Ude 201 0 1100 1100 1100 1100 1100 1100 11	Э	South Steel 210	D1-9	1.40	dis		VIT VIT	
1       Turbine Kose Sadons 81-11       1	10	Lube Oil	61-10	160	10/C	- S		
2 Turbine Recings 3' 12 View Bod # 2 by Overflow View Constraints View Bod # 2 by Overflow View Constraints System Part View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow View Constraints Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod # 2 by Overflow Bio # 0 and View Bod #	-1	Turbine Hose Stations	81-11	16	N/C	- 4		
Number of the design	12	Turbine Bearings	31.12	160	12/C	Com Com		
0.         System         Pot         Viv. Pos.         Signap         Contracts           1.         Ligga Area         Ex2         (1/2)         Price         (1/2)         (1/2)         (1/2)         (1/2)         (1/2)         (1/2)         (1/2)         (1/2)         (1/2)         (1/2)         <				valve Sh	ied # 2 D	Overno		Charmonte
1         Expandion Vessels         E2-1         (1/2)	No.		System	PSI	VIv. Pos.	Signage	Locked	Conments
2 Using Area 64-4 (7.2.2 PC V V A D Jilling E Vice. A 2-11 (V C A D Jilling E Vice. A 2-11 (V C A D Covertow Trans 82-3 (V C A D V C A D Covertow Trans 82-3 (V C A D Covertow	1	Expansion Vessels	82-1	(4)	90C	V	YUYNU	
3       Jing's Function       22.11       I/g's       PR:       y /g' N □         0       Overflow Tanks       B2.3       6.6,5       PR:       y /g' N □         0       Next N Moth Area       B2.5       6.6,5       PR:       y /g' N □         1       Next N Moth Area       B2.5       1.6,2       PR:       y /g' N □         1       Rack 1 South Area       B2.5       1.6,2       PR:       y /g' N □         1       Rack 1 South Area       B2.5       1.6,2       PR:       Y /g' N □         0       Departion Vestel AFF       B2.5       Valve Sheed # 3 by Bid 35 dettectrical Bidg       0.7,1         0       Nor Tox Signage       Locked       Comments       Comments         1       Transforme Area       1.6,6       PS       Valve Sheed # 4 by Cooling Tower Vest Side         2       Opering Tower West Side       Valve Sheed # 5 by Control Bidg 10       0       0         0       System       PS       Viv. Pos.       Signage       Conments         1       Cooling Tower West Side       Viv. Pos.       Signage       Cooling Tower Vest Side         2       PS       Viv. Pos.       Signage       Cooling Tower Vest Side       Comments	2	Ullage Area	52-2	1712	PAC .	V	YZND	
i         0:1         1:1         0:0         1:1         0:0         1:1         0:0         1:1	3	Ullage Structure	32-11	145	RT.	V	YPYND	
Operation Tarking         Disk         Disk <thdisk< th="">         Disk         Disk<td>4</td><td>Rock 1 M dole Are:</td><td>32.3</td><td>1105</td><td>DIC</td><td>1</td><td>YZND</td><td></td></thdisk<>	4	Rock 1 M dole Are:	32.3	1105	DIC	1	YZND	
Control         State	-	Quarflow Tasks	82.9	11.5	DIC	V	YZND	
Inst. I - Subt. If View         V	2	Real of Courts Area	R7_6	101	dir	V	VEND	
Inter L read         B2-1         LLL D         POR         V V T N □           Core Tow AFFF         23-0         LLL D         POR         V V T N □           D         Core Tow AFFF         23-0         LLL C         POR         V V T N □           D         Core Tow AFFF         23-0         LLL C         POR         V V T N □           D         Core Tow AFFF         23-0         LLL C         POR         V V T N □           D         Core Tow AFFF         23-0         LLL C         POR         V V T N □           D         Control ALL         System         PSI         Vic Por         Signage         Locked         Comments           0         Control Ruon         System         PSI         Vic Por         Signage         Locked         Comments           0         Control Ruon         System         PSI         Vic Por         Signage         Locked         Comments           0         Control Ruon         System         PSI         Vic Por         Signage         Locked         Comments           1         Control Ruon         System         PSI         Vic Por         Signage         Locked         N □         D           2	0	Nack 1 South Area	62-0	110	en	1	VEND	
a mex. I morn Auta 0.2-1       1/2 0       1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	1	Rack 1 West	0.2~7	140	Off	1	YNND	
0         User tow A+++         22-8         1/2 C         1/2 N         1/2 N           0         Expansion Vessel AFF         62-3         Valve Shed # 3 by Bldg 35 GE Electrical Bldg         Comments           0         Intractome A:::         1/2 C         1/2 N         Comments         Comments           1         Intractome A:::         1/2 C         1/2 N         Comments         Comments           1         Cooling Tower West Side         0         Valve Shed # 4 by Cooling Tower West Side         Comments           1         Cooling Tower West Side         Valve Shed # 5 by Control Bldg 10         Comments         Comments           2         C/Kosi         1/2 N         1/2 N         Comments         Comments           2         C/Kosi         1/2 N         1/2 N         Comments         Comments           2         C/Kosi         1/4 N         1/2 N         N         N         N           2         C/Kosi         1/4 N         1/2 N         N         N         N           2         C/Kosi         1/4 N         1/4 N         0/0 C         N         N           2         S/Kosi         1/4 N         0/0 C         N         0/0 C         N         N <td>8</td> <td>KBCK 1 North Airea</td> <td>02-9</td> <td>140</td> <td>and a</td> <td>1</td> <td>VEND</td> <td></td>	8	KBCK 1 North Airea	02-9	140	and a	1	VEND	
0     Expansion Vessel AFF:     62.1     1 To A To	9	Over tow AFFF	22-8	145	DIC	11		
Valve Shed # 5 by Bidg 35 OE Electrical Bidg           Open System         Fig. Vik. Pop.         Signage         Cocked         Comments           1         Interformer A.s.         Id S         Open View Note         Comments         Comments           2         Transformer Wain         Valve Shed # 4 by Cooling Tower West Side         Comments         Comments           1         Cooling Tower West Side         View Note         Signage         Cooling Tower West Side           2         Officat         View Note         Signage         Locked         Comments           2         Officat         (View Note         Signage         Locked         Comments           3         Beering 2         View Note         Signage         Locked         Comments           2         Officat         (View Note         View Note         View Note         Comments           3         Beering 2         View Note         View Note         Comments         Comments           1         Regring 2         View Note         View Note         Comments         Comments           2         Officat         View Note         View Note         Comments         Comments           3         Beering 2         View Note	10	Expansion Vessel AFF=	62-3	10	D/C	CETT	TEL NU	
on     System     PSI     Wit, Pgi.     Sugage     Locked     Continents       1     Transformer Agin     (1/2)     (0/2)     V/2 r N □     V/2 r N □       Continents       2     Transformer Agin     (1/2)     (0/2)     V/2 r N □       Valve Shed # 1 by Cooling Tower Vers Side       0.     System     PSI     V/v. Pos.     Signage     Comments       1     Cooling Tower Vers Side     V/2 r N □     Comments     Comments       2     Offices     0/2-3     V/2 r N □     Comments       1     Cooling Tower Vers Side     V/2 r N □     Comments       2     Offices     0/2-3     V/2 r N □     Comments       2     Offices     0/2-3     V/2 r N □     Comments       2     Offices     0/2-3     V/2 r N □     Comments       3     Bearing 2     V/2 r N □     Comments     Comments       4     PS (V/2 r N □     0/2     0/2     Comments       5     M/2 r N □     0/2     0/2     Comments       6     System     Locked     V/2 r N □     Comments       7     N □     0/2     0/2     Comments       6     System     Locked     V/2 r N □     <				valve Shed # 3 b	y Blag 3	GEElect	lasked	Comments
1       Transformer X-a       CBC       D       D/m K D         2       Transformer X-a       Valve Shed # 4 by Cooling Tower West Side       Comments         1       Cooling Tower West Side       By We No.       Signage       Comments         1       Cooling Tower West Side       By We No.       Signage       Comments         0       System       PSI       Viv. Pos.       Signage       Locked       Comments         2       Offices       D-M       D       Vie No.       Signage       Locked       Comments         2       Offices       D-M       D       Vie No.       Signage       Locked       Comments         2       Offices       D-M       D       Vie No.       Signage       Locked       Comments         2       Offices       D-M       D       Offices       Comments       Comments         3       Beering 2       Vie No.       Bigge       Comments       Comments         4       Bearing 5       HTF Deluge System View Not.       Comments       Comments         4       Bearing 4       Wie No.       B/fC       Comments         5       MP-2000       YZ ND       B/fC       Comments       Comments </td <td>No.</td> <td></td> <td>System</td> <td>PSI</td> <td>Viv. Pos.</td> <td>Signage</td> <td>Locked</td> <td>Commenta</td>	No.		System	PSI	Viv. Pos.	Signage	Locked	Commenta
Value Shed # 4 by Cooling Tower Weet Side         Out of the formation of the state of the	1	Transformer Aux		165	COX	-		
Valve Shed # 4 by Cooling Tower Welk Shee       Control System     Control Signage     Control Signage       Cooling Tower Wet; Side       Valve Shed # 5 by Control Bidg 10       Control Signage     Comments       Control Signage     Control Signage     Control Signage       Control Signage     Comments       Control Signage     Control Signage       <	2	Transformer Main		160	(OX	1	YUNU	
a.     System     PSI     Viv. Pos.     Signage     Comments       1     Cooling Tows: Wres: Side     Valve Shed # 5 by Control Bidg 10     Comments       1     Cooling Tows: Wres: Side     Valve Shed # 5 by Control Bidg 10     Comments       1     Contro Ruom     34-5     Valve Shed # 5 by Control Bidg 10       2     Chicas     Color Biol     Comments       2     Chicas     Color Biol     Comments       2     Chicas     Color Biol     Comments       3     Bactrical Room     Biol     Viv. Pos.     Signage       4     Bearing 3     Valves (These are to be locked in the open position)       0     System     Valves (These are to be locked in the open Position)       1     Regring 3     Valve N D     A/C       3     Bearing 4     Valve N D     A/C       4     Bearing 5     HTF Deluge System Valves (To be Locked in the Open Position)       1     M-2D1     V/T N D     A/C       4     Bearing 4     Valve N D     A/C       5     HTF Deluge System Valves (To be Locked in the Open Position)     Comments       1     M-2D1     V/T N D     A/C       4     VP-200C     Valve N D     A/C       5     MP-200D     V/T N D     A/C				Valve Shed # 4 b	by Coolin	g Tower i	vest Side	
1       Cooling Towar-Wret: Side       Value Shed # 5 by Control Bidg 10         a.       System       PSt       Viv. Post.       Signage       Locked       Comments         1       Contro Ruoin       34-6       MC       Viv. Post.       Signage       Locked       Comments         2       Collica:       (L-3)       MC       Viv. Post.       Signage       Locked       Comments         3       Blactrical Room       P1-1       MC       Viv. Post.       Comments       Comments         0       System       Locked       Viv. Post.       Comments       Comments         1       Basering 2       Yir N D       MC       Signage       Locked       In the Open Position)         0.       System       Locked       Viv. Post.       Comments       Comments         1       M-201       Yir N D       Ø/C       Locked       In the Open Position)         0.       System       Locked       Viv. Post.       Comments         1       M-201       Yir N D       Ø/C       Viv. Post.       Comments         1       M-2000       Yir N D       Ø/C       Locked       Comments         1       M-2000       Yir N D       Ø/C <td>No.</td> <td></td> <td>System</td> <td>PSI</td> <td>Viv. Pos.</td> <td>Signage</td> <td></td> <td>Comments</td>	No.		System	PSI	Viv. Pos.	Signage		Comments
Valve Shed # 5 by Control Bidg 10           control Ruon         24-5         PSI         Vir. Pos.         Signage         Locked         Comments           2         Offices         (2-3)	1	Cooling Tower West Si	de	140	2 10 K		YPND	
o.         System         PS1         Viv. Pos.         Signage         Locked         Comments           Controls in Circle         Circle         Viet N □         Viet N □         Viet N □         Viet N □           Controls in Circle         Circle         Viet N □         Viet N □         Viet N □           Controls in Circle         Circle         Viet N □         Viet N □         Viet N □           Controls in Circle         Circle         Viet N □         Comments         Viet N □           Regering 2         System         Locked         Viet N □         Comments           Besting 4         Yiet N □         Ø/C         Comments         Comments           4         Besting 3         HTF Deluge System Valves (To be Locked in the Open Position)         Viet N □         Ø/C           0.         System         Locked         Viet N □         Ø/C         Comments           4         Besting 5         HTF Deluge System Valves (To be Locked in the Open Position)         Viet N □         Ø/C           0.         System         Locked         Viet N □         Ø/C         Comments           1         M-2010         Yiel N □         Ø/C         Locked         Comments           1         Malonanone S				Valve Shed	# 5 by C	ontrol Blo	lg 10	
Contro Ruom         34-5         I/C         <	No		System	PSI	Viv. Pos.	Signage	Locked	Comments
Normo known         21-3         1/25         0/2         1/2         0/2         1/2         0/2         1/2	1	Caster Euler	34.5	160	PIC	0	VEND	
2       UNLES       UNLES       UNLES       VZ       VZ       N         Turbine Sprinkler Valves (These are to be locked in the open position)         Comments         NULL Colspan="2">VIA N         System       Locked Viv. Pos.       Comments         System       Locked Viv. Pos.       Comments         System       VIA N         Besting 2         VIA N       ØC         ATT Deluge System Valves (To be Locked in the Open Position)         OC         ØC         VIA N       ØC         ØC         VIA N       ØC         ØC         VIA N       ØC         ØC       VIA N         ØC       ØC         ØC       VIA N	-	Difees	PZ-3	- Me	A.C	V	YKND	
a bit Provide         Turbine Sprinkler Valves (These are to be locked in the open position)           o.         System         Locked         Vie Nos.         Comments           1         Rogring 2         Y et N         Ø/C             2         Besting 3         Y et N         Ø/C              3         Besting 4         Ø/C         Ø/C  <	2	All and the L Discours	(0475) 84 d	100	AVC	4	Y.I.NIL	
Out of the spin of the series of the board of the open position in the open position.         1       Regring 2       V/d N □       Ø/C         2       Bearing 3       V/d N □       Ø/C         3       Bearing 4       Ø/C       Ø/C         4       Bearing 5       Ø/C       Ø/C         HTF Deluge System Valves (To be Locked in the Open Position)         Out of Ø/C         Out of Ø/C         MP 2002         THE Deluge System Valves (To be Locked in the Open Position)         Out of Ø/C         System         Out of Ø/C         System         Out of Ø/C         Out of Ø/	- 2	Electrical Room	Turbino Cori	akler Valuer (The	STA DEA TO	helocke	d in the o	nen position)
e.         System         Locked         Vir No.         Comments           1         Rearing 2         Vir No.         Ø/C         Image: Solution of the solutis solution of the solution of the solutis of the so	_	1	Turbine Spri	inder varves (ind	ese are u	De locke	a in the o	Commants
1       Rearing 2       Y Let N L       Ø/C         Beering 3       Y Let N L       Ø/C         3       Beering 4       YYL N L       Ø/C         4       Beering 5       YYL N L       Ø/C         HTF Deluge System Valves (To be Locked in the Open Position)         O/C         Comments         O/C         Comments         O/C         Comments         O/C         Comments         O/C         Control Ø/C         Comments         O/C         Control Ø/C         O/C         Comments         O/C         Comments         O/C         Comments         O/C         Comments         O/C         Comments         O/C         Comments         Comments         Comments         O/C         Comments	No.		System	Locked	VIV. Pos.			Comments.
2       Bearing 3       YIZ : N □       W/C         3       Bearing 4       Y/Z : N □       Ø/C         4       Bearing 5       Y/Z : N □       Ø/C         HTF Deluge System Valves (To be Locked in the Open Position)         0.       System       Ø/C         1       M+-201       Y/Z : N □       Ø/C         2       M-2004       Y/Z : N □       Ø/C         3       MP-7008       Y/Z : N □       Ø/C         4       MP-200C       Y/Z : N □       Ø/C         5       MP-200B       Y/Z : N □       Ø/C         6.       System       PSi       0/C       Locked         7       N □       Ø/C       Locked       Comments         6.       System       PSi       0/C       Locked       Comments         6.       System       PSi       0/C       Locked       Comments         6.       System       PSi       0/C       Locked       Comments         7       N/B in 2monoce 5 mp. Drive Way 4%       0/C       Y/B N □          8       West Side Power Block by VS-3 # 9       Ø/C       V           9       West Side Cooling To	1	Rearing 2		Y MAY	8/0			
3       Bearing 4       VT       N □       D/C         4       Bearing 5       VZ       N □       D/C         HTF Deluge System Valves (To be Locked in the Open Position)         0.       System       Locked       Viv. Pos.       Comments         1       M-201       YZ       N □       D/C         2       M2 200A       YZ       N □       D/C         3       MP-200B       YZ       N □       D/C         4       MP-200C       YZ       N □       D/C         5       MP-200C       YZ       N □       D/C         6.       System       PSi       D/C       Locked       Comments         6.       System       PSi       D/C       Locked       Comments         1       Hire Pump Huuse Deluge       Comments       D/C       YZ       N □         1       Mainterance Shop Drive Way #8       D/C       YZ       N □         3       West Side Power Block by V5.3 # 10       J/C       YZ       N □         4       West Side Cooling Tower by V5.4 # 11       D/C       YZ       N □         5       West Side Cooling Tower by V5.4 # 12       D/C       YZ       N	Z	Bearing 3		YLZ". N LI	10/C			
4         Bearing 5         VC N □         P/C           0.         System         Locked         Viv. Pos.         Comments           1         M-201         YZ N □         P/C         Comments           3         MP-2008         YZ N □         P/C         Comments           4         2000A         YZ N □         P/C         Comments           3         MP-200B         YZ N □         P/C         Comments           4         MP-200C         YZ N □         P/C         Comments           5         MP-200B         YZ N □         P/C         Comments           6.         System         PSI         O/C         Locked         Comments           6.         System         PSI         O/C         Locked         Comments           1         Hire Pump Huuse Deluge         System         PiV Checks         Comments           6.         System         Position         Cycled         Uate:         Comments           2         Maintenance Shop Drive Way %?         QL         V         V         Sote           3         West Side Power Block by VS 1 # 10         JK         V         Sote         Sote           4	3	Bearing 4		WT N D	DIC			
HTF Deluge System Values (To be Locked in the Open Position)         0.       System       Values (To be Locked in the Open Position)         0.       System       Viv. Pos.       Comments         1       M -201       Y < N □       ØC       Comments         3       MP-2008       Y < N □       ØC       Comments         4       MP-2000       Y < N □       ØC       Comments         5       MP-2000       Y < N □       ØC       Comments         6.       System       PSI       Ø/C       V < N □       Ø/C         7       N □       Ø/C       V < N □       Ø/C       Comments         6.       System       PSI       Ø/C       V < N □       Ø/C         7       N □       Ø/C       V < N □       Ø/C       V < N □         8       Ø/C       V < N □       Ø/C       V < N □       Ø/C         1       Maintenance Shop Drive Way #8       Ø/C       V       Ø/C       V < N □         3       West Side Power Block by VS 3 # 9       Ø/C       V       Ø/C       V < N □         4       West Side Power Block by VS 4 # 11       Ø/C       V < N □       Ø/C       Ø/C       Ø/C	4	Bearing 5		VO NO	1 PIC			B (III)
o.         System         Locked         Viv. Pos.         Comments           1         M+201         Y7 <n□< td="">         ØfC</n□<>			HTF Delu	ge System Valve	s (To be	Locked in	the Open	Position)
1     M-201     YZ <n□< td="">     ØC       2     M2 200A     YZ<n□< td="">     ØC       3     MP-200B     YZ<n□< td="">     ØC       2     VP-200C     YZ<n□< td="">     ØC       5     MP-200D     YZ<n□< td="">     ØC       6     System     ØC     Comments       1     Hre Pump House Deluge System     O/C     Locked     Comments       0.     System     PSI     O/C     Locked     Comments       1     Hre Pump House Deluge System     PO/C     N□     PO/C     N□       0.     System     Position     Cycled     Comments       1     Maintenance Shop Drive Way #8     Ø/C     V     Image: Sing Drive Way #8     Ø/C       3     West Side Power Block by VS-3 # 9     Ø/C     V     Image: Sing Drive Way #8     Ø/C     Image: Sing Drive Way #8     Image:</n□<></n□<></n□<></n□<></n□<>	No.		System	Locked	Viv. Pos.			Comments
2       M³ 200A       Y, Z' N □       ØC         3       MP-200B       Y Z' N □       ØC         4       MP-200C.       Y Z' N □       ØC         5       MP-200D       Y O N □       ØC         6.       System       ØC       Locked       Comments         1       Hire Pump Huuse Deluge       System       PSI       ØC       Locked       Comments         6.       System       POI       PVC Checks       Deluge       Comments       Comments         6.       System       Position       Cycled       Uate       Comments         7       Maintenance Shop Drive Way #8       ØC       V       Deluge       Comments         2       West Side Power Block by VS 1 # 10       ØR       V       Deluge       Deluge       Deluge         4       West Side Cooling Tower by VS 4 # 11       ØR       V       Deluge       Del	1	MP-201		YAT NO	pro			
3       MP-2008       YZ N□       Ø/C         4       MP-2000       YZ N□       Ø/C         5       MP-2000       YZ N□       Ø/C         Fire Pump House Deluge System         0.       System       PSi       0/C       Locked       Comments         1       Hire Pump House Deluge       YZ N□       PVC Checks           0.       System       Position       Cycled       Late       Comments         1       Maintenance Shop Drive Way #8       Ø/C       V       V       N□         3       West Side Power Block by VS-3 # 9       Ø/C       V       V       N□         5       West Side Power Block by VS-4 # 11       Ø/C       V       N□          6       West Side Cooling Tower by VS-4 # 12       Ø/C       V       N□          6       West Side Cooling Tower by VS-4 # 12       Ø/C       V       N□           7       N.W. Corner Chemical Storage #1       Ø/C       V       N□           8       N.E. Corner Chemical Storage #1       Ø/C       V       N□            8       N.E. Corner Chemical Storage	2	MP 200A		YZND	ØIC			
With 2000;     YZ, N □     ØC       5     MP-2000     YZ, N □     ØC       Fire Pump House Deluge System       0.     System     P5:     Ø/C       1     Hire Pump House Deluge System       0.     System     P5:     Ø/C       0.     System     P5:     Ø/C     Locked       0.     System     P0:     Ø/C     Locked       0.     System     Position     Cycled     Uate       1     Mainsence Shop Drive Way #8     Ø/C     V       3     West Side Power Block by VS-3 # 9     Ø/C     V       4     West Side Cooling Tower by VS-4 # 11     Ø/C     V       5     West Side Cooling Tower by VS-4 # 12     Ø/C     V       6     West Side Cooling Tower by VS-4 # 12     Ø/C     V       7     N.W. Corner Chemical Storage *1     Ø/C     V       8     N.E. Corner Chemi	2	MP-2008		YZND	ØIC			
MP-200D     VC N E     VC N E       S     MP-200D     Fire Pump House Deluge System       o.     System     P53     O/C     Locked       1     Hire Pump House Deluge     V/Z N E     V/Z N E       o.     System     P53     O/C     Locked       1     Hire Pump House Deluge     V/Z N E     V/Z N E       o.     System     P051100     Cycled     Contrents       0.     System     Position     Cycled     Contrents       0.     System     Position     Cycled     Contrents       0.     System     Position     Cycled     Contrents       1     Maintenance Shop Drive Way #8     D/C     V     V       2     Maintenance Shop Drive Way #8     D/C     V     V       3     West Side Power Block by VS-3 # 9     B/C     V     V       4     West Side Cooling Tower Bly VS-4 # 11     B/C     V     V       5     West Side Cooling Tower Bly VS-4 # 12     D/C     V     V       6     West Side Cooling Tower Bly VS-4 # 12     D/C     V     V       7     N.W. Corner Chemical Storage #1     C/C     V     V       8     N.E. Corner Chemical Storage #1     C/C     V     V	7	MR-2005		YN NO	61C	-		
Signature     Fire Pump House Deluge System       o.     System     P5i     O/C     Locked     Comments       1     Hire Pump House Deluge     1000     YZ <n< td="">     N       o.     System     Position     Cycled     User       o.     System     Position     Cycled     User       o.     System     Position     Cycled     User       o.     System     Position     Cycled     Comments       1     Maintenance Shop Drive Way #8     O/C     V     Side Power Block by VS-3 # 9       3     West Side Power Block by VS-3 # 9     B/C     V     Side Power Block by VS-3 # 9       4     West Side Cooling Tower by VS-4 # 11     B/C     V     Side Power Block by VS-3 # 12       5     West Side Cooling Tower by VS-4 # 11     B/C     V     Side Power Block by VS-3 # 12       6     West Side Cooling Tower by VS-4 # 12     D/C     V     Side Power Block by VS-3 # 12       7     N.W. Corner Chemical Storage * 2     D/C     V     Side Power Block by VS-3 # 12       8     N.E. Corner Chemical Storage * 2     D/C     V     Side Power Block Valve Side Colling Tower # 5       9     Last Side N.I. by Multimedia Filters # 3     D/C     V     Side Power Block Valve Shed #1       10     <td< td=""><td>-</td><td>MP-2000</td><td></td><td>VAND</td><td>dic</td><td></td><td></td><td></td></td<></n<>	-	MP-2000		VAND	dic			
o.     System     P53     O/C     Locked     Comments       1     Hire Pump Huuse Deluge     UOU     PV Checks     PV Checks       o.     System     Position     Cycled     Uote     Comments       1     Maintenance Shop Drive Way #8     O/C     Uote     Comments       2     Maintenance Shop Drive Way #8     O/C     U     Image: Comments       3     West Side Power Block by VS-3 # 9     B/C     U     Image: Comments       4     West Side Cooling Tower by VS-4 # 11     B/C     U     Image: Comments       5     West Side Cooling Tower by VS-4 # 12     D/C     Image: Comments     Image: Comments       6     West Side Cooling Tower by VS-4 # 12     D/C     Image: Comments     Image: Comments       7     N.W. Corner Chemical Storage #1     D/C     Image: Comments     Image: Comments       8     N.E. Corner Chemical Storage #2     D/C     Image: Comments     Image: Comments       9     East Side W.I. by Multimedia Filters # 3     D/C     Image: Comments     Image: Comments       10     East Side W.I. by Multimedia Filters # 4     D/C     Image: Comments / Actions       11     North Side Blog 10 # 6     D/C     Image: Comments / Actions       12     Between MP-444's and Water Iraet # 4 <t< td=""><td>5</td><td>100-2000</td><td></td><td>Fire Pump</td><td>House D</td><td>eluge Sve</td><td>tem</td><td></td></t<>	5	100-2000		Fire Pump	House D	eluge Sve	tem	
o.     System     PS:     O/C     Locked     Comments       1     Hire Pump Huuse Deluge     I/O/O     Y/Z     N □       o.     System     Position     Cycled     V/Z     N □       1     Maintenance Shop Drive Way #7     O/C     V/Z     N □       2     Maintenance Shop Drive Way #8     O/C     V     I/O/C     Comments       3     West Side Power Block by VS-3 # 9     Ø/C     V     I/O/C     I/O/C       4     West Side Power Block by VS-3 # 9     Ø/C     V     I/O/C     I/O/C       5     West Side Cooling Tower by VS-4 # 12     Ø/C     V     I/O/C       6     West Side Cooling Tower by VS-4 # 12     Ø/C     V     I/O/C       7     N/W. Corner Chemical Storage #1     Ø/C     V     I/O/C       8     N.E. Corner Chemical Storage #1     Ø/C     V     I/O/C       9     East Side W.I. by Multimedia Filters # 3     Ø/C     I/O/C     I/O/C       10     East Side W.I. by Multimedia Filters # 3     Ø/C     I/O/C     I/O/C       11     North Side Reg I/D # 6     Ø/C     I/O/C     I/O/C     I/O/C       12     Between MP-444's and Water Treat # 4     Ø/C     I/O/C     I/O/C     I/O/C       13	-	1		riterump	I I I I I I I I I I I I I I I I I I I	Linge sys		F
1     Hire Pump Huuse Deluge     100     Y.Ø. N□       0.     System     Position     Cycled     Uate Cycled     Comments       1     Maintenance Shop Drive Way #/     0.0	No.		System	PSI	0/C	Locked		comments
PIV Checks       a.     System     Position     Cycled     Uater Cycled     Comments       1     Maintenance Shop Drive Way #/     0.0     ✓     ✓       2     Maintenance Shop Drive Way #8     0/C     ✓     ✓       3     West Side Power Block by VS-3 # 9     0/C     ✓     ✓       4     West Side Power Block by VS-1 # 10     0/C     ✓     ✓       5     West Side Cooling Tower by VS-4 # 11     0/C     ✓     ✓       6     West Side Cooling Tower by VS-4 # 12     0/C     ✓     ✓       7     N.W. Corner Chemical Storage #1     0/C     ✓     ✓       8     N.E. Corner Chemical Storage #1     0/C     ✓     ✓       9     East Side W.I. by Multimedia "itters # 1     0/C     ✓     ✓       10     East Side W.I. by Multimedia "itters # 1     0/C     ✓     ✓       11     North Side Ricg 10 # 6     0/C     ✓     ✓       12     Between MP-444/s and Water (reat # 4     0/C     ✓     ✓       13     Wrist Side Power Block Valve Shed #1     0/C     ✓     ✓       14     To Be Cycled First Saturday of Every Month     ✓     ✓       15     West Side Power Block Valve Shed #1     0/C     ✓     ✓	1	Fire Pump House Delu	ae	100	0	YEND		
o.     System     Position     Cycled     Usite Cycled     Comments       1     Maintenance Shop Drive Way #8     0/C		In a carrier			<b>PIV Chee</b>	cks		
a.     operation     operation       1     Mainpendice Shop Drive Way #8     000       2     Mainpendice Shop Drive Way #8     000       3     West Side Power Block by VS-3 # 9     800       4     West Side Power Block by VS-3 # 9     800       4     West Side Cooling Tower by VS-4 # 10     900       5     West Side Cooling Tower by VS-4 # 11     800       6     West Side Cooling Tower by VS-4 # 12     900       7     N.W. Corner Chemical Storage #1     900       8     N.E. Corner Chemical Storage #1     900       9     Cast Side W.T. by Multimedia "iter: # 3     800       10     East Side N.T. by Multimedia Filters # 5     6000       11     North Side Blog 10 # 6     900       12     Between MP-444's and Water freet # 4     900       13     What Side Power Block Valve Shed #1     900       14     Transformer Yard Refuse Check     Y ⊔ N □     416	-		System	Position	Cucled	Uate		Comments
1     Maintenance Shop Drive Way #8     0/C       3     West Side Power Block by VS-3 #9     0/C       4     West Side Power Block by VS-3 #9     0/C       5     West Side Power Block by VS-4 # 10     0/C       6     West Side Cooling Tower by VS-4 # 12     0/C       7     N.W. Corner Chemical Storage #1     0/C       8     N.E. Corner Chemical Storage #1     0/C       9     Cast Side W.T. by Multimedia "itters # 3     0/C       10     East Side W.T. by Multimedia "itters # 3     0/C       11     North Side Blog 10 # 6     0/C       12     Between MP-444's and Water Treat # 4     0/C       13     What Side Power Block Valve Shed #1     0/C       14     Transformer Yard Refuse Check     Y ⊔ N □     416	Ne		*3-ver.	C OSIGNI	- Junea	Cycled		
2     Maintenance Shop Drive Way #8     D/C       3     West Side Power Block by VS-3 # 9     D/C       4     West Side Power Block by VS-1 # 10     D/C       5     West Side Cooling Tower by VS-4 # 11     D/C       6     West Side Cooling Tower by VS-4 # 12     D/C       7     N.W. Corner Chemical Storage # 1     D/C       8     N.E. Corner Chemical Storage # 2     D/C       9     East Side W.1. by Multimedia "litters # 3     D/C       10     East Side W.1. by Multimedia "litters # 3     D/C       11     North Side Blog 10 # 6     D/C       12     Between MP-444's and Water Ireat # 4     D/C       12     Between MP-444's and Water Ireat # 4     D/C       12     Between MP-444's and Water Ireat # 4     D/C       12     Between MP-444's and Water Ireat # 4     D/C       12     Between MP-444's and Water Ireat # 4     D/C       12     Between MP-444's and Water Ireat # 4     D/C       12     Between MP-444's and Water Ireat # 4     D/C       13     Wrist Side Power Block Valve Shed #1     D/C       14     Transformer Yard Refuse Check     Y Linite 416       15     Comments / Actions     3/P-1/P-0240-MIT	No.			06	1	-		
3     West Side Power Block by VS-3 # 9     Ø/C     V       4     West Side Power Block by VS-1 # 10     Ø/C     V       5     West Side Cooling Tower by VS-4 # 11     Ø/C     V       6     West side Cooling Tower by VS-4 # 12     Ø/C     V       7     N.W. Corner Chemical Storage # 1     Ø/C     V       8     N.E. Corner Chemical Storage # 2     Ø/C     V       9     East Side W.1. by Multimedia Filters # 3     Ø/C     V       10     East Side W.T. by Multimedia Filters # 3     Ø/C     V       11     North Side Blog 10 # 6     Ø/C     V       12     Between MP-444's and Water Treet # 4     Ø/C     V       13     Wist Side Power Block Valve Shed #1     Ø/C     V       To Be Cycled First Saturday of Every Month       Comments / Actions       Automated Avisemus texpection Checkint       1     Transformer Yard Refuse Check     Y ⊔ N □     416	No.	Maintenance Shop Dri	ve Way #/			-		
2     West Side Power Block by VS 1 # 10     ØK     V       5     West Side Cooling Tower by VS-4 # 11     ØK     V       6     West Side Cooling Tower by VS-4 # 12     ØK     V       7     N.W. Corner Chemical Storage # 1     ØK     V       8     N.E. Corner Chemical Storage # 2     ØK     V       9     Cast Side W.I. by Multimedia Filters # 3     ØK     V       10     East Side W.T. by Multimedia Filters # 3     ØK     V       11     North Side Blog 10 # 6     ØK     ØK       12     Between MP-444's and Water Treet # 4     ØK     ØK       13     Wrist Side Power Block Valve Shed #1     ØK     ØK       14     Transformer Yard Refuse Check     Y U N D     416     ØK-04000MT	No. 1 2	Maintenance Shop Dri Maintenance Shop Dri	ve Way #/ ve Way #8	DIS	1			
5.     West Side Cooling Tower by VS-4 # 11     Ø/C       6.     West side Cooling Tower by VS-4 # 12     Ø/C       7.     N.W. Corner Chemical Storage # 1     Ø/C       8.     N.E. Corner Chemical Storage # 2     Ø/C       9.     Cast Side W.I. by Multimedia */tter: # 3     Ø/C       10.     East Side W.I. by Multimedia */tter: # 3     Ø/C       11.     North Side Blog 10 # 6     Ø/C       12.     Between MP-444's and Water Ireat # 4     Ø/C       13.     Wrist Side Power Block Valve Shed #1     Ø/C       14.     To Be Cycled First Saturday of Every Month       15.     Debris     Comments / Actions       11.     Transformer Yard Refuse Check     Y ⊔ N □     416	No. 1 2 3	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block	ve Way #7 ve Way #8 : by VS-3 # 9	Dic	V			
6     West side Cooling Town by VS-4 # 12     D/C       7     N.W. Corner Chemical Storage #1     D/C       8     N.E. Corner Chemical Storage #2     D/C       9     East Side W.1. by Multimedia "itters # 3     D/C       10     East Side W.T. by Multimedia Filters # 3     D/C       11     North Side Blog 10 # 6     D/C       12     Between MP-444's and Water Treat # 4     D/C       12     Between MP-444's and Water Treat # 4     D/C       12     Between MP-444's and Water Treat # 4     D/C       12     Between MP-444's and Water Treat # 4     D/C       13     Wrist Side Power Block Valve Shed #1     D/C       14     Transformer Yard Refuse Check     Y Ling 416	No. 1 2 3 2	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block West Side Power Block	ve Way #7 ve Way #8 :by VS-3 #9 .by VS 1 # 10	DIC BIC YK.	V		1	
7     N.W. Corner Chemical Storage #1     D/C       8     N.E. Corner Chemical Storage #2     D/C       9     East Side W.I. by Multimedia Filters #3     D/C       10     East Side W.T. by Multimedia Filters #3     D/C       11     North Side Ricg 10 # 6     D/C       12     Between MP-444/s and Water Irzet #4     D/C       13     Wist Side Power Block Valve Shed #1     D/C       14     To Be Cycled First Saturday of Every Month	No. 1 2 3 2	Maintenance Shop Dri Maintenance Shop Dri West Side Power Blod West Side Power Blod West Side Cooling Tox	ve Wsy ¥? ve Way #8 by VS-3 #9 by VS-1 #10 ver by VS-4 #11	Dic Bic Jin.	V			
a     N.E. Comer Chemical Storage * 2       a     N.E. Comer Chemical Storage * 2       b     Cast Side W.I. by Multimedia */iter: * 3       0     East Side W.T. by Multimedia */iter: * 3       10     East Side N.T. by Multimedia Filters * 5       11     North Side Ricg 10 # 6       12     Between MP-444's and Water freet * 4       0/C     0/C       13     Wrist Side Power Block Valve Shed #1       0/C     0/C   To Be Cycled First Saturday of Every Month        Provide MLEOR 00027 Automated Artigemus Inspection Checklist     Debris     Comments / Actions       1     Transformer Yard Refuse Check     Y L N D     416     3//-1/-0/0000-MT	No. 1 2 3 4 5	Maintenance Shop Dri Maintenance Shop Dri West Side Power Blod West Side Power Blod West Side Cooling To. West Side Cooling To.	ve Wsy ¥? ve Way #8 by VS-3 #9 by VS-3 #9 ver by VS-4 # 11 ver by VS-4 # 12	Dic Bic Vic Dic Dic	1			
6     Nuclearing chemical statutes of the set of th	No. 1 2 5 4 6	Maintenance Shop Dri Maintenance Shop Dri West Side Power Blod West Side Power Blod West Side Cooling Tow West side Cooling Tow West side Cooling Tow	ve Way ¥? ve Way #8 by VS-3 # 9 by VS-3 # 10 ver by VS-4 # 11 ver by VS-4 # 12 Storage #1	DK ØK ØK ØK	1.24			
9     Cast Side W.T. by Multimetia Filters ¥ 3     Core       10     East Side W.T. by Multimetia Filters ¥ 5     Core       11     North Side Blog 10 # 6     Core       12     Between MP-444's and Water Frazt # 4     Ore       13     What Side Power Block Valve Shed #1     Ore       14     To Be Cycled First Saturday of Every Month	No. 1 2 3 4 5 6 7	Maintenance Shop Dri Maintenance Shop Dri West Side Power Blod West Side Power Blod West Side Cooling To- West side Cooling To- N.W. Corrier Chemical	ve Way 47 ve Way 48 by VS-3 # 9 by VS-4 # 10 ver by VS-4 # 11 set by VS-4 # 12 Storage # 1 Verane # 2	Dic Bic Sic Sic Sic Sic	1224			
ID     East Side Wuit, by Multimedia Pinters V S     Conc       11     North Side Ricg 10 # 6     OVC       12     Between MP-444's and Water Ireat # 4     OVC       13     Wrist Side Power Block Valve Shed #1     OVC       14     To Be Cycled First Saturday of Every Month       Kerosto MT_FOR_00022 Automated Systems Inspection Checkint     Debris     Comments / Actions       1     Transformer Yard Refuse Check     Y L N D     416     30/0-10/00000MT	No. 1 2 3 4 6 7 8	Maintenance Shop Dri Maintenance Shop Dri West Side Power Blod West Side Power Blod West Side Cooling To- West side Cooling To- N.W. Corner Chemical N.E. Corner Chemical	ve Way 47 ve Way 48 by VS-3 # 9 by VS-3 # 10 ver by VS-4 # 11 mm by VS-4 # 12 Storage # 1 torage # 2	Dic Bic Vir. Bic Dic Dic C Dic	1 VVVV			
11     North Side Ridg 10 # 6     D/C       12     Between MP-444's and Water Ireet ≠ 4     D/C       13     What Side Power Block Valve Shed #1     D/C       14     To Be Cycled First Saturday of Every Month       Comments / Actions       Multification Checkint       1     Transformer Yard Refuse Check     Y ⊔ N □     416	No. 1 2 5 6 7 8 9	Maintenance Shop Dri Maintenance Shop Dri West Side Power Blod West Side Power Blod West Side Cooling To- West Side Cooling To- N.W. Corner Chemical N.E. Corner Chemical East Side W.I. by Mult	ve Way ∜ ve Way #8 by VS-3 ≠ 9 .by VS-4 ≠ 10 .by VS-4 ≠ 11 .by VS-4 ≠ 12 .by VS-4 = 12	0) 87 97 97 97 97 97 97 97	1 2 X X X Y S			
Interface     DIC       3     Wrist Side Power Block Valve Shed #1       3     Wrist Side Power Block Valve Shed #1       73     To Be Cycled First Saturday of Every Month       Comments / Actions       Comments / Actions       1     Transformer Yard Refuse Check     Y Lining     416     3/0-10-0030-MIT	No. 1 2 5 4 6 7 8 9 10	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block West Side Power Block West Side Cooling Tow West side Cooling Tow N.W. Corner Chemical Dist Corner Chemical Dast Side W.I. by Mult East Side W.T. by Mult	ve Way \$7 ve Way #8 by VS-3 # 9 by VS-3 # 9 ver by VS-4 # 11 mer by VS-4 # 12 Storage #1 Storage #1 storage #2 media Filters # 3 media Filters # 5	Dic Bic Jin Dic Dic Dic Dic Dic	12222			
Bit Side Power Block Valve Shed #1     O/C       To Be Cycled First Saturday of Every Month       Become Mit ROR 000022 Automated Avsterms Inspection Checklist     Debris     Comments / Actions       1     Transformer Yard Refuse Check     Y Li N Li     416     307-36-0030-MIT	No. 1 2 5 6 7 8 9 10 11	Maintenance Shop Dri Maintenance Shop Dri West Side Power Blod West Side Power Blod West Side Cooling To- West side Cooling To- West side Cooling To- N.W. Corner Chemical N.E. Corner Chemical Cast Side W.I. by Mult East Side W.T. by Mult North Side Blog 10 # 6	ve Way 47 ve Way 48 iby VS-3 # 9 iby VS-4 # 10 ver by VS-4 # 12 Storage # 2 media Filters # 3 immedia Filters # 5	Dic Bic Jin Bic Dic Dic Dic Dic Dic	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
To Be Cycled First Saturday of Every Month           Record MT.60R.00002? Automated Averagemus tespection Checklist         Debris         Comments / Actions           1         Transformer Yard Refuse Check         Y L N D         416         Strategies (Checklist)	No. 1 2 5 6 7 8 9 10 11 12	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block West Side Power Block West Side Cooling To- West side Cooling To- West side Cooling To- West side Cooling To- N.W. Corner Chemical N.E. Corner Chemical East Side W.T. by Mult North Side Blog 10 # 6 Between MP-444's and	ve Way #7 ve Way #8 by VS-3 # 9 .by VS-3 # 9 .by VS-4 # 10 mer by VS-4 # 12 Storage #1 .torage #1 .torage #2 media Filters # 3 		A CICKACIA			
Arease         Debris         Comments / Actions           1         Transformer Yard Refuse Check         Y Li N Li         416         377-37-0000-MT	No. 1 2 5 2 5 6 7 8 9 10 11 12 3	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block West Side Power Block West Side Cooling Tow West Side W.1. by Mult East Side W.1. by Mult North Side Block Units of the Between MP-444's and West Side Power Block	ve Way #7 ve Way #8 by VS-3 # 9 .by VS-4 # 10 ver by VS-4 # 11 ver by VS-4 # 12 Storage # 1 Storage # 2 media Filters # 3 immedia Filters # 5 i Waler freet # 4 Valve Shed #1		Regerences			
1 Transformer Yard Refuse Check YUND 416 370-36-0030-MT	No. 1 2 5 6 7 8 9 10 11 12 13	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block West Side Power Block West Side Cooling To- West side Cooling To- N.W. Corner Chemical Dat Side Cooling To- N.E. Corner Chemical East Side W.I. by Mult Neth Side Blog 10 # 6 Between MP-444's and What Side Power Block	ve Way \$7 ve Way #8 by VS-3 # 9 .by VS-4 # 10 .by VS-4 # 11 .brorage #1 .brorage #1 .brorage #2 media Filters # 3 	Dic Bic Bic Dic Dic Dic Dic Dic Dic Dic Dic Dic D	V VVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV	lay of Eve	ry Month	
+ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	1 2 3 2 3 6 7 8 9 10 11 12 13 No	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block West Side Power Block West Side Cooling To- West side Cooling To- West side Cooling To- N.E. Corner Chemical 3 Last Side W.I. by Mult East Side W.I. by Mult North Side Blog 10 # 6 Between MP-444's and Wist Side Power Block	ve Way 47 ve Way 48 iby VS-3 # 9 iby VS-4 # 10 ver by VS-4 # 12 Storage # 1 itorage # 2 media Filters # 3 immedia Filters # 5 i Waler Inset # 4 Valve Shed #1	Dic Bic Bic Dic Dic Dic Dic Dic Dic Dic Dic Dic D	St Sature	lay of Eve	ry Month	Comments / Actions
Page 1 of 18evised 09/24/2019	No. 1 2 5 4 5 6 7 8 9 10 11 12 3 No. 1	Maintenance Shop Dri Maintenance Shop Dri West Side Power Block West Side Power Block West Side Cooling To- West Side Cooling To- East Side W.T. by Mult North Side Plog 10 # 6 Between MP-444's and Wist Side Power Block	ve Way 47 ve Way 48 by VS-3 # 9 by VS-3 # 9 by VS-4 # 10 ver by VS-4 # 12 Storage # 1 Storage # 2 media Filters # 3 imedia Filters # 3 Water frazt # 4 Valve Shed #1 LAVSSEMms Legendion Che se Check		V V V V S S S ature	lay of Eve	ry Month	Comments / Actions



<b>Fire Pur</b>	np Weekly	/ Test Log
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General Info	rmation
Plant: Alpha 🖬 🛛 Beta 🗌	Date: 11/11/23
Operator Silan Conniguer	*To be completed each time unit is operated.
Reason for running pumps: Weekly test Maintenance	Emergency П
Jockey Electr	ic Pump
Pre-start Inspection: Electrical Food 🕼 Mechanical 🖬	Valves Q
Check the jockey pump on pressure drop. Start up pressure: /	SSPSI
Discharge Pressure: 1(45 pS)	
Pump Suction Pressure: PUMP Pump E	Discharge pressure: 165161
Comments:	1
Electric P	ump
Pre-start Inspection: Electrical Feed Mochanical	Valves Valves
Start the pump on pressure drop. Start up pressure: 195 pS	
Start time: 1900	
Pump Suction Pressure: 10 pS1 Pump Di	scharge pressure: 150 pS1
bp time: 1910 Total time running	lomins
Comments:	
Diesel Po	imp
Pre-start Inspection: Coolant 📿 Oil 🖵 Mechanical 🕏	Valves 🖵 Water Jacket Heater 🖵 🦳
Fuel level > 2/3: Yes No 🕉 1/4 Monthly	Fuel Consumption: 12/14
Battery volt Crank 1 24 Battery volt Crank 2: 24 B	attery Condition: / NECd To Be Cleaned
Starting hour meter: 129.0	tart time: 1912
Oil pressure start: (02 pSI C	il Pressure finish: 43 ps/
Pump Suction Pressure: 15 pS1 Pump I	Discharge pressure: 165 ps/
Coolant temperature after 30 minutes running: 196 of +11	igh timp AIARM
Stop time: 1924 Stop hour meter: 129.	Total time running: Mins. 12
Comments:	
Needs Firel NOT @ 2/3'S	
Sulfur Concentrations (less than or equal to 0.0015% on a weight per w	eight basis).
his new direct drive fire pumplengine shall be limited to use for emimorcy line suppression, defined as in more than 30 minutes in any one hour and no more than 10 hours per year for initial stati-up testing and of hours necessary to comply with the testing requirements of the National Fire Protoclian Association ( (unrent edition), the hours of operation for source testing will not be counted towards either ut the allow reliable fuel consumption 27 gs / his percentionalety. For a no limit on origine operation for emergency use. [The 17 CCR 33115.6tat(0)]	r response to a fire or due to low fire water pressure. In addition, the engine shall be operated no compliance demonstrations. Additionally, the engine anal hot be operated more than the sumber N=/A) 25 "Standards for the Dispection, Testing, and Maintenance of Water Based Fire Systems" able annual limits above



# Automated Fire Systems Inspection Checklist

- 19

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		Plant: Al PHA PI B	eta: 🗖	Date:	1 10	27 00	ernor EVICK
		Plane Acria d	Valve She	d # 1 by	Condens	er	
No.	Sy	stem	P51	Viv. Pos.	Signage	Locked	Comments
-í	SG Unit 1 B1	-1	165	V0/C	~	YEND	
2	SG Unit 2 B1	2	001	10/C	~	YANU	
3	Reheators B1	2	1.602	√0/C	~	A MA	
4	Rack 2 West HTF 81	-4	100	_0/C	1	AN AD	
5	Rack 2 East HTF B1	1-5	lian	<b>1</b> 0/C	1	A DA A DA	
6	North Steel Puu R	1-6	toQ	VOIC	~	YOYND	
7	HTE Purces	1-7	( la l')	/0/C	1	YZND	1 M M
6	HILF Hasters B	a	16.0	1/0/C	~	YZND	
0	Courte Steel Deer	1.0	11.0	1/0/	1	YZND	
9	South Steer Pro	140	100	1046	-	YZND	
10	Use Oil	10	100	1010		VAND	
51	Turbine Hose Stations 3	1 11	1 les	VOIC		VIINI	
12	Turbine Bearings B	1-12	Value Ch	od # 2 hu	Cuardia	14 Mai	
			valve Sn	ed # 2 by	Overno	N	Comments
No.	Sj	stem	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels 3	2.1	105	V 0/C	V	- K K	1
2	Ullage Area 🛛 🕹	2-2	165.	~ 0/C	~	-UND	N
3	Ullage Structure B	2 11	165	√0/C	~	YUND	
4	Rack 1 Middle Area B	2-5	120	10/C	1	MA AD	
5	Overflew Tanks B	2-9	165	V0/C	~	YDY VD	
5	Rack 1 South Area B	2-6	11-5	√0/C	1	YD ND	
	Rack 1 West	2-7	12-0	JOK	1	Y'D'ND	
	Dack 1 Norto Area R	2-4	1100	10%	V	YDND	
0	ConformALES	2.4	LA D	Tor	~	YLA NT	NO Pram.
-9 	UVEFT DW AFFA	2.5	110/1	J On	/	VT2 NT	N/ Frank
10	Expansio Vessel AFFF	Value C	hod # 2 b	Pida 25	GE Elect	rical Bldg	n c i cam
	1	vaive 5	neu # 5 D	y blug 55	GE Elect	incar blug	Comments
No.	Sj	/stem	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux		100	0/C	~	Y D N D	
2	Transformer Main	A.N. 485 (200 - 1022)	155	UO/C	~	YNND	
		Valve S	hed # 4 b	y Cooling	Tower i	Vest Side	
No.	S	vstem	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side		Ila()	V0/C	1	YAND	100 bi br Sidr.
-	Teorem test side	Va	Ive Shed	# 5 by Co	ntrol Bld	g 10	
	6	and some	PCT	Vie Pos	Signage	Locked	Comments
NIO.		stem	106	010	Signage	YZND	
1	Lightfol Room D	1.5	17 3	OF		217 ND	
2	Utices 24	4.3	10-	- CHC		VILVID	
3	Electrical Robin B	4-4	12	10/0	ha lacks	d in the or	an nosition)
_		Turbine Sprinkler V	aives (The	se are to	De locke	a in the of	ben position)
No.	St	ystem	Locked	Viv. Pos.			Comments
1	Beuring 2		YZ/ND	V 0/C			
2	Bearing 5		171/NO	V O/C			No. Contraction of the second s
3	Bearing 4		V.O NO	/0/C			
4	Bear og 5		YO ND	VO/C		8-12 Tel	and share the second
	lacar ng 5	HTF Deluge Syst	em Valve	s (To be l	ocked in	the Open	Position)
hl m	1 6	urtum	Locked	Viv Pos			Comments
1	NAU 201	Javan	YD NP	1010			
1	MP-20 MD-2004		YPAN	1015			
2	MIP 200A		V Dr. N. D	- UNC			
3	MP-2008		THE NU	V U/C			
4	MP-2000		NU	V 0/C			
5	MP-200D		YUND	V 0/C			
		F	ire Pump	House D	eluge Sys	tem	
No	e.	vstem	PSI	0/0	Locked		Comments
1405	a,	Jacon	1000	0	VP NT		
1	Fire Pump House Deluge		145	DIV Char			
				PIV Chec	KS Dire		
No.		vstem	Position	Cycled	Date		Comments
	Uninter an el cum P. J. a	16/2014 46/2	1011	-	CVC/Ed		
1	Maintenance Shop Drive	nvay #7	100		-		
2	Maintenance Shop Drive	Way 18	V O/L	-			
3	West Side Power Block by	vv5-3#8	0/C				
4	West Side Power Block by	/ VS-1 # 10	P 0/C				
5	West Side Cooling Tower	by VS 4 + 11	V 0/C				
6	West side Cooling Town	oy VS-4 # 12	- O/C				
7	N.W. Commic Chemical Str	prade #*	_0/C				
0	N.F. Corper Coemical Stor	rane # 2	20/C				
2	East Cide W.T. Lock/older	vegen z velia Elhore ≢ 2	1. 10%	-			
9	East Side with by Multime	dia filiana A C	10/1		-		
10	Fast Side W.L. by Multime	edia Filiters # 1	- O/C	-			
11	North Side Bidg 10 + 6		V 0/C	-	-		
12	Between MP-444's and W	/ater Treat # 4	0/6/	4			
13	West Side Power 8 ock Vi	alve Shed #1 -N [H	0/0				
		To Be	Cycled Fir	st Saturd	ay of Eve	ry Month	
10 m	AT FOR ARCHINE AND AND	Stemms Inconction & backling	Debris	60			Comments / Actions
ALC: NO.	England and March Restored	Check	YE NE	119			\$70-16-0040-MT FOR
1	LEUZIDILLEL POLI REIDE	CHERK		410	and the second se		



#### Fire Pump Weekly Test Log

General Infor	mation			
Plant: Alpha 🗐 🛛 Beta 🗆	Date: 10/23/23			
Operator: Change N	'To be completed each time unit is operated.			
Reason for running pumps: Weekly test 🛛 Maintenance	C Emergency C			
Jockey Electric	c Pump			
Pre-start Inspection: Electrical Feed □ Mechanical □	Valves 🗆			
Check the jockey pump on pressure drop. Start up pressure: 15	5			
Discharge Pressure: 1472				
Pump Suction Pressure: Pump Di	scharge pressurc:			
Comments:				
Electric Pu	imp			
Pre-start Inspection: Electrical Feed 🖬 Mechanical 🗹	Valves			
Start the pump on pressure drop. Start up pressure: 1-1-5				
Start time: 10755				
Pump Suction Pressure: 2. C Pump Dis	charge pressure: 150			
op time: W:0.5 Total time running	10 min			
Comments:				
Diesel Pu	mp			
Pre-start Inspection: Coolant Oil D Mechanical D	Valves 🛛 Water Jacket Heater 🗄			
Fuel level > 2/3: Yes F. No 😰 Monthly	Fuel Consumption:			
Battery volt Crank 1: 7 Battery volt Crank 2: 2 GV Ba	ittery Condition: good			
Starting hour meter: 128 4 St	itart time: 11:12			
Oil pressure start: ) Oi	Dil Pressure finish: 39			
Pump Suction Pressure: 20 Pump D	ischarge pressure: 150			
Coolant temperature after 30 minutes running: Over heard	P.199° + at 15min			
Stop time: ))>2.3 Stop hour meter: 12.3	. 👃 Total time running: 🎼			
Comments:				
Sulfur Concentrations (less than or equal to 0.0015% on a weight per we	right basis).			
his new direct of voltico pumpletighte shall be limited to use for unregency fire supportsion, defined as in more than 33 minutes in any one hour and no more than 10 hours per year for initial statistic testing and or of hours necessary to comply with the testing requirements of the National and Protection Association (6 (current edition), the hours of operation for your testing will not no nounted towards either of the allowards either of the allowards etc. Fuel consumption 27 ga / hipping/initiale/. Table 17 CCR 98115.61a(4)), ere is no unit on origine operation for emergency use. Table 17 CCR 98115.61a(4),	response to a find on due to low fire water provide. In addition, this regime shad be operated no ompliance domonstrations. Additionally, this ongine shall not be operated more than the number (FPA) 25-1 Standards for the Dispection, Testing, and Maintenance of Water Report fire Systems' selaminal limits above.			



#### Automated Fire Systems Inspection Checklist

		Plant:		BETA:	Dates _	0-28	<u>5. Z</u> 30p	erator_ <u>ISofa</u> L
				Valve She	ed # 1 by	Condens	ег	
No.	1	System		PSE	Viv. Pos.	Signage	Locked	Comments
4	55 Unit 1	B1-1		KS	101C	V	YUNU	
2	SG Unit 2	B1 2		Ilan	130	V	YE,ND	
3	Reheaters	B1 3		160	YOC	6	YEND	
4	Rack 2 West HTF	B1-4		11.0	OC	100	YUND	
5	Rack 2 past = I =	21.5		262	TOIC	~	YEND	
6	North Stee Pro	B1 6		11.1	COVE		YEND	
7	HTE Pumps	B1 7		ist	10c	4	YPYND	
л	UTE Hoaless	31-8		100	1 State	1	YEND	
a.	South Steel 2m	B1.9		140	191	1	YEND	
10	Luba Cil	51 10		1.5	Soc	V	YPIND	
10	Luce On Luching Hose Stations	51,11		100	GAS	11	YALNE	
11	Turbine Hose Stations	R1-17		190	A	-	YKND	
12	To blue bestinds	101° Z		Valve Sh	ed # 2 by	Overflor	w	
No		Sustem		PSI	Viv Pos	Signage	Locked	Comments
140,	In associon Vescole	12.1		16.6	60	Jignege	YHNU	
-	Expansion vessels	33.5		165	0		VIEND	
	Ullage Area	12.52		111	70%	V	YEND	
	Diage structure	D2- 1		192	60	1	VEND	
4	East C. Middale Anna	D2 3		11.20	Sc		Y R N D	
	CAVET OW LARKS	157-9		160	Sie	-	VID NIT	
0	Kack South Area	32-D		(6)	2010			
/	RECK West	32-7		100	(D)-		VIND	
8	Rec C. Nicifi Acca	12-4		1.40	Sic			
9	Cwey How APPE	B2 d		(45	Qic	Y	VE NE	
12	Expansion Vessel AFFF	82-3	Value	95	Cont	CE Flort	nical Rida	
			vaive :	sned # 3 D	y Blag 3:	GE Elect	rical blug	#
No.		System		PSI	Viv.Ros.	Signage	Locked	Cominents
1	Transformer Aux			165	CCC .	~	V K L	
2	Transformer Maio			140	10		YEND	
			Valve :	shea # 4 b	y cooling	g lower v	vest side	
No.	-	System		PSI	Viv. Pos.	Şignage		Comments
1	Cooling Tower West Sid	de		iles,	100	U V	YEND	
			V	alve Shed	# 5 by Co	ontrol Bid	ig 10	
No.		System		PSL	Viv. Pos.	Signage	Locked	Comments
1	Control Room	84.5		160	QC	+	VE ND	
2	Offices	34-3		110-	DC	V	VE NO	
3	Electrical Room	64-4		158	DIC	-	VENU	
		Turbi	ne Sprinkler V	alves (The	ese are to	be locke	d in the op	en position)
No.		System		Locked	Viv. Pos.			Comments
1	Bearing 2	- 33		YZ ND	Cenc			
2	Bearing 3			YEND	On			
3	Bearing 4			YEND	OIC			
2	Bearing 5			YEND	O/C			
		H	F Deluge Sys	tem Valve	s (To be l	Locked in	the Open	Position)
No.		System		Locked	Vig.Pos.			Comments
1	MP-201			YZND	Calic			
2	MP-200A			YPIND	QIC			
3	MP 2008			YOND	POR			
4	MP-2000.			YO NO	Orc			
5	MP-200D			YO NO	Orc			
			F	ire Pump	House De	eluge Sys	tem	
Me		Eucham		psi/7	0/0	Locked		Comments
NO.		ajatan		6405	the			
1	re Pump House Delug	;e		1009	DIVCha	V D N D		
					PIV Chec	KS Date		
No.		System		Position	Cycled	Curled		Comments
1	Maintenance Shor Driv	a (Vzv #7		087	1	Creton		
3	Maintenance Shop Driv	or Wass All		OX	1.			
5	West Side Power Block	his 201-3 # 0		Sale	V		-	
	Wast Side Power Block	by 33-5 4 5		RAN	1			
-+	Water Side Configuration	or log VS-7 # 1	1	COW-	U			
5	West side Caplice Jaw	or by VE Z A 1	2	10w	V			
7	NOW Corner Corminal C	Charger #4	L	1 12	V			
6	N-W. Corner Chemical S	acciage if t			11			
	INF, COMER CONTROL M	norsige # 2		A C	1			
3	East Side Will, by Multin	r edia Filters f		· ••••)/*				
10	East Side Will, by Multin	menta Fillers #		2	1		-	
11	North Side Bidg 10 # 6			COR.	Y.			
12	Between MP 444's and	water Trivit A	4	0,0	V			
13	west Side Pawer Block	vaive shed #	To Do	Cucled Sin	ct Saturd	av of Euro	w Month	
		-	10 66	cycleu Pin	st satura	uy of Lve	.y monut	Comments / Actions
TO BLO SOLO	her too choose a shareshed	Alt Stamps - Inc.	section ( backlist	Debris	1			Wyggments / Mccons

Control out - 2012 Automated Systems Inspection Checklist
 Control of Checklist
 Cont

 Debris
 420

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070 16 0049-MT-FCK-990 27



	Automated	Fire Sys	stems ,	Inspec Jacob	tion Ch	mecklist
	Plant: ALPHA 7	ETA:	Date: / C	9 <u>7227</u> 9	<u>45</u> 0	perator Dep F
		valve sne	A # I Dy	Condens	locked	Compants
No.	System	150	dic.	aignage	YZIND	Conniens
	10 (1 + 1 ) D1 1 20 (1 + 2 ) D1 - 2	1105	hic	~	YZND	
2	Debesser R1.1	120	dic	1	YZ ND	
	Develo D Mart LITC R1-4	100	dic	1	VIND	
-	Dark 2 West HTP D1-9	100	au	1	VEND	
2	Katik Ziebs, Filip Dirig	140	tave	1	VIND	
	NORTH STEEP Pro Steep	100	010	1	VIND	
1	HTE Puttins 2157	RE	air	1	VIIND	
ñ	Tith Hesters 2 to 10	105	dic	-	VI NO	
9	SOUDI STEEL PRO BIED	140	- Air		VUND	
17	LUCC (71 B1-10	100	DIC	-	VINE	
10	Luiche Passien 21, 11	100	hic	1	VI NI	
12	Turbine Bearings 31-12	Valve Sh	ed # 2 h	Quertio	W	
	Austa -	DCI	Min Box	Ginnann	Locked	Comments
NO.	System 82.1	1145	dir.	addreade	Y LE N D	
	Expansion vessels DE-1	140	dir	V	YNND	
- 2	Ulage Articit 0244	140	CORC	-	YE NO	
3	Urage Structure D2-11	the	dic		YNND	
4	KAIK I MIDDle Alea 6470	160	ave		VN ND	
>	Under 1 Courte Appendix 1221	100	dic	~	VE NO	
6	Kack ( South Ares D2-D	145	dic	1	VY ND	
7	Rack I West III/1/ Reals I New & Gross III/1/	140	dir	1	VV ND	
8	Barris 1 North Area by 4	100	1º	1	VEND	
9	Consultation All 1 B2-6	130	Pro	1	VI N	natural aut
10	Expansion Vessel AF-F 52-3	had # 3 h	Plan 25	GE Elect	trical Bldg	VIIIVU VUI.
	valve 5	neu # 5 D	y blug 5.	Cianana Cianana	Locked	Comments
No.	System	PSI	VIV. POS	signage		comments D/HAD
-	Transformer Aux	100	pit		VE NO	10 ALA
2	Transformer Main Value C	100	p/y	Tower	Nost Side	aprin
	valve 3	neu # 4 D	y cooming	Tower	vest side	Computer
No.	System	PSI	Viv. Pos.	Signage	YEND	Comments
	Conling Tower West Side	155	# E hu Co	mtrol Pla	10	Needs Neve Sign
	Va	ive sned	# 5 by CC	Shuror Bic	ig iv	Comments
No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
	Conucl Room 34.5	190	pic	-	YN VL	
2	Offices B4 3	140	Pic	~		
3	Electrical Room 34-4	140	2010	halacka	d in the ou	non nosition)
	Turbine Sprinkler V	aives (The	se are to	De locke	u in the o	pen position
No.	System	Locked	Viv. Pos.			Comments
•	Bearing 2	YANU	pic			
2	Bearing 3	YANU	pic			
3	Besring 4	YN NO	pic			
4	Dearing 5	YO NO	p/c	a should be		Desition)
	HTF Deluge Syst	em Valves	s (lobel	locked in	the Open	Position)
No.	System	Locked	Viv. Pos.			Comments
1	MP-201	YINA	PIC	-		
2	MP-200A	YDNA	PIC	-		
2	MP 2008	VEND	DIC			
4	MP-2000.	YZ NO	DIC	-		
5	MP 2000	YD VP	ØIC			
	F	ire Pump	House De	eiuge Sys	tem	
No.	System	PSI	O/C	Locked		Comments
	Lize Pump - puse Deluce	170	17	YEND		
	n eranp base beloge	110	PIV Chec	ks		
		D	6.1.1	Date	1	Comments
No.	System	Position	Cycled	Cucled		comments
•	Maintenance Shop Drive Way 87	2/C	1	1		
2	Maintenance Shop Drive Way #8	740	1	1		
3	West Side Power Block by VS 3 # 9	210				
4	West Side Power Block by VS-1 4 10	2/0				
5	West Side Cooling Tower by VS-4 # 11	DIC.				
E	West side Cooling Tower by V5 4 # 12	ZIC				
1	N.W. Corner Chemical Storage #1	1210				
0	N F, Comer Chamical Storage # 2	19010				
	Last Side W.T. by Multimedia Filters # 3	D/L				
10	East Side WT, by Mukimedia fillers ≠ 5	340				
11	North Side Blog 10 ≠ 6	1 the				
17	Retwaen MP 444's and Water Treat # 4	20		1		
12	West Side Power Block Valve Shed #1	ØIC			1	
	To Be (	Cycled First	st Saturd	ay of Eve	ry Month	
None	MT. ECR. 000027 Automated System transition Charbles	Debris				Comments / Actions
·	Transformer Yard (lefuse Chack	Y'D NJ	421			670-16-0040 MT EOR 603
			the second se			

. ...



## Fire Pump Weekly Test Log

General Info	rmation			
Plant: Alpha 🔲 Beta 🗊	Date: 12/9/23			
Operator: An I hand	*To be completed each time unit is operated.			
Reason for running numps: Weekly test Maintenance	Е Emergency П			
Jockey Electri	c Pump			
Pre-start Inspection: Electrical Feed 🕑 Mechanical 🖻	Valves 🕼			
Check the jockey pump on pressure drop. Start up pressure: 15	5			
Discharge Pressure: $1/_{0}2_{-}$	<i></i>			
Pump Suction Pressure: Pump D	vischarge pressure:			
Comments:				
Electric P	ump			
Pre-start Inspection: Electrical Feed 🛛 Mechanical 🛛	Valves I			
Start the pump on pressure drop. Start up pressure: 145				
Start time: 2,236				
Pump Suction Pressure: 20 Pump Di	scharge pressure: 150			
op time: 2240 Total time running	10 min			
Comments:				
Diesel Pu	ump			
Pre-start Inspection: Coolant 🛛 Oil 🗗 Mechanical 🗉	Valves 🔽 Water Jacket Heater			
Fuel level > $2/3$ : Yes $\square$ No $\square$ Monthly	Fuel Consumption <del>:</del>			
Battery volt Crank 1:7 / Battery volt Crank 2:7.5 B	attery Condition: Good			
Starting hour meter: 133 4	Start time: ZZ42			
Oil pressure start: 1	Oil Pressure finish: 30			
Pump Suction Pressure: 7 ( ) Pump I	Discharge pressure: 150			
Coolant temperature after 30 minutes running: OUPC begt	rd after 9 min @ 223			
Stop time 72 51 Stop hour meter: 133.	5 Total time running: 9 min			
comments: Fuel injection malfunction alarm	i cume in			
Sulfur Concentrations (less than or equal to 0.0015% on a weight per v	veight basis).			
his new circol drive fire pump enning shall be imited to use for one gency fire suppression, defined as i more than 30 minutes in any one hour and no more than 10 nours doiryear for in that start-up testing and of hours receivery to comply with the taking recultements of the National Fire Protocolor. Association (current edition) The nours of operation for source testing will not be counted towards either of the allow as Fuch consultation 27 geV his approximately. Since 's no line ton engine operation for emergency use. [Fille 17 CCR 93115.0(a)]4(]	n response to a fine or due to lew fire water pressure. In addition, this engine shall be operated no compliance demonstrations. Additionally, this engine shall not be operated more than the number (NFPA) 25-"Standards for the Inspection, Toxing, and Maintenance of Water Based Fire Systems" rable annual Prints above.			



		DETA: DE	Date: 1		-S л	
	Plant: ALPHA	RETA; L2 Valve Shi	Date: 12	Condens	er up	rator - 27 1222 / C
No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit I 81-1	155	~0/C	V	YEYND	
2	SG Un 12 81 2	115	V.9K.	~	APAND	
5	Reheaters 81.8	170	V0/C	V	YOVNO	
4	Rack 2 West HTF B1-4	Vis	V/Q/C	V	AG.ND	
5	Rack 2 East HTF 31-5	170	K OK	2/	YDYND	
6	North Steel Pro B1-5	365	JO/C	N	YDYND	
7	HTF Pumps B1-7	1200	V 9/C	J	YEYND	
6	HTF Hiviters 31 8	160:	V 0/C	V	YBYND	
9	South Steel Pro 31-9	165	V C/C	V	VER NU	
10	Lube CT R1 1C	Max	√ C/C	V		
11	Tyrbine Hose Stations B1 11	MAY	V/0/C	1		
-7	Turbine Bearings 81-12	25	V0/C	Quarfla	TUNU	
		Valve Sh	Why Dec	Cienno	V	Comments
No.	System	105	VIV, POS.	Signage	Y 51/ N D	Comments
1	Expansion Vesselv B2 1	197	Vorc	1	YDAD	
2	Ullage AFEA BZ-2	160	1/0/5	1	YDAID	
3	Chade Structure D2-11	17.	1/500	1	YOUND	
4	Cuertieu Tarks 22-2	17.6	Voic	V	YOVO	
5	Park 1 South Area RV-6	126	VOX	V	YNND	
7	Rack 1 West 12-7	122	VOIC	V	YOUND	
8	Rack 1 North Area 82-4	122	, DIC	1	YO/NO	
9	Over thow AFFE B2-8	175-	/0/C	V.	YOVNU	
10	Expansion Vessel AFFE 82-3	0.51	VO/C	V	YOND	
10	Va	Ive Shed # 3 b	y Bldg 3	GE Elect	trical Bldg	
No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	O/C		YOND	
2	Transformer Male	165	O/C		Y ND	
	Va	lve Shed # 4 b	y Cooling	g Tower \	West Side	
No.	System	PSI	Viv. Pos.	Signage		Commonts
1	Conling Tower West Side	942.553	VOIC		YOND	
		Valve Shed	# 5 by Co	ontrol Blo	ig 10	
No.	System	PSI	Viv, Pos.	Signage	Locked	Comments
1	Control Room E4 5	155	V9/C		VU NU	
z	Offices 84-3	160	VQ/C		VU NU	
3	Electrical Room 84-4	1.160	1/0/C		YO NO	
_	Turbine Sprink	ler Valves (The	ese are to	be locke	a in the op	en position)
No	System	Locked				Comments
	Rearing 2	1 1 1 mm / 1 1 1 mm	Viv. Pos.			dominiona
1	besing z	YTYND	O/C	_		Commonly
1 2	Bearing 3		O/C O/C			
1 2 3	Bearing 3 Bearing 4		0/C 0/C 0/C			
1 2 3 4	Bearing 3 Bearing 3 Bearing 5		0/C 0/C 0/C 0/C	ocked in	the Open	Position)
1 2 3 1	Bearing 3 Bearing 3 Bearing 4 Bearing 5 HTF Deluge	Y D' N D Y D' N D Y D' N D System Valve	0/C 0/C 0/C 0/C 5 (To be	ocked in	the Open	Position)
1 2 3 4 No.	Bearing 3 Bearing 4 Bearing 5 HTF Deluge System	Y TY N U Y TY N U Y TY N U System Valve Locked	Viv. Pos. 0/C 0/C 0/C s (To be Viv. Pos.	ocked in	the Open	Position) Comments
1 2 3 4 No.	Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP 201	YTYND YTYND YTYND System Valve Loclad Y B D	Viv. Pos. 0/C 0/C 0/C s (To be Viv. Pos. 0/C	ocked in	the Open	Position) Comments
1 2 3 4 No. 1 2	Bearing 3 Bearing 3 Bearing 5 HTF Deluge System MP 201 MP-200A	YUND YUND YUND YUND System Valve Locked YUND YUND	Viir. Pos. 0/C 0/C 0/C s (To be Viv. Pos. 0/C 0/C	ocked in	the Open I	Position) Comments
1 2 3 4 1 2 1 2 3	Bearing 2 Bearing 3 Bearing 5 HTF Deluge System MP-201 MP-200A MP-2008	Y 17 N 0 Y 17 N 0 Y 16 N 0 System Valve System Valve V 0 N 0 V 0 N 0 V 0 N 0 V 0 N 0 V 0 N 0	Vir. Pos. O/C O/C O/C S (To be Vir. Pos. O/C O/C O/C O/C O/C	ocked in	the Open	Position) Comments
1 2 3 4 1 2 3 4	Searing 3           Bearing 3           Bearing 5           HTF Deluge           System           MP 201           MP-200A           MP-200B           MP-200C	YUND YUND YUND System Valve Looged YUND VUND YUND YUND	Vir. Pos. O/C O/C O/C O/C S (To be Viv. Pos. O/C O/C O/C O/C O/C O/C	ocked in	the Open I	Position) Comments
1 2 3 4 1 2 3 4 5	Bearing 3           Bearing 3           Bearing 5           HTF Deluge           System           MP 201           MP-200A           MP-200B           MP-200D	Y 17 N 0 Y 17 N 0 Y 17 N 0 System Valve Loosed Y 16 N 0 Y 16 N 0	Viv. Pos. O/C O/C O/C O/C S (To be Viv. Pos. O/C O/C O/C O/C O/C O/C O/C O/C	ocked in	the Open I	Position) Comments
1 2 3 4 1 2 3 4 5	Bearing 3         Bearing 3           Bearing 4         Bearing 5           HTF Deluge         System           MP 201         MP-200A           MP-200B         MP-200C           MP-200D         MP-200D	YUND YUND YUND System Valve Vorkov VORD VUKD VUKD YUKD Fire Pump	Viv. Pos.           O/C	ocked in	the Open	Position) Comments
1 2 3 4 1 2 3 4 5	Bearing 2 Bearing 3 Bearing 5 HTF Deluge System MP-200A MP-200B MP-200D System	Y V N U Y V N U Y V N U System Valve System Valve V V N U V V N U V V N U V V N U V V N U Y V N U	Vie. Pos.           O/C	ocked in eluge Sys	the Open l	Position) Comments Comments
1 2 3 4 1 2 3 4 5 1 5	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP-200A MP-200B MP-200D MP-200D System Fire Pump House Deluge	Y 12 N 0 Y 12 N 0 Y 12 N 0 Y 12 N 0 Y 12 N 0 System Valve Locked * 0 N 0 * 0 N	Vie. Pos.           O/C	eluge Sys	the Open	Position) Comments Comments
1 2 3 4 1 2 3 4 5 1 5	Bearing 3           Bearing 3           Bearing 5           HTF Deluge           System           MP 201           MP-200A           MP-200B           MP-200C           MP-200D           System           Fire Pump House Deluge	Y 12 N 0 Y 12 N 0 Y 12 N 0 Y 12 N 0 System Valve Locked > 0 N 0 > 0 N 0 N 0 N 0 N 0 N 0 N 0 N 0 N 0 N 0 N	Vie. Pos.           O/C           PIV Chect	eluge Sys	the Open	Position) Comments Comments
1 2 3 4 1 2 3 4 5 5 1 1 1	Bearing 2 Bearing 3 Bearing 5 HTF Deluge System MP-200A MP-200B MP-200C MP-200D System Fire Pump House Deluge	Y 12 N 0 Y 12 N 0 Y 12 N 0 System Valve Locked *** N 0 * 12 N 0 * 12 N 0 Y	Viz. Pos.           O/C           PIV Chect           Cycled	eluge Sys Larked Y I N II KS Date	the Open	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 5 1 1 1	Bearing 2 Bearing 3 Bearing 3 Bearing 5 HTF Deluge System MP-200A MP-200B MP-200D MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #7	Y V N U Y V N U Y V N U Y V N U System Valve Locad * 0 N U * 0 N U	Viz. Pos.           O/C           PIV Chect           Cycled	eluge Sys Locked in Locked Y N D KS Dato Cydad	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 5 1 1 2 3 4 5 5 1	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP-2000 MP-2000 MP-2000 MP-2000 Fire Pump House Deluge System Maintenance Shop Drive Way #7 Maintenance: Slop Drive Way #3	Y V N U Y V N U Y V N U Y V N U Y V N U System Valve Looged Y V N U Y V N U System Valve V N U Y V V V V V Y V V V V V V V V V V V V V V V V V V V	Viz. Pos.           O/C           PIV Chect           Cycled	eluge Sys Locked in Locked Y N D KS Date Cycled	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 5 1 1 2 3 4 5 5 1	Bearing 2 Bearing 3 Bearing 3 Bearing 5 HTF Deluge System MP-200A MP-200B MP-200D MP-200D System Fire Pump House Deluge System Maintenance Shep Drive Way #7 Maintenance Shep Drive Way #8 West Side Power Block by V5-3 # 5	Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     System Valve     Locked     * 0 B □     * 0 B □     * 0 K □     * 0 K □     * 0 K □     * 0 K □     * 0 K □     Y V N □     Y V V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V V N □     Y V V N □     Y V V N □     Y V V N □     Y V V N □     Y V V V V V     Y V V V V V     Y V V V V	Viv. Pos. O/C O/C O/C O/C S (To be Viv. Pos. O/C O/C O/C O/C O/C O/C O/C O/C	eluge Sys Larked Y N D KS Date Cyclad	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 5 1 1 2 3 4 5 5 1 1 2 3 4 5 5 1 1 2 3 4 4 5 5 1 1 2 3 3 4 5 5 5	Bearing 2 Bearing 3 Bearing 5 HTF Deluge System MP-200A MP-200B MP-200D MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #/	Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     System Valve     Locked     *0 N □     *0	Vie. Pos.           O/C           PIV Chect           Cycled	eluge Sys Lacked Y N D KS Dato Cycled	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 1 2 3 4 5 1 1 2 3 4 5 2 3 4 5	Bearing 2 Bearing 3 Bearing 3 Bearing 5 HTF Deluge System MP-200A MP-200B MP-200C MP-200C MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #7 Maintenance Shop Drive Way #8 West Side Power Block by VS-3 # 9 West Side Power Block by VS-3 # 9 West Side Power Block by VS-3 # 11	Y ℃ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     System Valve     Locked     ~ 0 N □     ~ 0 N □     ~ 0 N □     ~ 0 N □     ~ 0 N □     ~ 0 N □     ~ 0 N □     ~ 0 N □     ~ 0 N □     ~ 0 N □     Y ⑦ N □     Fire Pump     Psi     1 (28)     Position     0/C √	Vie. Pos.           O/C           PIV Chect           Cycled	eluge Sys Latked Y N D KS Dato Cydad	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 1 2 3 4 5 1 1 2 3 4 5 5 1 1 2 3 4 5 5 6	Bearing 2 Bearing 3 Bearing 3 Bearing 5 HTF Deluge System MP 201 MP-200A MP-200B MP-200B MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #8 West Side Power Block by V5-3 # S West Side Power Block by V5-3 # S West Side Power Block by V5-1 # 10 West Side Couling Tower by V5-4 # 11 West Side Couling Tower by V5-4 # 12	Y 1/ N 0 Y 1/ N 0 Y 1/ N 0 Y 1/ N 0 Y 1/ N 0 System Valve System Valve V 1/ N 0 V 1/ N 0	Viz. Pos.           O/C           O/C           O/C           O/C           S (To be           Viz. Pos.           O/C           PIV Chect           Cycled	eluge Sys Locked in Y N D KS Date Ceded	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 5 1 2 3 4 5 5 1 No. 1 2 3 4 5 5 7	Bearing 2 Bearing 3 Bearing 3 Bearing 5 HTF Deluge System MP 201 MP-200A MP-200B MP-200B MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #8 West Side Power Block by V5-3 # 9 West Side Power Block by V5-3 # 9 West Side Power Block by V5-1 # 10 West Side Coaling Tower by V5-4 # 12 N.W. Corner Chemical Shirade #1	Y 1/ N 0 Y 1/ N 0 Y 1/ N 0 Y 1/ N 0 System Valve System Valve V 0/ N 0 Y 1/ N 0	Viz. Pos.           O/C           PIV Chect           Cycled	eluge Sys	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 5 1 2 3 4 5 1 1 2 3 4 5 5 1 2 3 4 5 5 7 8	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP 201 MP-200A MP-200B MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #7 Maintenance Shop Drive Way #8 West Side Power Block by V5-3 # 5 West Side Power Block by V5-1 # 10 West Side Couling Tower by V5-4 # 12 N.W. Corner Chemical Storage # 1 N.E. Corner Chemical Storage # 2	Y 12/N □ Y 12/N □ Y 12/N □ Y 12/N □ Y 12/N □ System Valve System Valve V 0/N □ Y 12/N □	Viv. Pos. O/C O/C O/C O/C O/C O/C O/C O/C	Locked in eluge Sys Locked KS Date Ceded	stem	Position) Comments Comments Comments
1 2 3 4 No. 1 2 3 4 5 5 No. 1 2 3 4 5 5 7 7 8 5	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP 201 MP-200A MP-200B MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #7 Maintenance Shop Drive Way #8 West Side Power Block by VS-1 # 3 West Side Power Block by VS-1 # 3 West Side Power Block by VS-1 # 3 West Side Power Block by VS-1 # 10 West Side Power Block by VS-1 # 10 West Side Couling Tower by VS-4 # 11 West Side Couling Tower by VS-4 # 12 N.E. Comer Chemical Storage #1 N.E. Comer Chemical Storage #2 Data Side With by Multimedia Filters # 3	Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     Y V N □     System Valve     Locked     * 0 N □	Viv. Pos. O/C O/C O/C O/C S (To be Viv. Pos. O/C O/C O/C O/C O/C O/C O/C O/C	eluge Sys Lacked Y N D KS Dato Cyclad	stem	Position) Comments Comments Comments
1 2 3 4 No. 1 2 3 4 5 No. 1 2 3 4 5 5 7 7 8 5 10	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP 201 MP-200A MP-200B MP-200C MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #7 Maintenance Shop Drive Way #8 West Side Power Block by V5-3 # 5 West Side Power Block by V5-4 # 12 N.W. Corner Chemical Storage #1 N.W. Corner Chemical Storage #1 N.W. Corner Chemical Storage #2 East Side W.T. by Multimedia Filters # 3 East Side W.T. by Multimedia Filters # 5	Y V N U Y Y N U System Valve Locked Y Y N U Y Y Y Y U Y Y Y Y U Y	Vie. Pos.           O/C           PIV Chect           Cycled	eluge Sys Larked Y N D KS Date Cycled	stem	Position) Comments Comments Comments
1 2 3 4 No. 1 2 3 4 5 5 No. 1 1 2 3 4 5 5 1 1 2 3 4 5 5 7 8 9 10 11	Bearing 2 Bearing 3 Bearing 5 HTF Deluge System MP 201 MP-200A MP-200B MP-200C MP-200C MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #/ West Side Power Block by VS-3 # S West Side Couling Tower by VS-4 # 12 N.W. Comer Chemical Storage #1 N.W. Comer Chemical Storage #1 N.W. Comer Chemical Storage #2 Dast Side W.T. by Multimedia Filters # 3 East Side W.T. by Multimedia Filters # 5 North 3 de Bidg 10 # 6	Y ℃ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     Y ⑦ N □     System Valve     Locked     ~ ♡ N □	Viv. Pos. O/C O/C O/C O/C O/C O/C O/C O/C	eluge Sys Larked Y D N D KS Cyclad	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 5 1 1 2 3 4 5 5 1 0 1 2 3 4 5 5 5 10 111 112	Bearing 3         Bearing 3         Bearing 5         HTF Deluge         System         MP-200A         MP-200B         MP-200C         MP-200D         System         Fire Pump House Deluge         System         Maintenance Shop Drive Way #/         Maintenance Shop Drive Way #8         West Side Power Block by VS-3 # \$         West Side Power Block by VS-1 # 10         West Side Cooling Tower by VS-4 # 11         West Side Cooling Tower by VS-4 # 12         N.W. Corner Chemical Storage #1         N.E. Corner Chemical Storage #2         East Side W.T. by Multimedia Filters # 3         East Side W.T. by Multimedia Filters # 5         North Side Side 10 # 6         Beawen MP-444's and Water Treat # 4	Y 12 N □ Y 12 N □ Y 12 N □ Y 12 N □ Y 12 N □ System Valve System Valve V 12 N □ Y 12 N	Viv. Pos. O/C O/C O/C O/C O/C O/C O/C O/C	eluge Sys Lacked Y N D KS Date Cycled	stem	Position) Comments Comments Comments
1 2 3 4 1 2 3 4 5 1 0 1 2 3 4 5 5 10 1 1 2 3 4 5 5 10 1 1 2 3 4 5 5 10 1 1 2 3 4 5 5 10 1 1 2 3 4 5 5 5 10 10 1 1 2 10 10 10 10 10 10 10 10 10 10 10 10 10	Bearing 3 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP 201 MP-200A MP-200B MP-200B MP-200B MP-200D System Fire Pump House Deluge System Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #/ Maintenance Shop Drive Way #8 West Side Power Block by VS-1 #10 West Side Power Block by VS-1 #10 West Side Couling Tower by VS-4 #11 West Side Couling Tower by VS-4 #12 N.W. Corner Chemical Storage #1 N.E. Corner Chemical Storage #2 East Side W.T. by Multimedia Filters #3 East Side W.T. by Multimedia Filters #5 North Side Blog 10 #6 Beaveen MP-444's and Water Treat #4 West Side Power Block Vaive Shed #1	Y 12 N □ Y 12 N □ Y 12 N □ Y 12 N □ Y 12 N □ System Valve System Valve V 12 N □ Y 12 N	Viz. Pos.           O/C           PIV Chect           Cycled	eluge Sys	stem	Position) Comments Comments Comments

27 G70-16-0040-MT-FOR:



#### Fire Pump Weekly Test Log

General Information
Plant: Alpha Beta Date: 12 3 23
Operator: *To be completed each time unit is operated
Reason for running pumps: Weekly test 🏹 Maintenance 🛛 Emergency 🗉
Jockey Electric Pump
Pre-start Inspection: Electrical Feed 🗹 Mechanical 🗹 Valves 🗹
Check the jockey pump on pressure drop. Start up pressure: 155
Discharge Pressure: MO \$45
Pump Suction Pressure: 16 155 Pump Discharge pressure: 64 155
Comments:
Electric Pump
Pre-start Inspection: Electrical Feed 🕅 Mechanical 🖻 Valves 🖻
Start the pump on pressure drop. Start up pressure: 145
Start time: 01:07
Pump Suction Pressure: 16 155 Pump Discharge pressure: 199 455
stop time: \9:12 Total time running /0 min.
Comments:
Diesel Pump
Pre-start Inspection: Coolant 🗹 Oil 🗗 Mechanical 🗹 Valves 🗗 Water Jacket Heater 🗸
Fuel level > 2/3: Yes D No D Monthly Fuel Consumption:
Battery volt Crank 1:27. Battery volt Crank 2: 27.3 Battery Condition: 9000
Starting hour meter: 133.3 Start time: 19:19
Oil pressure start:     SS 147     Oil Pressure finish:     32
Pump Suction Pressure: 24 YII Pump Discharge pressure: 146 YET
Coolant temperature after 30 minutes running: 225 when Main .
Stop time: 19:21 Stop hour meter: 132.4 Total time running:
Comments:
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).
his new direct drive fire pumpling reliable bilimited to use for exergency fre supervision, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no nore than 30 minutes in any one null and no more than 10 hrurs per year for initial dark-up using and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours recessary to comply with the testing requirements of the Matonal Hell Princetion Association (NFRA) 25. "Standards for Expection, Testing, and Maintenance of Water Based Fire Systems (current edition). The hours of operation to source testing will not be counted towards either of the allowable annual "mini addition. Testing, and Maintenance of Water Based Fire Systems (current edition). The hours of operation to source testing will not be counted towards either of the allowable annual "mini addition. Doe: Fuel consumption 27 gal/ hispproximately. There is no limit on engine operation for emergency one. (File 17 CCR 9911356(a)(4))



V

				/	. /	• 7	c 1.105
		Plant: ALPHA 🗅 🛛 E	ETA: 🗹 Valve She	Date: /2 ed # 1 bv	2/3/2 Condens	cg Ope	rato (alev) 2.
No.	1	System	129	Viv, Pos.	Signage	Locker	Comments
1	SG Unit 1	31.1	11.8	JOK	1	YPYND	
2	SG Unit 2	81.2	160	1/C	V,	YEND	
3	Reneaters	81-3	Val	V0/C	V	YEYND	
2	Rack 2 West HTF	B1-4	155	VOK	1	YIYAD	
3	Rack 2 East HIF	B1 5	150	Vgic	V	YEAD	
6	North Steel Pro	51-6	160	VO/C	V.	YUYNU	
7	HTF Pumps	21-7	150	20/C	V	VE NT	
9	HTF Heaters	61.8	190	Vor	V	VIENIT	
9	South Stee Pro	D1-M	120	VIOIE	V	YRND	
10	Lube Oil	B1-17	120	JOIC	1	YRVD	
17	Turbine Hose stations	51-12 51-12	100	J 0/C	1	YWYD	
17	I DIDILLE DEAL LID?	01112	Valve Sh	ed # 2 by	Overflo	w	
No.		System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Sypansion Vessels	82-1	160	1/0/C	V.	YMND	
2	U Jace Area	62-2	1.55	V9/C	~	YDYND	
3	Ullage Structure	B2-11	165	Valc		YND	
4	Rade 1 Middle Area	82-5	KO	VO/C	1	YEYND	
5	Overflow Tanks	B2 9	Keo	VOIC	1	YIND	
6	Rack 1 South Aren	B2 6	160	VOIC	1	YUND	
7	Rack 1 West	B2 7	166	Vgic	V	Y W NU	
8	Rack 1 North Area	32.4	155	19/C	1		
S	Over flow AFFF	62-8	100	- Colf.	V	VIEND	
10	Expansion Vessel AFFF	B2 3	100	V Bldg 3	GE Elect	trical Bldg	
		Valve 3	ned # 5 D	y blug 5:	Cianana Cianana	Locked	Comments
No.	T	System	175	VIC POS.	signage	VMAD	Comments
	Transformer Aux		120	Joir	1	YNND	
6	Transformer Main	Valve	bed # 4 b	v Cooline	Tower	West Side	
No		System	PSL	Viv. Pos.	Signage.		Comments
140.	Cauling Tower West Si	d=	40	VOK	1	YEND	
	Togging Lawer reactor	V	alve Shed	# 5 by Co	ontrol Blo	ig 10	
No.		System	PSI	Viv, Pos.	Signage	Locked	Comments
1	Carriel Roam	B4 5	165	10/0	V,	T N N D	
Z	Offices	B4-3	120	19/C	V.	YNND	
- 3	Electrical Room	84-4	105	V0/C	V.	A MAINE	
		Turbine Sprinkler V	alves (The	sè are to	be locke	d in the ope	en position)
No.		System	Locketi	Viv, Pos.			Comments
1	Bearing 2		VINAD	10/0			
2	Bearing 3		VUVUU	Vyn.			
3	Searing 4		YUND	V CAL			
4	Bearing 5	UTE Deluge Sur	tom Value	Tobel	ocked in	the Open P	Position)
	1	HIF Deluge Sys	tem varve	Min Des	LOCKEU	ture open i	Comments
NO.	42.004	System	V SV VII	LOK			Commenter
1	ME-201		YNY	1010			
2	M3-2008		YEYNE	10/C			
2	M2-2008		UK NY	V 2/C			
5	MP-200D		YDND	VO/C			
			ire Pump	House D	eluge Sys	stem	
Me		Sustem	PSI	0/0	Locked		Comments
140.	the man and the man	ayətem	171	1	VEND		
1	THIRE HUMP HOUSE Delug	pe	168	PIV Cher	KS		
	1		1		Date		C
		System	Position	Cycled	Cycled	0	Comments
No.		-1		1			
No.	Maintenance Shop Driv	ve Way #/	0/C 🗸				
No. 1 2	Maintenance Shop Driv Maintenance Shop Driv	re Way #/ re Way #ð	0/C V 2/C				
No. 1 2 3	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block	ve Way #/ ve Way #∂ by VS 3 # 9	0/0 V V0/C				
No. 1 2 3 2	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block	c Way #/ /e Way #a by VS 3 # 5 by VS-1 # 10	0/C 2/C 0/C				
No. 1 2 3 2 5	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block West Side Crobing Tow	re Way #/ re Way #8 by VS 3 # 5 by VS-1 # 10 er by VS-1 # 11	0/C /0/C /0/C /0/C /0/C				
No. 1 2 3 2 5 6	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block West Side Cooling Tow West Side Cooling Tow	re Way #/ re Way #a by VS 3 # 5 by VS-1 # 10 er by VS-1 # 11 er by VS 4 # 12	0/C V V0/C V0/C V0/C V0/C				
No. 1 2 3 2 5 6 7	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block West Side Choling Tow West Side Choling Tow N.W. Corner Chemical	re Way #/ re Way #∂ by VS 3 # 5 by VS-1 # 10 er by VS-4 # 11 er by VS 4 ♥ 12 Storage # 2	5/C ✔ 2)C ✔ 0/C ✔ 0/C ✔ 0/C ✔ 0/C				
No. 1 2 3 4 5 6 7 7 8	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block West Side Cooling Tow West Side Cooling Tow N.W. Corner Chemical N.E. Corner Chemical Scat Side Cooling Tow	re Way #/ re Way #a by VS 3 # 5 by VS-1 # 10 er by VS-1 # 11 er by VS 4 # 12 Storage # 2 mode Etem, 4 2	5/C ✔ 2/C ✔ 0/C ✔ 0/C ✔ 0/C ✔ 0/C ✔ 0/C				
No. 1 2 3 4 5 6 7 8 9 9	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block West Side Cooling Tow West Side Cooling Tow N.W. Corner Chemical N.E. Corner Chemical Side With by Multi-	re Way #7 re Way #8 by VS 3 # 5 by VS -1 # 10 er by VS -1 # 11 er by VS 4 # 12 Storage # 2 media Filters # 3 media Filters # 5	5/C 20C 20C 20C 20C 20C 20C 20C 20C				
No. 1 2 3 4 5 6 7 8 9 12 11	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Crooling Tow West Side Cooling Tow West Side Cooling Tow N.W. Corner Chemical N.E. Corner Chemical Stast Side W.T. by Multi East Side W.T. by Multi Bast Side W.T. by Multi	cc Way #/ ce Way #8 by VS 3 # 9 by VS-1 # 10 cer by VS-1 # 11 er by VS 4 # 12 Storage #2 media Filters # 3 media Filters # 5	0/C ✓ 0/C				
No. 1 2 3 2 5 6 7 8 9 10 11 13	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block West Side Cooling Tow West Side Cooling Tow N.W. Corner Chemical N.E. Corner Chemical East Side W.T. by Multi East Side W.T. by Multi Bast Side Blog 16 # 6 Bastween MP. 4446 and	C Way #7     re Way #7     re Way #8     by VS 3 # 5     by VS-1 # 10     er by VS-1 # 11     er by VS-4 # 11     storage #2     media Filters # 3     media Hiters # 5	5/C 2/C 2/C 2/C 2/C 2/C 2/C 2/C 2/C				
No. 1 2 3 4 5 6 7 8 9 10 11 12 13	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Power Block West Side Cooling Tow West Side Cooling Tow N.W. Corner Chemical N.F. Corner Chemical Stast Side W.T. by Multi East Side W.T. by Multi North Side Blog 10 # 6 Between MP-444's and Between MP-444's and	v Way #/     ve Way #/     ve Way #8     by VS 3 # 5     by VS-1 # 10     er by VS-1 # 11     er by VS 4 ≠ 12     Storage #2     media Filters # 3     media Filters # 5     Woth Treat # 4     Valve Shed #1	5/C ↓ 2/C 0/C 0/C 0/C 0/C 0/C 0/C 0/C 0				
No. 1 2 3 4 5 6 7 8 9 10 11 12 13	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Cooling Tow West Side Cooling Tow West Side Cooling Tow N.W. Corner Chemical Dast Side W.F. by Multi East Side W.F. by Multi North Side Blog 10 # 6 Between MP-444's and West Side Power Block	ve Way #/ ve Way #8 by VS 3 # 9 by VS - # 10 er by VS 4 # 12 Storage #2 media Filters # 3 media Filters # 5 Water: Treat # 4 Valve Shed #1 <b>To Be</b>		st Saturd	ay of Eve	ery Month	
No. 1 2 3 2 5 6 7 8 9 10 11 12 13 20 Normality (Statement of the statement o	Maintenance Shop Driv Maintenance Shop Driv West Side Power Block West Side Cooling Tow West Side Cooling Tow West Side Cooling Tow N.W. Corner Chemical Lest Side W.F. by Multi East Side W.F. by Multi North Side Blog 10 # 6 Between MP-444's and West Side Power Block	ve Way #7 re Way #8 by VS 3 # 9 by VS -1 # 10 er by VS -1 # 11 er by VS -1 # 11 er by VS -1 # 11 storage #1 media Filters # 3 media Filters # 3 Water Treat # 4 Valve Shed #1 <b>To Be</b>		st Saturd	ay of Eve	ery Month	Comments / Actions

578-16-0040-MT---DR-CCC



#### Fire Pump Weekly Test Log

General Inf	ormation
Plant: Alpha I Beta	Date: 11 26 23
Operator:	*To be completed each time unit is operated.
Reeson for running numps: Weekly test  Maintenan	ce 🛛 Emergency 🗋
Jockey Elect	tric Pump
Pro-start Inspection: Electrical Feed M Mechanical	Valves V
Check the jockey pump on pressure drop. Start up pressure:	155 157
Discharge Pressure: IMD	55 1 5
Bump Suction Processor: 15 16 Pump	Discharge pressure:
Composition Pressure: 10 142	101 121
Comments.	
Electric	Pump
Pre-start Inspection: Electrical Feed Mechanical	Valves V
Start the pump on pressure drop. Start up pressure: 145	T P+L
Start time: \9:2 ]	
Pump Suction Pressure: 18 855 Pump	Discharge pressure: 167 y 67
Stop time: 19:41 Total time running	g 10 min.
Comments:	
Diesel	Pump
Pre-start Inspection: Coolant 🗹 Oil 🐼 Mechanical	Valves R Water Jacket Heater
Fuel level > 2/3: Yes 2 No 🗹 12 Month	ly Fuel Consumption:
Battery volt Crank 127, 3 Battery volt Crank 2: 28.1	Battery Condition: Joed
Starting hour meter: 133.2	Start time: 948
Oil pressure start: 59 1991	Oil Pressure finish: 35 YSI
Pump Suction Pressure: 20 YST Pump	Discharge pressure: 146 y II
Coolant temperature after 30 minutes running:	•
Stop time: \1'S S Stop hour meter: /	30.3 Total time running: 10 min.
Comments: "High Temp Alarm"	
Sulfur Concentrations (less than or equal to 0.0015% on a weight per	r weight basis).
Its new direct drive the tump engine shell be limited to use for emergency fire suppression, defined a more than 30 minutes in any one hour and no more than 10 hours per vestfor initial start-up testing a of hours necessary to comply with the testing requirements of the National Fire Protoction Associate (runnent edition). The hours of operation for source testing will not be counted towards enhored the all lote: Fuel consumption 27 galy is approximately. There is no limit un engine operation for emergency use. [Title 17 CCR 93119.(%)(4)]	as in response to a fire or due to low fire water pressure. In addition, this ongine shall be operated no and compliance demonstrations, Additionally, this engine shall not be operated more than the number on (NEPA) 25-"Standards for the Inspection, Testiny, and Maintenance of Woller Based Fire Systems" lowable annual limits above.



# **Automated Fire Systems Inspection Checklist**

	Plane: ALPHA P	BETA:	Date: 12	13/2	3 <sub>Qpc</sub>	mor Anthany
		Valve She	d # 1 by	Condense	ег	,,-
No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1 B1-1	160	VAR	V	YEND	
2	SGrunit 2 R1 2	195	VO/C	-	YAK A D	
3	Beheators 81-3	122	P G/C	-	VEND	
4	Rick 2 West Hits 81-4	160	100	1	YPND	
5	Rack 2 East HTF 81-5	102	1015	1	YPND	
7	HTE Purpose B1-7	160	VOIC	V	YPYD	
6	IIII Heaters 81-8	TGO	VOIC	~	YPND	
	South Steel Pro 81-9	165	VOIC	-	YPND	
-0	Lube Oil 81-10	165	LOT		YMEND	
-1	Turbine Hose Stations 81 11	160	V0/C	V	YUND	
12	Turbing Bran Ogs 31-12	160	10/C	Y	YMPNU	
		Valve Sh	ed # 2 by	Overnov	V Locked	Comments
No.	System	PSI	VIV. Pos.	Signage	-Y LOCKOG	Comments
1	Expansion Vessols B2	122	FOR	1	VIND	
2	Ullage Arca	165	100	1	YDAND	
3	Drage Structure BZ 11	165	VOR	~	YPND	
4	Constitute Aleger 2412	1105	VOIS	V	VIII	
5	Rack 1 South Area B2-6	165	VSIC	~	YDVD	
1	Rack 1 West	155	UM.	1	YPND	
0	Rack 1 North Area 52-7	165	UC/C	~	YEND	
÷	Over flow AFFF	160	₽ O/C	1	YDAU	
10	Expansion Vessel AFFF 82-3	65	Plda 21	CE Elact		
	Valve	Shea # 3 D	y blug 55	Cionana Cionana	locked	Comments
No.	System	ILE	VIV. POS.	Signage	Y DE NO	
1	ransformer Aux	140	101C	V	DND	
/	Transformer Main	Shed # 4 b	v Cooling	Tower V	Vest Side	
No	System	PSI	Viv. Pos.	Signsga-		Comments
1105	Coolino Tower West Side	155	LOIC	V	YDND	
		<b>/alve Shed</b>	# 5 by Co	ontrol Bld	g 10	
No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
I	Centrol Room	165	LEAC	V	YPAN	
2	Offices 84-3	170	VO/C	V	YUKND	
3	Electrical Room 84-4	Values (The	ront.	he locke	d in the on	en position)
-	Turbine Sprinkier	valves (The	Viu Pec	De locael	a in the op	Comments
NO.	System Revelop 2	YNND	-ar			
2	Bearing 2	YUND	POC			
2	Bearing 5	YUND	VOK			
4	Desting 5	YNYN	10/L			
	HTF Deluge Sy	stem Valve	s (To be l	ocked in	the Onen	Position)
bin.	Curtam		And the second se	and the second se	the open	
140.	aystem	Locked	Viv. Pos.		the open	Comments
1	MP-201	Locked	Viv. Pos.		the open	Comments
1 2	MP-201 MP-200A		Viv. Pos.		the open	Çamments
1 2 3	MP-200A MP-2006		Viv. Pos.		the open	Çomments
1 2 3 4	39310111 MP-200A MP-200B MP-200B MP-200C		Viv. Pos. / O/C / O/C / O/C / O/C / O/C / O/C		uie open	Çomments
1 2 3 4 5	MP-200A MP-2008 MP-2000 MP-2000 MP-2000	Lincked V D D V P N D V P N D V P N D V D N D Fire Pump	Viv. Pos. Vo/C Vo/C Vo/C Vo/C Vo/C House Da	luge Svs	tem	Comments
1 2 3 4 5	Вузени МР-200А МР-200В МР-2000 МР-2000		Viv. Pos. Viv. Pos. Vok: Vok: Vok: Vok: House Do	eluge Sys	tem	Comments
No. 1 2 3 4 5	System MP-200A MP-200B MP-200C MP-200D System	Lincked V D N D V P V P V D V D V D V P V D V P V D V P V D V D V D V D V D V D V D V D V	Viv, Pos. 20/C 20/C 20/C 10/C House D 0/C	eluge Sys	tem	Comments
No. 1 2 3 4 5 No. 1	System MP-200A MP-200B MP-200D System Fire Pump House Doluge	Lincked V D N D V P V D V D V D V D V P V D V D V D V D V D V D V D V D V D V D	Viv, Pos. 20/C 20/C 20/C 10/C 10/C 10/C 0/C 0/C	Lecked	tem	Comments
No. 1 2 3 4 5 No. 1	System MP-200A MP-200B MP-200C MP-200D System Fire Pump House Deluge	Locked V D N D V B N D Fire Pump PSI I C	Viv, Pos. Vok. V	eluge Sys Locked Y V N D ks	tem	Comments Comments
No. 1 2 3 4 5 No. 1 No.	System MP-200A MP-200B MP-200B MP-200C MP-200D System Fire Pump House Doluge System	Locked V D N U V B V D N U V B V D N U Fire Pump PSI Position	Viv, Pos. Vol.C Vol.C Vol.C Vol.C Vol.C House D o/C O/C O/C O/C O/C O/C O/C O/C O	Eluge Sys Locked Y IV N D Ks Date Cycles	tem	Comments Comments
No. 1 2 3 4 5 No. 1 No. 1	System       MP-200A       MP-200B       MP-200C       MP-200D       System       Fire Pump House Doluge       System       Maintenance Shop Drive Way #7	Locked VIII NIII VIII NIII VIII NIII Fire Pump PSI IGO Posillan O/C	Viv, Pos. Vox Vox Vox Vox Vox Vox Vox Vox	Locked Y DV N D ks Date Cycled	tem	Comments Comments
No. 1 2 3 4 5 No. 1 2	M2-201 M2-200A M2-200B M2-200C MP-200D System Hire Pump Hruss: Doluge System Maintenance Shop Drive Way #7 Maintenance Shop Drive: Way #8	Locked VIII III VIII IIII VIII IIII VIII IIII VIII IIII Position O/C	Viv, Pos. Vo.X.	Locked Y D N D ks Date Cycled	tem	Comments Comments
No. 1 2 3 4 5 No. 1 2 1 No. 1 2 3 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1	MP-201       MP-200A       MP-200B       MP-200C       MP-200D       System       Fire Pump House: Doluge       System       Maintenance Shop Drive: Way #7       Maintenance Shop Drive: Way #8       West Side Power Block or VS-3 # 9	Locked V	Viv, Pos. Vol.C	Lockad Y V N D KS Date Cycled	tem	Comments Comments Comments
No. 1 2 3 4 5 No. 1 2 3 4 5 1 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5	System       MP-200A       MP-200B       MP-200C       MP-200D       System       Fire Pump House: Doluge       System       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #8       West Side Power Block by VS-3 # 9       West Side Power Block by VS-1 # 10	Locked V	Viv, Pos. Vo.K.	Lecked Y V N D ks Date Cycles	tem	Comments Comments Comments
No. 1 2 3 4 5 No. 1 2 3 4 5 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5	System       MP-200A       MP-200B       MP-200D       System       Hire Pump Hrouse Doluge       System       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #8       West Side Power Block by VS-1 # 10       West Side Cooling Tower by VS-4 # 11       West Side Cooling Tower by VS-4 # 11	Locked V V V V V V V V V V V V V V V V V V V	Viv, Pos. Vo.K.	Eluge Sys Lockad Y V N D ks Date Cycled	tem	Comments Comments
No. 1 2 3 4 5 No. 1 1 2 3 4 5 6	System       MP-200A       MP-200B       MP-200D       System       Hire Pump Hrack: Doluge       System       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #8       West Sice Power Block by VS-1 # 10       West Sice Power Block by VS-1 # 10       West Side Cooling Tower by VS-4 # 11       West Side Cooling Tower by VS-4 # 12	Locked           Y           Position           O/C           O/C           O/C           O/C           O/C           O/C           O/C	Viv, Pos. Vol.C Vol.C Vol.C Vol.C Vol.C House Da o/C O/C O/C O/C O/C O/C	Lecked Y V N D ks Date Cycled	tem	Comments Comments
No. 1 2 3 4 5 No. 1 1 2 3 4 5 6 7 7	System         MP-200A         MP-200B         MP-200D         System         Hire Pump House Doluge         System         Maintenance Shop Drive Way #7         Maintenance Shop Drive Way #7         Maintenance Shop Drive Way #8         West Side Power Block by VS-1 # 10         West Side Power Block by VS-1 # 10         West Side Cooling Tower by VS-4 # 11         West side Cooling Tower by VS-4 # 12         N.W. Comer Chemical Storage #1         N.W. Comer Chemical Storage #1	Locked           Y <td>Viv, Pos.</td> <td>Locked Y V N D ks Date Cycled</td> <td>tem</td> <td>Comments Comments</td>	Viv, Pos.	Locked Y V N D ks Date Cycled	tem	Comments Comments
No. 1 2 3 4 5 No. 1 1 2 3 4 5 6 7 5 2 2 2 3 4 5 5 7 8 7 8 7 8 7 8 7 8 8 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8	System         MP-200A         MP-200B         MP-200D         System         Hire Pump House Doluge         System         Maintenance Shop Drive Way #7         Maintenance Shop Drive Way #7         Maintenance Shop Drive Way #7         Maintenance Shop Drive Way #8         West Side Power Block by V5-3 # 9         West Side Cooling Tower by V5-4 # 11         West Side Cooling Tower by V5-4 # 12         N.W. Corner Chemical Storoge #1         N.E. Corner Chemical Storoge #1         N.E. Corner Chemical Storoge #1         N.E. Corner Chemical Storoge #1         Number Chemical Storoge #1         Number Chemical Storoge # 2	Locked V V V V V V V V V V V V V V V V V V	Viv, Pos.	Locked Y DN D ks Date Cycled	tem	Comments Comments
No.           1           2           3           4           5           No.           1           2           3           4           5           No.           1           2           3           6           7           8           7           9           70	System       MP-200A       MP-200B       MP-200C       MP-200D       System       Hire Pump Hrass: Doluge       System       Maintenance Shop Drive: Way #8       West Side Power Block by VS-1 # 9       West Side Power Block by VS-1 # 10       West Side Cooling Tower by VS-4 # 11       West Side Cooling Tower by VS-4 # 12       N.W. Corner Chemical Storage #1       N.E. Corner Chemical Storage #2       East Side WT, by M. Itimedia Filters # 3       East Side WT, by M. Itimedia Filters # 3	Locked Y D D D Y D D D Fire Pump PSI Position O/C D/C D/C D/C D/C D/C D/C D/C D	Viv, Pos.	Locked Y D'N D ks Date Cycled	tem	Comments Comments
No.           1           2           3           4           5           No.           1           2           3           4           5           No.           1           2           3           4           5           6           7           0           11	System       MP-200A       MP-200B       MP-200D       MP-200D       System       Hire Pump House Doluge       System       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #8       West Side Power Bloads by V5-3 # 5       West Side Cooling Tower by V5-4 # 11       West Side Cooling Tower by V5-4 # 12       N W, Comer Chemical Storage #1       N.E. Corner Chemical Storage #2       East Side W.T. by Multimedia Fibras # 3       Fave 3 de W.T. by Multimedia Fibras # 5       North Side Bload by # 6	Locked V D D V B D V D V D V D V D V D V D V D V	Viv, Pos. Vox Vox Vox Vox Vox Vox Vox Vox	Locked Y D N D ks Date Cycled	tem	Comments Comments
No.           1           2           3           4           5           No.           1           2           3           4           5           6           7           0           *1           *2	System       MP-200A       MP-200B       MP-200D       MP-200D       System       Hire Pump House Doluge       System       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #7       Maintenance Shop Drive Way #8       West Side Power Block by V5-1 # 10       West Side Cooling Tower by V5-3 # 9       West Side Cooling Tower by V5-4 # 11       West Side Cooling Tower by V5-4 # 12       N.W. Corner Chemical Storage #1       N.E. Corner Chemical Storage #1       N.E. Corner Chemical Storage #1       Sast Side Wit, by Multimedia Filters # 3       Fave 5 de Wit, by 4 # 10       North Side Blog 10 # 6       Between MP-444's and Water Treat # 4	Locked V D D V P D D D D V P D D D D V P D D D D D D D D D D D D D D D D D D	Viv, Pos. Vox Vox Vox Vox Vox Vox Vox Vox	Lockad Y V N D ks Date Cycled	tem	Comments Comments
No.           1           2           3           4           5           No.           1           2           3           4           5           6           7           0           1           2           3	System         MP-200A         MP-200B         MP-200D         MP-200D         MP-200D         System         Hire Pump House Doluge         System         Maintenance Shop Drive Way #7         Maintenance Shop Drive Way #8         West Side Power Block by V5-1 # 10         West Side Cooling Tower by V5-4 # 11         West Side Cooling Tower by V5-4 # 12         N.W. Corner Chemical Storage #1         N.E. Corner Chemical Storage #1         North Side Bldg 10 # 6         Between MP-444's and Water Treat #4         West Side Power Block Valve Shed #1	Locked V	Viv, Pos. Vo./C Vo./C Vo./C House D o/C O/C Cycled	Lockad Y V N D KS Date Cycled	tem	Comments Comments

G70 NO0000 MT-FOR-000027 Automated System insportion Checklist I Transformer Yard Refuse Check Y □ N □ 427 Page L of [Revised 09/24/2019

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## **Automated Fire Systems Inspection Checklist**

			Value Sh	ed # 1 bv	Condens	er	
1- 1		furtom	PCI PCI	Vier Post	Signage	Locked	Comments
1	V. 1142 1	B1-1	11.6	V G/C	July 1	YNND	
2	SG Unit 2	81-2	143	10/C	V	YAND	
2	53 Onit 2 Polymeters	21.3	165	1 0/C	V	YOND	
4	Rode 2 West HTF	P1 4	163	J0/C	1	YEND	
5	Rack 2 Fost HTF	B1-5	165	V 0/0	V	YOND	
6	Marilo Steel 9ro	31.6	145	1 0/C	V	YA NH	
7	HIS Pumps	61-7	165	VOIC	1	VRND	
8	ETE E entrais	51-0	165	V 0/C	1	VPND	
9	South Steel Pro	B1-9	14.5	10/C	V.	YPIND	
10	Lube Gi	31-10	165.	10/C	1	YZND	
11	Turbing Llose Stations	85.11	163	10/C		YEND	
12	Tudy ne Rearings	B1-12	145	<b>√</b> 0/C	~	YEYNE	
1.	the ne seeing.		Valve St	ned # 2 b	y Overfio	W	
No		System	PSI	Viv. Pos.	Signage	Locked	Comments
/	Evenancino Voccols	B2-1	165	V0/C	1	YAD NO	
7	Ill and Step	B2 7	765	V 0/C	1	YEND	
-	Ullace Sturt un	82-11	145	U D/C	-	YJEND	
4	Razk 5 Migdle Area	B2 5	165	- D/C	1	YZIND	
5	Overflaw Tanza	82.9	163	1 O/C	1	YHO N D	
6	Back 1 So, th Area	62-6	123	- 0/C	V	VE NO	
7	Rack 1 Wast	82-7	165	✓ Q/C	V	V.R. NO	
7	Hack 1 North Area	B2 4	165	V 0/C	~	YE NU	
0	Cuer flow AFEE	B2-8	165	VOIC	1	YE NO	Sdam Pent-
9	Cyer now Arrit	P2 3	165	1 0/5		YO NO	loan out
10	Expansion Vessel AFFF	Va	lve Shed # 31	Ny Bida 3	5 GE Elect	trical Bldg	det .
		Contains 1	Der	Viv Por	Signage	Locked	Comments
NO.	T	system	Ile	P 0/	V	YET ND	
-	Fransformer Aux		ller	Voic	1.1	YEND	
1	Ishsionmer Main	Va	lve Shed # 4 1	v Coolin	a Tower	Nest Side	
		Custom	DCT	Vin Bos	Ganada	1	Comments
ND.	C . F . T . 141	System	11.5	101C	Signage	YPI NU	
1	Cooling ower West S	de	Value Ched	#5 by C	ontrol Bl	10 10	
			valve Sileu	Why Box	Clanzon	Locked	Comments
No.		System	124	VIV. POS.	Signage	X D. N D	Comments.
1	Control Room	34-5	110	20%	~	VELNE	
2	Offices	64.3	170	1010	~	Y DA N D	
3	Electrical Room	64-4	170	VOIC	- Vinter		fan portion)
		Turbine Sprink	ier valves (Th	ese are it	De locke	u in ule u	pen posicion)
No.		System	Locked	Viv. Pos.	-		Loniments
1	Rearing 2		YF1 90	ONC			
2	Bearing 3			J G/C			
3	Bearing 4		Y1U NU	V D/C			
4	Bearing 5		YAPI N C	100/0	restand to	the Ones	Desition)
		HTF Deluge	System Valve	es (lo be	соскеа п	the open	Position
No.		System	Locked	Viv. Pos.	-		Comments
1	MP-201		VEND	V 0/C			
2	MP-200A		Y ND	- 0/C	-		
3	MP 2003		YPIND	1 0/C	-		
4	MP-2000		YPND	1 1 0/€	-		
5	MP-200D		YEND	10/C	1		
			Fire Pump	House D	eluge Sys	stem	
No		System	129	0/0	Locked		Comments
		- Janen	18.1	1	VIZ NE		
1	Fire Pump House Data	gc	170	DIV Cho	CVE NL		
_				Fiv che	Data	1	
No.		System	Position	Cycled	Curled		Comments
1	Maintenance Shop Dr	ve Way #7	D/CX		a deland		
-	Maintenance Shon Dri	ve Way #8	V 0/C				
1	Wast Side Prover Block	hy VS-7 # 9	10%			1	
 A	Who S do Domar Black	by YS-1 # 10	100				
5	West Side Cooling To:	upr for VS-d # 11	100	-			
6	West 5 de Cooling Toy	ren by #314 # 12	10%		-		
7	May, Sub-Cooling 169	Storage #1	Vor				
1	V.W. Comer Chemical	Storage # 1	100	-	-	-	
0	The Comer Chemical S	imadia tiltara 4.2	1 OK	-	-		
9	Hast Side W.1. by Mult	imedia Filters # 3	V 0/0	-		-	
- <u>C</u>	east Side W by Mult	imedia Fritors # 5	V 0/1	-	-	-	
-1	North Side 3ldg 10.4		✓ Q/C	/		-	
	Linumoan Mid-/ Ad'z zo.	1 Water Troat # 4	0/07	~		-	
17	D, WHEN WITH 444 S BIT	11 A	A 47				

27



		A	itomated	I Fire Sy	stems	Inspec	21	Exist C
		Plant	ALPHA	BETA:	Date:	PG/D	() Op	erator_CICC
			/	Valve Shi	ed # 1 by	Condens	er	Comments
No.	201 - 1 - 1 - 4	System		PSL	Viv, Pos.	Signage		comments
1	SG Unit 1	81-1		100	0/0	-	YN ND	
2	Deheetu//	B1-2		100	20/0	1	YNND	
3	Rendadias	0112 01.4		100	0/0		WE NO	
4	Kack 2 West 111	61.4		110	0/6		YUND	
	Rack 2 East = I =	87.5		160	10%	1	YOND	
5	NOED State - to	21.7		192	10/0	1	YO NO	
	UTE Hearers	01-5		132	20/0		YUND	
0	County Street Bro	R1.0		160	10/0		VIND	
2	Sour Shearth	R1-19		12	10%		YIND	
10	Lupeine Lleve Stationer	R1-11		126	2 0/0	1	YUND	
13	Turbine Rearings	21.12		160	10/0	1	YOND	
12	Turbine bearings	21 16		Valve Sh	ed # 2 b	Overflo	W	
Ma	1	Curtam		PSI	Viv. Pos.	Slooage	Locked	Comments
NO.	Examples Vessels	92.1		11.0	0/0	bigitage	YNND	
-	Expansion Vessols	62 1		160	JOIE		YNND	
4	U laga Structure	12.11		100	20/0	1	YZND	
3	Back 1 Middle Asso	82.5		100	10/0	11	YDYND	
5	Dural Wildele Area	92.9		102	10/0		YZND	
5	Cavernion/ Tamks	62.9		100	10/0	-	TANT	
<u>h</u>	Nack & South Arrea	B2 0		102	100	-	VIND	
1	RECK 1 WEST	56 / 82-4		162	1010	V	YEINE	
8	Kack T North Area	32-3		160	10%	100	YNND	
9	Over now AFFF	57-6		160	100		VEND	Erna Sala des
10	Expansion Vessel Arth	82.3	Value	Shed # 2 h	W Rida 3	GE Elect	trical Bldg	tolan storter.
			valve	Det	Vin Bos	Clanada	Locked	Comments
No.		System		100	VIV. POS.	Signage	VOIND	connento
1	Transformer Aux			1500	0/C	1		
7	Transformer Main		Value	Shed # A P	Coolin	Tower	Nest Side	
			Valve	Sheu # 4 L	Via Der	Clappage	West side	Comments
No.		System		11-0	VIV. POS.	Signage	VOLNT	400000
1	Cooling Tower West S	iqe		Value Shed	# Shy C	antrol Blo	10 10	
				valve Sheu	Why Dec	Signation Die	Locked	Commont4
No.		System		Pai	VIV. POS.	Signage	Y N N D	CONTRACTOR OF THE OWNER OWNER OWNER OF THE OWNER
	Contro Room	R4-5		110	P U/C			
2	Offices	- 34-3		110	- CONC		VE NE	
3	Flettora Roum	R4 4	no Sprinkler	Valves (Th		he locke	d in the or	nen position)
		Turbi	ne sprinkier	valves (In	Via Der	De lottie	ant ere op	Comments
NO.	- 1 0	system		S D M D	2015			Lonnorto
1	searing 2			VII. NT	0/0			
2	Searing 8				1010			
3	Bearing 4			NO NO	1010			
4	Bearing 5		TE Dolugo Su	rton Value	Tohe	ocked in	the Open	Position)
		n	IF Deluge Sy	Stelli valve	Vin Bed	Locked II	i the open	Comments
No.		System		LOCKED	VIV. POS.			Commerce
1	MP-20"				DIE			
2	MP-200A			V C NLC	10/C	-		
3	NP-2006			VP ND	Vorc			
2	NP-2000				Dic	-		
5	IMP-2000			Fire Pump	House D	eluge Sv	stem	
-	1			ine rump	- Cut	Linge of		Commente
No.		5ystem		PSI	O/C	Locked		çomments
1	Fire Pump House Drill	ige		90	0	YZ N 🗆		
				10	PIV Chee	ks		
No.		System		Position	Cycled	Curded		Comments
1	Malakaran Loop De	ive Mar #7		0/1	-	LYCHED		
-	Ma algebra Soor Dr	No Way 97		- DIF	-			
2	Wast Cide Device P ===	1 km 3/2 - 2 # 3		00	1			
1	West Side Power 3 00	k by vord w 9 k by Mart 4 4 4		1015	-			
4	West Alde Priver 3 60	COY VS 1 # 16	11	10%	-	-	-	
5	West side Cooling To	wer by VN-4 #	10	Jor	1	-	-	
<u>Б</u>	west side Cooling Tou	Ver by VS-A #	14	2010		-	-	
ī	N.W. Corner Chemical	Storage #1		CIL	-	-	-	
9	M.E. Corner Chemical	storage # 2		V0/C	-	-	-	
5	East Side W.T. by Mul	media -ilters	* :	<u></u> Ω/L	-	-	-	
10	East Side W. L by Mult	Cmedia Filters	#5	- 0/C	-		-	
11	North Side Bldg 10 #	6		V0/C		-		
10	Betwich MP-444's an	d Water Trest	*4	D/CV				
12	Wast Side Preens 307	k Valve Shed #	1 NIA	0/0		-	Manath	
13	1YESC 5107 1 0 × 0. 2013							
19	INESCONCE ONC. SING		To B	e Cycled Fi	rst Sature	ay of Eve	ery Month	Comments / Adlanc
13 NP004	MESCONCE ONCE SAME	. Avsterna in	To B spectime Checklist	e Cycled Fi Debris	rst Sature	ay of Eve	ery Month	Comments / Actions
13 MP004	Transformer Yard Refe	<b>Avstern</b> oem ise Check	To B	e Cycled Fil Debris	420		ery Month	Comments / Actions G70-16-0040-MT-FD



	1.00		<b></b>	. 11	psh	4 .	nerator Coleb
		Plent: ALPHA 🖸 🛛 B	ETA: 🗹	Date: 4	Lolans	7 01	perator (
			Valve Sne		Signage	Locked	Comments
0.	S	ystem	101.00	O/C	Jighage	YDND	
1	SG Unit 1 3		Valvou	O/C		YO NO	
2	SG Unit 2 B	12	Out	O/C		YOND	
3	Reheaters B	1-3	1	0.//:			
4	Rack 2 West IIII E	14		0/5		YOND	
à	Rack 2 East HTF E	1-5		O/C		YD VD	
6	North Steel Pro	17-D		0/C		YOND	
7	HTF Pumps	117		O/C		YO NO	
8	HTF Heaters	11-6		D/C		YO NO	
5	South Steel Iro	51 F3		O/C		YOND	
-c	Lube UI	an 44		0/C		AD VD	
1	Turbine Hose Stabiotis	1.12	V	O/C	Contraction of the second	YE NO	
14	Turbine bearings	21-16	Valve Sh	ed # 2 by	/ Overflo	w	Commente
-		ystem	PSI .	Viv. Pos.	Signage	Locked	Comments
	Evonation Vessels	2-1	Valval	O/C	out	YOND	
2	Lillane Area	12-2	160	VOIC	1	YNNU	
1	Lillage Structure	52-11	165	VO/C	V	YUND	
4	Rack 1 Middle Area	82-5	165	VOIC	V	VIENU	
5	Overflow Tanks	32-9	165,	VOK	1		-
6	Rack 1 South Area	82-6	Valved	0/0	OUT	VEND	
1	Rack 1 West	32-7	180	VO/C	V	VIEND	
8	Rack 1 North Area	82-4	160	VO/C	V	VIEND	
9	Over flow AFFF	82-8	160	V0/C	V	VIEND	
10	Expansion Vessel AFFF	B2-3	165	VO/C	CE Eloc	trical Bldg	
		Valves	shed # 3 D	y blag 5	S GE LIEC	Locked	Comments
٩D.		iystem	P51	Viv. Pos.	Signage	ND	
1	Transformer Aux		165	VU/L	1	VIEND	
2	Transformer Mhim	Value	had#Ab	Coolin	a Tower	West Side	
		valves	sned # 4 b	Viu Bor	Signage	1	Comments
No.		System	1 4 4	O/C	aut	YOND	
1	Cooling Tower West Side	2	alue Shed	#5 hy C	ontrol Bl	da 10	
		V	alve Sileu	Viu Por	Signage	Locked	Comments
No.		System	PSI	VIV. PUS.	angringe	YND	
1	Control Room	64-5	143	DIC	1	YDYND	
2	Offices	64-3	190	1.010	1	ND	
3	Electrical Room	Turbing Sprinkler	alves (The	ese are to	be lock	ed in the d	open position)
		Turbine Sprinkler v	Locked	Viv. Pos.			Comments
No.		System	YNND	10/0			
1	Bearing 2		YDEND	D/C			
5	Bearing 3		YDIND	NO/C			
3	Bearing 4		YDND	10/C			
4	[Bearing 5	HTF Deluge Svs	tem Valve	s (To be	Locked in	n the Ope	n Position)
		furtern	Locked	Viv. Pos.			Comments
No.	140.303	system	VEND	JO/C			
1	MP-201		YNND	VO/C			
2	MP-200A		YVND	10/C			
5	MP-2000		YOND	Vac			
4	MP-2000		YNND	VOIC	1		
3	MR-2000		Fire Pump	House D	Deluge Sy	stem	
-	Т	6	D\$1	0/0	Locked		Comments
No.		system	170	101	YNNE		
1	Fire Pump House Delug	e	160	PIVIChe	cks	-	
			1.000	TAV CITE	Date	T	Comments
No.		System	Position	Cycled	Cycled		
1	Maintenance Shop Driv	e Way #7	VOIC	NO		-	
2	Maintenance Shop Driv	e Way +9	0/0				
1	West Side Power Block	by VS-3 # 2	10/C		-	-	
-	West Side Press Block	by VS-1 # 10	DICV		-	-	
4	West Side Cooling Tow	er by VS-4 # 11	VOIC		-	-	
3 4 5	have dide Caption to m	er by VS-4 # 12	VOIC		-	-	
5 4 5 6	West side Looming Town	terran #1	D/C		-	-	
3 4 5 6	N.W. Camer Chemica S	storage #1		1	1	-	
3 4 5 6 7 6	N.W. Comer Chemica S N.E. Curner Chemical S	torage # 2	V0/C				
4 5 6 7 6	N.W. Comer Chemical S N.F. Curner Chemical S Last Side W.T. by Multi	nedia Fi t=rs 4 3	V0/C			-	
4 5 6 7 6 9	N.W. Comer Chemical S N.E. Comer Chemical S Less Side W.T. by Multi- East Side W.T. by Multi-	torage # 1 torage # 2 nedia Fiters # 3 nedia Fiters # 5	V0/C V0/C	-	-	_	
4 5 6 7 9 10	Net side Capital Towner Chemica S N.E. Curner Chemical S Last Side W.T. by Multi East Side W.T. by Multi North Side Bldg 10 # 6	iorage # 2 nedia Fiters # 3 nedia Filters # 5	✓ 0/C ✓ 0/C ✓ 0/C		_		
4 5 6 7 6 9 10 11 12	N.W. Comer Chemica S N.F. Comer Chemica S Last Side W.T. by Multi East Side W.T. by Multi North Side Bidg 10 # 6 Between MP-444's and	torage # 2 nedia Fiters # 3 media Fiters # 5 Water Trust, # 4	✓ 0/C ✓ 0/C ✓ 0/C ✓ 0/C				
4 5 6 7 6 9 10 11 12 13	West side Capiting Townson N.W. Comer Chemics S N.F. Curner Chemics S Last Side W.T. by Multi East Side W.I. by Multi North Side Bidg 10 # 6 Between MP-444's and West Side Power Block	torage # 2 nedia Fitters # 3 media Fitters # 5 Water Trust, # 4 Valve Shed #1	✓ 0/C ✓ 0/C ✓ 0/C ○/C ○/C	V	day of F	very Mont	b



#### Automated Fire Systems Inspection Checklist BETA: Date: 12-20-23 Operator Jose harcig Plant: ALPHA 🗆 Valve Shed # 1 by Condenser Comments P51 Viv. Pos. Signage Locked System No. YNND 50/0 1.4 SG Unit 1 81-1 V 00) 81-SG Unit 2 2 YEYVO Leu V 0/0 2 Reheaters 3 60 VO/C 60 VO/C 60 VO/C VIND 12 Radk 2 West -TF B1 4 4 YEND V Rack 2 East HTF 5 YUND 60 V B1-4 1 North Steel Pro HTF Pumps 7 YPND 60 B1-8 VO/C $\overline{v}$ HT<sup>=</sup> Heators 5 7 VO/C YNND 160 South Steel Pro 81-9 0 2 IGD 10/C YUND Lube Oil 16 160 V 0/C YOY NO y Turbine Hrase Stations E1-1 11 YD ND Turbine Bearings 61-1 12 Valve Shed # 2 by Overflow Viv. Pos. Comments PSI Signage Locked System No. YZND V 0/C Expansion Vessels ذععا ا $\boldsymbol{\nu}$ 1 160 10/C 0 Ullage Area 2 VE ND V 82-1 3 Ullage Structure YUND 160 V0/C $\mathbf{\nu}$ 82-5 Rack 1 Middle Area 4 V 0/C Overflow Tanks 62-9 160 L 5 V 0/C YEND v 100 Rack 1 South Area б YZND 160 V 82-7 Rack West YND V 0/C Rack 1 North Area B2-4 6 YD ND B2-8 V Over flow AFFF 160 9 L YND VOK 82-3 160 10 Expansion Vessel AFFF Valve Shed # 3 by Bldg 35 GE Electrical Bldg Viv. Pos. Signage Locked Comments PSI No. System YEND 0/0 65 V Transformer Aux 1 V YEND Valve Shed # 4 by Cooling Tower West Side Transformer Main 2 Comments Viv. Pos. Signage PSI System No. YPND LOIC lea Cooling Tower West Side Valve Shed # 5 by Control Bldg 10 1 PSI Viv. Pos. Signage Locked Comments System No 145 VOIC 165 VOIC Control Roam Offices 84-6 YND 84-3 2 Y 🗜 N 🗖 V Electrical Room 84-4 3 Turbine Sprinkler Valves (These are to be locked in the open position) Locked Viv. Pos. Y Ø N JØ/C Comments No, System Bearing 7 Bearing 3 2 Bearing 4 З Bearing 5 4 HTF Deluge System Valves (To be Locked in the Open Position) Comments System No. MP 201 1 MP-200A 2 MP-2003 З MP-200 4 MP-200D E Fire Pump House Deluge System Comments Locked PSI 0/0 System No. YUND 165 P Fire Pump House Deluge 1 **PIV Checks** Date Comments Cycled Position No. System Cuche 0/0 Maintenance Shop Drive Way #7 Maintenance Shop Drive Way #8 .0/0 West Side Power Block by VS-3 # 9 3 0/0 West Side Power Block by VS-1 # 10 4 V 0/0 West Side Cooling Tower by VS-4 # 11 5 0/0 West side Cooling Tower by VS-4 #12 6 N.W. Corner Chemical Storage #1 0/0 N,F. Comer Chemical Storage # 2 ö V 0/0 East Side W.T. by Multimed's Filters # 3 9 V 0/0 East Side W.T. by Multimadia Fillers # 5 10 V OK North Side Bldg 10 # 6 11 Between MP-444's and Water Treve # 4 D/CV 12 West Side Power Block Valve Shed #1 0/ 13 To Be Cycled First Saturday of Every Month Comments / Actions 1 Transformer Vard Rnfl.se Check

Debris sed 09/24/2019 Page 1 of

GAULIS DEAR NAT FOR DEEP 27



## **Automated Fire Systems Inspection Checklist**

BETA: D Date: 12/23/23 Operator Arithomy Valve Shed # 1 by Condenser Plant: ALPHA 🗆

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1 E'-1	160	VO/C	L	YUND	
2	SG Unit 2 81-2	155	VOIS	-	YOND	
3	Rehealers 81 3	160	V9/C	1	YEAND	
4	Rack 2 West Hill B1 4	160	VOK	1	YEND	
5	Rack 2 East HTF B1-5	155	V0/C	6	YEND	
6	North Steel Pro B1 0	155	VO/C	4	YUND	
7	HTF Pumps R1 7	155	LOR		V D OLD	
8	HTF Heaters B1-8	155	NIC	-	VEND	
Э	South Steel Pro B1-9	160	NO/C	-	VUNU	
10	Lube C <sup>4</sup> I B1-10	160	NO15	1	YPND	
11	Turbine Hose Stations 91 13	155	VO/C		V LAND	
12	Turbine Bearings B1-12	160	10/C	Owentlas	TENU	
		valve Sh	ed # 2 Dy	overnov	V Looked 1	Commont.
No.	System	PSI	Viv. Pos.	Signage	Locked	Continents
1	Expansion Vinsels B2 1	100	Von	6	VPND	
7	Ullage Area 32-2	162	VUIC	1	VDIND	
3	Ullage Structure B2 1	100	Vorc	~	VIZNID	
4	Rack 1 Middle Area BZ 2	INO	1071	5	VIZ ND	
>	Overligw Tanks D2-3	110	NOIC	V	YELND	
5	Nack 1 South Area 19740	160	1010		YDND	
1	Pack Livest Braa 82.4	100	1000	1000	YDAND	
n P	Over flow AFFE 22.8	11.2	V DAC	V	YEND	
9	Evenesion Vessel AEEE 83-3	160	VOIC	1/	YOND	
10	Expansion vessel AFFF 02-3	hed # 3 b	v Bldg 3	GE Elect	rical Bldg	
Ma	Sustam	PST	Viv Pos	Signage	Locked	Comments
NO	System	155	1/0/0	31 A	YEPND	
2	Transformer Main	155	NOIC	1/	YEND	
4	Valve S	hed #4b	v Cooling	Tower V	Vest Side	
Nia	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Town West Mce	155	10/C	· ····	YOND	
	V	lve Shed	# 5 by Co	ontrol Bld	g 10	
No:	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Central Boom 84 3	160	VO/C	5	YEND	
2	Offices 34-3	160	NO/C	1	YPND	
3	Electrical Room 34 4	165	1/0/C	~	YERND	
	Turbine Sprinkler V	alves (The	se are to	be locke	d in the o	pen position)
No.	System	Locked	Viv. Pos.	10 million 10		Comments
	Rearing 2	VEC 31 D	10/C			
	Dealin y c	The second				
2	Bearing 3	YEYU	✔0/C			
2	Bearing A Bearing 4	YEYU YEYU	10/0 10/0			
2 3 4	Bearing 2 Bearing 4 Bearing 5	YEYU YEYND	10/0 10/0 10/0	- dead in	Alea Oman	Bacilian
- 2 1 1	Bearing 3 Bearing 4 Bearing 5 HTF Deluge Syst	Y BY U Y BY U Y BY N D tem Valve	VO/C VO/C S (To be l	ocked in	the Open	Position)
2 3 4 No.	Bearing 3 Bearing 4 Bearing 5 HTF Deluge System	YEYU YBYU YBYN tem Valve	Viv Pos.	ocked in	the Open	Position) Commands
2 3 4 No.	Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP 201		Viv Pos.	ocked in	the Open	Position) Comments
2 3 4 <u>No.</u> 1 2	Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP 201 MP-200A	YEYNO YEPNO YEPNO Locked YEPNO YOYNO	Viv Pos. Viv Pos.	ocked in	the Open	Position) Comments
2 3 4 No. 1 7 3	Searing 3         Bearing 3           Bearing 4         Bearing 5           HTF Deluge System           MP-201         MP-200A           MP-200B         MP-200B	YEYU YEYNU YEYNU YEYNU Locked YEYNU YEYNU YEYNU	Viv Pos. Viv Pos.	ocked in	the Open	Position) Comments
2 H 1 No. 1 7 3 4	Searing 3         Bearing 3           Bearing 4         Bearing 5           HTF Deluge System           MP-201         MP-2000           MP-2008         MP-2000           MP-2000         MP-2000		✓)C ✓)C S (To be Viy Pos. ✓)C ✓)C ✓)C ✓)C ✓)C ✓)C ✓)C ✓)C	ocked in	the Open	Position) Communes
2 H 1 No. 1 7 3 4 5	Searing 3         Searing 3           Bearing 4         Bearing 5           HTF Deluge System           MP-201         MP-2010           MP-2008         MP-2000		Vi) Colc Vi) Pos. Vi) Pos. Vi) Pos. Vi) Colc Vi) Colc Vi) Colc Vi) Colc Vi) Colc Vi) Colc Vi) Colc	ocked in	the Open	Position) Commants
2 3 1 1 7 3 4 5	Searing 2         HTF Deluge System           Bearing 5         HTF Deluge System           MP-201         MP-200A           MP-200B         MP-200C		Vi) Pos. Vi) Pos.	ocked in	the Open	Position) Commants
2 3 1 7 3 4 5 No.	Searing 2         HTF Deluge System           Bearing 5         HTF Deluge System           MP-201         MP-200A           MP-200B         MP-200C           MP-200C         F           System         F		C)(C	ocked in eluge Sys	the Open	Position) Comments Comments
- 2 3 4 1 7 3 4 5 5	Bearing 3 Bearing 4 Bearing 5 HTF Deluge Syst System MP-200A MP-200B MP-200C MP-200C MP-200C Fire Pump House Deluge	YEYU YEYU YEWU YEWU YEWU YEWU YEWU YEWU	✓ 0/C ✓ 0/C ✓ 0/C ✓ 0/C ✓ 0/C ✓ 0/C ✓ 0/C ✓ 0/C House D 0/C 0/C	ocked in eluge Sys Locked Y B* N D	the Open	Position) Comments Comments
- 2 3 4 1 7 3 4 5 5 <b>No.</b> 1	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP-201 MP-2000 MP-2000 MP-2000 MP-2000 Fire Pump House Deluge	YEYU YEYU YEYU YEYU YEYU YEYU YEYU YEYU	✓)/C ♥)/C ♥)/C	eluge Sys	the Open	Position) Comments Comments
- 2 3 4 1 7 3 4 5 5 No. 1	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP-201 MP-2000 MP-2000 MP-2000 MP-2000 Fire Pump House Deluge System	Y BY J Y BY J BY J		eluge Sys	the Open	Position) Comments Comments Comments
- 2 3 4 7 3 4 5 No. 1 No.	Bearing 3 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP-201 MP-2000 MP-2000 MP-2000 MP-2000 Fire Pump House Deluge System Maintenance Song Duing Wey AV	Y BY J Y BY J J Y BY J BY J		Locked in Locked Y B <sup>2</sup> N D ks Date Cycled	the Open	Position) Comments Comments Comments
- 2 3 4 7 3 3 4 5 5 No. 1 No. 1	Bearing 2 Bearing 3 Bearing 4 Bearing 5 HTF Deluge System MP-201 MP-2000 MP-2000 MP-2000 MP-2000 Fire Pump House Deluge System Maintenance Shop Drive Way A7 Maintenance Shop Drive Way A8	Y BY J Y BY J J Y BY J J J Y BY J J Y BY J J J Y BY J J J Y BY J J J Y BY J J J Y BY J J J J Y BY J J J J J J J J J J J J J J J J J J J	Viv Pos. Viv Pos. Viv Pos. Viv Pos. Viv Chic Viv Chic Viv Chic Dic Dic Dic Dic Dic Dic Cycled	eluge Sys Locked Y BY N D Ks Date Cycled	the Open	Position) Commants Comments Comments
- - - - - - - - - - - - - -	Dealing 2       Bearing 3       Bearing 3       Bearing 3       System       MP-200A       MP-2000       MP-2000       MP-2000       MP-2000       F       System       Fire Pump House Deluge       Maintenance Snop Driv: Way AY       Maintenance Snop Driv: Way AY       Maintenance Snop Driv: Way AB       Wast Side Power B       Wast Side Power B		Viv Pos. Viv Pos. Viv Pos. Viv Pos. Viv Pos. Vo/C Vo/C Vo/C Vo/C Vo/C Vo/C Vo/C Vo/C	eluge Sys Locked Y BY N D Ks Date Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	System       MP-200A       MP-200A       MP-200B       MP-200C       MP-200C       MP-200C       MP-200D       Fire Pump House Deluge       System       Maintenance Shop Driv: Way #Y       Maintenance Shop Driv: Way #8       West Side Power 8 doc by VS-3 # 9       West Side Power 8 doc by VS-1 # 10		✓)/C ✓)/C ✓)/C ♥/O/C ♥/O/C ♥/O/C ♥/O/C ♥/O/C ♥/C ♥/C ♥/C ♥/C ♥/C ♥/C ♥/C ♥/C ♥/C ♥	Locked in Locked V BY N D Ks Date Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	System       Maintenance Shop Drive Way #8       West Side Power 8 ock by VS-1 # 10	YE         YO           YO         <	Viv Pos. Viv Pos. Viv Pos. Viv Corc Viv Corc Vorc Vorc Vorc Vorc Vorc Vorc Vorc V	ocked in eluge Sys Locked Y B <sup>r</sup> N D ks Date Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	System       Mintenance Shop Drive Way #8       West Side Power Block by VS-1 # 10       West Side Cooling Tower by VS-4 # 12	YE         YE           YE         <	Viv Pos. Viv Pos. Viv Pos. Viv Pos. Viv Corc Vorc Vorc Vorc Vorc Vorc Vorc Vorc V	Locked in Locked Y BY N D KS Date Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	System       MP-201       MP-201       MP-2008       MP-2009       MP-2000       MP-2000       MP-2000       MP-2000       MP-2000       MP-2000       MP-2000       MP-2000       MP-2000       System       System       Maintenance Shop Driv: Way 4Y       Maintenance Shop Driv: Way 48       West Side Power 8 lock by VS-3 4 9       West Side Power 3 lock by VS-1 4 10       West side Cooling Tower by VS-4 4 12       NW, Comer Chemical Storae 41	YE         YE           YE         <	✓ ()(C ✓ ()(	Locked in Locked V V B* N D ks Date Cecled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	System       Bearing 3       Bearing 4       Bearing 5       HTF Deluge System       MP-201       MP-2020       MP-2000       MP-2000       MP-2000       MP-2000       Fire Pump House Deluge       System       Maintenance Snop Drive Way 47       Meintenance Snop Drive Way 48       West Side Power Block by VS-3 4 9       West Side Power Block by VS-4 4 11       West side Conling Tower by VS-4 # 12       NW. Comer Chemical Storage #1       N.F. Comer Chemical Storage #2	YE         YE           YE         <	✓ ()(C ✓ ()(C ✓ (To be l Viv. Pos. ✓ ()(C ✓ ()(C	Locked in Locked V B <sup>A</sup> N D ks Date Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	System       Bearing 3       Bearing 4       Bearing 5       HTF Deluge System       MP-201       MP-2020A       MP-200B       MP-200C       MP-200C       MP-200C       MP-200D       Fire Pump House Deluge       System       Maintenance Shop Driv: Way #7       Maintenance Shop Driv: Way #8       West Side Power 8 ock by VS-3 # 9       West Side Power 3 ock by VS-1 # 10       West side Cooling Tower by VS-4 # 11       West side Cooling Tower by VS-4 # 12       N.F. Comer Chomical Storage #1       N.F. Comer Chemical Storage #2       East Side W.T. by Mu time:/la Fiters # 3	YE         YO           YE         YO           YO         YO	Viv Pos. Viv Pos. Viv Pos. Viv Pos. Viv Chec Viv Chec Cycled	eluge Sys Locked V BY N D Ks Date Cycled	the Open	Position) Comments Comments Comments
- 2 3 4 1 7 3 4 4 5 1 <b>No.</b> 1 1 <b>2</b> 3 4 5 5 8 7 7 8 9 10	Dealing 3         Bearing 3         Bearing 3         Bearing 4         Bearing 5         MP 201         MP-200A         MP-200B         MP-200C         System         First System         Maintenance Shop Drive: Way 4%         Maintenance Shop Drive: Way 4%         Wast Side Power 8 ock by VS-3 4 9         Wast Side Power 8 ock by VS-3 4 9         Wast Side Power 8 ock by VS-3 4 9         Wast Side Cooling Tower by VS-4 # 10         Wast Side Cooling Tower by VS-4 # 11         Wast Side Cooling Tower by VS-4 # 11         Wast Side Cooling Tower by VS-4 # 12         N.W. Corner Chemical Storage # 7         East Side W.T. by Mu timedia Fiters # 3         Fast Side W.T	Y E         Y E           Y E         Y E           Y E         Y E           Y E         N E           Y E         Y E           Y E         Y E           Y E	✓)/C ✓)/C ✓)/C ✓)/C ♥/ Ø/C ✓)/C ✓)/C Ø/C Ø/C Ø/C Ø/C Ø/C	eluge Sys Locked Y BY N D Ks Date Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	System       Mintenance Shop Drive Way #8       West Side Conling Tower by VS-4 # 11       West Side Conling Tower by VS-4 # 12       NW. Corner Chemical Storage #1       NW. Corner Chemical Storage #2       East Side W.T. by Mu timedia Fiters #3       Fact Side W.T. by Mu timedia Fiters #5       North Side Side V # 6	YE         YO           YO	✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C Ø/C Ø/C Ø/C Ø/C Ø/C Ø/C Ø/C Ø	eluge Sys Locked Y B <sup>er</sup> N D ks Date Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	Dealing 2         Bearing 3         Bearing 4         Bearing 5         MFF Deluge System         MP-2010       MP-2000         MP-2000       MP-2000         MP-2000       System         MP-2000       F         System         Minimum Pouse Deluge         System         Maintenance Snop Driv: Way 4Y         Maintenance Snop Driv: Way 4Y         Maintenance Snop Driv: Way 48       West Side Power 8 ock by VS-3 4 9         West Side Power 8 ock by VS-1 4 10       West Side Cooling Tower by VS-4 # 11         West Side Cooling Tower by VS-4 # 12       N/W. Comer Chemical Storage #1         N/F. Comer Chemical Storage #1       N/F. Comer Chemical Storage #1         N/F. Comer Chemical Storage #2       East Side W.T. by Mu timedia Fiters #3         Feat Side 10 # 6       Feat Side 10 #	YE         YE           YE         <	✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C ✓ G/C Ø/C Ø/C Ø/C Ø/C Ø/C Ø/C Ø/C Ø	Locked in Locked Y B <sup>2</sup> N D bate Cycled	the Open	Position) Comments Comments
- - - - - - - - - - - - - -	Bearing 3         Bearing 4         Bearing 5         HTF Deluge System         MP-201         MP-2020         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         Mintenance Snop Drive Way 4%         West Side Power 8 ock by VS-3 4 9         West Side Power 3 ock by VS-1 4 10         West Side Cooling Tower by VS-4 4 12         NWL Comer Chemical Storage 41         N.E. Comer Chemical Storage 42         East Side W.T. by Mu timedia Enters 43         Fast Side 30dg 10 4 6         Setwer MP-24242 and Water Treat # 4         West Side Power Block Valve Shed 41	YE         YE           YE         <	✓ ()(C ✓ ()(	Locked in Locked Y V B* N D KS Date Cecled	the Open	Position) Comments Comments
- - - - - - - - - - - - - -	Dealing 2         Bearing 3         Bearing 3         Bearing 3         System         MP 201         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         MP-2000         Merce Colspan="2">System         Maintenance Snop Drive Way 47         Maintenance Snop Drive Way 48         West Side Power B ock by VS-3 4 9         West Side Power 3 ock by VS-4 4 10         Weye Side Cooling Tower by VS-4 4 11         West Side Cooling Tower by VS-4 4 11         West Side Cooling Tower by VS-4 4 12         N.W. Comer Chemical Storage 4 7         East Side W.T. by Mu timedia Fiters 4 3         Foot Side W.T. by Mu timedia Fiters 4 5         North Side 31dg 10 4 6         Betweer MP-444/s and Water Treat # 4         West Side Power Siock Valve Shed #1	YE         YE           YE         <	Viv Pos. Viv Pos. O/C Viv Pos. O/C Viv Pos. O/C O/C O/C O/C O/C O/C Cycled	eluge Sys Locked V B <sup>2</sup> N D bate Cycled	the Open	Position) Comments Comments Comments
- - - - - - - - - - - - - -	Bearing 2       HTF Deluge System       Bearing 3       Bearing 3       Bystem       MP-2000       Maintenance Snop Drive Way 47       Maintenance Snop Drive Way 47       Maintenance Snop Drive Way 48       West Side Power 3 ock by VS-4 # 10       West Side Cooling Tower by VS-4 # 11       West Side Cooling Tower by VS-4 # 12       N.C. Corner Chemical Storage # 2       East Side W.T. by Mu timedia Fiters # 3       Fort Side W.T. by	Y B         Y B           Y B	Viv Pos. Viv Pos. O/C Viv Pos. O/C Viv Chic Viv Chic O/C O/C O/C O/C Cycled	eluge Sys Locked Y BY N D ks Date Cycled	the Open	Position) Comments Comments Comments Comments Comments

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## **Automated Fire Systems Inspection Checklist**

			Va	Ive She	d#1by	Condens	er	
Νσ.	100	System	_	PSI	Viv. Pos	Signage	Locked	Comments
1	SG Dolt 1	31-7		65	VO/C	2	ARVI	
2	SG Unit 2	31 2	1	60	10/C	5	YDANU	
3	Reheaters	e1 B	11	00	LOTC	V	YEND	
4	Rack 2 West HTF	P1-4	11	0	1015	1	YRWD	
5	iack 2 East HTF	81-5	16	0	1-5/C	-	YPND	
6	North Stee Pro	B1-6	14	a()	105	V	YPYD	
7	-TEPumps	81-7	11	09	10/C	2	YBYND	
B	EI-Featers	61 B	1	60	VOIC	~	YNND	
0	South Stanl Pun		17	10	L-DA		YPND	
3	Lobor Of	81.10	- 5	15	LOC		YDND	
10	TUDE OF	34.45	- 4	62	DIC		VOND	
1.	urbine Hose Stalans	211	+1	12	Von		VEND	
12	Turbine Bearings	81-12		00 Ch	1 # 2 h	Quartion	1 10 11 10	
			V	aive Sil	eu # 2 Dj	Overno	lashed	Commente
No.		System	-	PSI	Viv, Pos.	Signage	Locked	Comments
1	Expansion Vessels	32.1	/	90	10/C	v	V LAP N LL	
2	Ullage Arca	82-2		6,0	2015	~	AT NET	
Э.	Ullage Structure	B2 11	11	60	VOK .	1	YDND	
4	Rack 1 Middle Area	B2 5		60	VOK	~	YPND	
5	Counting Table	82-9	11	UD I	ATC	1	YPND	
5	Dany / Coulty Assa	82-6	11	0	1 DIC	1	YEND	
0	Dask 1 West	30.7	12	0	RIC	1	YEND	
1	Mack I West	5277 D1 0	19	0	60	1	YDND	
8	Nack - North Area	02.4	10	E.	1 and		VINA	
5	Over flaw AFFF	B2 8	1	55	LOIC	V	THE NULL	
10	Expansion Vessel ATTH	82-3	1	60	10/C	V	YPA NU	
	1010	Valve	e She	d#3b	y Bidg 35	GE Elect	trical Bldg	
No.		System		PSI	Viv. Pos.	Signage	Locked	Comments
2	Transformer Aux			60	VOIC	-	YUND	
1	Transformer Main	The Owner,	Í	100	-O/C		YOND	
ć _	Ta isionner viain	Valv	e She	d#4b	v Cooline	Tower	Vest Side	
	-	· · · · ·	e one	Det	Why Day	Flanada		Comments
NO.		System	-	100	VIV. POS.	Signage .	VEND	
1	Cooling Tower West Si:	le	11	40,	1 Ebu Ca	antrol Die	10	
	AD ROME TO A COMPANY		valve	e Snea	# 5 by Co	ontrol bio	giu	
No.		System		PSI	Viv. Pos.	Signage	Locked	Çomments
1	Control Room	84.5		60	10/5	-	YEND	
2	Offices		1	(n)	10/C	1	YEND	
2	Electrical Record	74-4	1	10	, OK	1	YPND	
2	Enversion	Turbine Sprinkler	Valv	e The	se are to	be locke	d in the or	pen position)
	1	furtam		ocked	Vir Pos			Comments
ND.	- 1 - 2	system	- V	N N D	Vor			
1	Bearing 2		- 1		120			
2	Bearing 3		1		Porc			
3	Bearing 4			fl ND	10/C			
2	Bearing 5		Y	ON D	10/C			
		HTF Deluge S	ystem	1 Valve:	s (To be l	locked in	the Open	Position)
No.		System	1	ocked	Viv. Pos.			Comments
1	MP-201		Y	END	VO/C			
- 11	N/H-2004		Y	ND	- 0/C			
2	NAD 2007		V	PND.	DIC			
5	MP 2000		- W	N ND	Voir			
4	MP-200C		1	n/un	- OF			
5	MP-200D		Y	Dunn	House	alune fre	tam	
			Fire	Pump	House D	eiuge Sys	tem	
No		System		PSI	O/C	Locked		Comments
10.		ajsten.	10	1	mDen.	V W NIT		
1	Firs Pump House Dolug	ic:		05	DUCha			
					PIV Chec	KS	1	
No.		System	P	osition	Cycled	Custed		Comments
	Malatana Physics Physics	o 13/ou: #7		17511	1	-read		
	Ivia menance shop Driv	envdy#/	-	tor	-	-		
5	Maintenance Shop Driv	e way #0	V	- ONC			-	
3	West Side Power Block	by V5-3 # 9	1	CVC	-			
4	West Side Power Block	by VS-1 # 10	1	O/C				
5	West Side Cooling Tow	er by VS-4 # 11	V	0/0				
6	West side Cooling Trav	a by VS-4 # 12	1	/0/C	1			
7	N W. Corner Chemical	storage #1	1	D/C				
0	M.F. Comer Chemical S	torane # 2	1	70/0				
0	Ease Cide WIT, build bit	wadia Filtara # 3		1010	-			
+	cast 5 de W.L. by M.J.U	rieura Filizera () 5	-	-O/C				
10	Fast side Witt by Multi	negia Filtars + >	- 4	-ONC	-			
11	North Side Bidg 10 ₹ 6		- 100	-O/C				
12	Batween MP-444's and	Water Treat # 4		914		-		
And in case of the local division of the loc	Wast Kide Rower Block	Valve Shed +1	1	O/C				
13	WEST SIDE FOWER OFOCK		and the second se					

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Fire	Pump	Weekly	Test	Log
------	------	--------	------	-----

	<u>j : </u>						
General Inform	General Information						
Plant: Alpha 🗹 🛛 Beta 🗆	Date: 10/1/23						
Operator: VM	*To be completed each time unit is operated.						
Reason for running pumps: Weekly tost 🖌 🛛 Maintenance	e 🗋 Emergency 🗆						
Jockey Electric	Pump						
Pro-start Inspection: Electrical Feed 🗌 Mechanical E	D Valves 🛛						
Check the jockcy pump on pressure drop. Start up pressure: 🛛 🛔	SSYSE						
Discharge Pressure: 165 655							
Pump Suction Pressure: 20 PST Pump	p Discharge pressure: 66 450						
Comments:							
Electric Pur							
Pro-start Inspection: Electrical Feed 7 Mechanical	□ Valves □						
Start the pump on pressure drop. Start up pressure: 195							
Start time: 101:45%	fst						
Pump Suction Pressure: 7 - PCF Pump	Discharge pressure: 150 KST						
Stop time: Total time running	a lonin						
Comments:							
Diesel Pum	np						
Pre-start Inspection: Coolant 🗹 Oil 😭 Mechanical f	Valvos Y Water Jacket Heater M						
Fuel level > 2/3: Yes 🗌 No 🗹 🛛 Month	nly Fuel Consumption:						
Battery volt Crank 1:26 6 Battery volt Crank 2: 2.6. C Batt	tery Condition: 2000						
Starting hour meter: 127.9 Star	rt time: 20°.02						
Oil pressure start: 58 PST Oil	Pressure finish: 9 PSI						
Pump Suction Pressure: 21 VST Pump	p Discharge pressure: 181 p 5 🗁						
Coolant temperature after 30 minutes running: 205 F	after 14 minutes running						
Stop time: 2016 Stop hour meter:/28. / Total run time:/Yma	January 1 <sup>st</sup> hour meter: Total YTD hours:						
Comments: High Temp Harm NOTE TESTING FOR NEPA COMPLIANCE ONCE 10 HOURS YT	ID RUN TIME IS EXCEEDED						
Sulfur Concentrations (less than or equal to 0.0015% on a weight per we	eight basis).						
his new direct drive fire puriol engine shall be limited to use for omergency fire suppression, defined as in r no more than 20 minutes in any onto hour and no more than 10 hours per year for initial startup testing at number of Hours necessary to comply with the toting requirements of the National Fire Protection Associal Systems' (current odd on). The hours of operation for source testing will not be counted towards either o Note: Fuel consumption 27 gal/in approximately. There is no limit on engine operation for emergency use (Title 17 CCP 93115 Gald)	responsente a fille on due Lulow fire water pressure. In addition, this ang ne shall be operated no compliance demonstrations. Additionally, this engine shall not be operated more than the ation. (NEPA) 25-1 Standards for the Inspection. Testing, and Maintenance of Water Based Hie of the allowable computinities appresi						

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

# **Appendix I**

# Air Quality 54

# **Gasoline Tank Annual Test**

42134 Harper Lake Road Phone: 760 308 0400 Hinkley, California 92347

#### **Submitted Electronically**

Subject:	09-AFC-5C
<b>Condition Number:</b>	AQ-54
Description:	MDAQMD Rule 461 Gasoline Dispensing Tank Vapor
	Recovery Annual Test. Test results. 2023
Submittal Number:	AQ54-08-00

May 19, 2022

Ashley Gutierrez, CPM California Energy Commission 1516 Ninth Street Sacramento, CA 95814 <u>Ashley.Gutierrez@energy.ca.gov</u>

Ms. Gutierrez,

The attached documentation is submitted for your record. See the test results from the test performed on April 20, 2023. The test results have been submitted to the MDAQMD directly from the testing company following Rule 461.

For your convenience, we hereby, include the Compliance language below:

AQ-54: The project owner shall perform the following tests within 60 days of construction completion and annually thereafter in accord with the following test procedures:

- a) Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks shall be conducted per current ARB Executive Orders and,
- b) Phase I Adapters, Emergency Vents, Spill Container Drain Valve.
   Dedicated gauging port with drop tube and tank components, all connections, and fittings shall NOT have any detectable leaks; test methods shall be per current ARB Executive Orders, and

42134 Harper Lake Road Hinkley, California 92347

Phone: 760 308 0400

c) Liquid Removal Test (if applicable) per TP-201.6, and Summary of Test Data shall be documented on a Form similar to the form in current ARB Executive Orders.

The district shall be notified a minimum of 10 days prior to performing the required tests with the final results submitted to the District within 30 days of completion of the tests.

The District shall receive passing test reports no later than six (6) weeks prior to the expiration date of this permit.

Verification: The project owner shall notify the District at least 10 days prior to performing the required tests. The test results shall be submitted to the District within 30 days of completion of the tests and shall be made available to the CPM if requested.

Sincerely,

Mahnaz Ghamati

Quality, Environmental & Compliance Manager ASI Operations LLC 42134 Harper Lake Rd Hinkley, CA 92347 Cell: 760-498-0549 mahnaz.ghamati@atlantica.com

Attachments: AQ-54. Gasoline Dispensing Tank Vapor Recovery Annual Test report.

#### Mahnaz Ghamati

From:	VaporRecoveryTesting@mdaqmd.ca.gov
Sent:	Friday, April 7, 2023 10:08 AM
То:	sordonez@ocpetroleum.com
Subject:	Permit # N011039 - Mojave Solar - Hinkley - MDAQMD Testing Notification Form

Your email has been received. If we have any questions or concerns, you will be contacted. If unable to perform a test at the time and date proposed, please cancel with at least a 24 hour notice to avoid a violation. Thank you for contacting the Mojave Desert Air Quality Management District.

#### Gasoline Dispensing Facility (GDF) Vapor Recovery Test Policy

https://www.mdaqmd.ca.gov/home/showpublisheddocument/9004/637679884233757522

#### Rule 461 Testing Notification Form (New as of 2020)

https://www.mdaqmd.ca.gov/home/showdocument?id=6689

#### **Modification/Backfill Notification**

https://www.mdaqmd.ca.gov/home/showpublisheddocument/9214/637798425050870000

From: sordonez@ocpetroleum.com
Sent: 4/7/2023 10:07:59 AM -07:00
To: VaporRecoveryTesting@mdaqmd.ca.gov
Subject: Permit # N011039 - Mojave Solar - Hinkley - MDAQMD Testing Notification Form Good morning,

Please see attached testing notification for permit # N011039.

Feel free to contact us with any questions. Thank you

Sandy Ordonez Orange Coast Petroleum Equipment, Inc. 1015 N. Parker St. Orange, CA 92867 Phone: (714) 744-4049 Fax: (714) 744-0638 www.ocpetroleum.com MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT BRAD POIRIEZ, EXECUTIVE DIRECTOR 14306 Park Avenue, Victorville, CA 92392-2310 760.245.1661 • Fax 760.245.2022 www.MDAQMD.ca.gov • @MDAQMD

# **Rule 461 Pass/Fail Test Results**

**REQUIRED** 30 days after testing

Submit form to VaporRecoveryTesting@mdaqmd.ca.gov

PLEASE TYPE OR PRINT

Test date: 4/20/2023

4ir Qualit

Management District

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#### Section 1: MDAQMD information



TP-201.1E Leak rate & cracking pressure of P/V vent valves	TP-201.6 Liquid removal test
Aboveground Storage Tank Phase I & II EVR	TP-201.4 Dynamic back pressure
Pass Fall TP-206.3 Static pressure performance	Ex. 5 Fillneck vapor pressure Healy G-70-187
TP-201,4 Dynamic back pressure	Underground Storage Tank Phase I EVR
Image: TP-201.6C       Liquid removal test procedure         Image: TP-201.1E       Leak rate & cracking pressure of P/V vent valves         Image: TP-201.3B       AST static pressure performance         Image: TP-201.3B       AST static pressure performance         Image: TP-201.3B       Ex. 7	Pass       Fail         TP-201.3       2-inch WC static pressure         TP-201.1B       Static torque of rotable Phase I adaptors         TP-201.1C/D       Pressure integrity drop tube/drain valve         Leak rate & cracking pressure of P/V vent valves
Underground Storage Tank Phase II EVR - ASSIST	
Pass Fail       Ex. 4       Determination of static pressure performance of the Healy Clean Air Separator         Ex. 5       Vapor to liquid volume ratio         Ex. 7       Nozzle bag test procedure (start up and after drive off)         Ex. 8       Required items in conducting TP-201.3         Ex. 9       Liquid condensate trap compliance test	Ex. 9 Veeder-Root ISD operability test     Ex. 10 FFS INCON ISD operability test     Ex. 11 Liquid condensate trap compliance procedure     Ex. 12 Veeder-Root maintenance tracker (optional)
Underground Storage Tank Phase II EVR - BALANCE	Dana Fall
TP-201.3       Determination of 2-inch WC static pressure performance of VR systems         TP-201.4       Dynamic back pressure         Ex. 4       Required items in conducting TP-201.3         Ex. 5       Liquid removal test procedure (TP-201.6C)         Ex. 6       Required items in conducting TP-201.4         Ex. 7       Nozzle bag test procedure (annually per IOM)         Ex. 8       VST ECS; hydrocarbon sensor verification test procedure         Ex. 9       VST ECS; determination of processor activation pressure         Ex. 9       Vanor pressure sensor verification test procedure	Ex. 11       Veeder-Root vapor polisher; operability test procedure         Ex. 12       Veeder-Root vapor polisher; hydrocarbon emissions verification test procedure         Ex. 12       Veeder-Root vapor polisher; hydrocarbon emissions verification test procedure         Ex. 13       Hirt VCS 100 processor; operability test procedure         Ex. 14       Franklin fueling systems CAS; static pressure performance test procedure         Ex. 15       VST Green Machine compliance test procedure         Ex. 15       VST Green Machine compliance test procedure         Ex. 16       Liquid condensate trap compliance test procedure         Ex. 17       Veeder-Root, ISD operability test (flow meter test)         Ex. 18       Veeder-Root maintenance tracker security feature         Ex. 19       INCON flow meter operability test procedure

#### Section 3: Additional information

Comments/notes:

# **Rule 461 Vapor Recovery System Test Results Summary**

Your Gasoline Dispensing Facility (GDF) has <u>Passed</u> on or more of the following California Air Resources Board (CARB) Performance Tests on your Gasoline Vapor Recovery System:

TP-201.3	Static Pressure Performance Test (Leak = Decay)	D TP-201.1B	Static Torque of Rotatable Phase I Adaptors
□ TP-201.3B	Static Pressure Performance Test - Dispensing Facilities with AST's	□ <b>TP-201.1</b> C	Leak Rate of Drop Tube/Drain Valve Assembly
□ <b>TP-201.4</b>	Dynamic Back Pressure Test	d TP-201.1E	Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves
□ <b>TP-201.5</b>	Air to Liquid Ratio Test	□ TP-206.3	Static Pressure Performance Test - Dispensing Facilities with AST's
TP-201.6C	Liquid Removal Rate Test	D Other:	

Your Gasoline Dispensing Facility (GDF) has <u>Failed</u> on or more of the following California Air Resources Board (CARB) Performance Tests on your Gasoline Vapor Recovery System:

□ TP-201.3	Static Pressure Performance Test (Leak Decay)	□ TP-201.1B	Static Torque of Rotatable Phase I Adaptors
□ TP-201.3B	Static Pressure Performance Test - Dispensing Facilities with AST's	□ <b>TP-201.1C</b>	Leak Rate of Drop Tube/Drain Valve Assembly
□ TP-201.4	Dynamic Back Pressure Test	□ <b>TP-201.1E</b>	Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves
□ TP-201.5	Air to Liquid Ratio Test	□ TP-206.3	Static Pressure Performance Test - Dispensing Facilities with AST's
□ TP-201.6C	Liquid Removal Rate Test	D Other:	

Rule 461 (e)(5) states that the Owner/Operator shall not operate or resume operation of a Gasoline Transfer and Dispensing Facility, unless the facility has successfully passed the applicable Performance and Reverification Tests.

Continued operation of your Gasoline Dispensing Facility (GDF) without passing tests is a violation of AQMD and APCD Regulations and California Health and Safety Code. You may be subject to substantial financial and other legal penalties.

Notwithstanding the above, when a dispenser associated with any equipment that fails a reverification test, it must be isolated and shut down. The Owner/Operator may continue operation of the remaining equipment if the test results demonstrate that the remaining equipment is functioning in good operating comdition. All test results and the method of isolating the defective equipment shall be documented in the test reports to be submitted to the Executive Officer pursuant to subparagraph (e)(7)(C), and also maintained/logged in the O & M Manual on site.

In South Coast AQMD; You may seek administrative relief from the regulations by filing a petition with the Hearing Board. **Be aware that filing a petition for relief does not authorize you to dispense gasoline**; you must wait until the Hearing Board reviews your case. Information concerning the Hearing Board can be obtained by calling the Clerk of the Board at 909 396-2500 from 7:30 AM to 5:30 PM, Tuesday through Friday.

GDF Contact: M	ahnaz Ghamatí / 760 498-0549	Signature:	an Gh	ati	
Testing Person:	Marco Camargo	Signature:	AN I		
Testing Company:	Orange Coast Petroleum Equipment	30	Testing Person	ID No.:	175734
Facility Name:	Mojave Solar LLC		AQMD Facility	ID No.:	3130
Facility Address:	42124 Harper Lake Rd Hinkley, CA	92347	Date:	4/20/2	023
Testing Company: Facility Name: Facility Address:	Mojave Solar LLC 42124 Harper Lake Rd Hinkley, CA	92347	AQMD Facility Date:	ID No.: ID No.: 4/20/2	3130 023



### 2 Inch **Pressure Decay** TP201.3

Tes	ting	Com	pany
And in case of the local division of the loc		and the second se	the second s

Ref. No.: Notified			Testing Company			
AQMD Id:	3130					
Site Name: Mojave Solar LLC		Name:	Orange Coast Petroleum Equipment			
Address:	42124 Harper Lake Rd Hinkley, CA 92347		Address:	1015 N Parker St Orange, CA 92867		
Phone:	760 498-0	)549	Phone:	714 744-4049		
Phase I Syste	em?	402-D	Tanks	Manifolded?	No	
Phase II Syste	em?	G-70-52-AM	Vapor F	Pot Present?	No	
Total # of Nozz	les	1	Total # of Tanks	1		
Products per N	ozzle	1			C.1.7 11.1.7 L 98 <sup>4</sup>	

Tank Information		1	2	3	4	All
1.	Product Grade	87/UNLD				87/UNLD
2.	Actual Tank Capacity, gallons	2044				2044
3.	Gasoline Volume, gallons	1522				1522
4.	Ullage, (V) gallons (line #2 minus line#3)	522			S	522
127	Test Information	1	2	3	4	5
5.	Start time	7:30am	8am			
6.	Initial Test Pressure, inches H2O	2.00	2.00			
7.	Pressure after 1 minute, inches H2O	0.00	1.97		3	N.
8.	Pressure after 2 minutes, inches H <sub>2</sub> O	0.00	1.92			
9.	Pressure after 3 minutes, inches H <sub>2</sub> O	0.00	1.89		n	
10.	Pressure after 4 minutes, inches H <sub>2</sub> O	0.00	1.87			
11.	Pressure after 5 minutes, inches H2O	000	1.85			
12.	Allowable Final Pressure	1.28	1.28			
13.	Pass / Fail (Enter "GF" for Gross failure)	GF	Pass			

Requested Test Date.				
Requested Test Time.				
What type of pressure device used?				
Calibration date for pressure device (90 days).				
Enter initial tank ullage pressure (Vent if over 0.5 in. w.c., then start the 30 min no dispensing period)				
Enter flowmeter rate, F(Must be 1 to 5	CFM).			
Calculate ullage fill time, t2.		t2= V		
Calculate gross failure time (Twice t2).				
Enter ending value of drift test (Must b	e 0.01 in. w.c. or less).	2 2		
Record Vapor Coupler Integrity Test A	ssembly pressure after 1 m	inute and location.		
Nitrogen introduction point. Phase I va	apor coupler or Phase II vap	oor riser?		
Marco Camargo	Tester Id:	175734		
IACEO	Test Date:	4/20/2023		
	Requested Test Date. Requested Test Time. What type of pressure device used? Calibration date for pressure device (9 Enter initial tank ullage pressure (Vent if Enter flowmeter rate, F(Must be 1 to 5 Calculate ullage fill time, t2. Calculate gross failure time (Twice t2). Enter ending value of drift test (Must b Record Vapor Coupler Integrity Test A Nitrogen introduction point. Phase I va	Requested Test Date.         Requested Test Time.         What type of pressure device used?         Calibration date for pressure device (90 days).         Enter initial tank ullage pressure (Vent if over 0.5 in. w.c., then start the 30 min no end         Enter flowmeter rate, F(Must be 1 to 5 CFM).         Calculate ullage fill time, tz.         Calculate gross failure time (Twice tz).         Enter ending value of drift test (Must be 0.01 in. w.c. or less).         Record Vapor Coupler Integrity Test Assembly pressure after 1 m         Nitrogen introduction point.       Phase I vapor coupler or Phase II vapor         Marco Camargo       Tester Id:         Test Date:		
ojave esert

Liquid Removal TP 201.6 C

	Notified 3130 Mojave Soli	ar LLC				*Note: If usi	Testing C ng short versi Name:	ompany on, disregard a Orange Coa	<i>dhesion/evaporation column.</i> st Petroleum Equipment
.;;	42124 Harp Hinklev, CA	ber Lake Rd V 92347					Address:	1015 N Park Orange, CA	er St
	760 498-05	149					Phone:	714 744-404	61
ser	Product Grade	Gasoline Added (VI), ml.	Gasoline Dispensed (G), gal.	Dispense Time (T), sec.	Dispensing Rate (GPM) 60(G) / (T)	Gasoline Remaining (VF), ml.	Adhesion/ Evaporation (VVV), ml.	Removal Rate ml/gal (VI-VW-VF)/G	Comments (Liquid Drained - No Test required if less than 25mL)
	82/UNLD	o	o	5		·		1	0 Liquid Drained, No Test.
Name ure:		NUL V	Marco Camary	ob			Tester Id.: Test Date:		175734 4/20/2023



## Leak Rate and Cracking Pressure of P/V Vent Valves

Ref. No .:	Notified	
AQMD Id:	3130	
Site Name:	Mojave Solar LLC	
Address:	42124 Harper Lake Rd	
	Hinkley, CA 92347	
Phone:	760 498-0549	

## **Testing Company**

Name:	Orange Coast Petroleum Equipment
Address:	1015 N Parker St
	Orange, CA 92867
Phone:	714 744-4049

Calibration Date of Flow Meter:

Calibration Date of Pressure Gauge:

1/23/2023

P/V Valve M	Anufacturer:	Husky	Model Number:	5885	Pass/Fail:	Pass
Manufacture Positive Leal	r Specified k Rate (CFH):	.05	Manufacturer Sp Negative Leak R	ecified ate (CFH):	.21	
Measured Positive Leak Rate(CFH)		.03	Measured Negativ	e Leak Rate (CFH)	.04	
Positive Crack	ing Pressure (in. H2O)	3.03"	Negative Cracking	Pressure (in. H2O)	-8.26"	
Serial No.:	0080647461	Remove After Date:	2-2027	Next Test Due:	4-2024	

10/26/2022

P/V Valve Manufacturer:		Model Number:	Pass/Fail:
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):	
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)	
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)	
Serial No.:	Remove After Date:	Next Test Due:	

P/V Valve Manufacturer:		Model Number:	Pass/Fail:
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):	
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)	
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)	
Serial No.:	Remove After Date:	Next Test Due:	

P/V Valve Manufacturer:		Model Number:	Pass/Fail:
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):	
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)	
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)	
Serial No.:	Remove After Date:	Next Test Due:	

P/V Valve Manufacturer:		Model Number:	Pass/Fail:
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):	
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)	
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)	
Serial No.:	Remove After Date:	Next Test Due:	

Tester:	٢.	1	1
Signature:			

Tester Id:	175734	
Test Date:	4/20/2023	



Ref. Number:

Notified

# Repair Log:

Cracked / Leaky 4' Non-Venturi Coaxial Hose - Leaking Fuel Vapors

Installed 1ea. Goodyear 4' Non-Venturi Coaxial Hose - SN: 248712 & 248707

Damaged / Defective Mor Bros 4" Vapor Adaptor - Damaged Seal/Poppet

Installed 1ea. Mor Bros 323-0400-EVR 4" Vapor Adaptor

# Comments:

TP-201.3: Initial Test Failed = Gross Fail

Replaced Defective / Leaky EVR Components

Re-test after Repair: Passed

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

# **Appendix J**

# Air Quality 58

# **Gasoline Tank Usage**

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42134 Harper Lake Road Phone: 760 308 0400 Hinkley, California 92347

## **Submitted Electronically**

Subject:	09-AFC-5C
<b>Condition Number:</b>	AQ-58
Description:	Annual Fuel Throughput 2023
Submittal Number:	AQ58-07-00

January 22, 2024

Ashley Gutierrez, CPM California Energy Commission 1516 Ninth Street Sacramento, CA 95814 Ashley.Gutierrez@energy.ca.gov

May Mamari, Air Quality Engineer MDAQMD Mojave Desert Air Quality Management District 14306 Park Avenue Victorville, CA 92392 <u>mmamari@mdaqmd.ca.gov</u>

Ms. Gutierrez and Ms. Mamari,

The attached documentation is submitted for your records as stated on the Permit to Operate N011039 and as requested on a notification received on January 09, 2024. The form has been completed and is hereby attached.

The information contained in this submittal will also be part of the ACR as it calls for in the compliance.

For your convenience, included is the Compliance language below

**AQ-58**. The annual throughput of gasoline shall not exceed 600,000 gallons per year. Throughput Records shall be kept on site and available to District personnel upon request. Before this annual throughput can be increased the facility may be required to submit to the District a site-specific Health Risk Assessment in accord with a District approved plan. In addition, public notice and/or comment period may be required. [Regulation XIII; Rule 204]

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

**Verification:** The project owner shall submit to the CPM gasoline throughput records demonstrating compliance with this condition as part of the Annual Compliance Report. The project owner shall maintain on site the annual gasoline throughput records and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

Should you have any questions or comments, please do not t hesitate to contact me.

Sincerely,

Mahnaz Ghamati Quality, Environmental & Compliance Manager **ASI Operations LLC** 42134 Harper Lake Rd Hinkley, CA 92347 Cell: (760) 498-0549 mahnaz.ghamati@atlantica.com

Attachments: MDAQMD Throughput Fuel Dispensing Equipment form 2023 annual report.

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT BRAD POIRIEZ, EXECUTIVE DIRECTOR 14306 Park Avenue, Victorville, CA 92392-2310 760.245.1661 • www.MDAQMD.ca.gov • @MDAQMD

# Throughput Fuel Dispensing Equipment



Failure to respond no later than Feb. 28 will result in enforcement action.

# Emission year: 2023

Fill out sections in gray and return to Mojave Desert Air Quality Management District at the address listed at the top of this document, or email completed form to VaporRecoveryTesting@mdaqmd.ca.gov.

STATION NAME: Mojave Solar Project		COMPANY NUMBER: 1876		FACILITY NUMBER: 3130		DISTRICT PERMIT NUMBER: N011039
STATION ADDRESS: 42134 Harper Lake Rd		CITY: Hinkle	зy		STATE: CA	ZIP: 902347
TELEPHONE NUMBER: 760-308-0418			email addre mahnaz.gh	:ss: namati@	atlantica	a.com
	TYPE OF FUEL DISPENSED: Gasoline Diesel fuel Propane Aviation gas Ethanol Racing fuel	TOTAL 17,09 25,50	GALLONS DISP 90 58	PENSED IN	EMISSION	YEAR:
		CERTI	FICATION			
	I, Mahnaz Ghamati	NL.	, a resp	oonsibl	e officia	ll of
Mojave Solar Project			, hereby certify, based upon information and			
belief formed at	fter reasonable inqui	iry, tha	t the abov	ve infor	mation	is true, accurate and
complete. Ex	ecuted this 22	d	ay of <b>Janu</b>	ary MONT	н	, <u>2024</u> at
Mahnaz Ghama	San Bernardino ati	County	Y, California	The second Processor	 Mah	Inaz Ghamati, Compliance

# For questions or assistance, call 760.245.1661.

Page 1 of 1



# **GDF Throughput Record** Calendar Year 2023

Month	Gallons of Gasoline
January	2,228
February	1,014
March	2,261
April	812
Мау	1,845
June	1,834
July	1,199
August	1,382
September	1,390
October	844
November	1,100
December	1,180
Total for the Year	17,090



# **GDF Throughput Record** Calendar Year 2023

Month	Gallons of Diesel
January	12,551
February	4,400
March	1,100
April	1,101
Мау	686
June	800
July	703
August	801
September	1,503
October	824
November	1,100
December	0
Total for the Year	25,568

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

Appendix K

# Air Quality 63,65,66,72

# Carbon Adsorption System – Annual Test, Control Efficiency

42134 Harper Lake Road Phone: 760 308 0400 Hinkley, California 92347

### **Submitted Electronically**

Subject:	09-AFC-5C
Condition Number:	AQ-72
Description:	Annual Compliance Test for VOC & Benzene Emissions,
	Carbon System (09-AFC-5C) 2023
Submittal Number:	AQ72-15-01

October 2, 2023

Ashley Gutierrez, CPM California Energy Commission 1516 Ninth Street Sacramento, CA 95814 <u>Ashley.Gutierrez@energy.ca.gov</u>

Mrs. Gutierrez,

Pursuant to Condition of Certification AQ-72, we are submitting the Protocol for VOC & Benzene Emissions Testing on Carbon Adsorption systems of the Mojave Solar Project for your review and records.

Please accept this letter as a formal invitation to witness the test. The tentative schedule for the test is August 10<sup>th</sup>, 2023.

For your convenience, we are including the Compliance language below:

AQ-72: The project owner shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing is completed.

Verification:

The project owner shall provide a compliance test protocol to the District for approval and CPM for review at least thirty (30) days prior to the compliance tests. The project owner shall notify the District and the CPM within ten (10) working days before the execution of the compliance

42134 Harper Lake Road Phone: 760 308 0400 Hinkley, California 92347

tests required in AQ-73 and AQ-74, and the test results shall be submitted to the District and to the CPM within forty-five (45) days after the tests are conducted.

Should you have any questions or comments, please don't hesitate to contact me.

Sincerely,

Mahnaz Ghamati

Quality, Environmental & Compliance Manager **ASI Operations LLC** 42134 Harper Lake Rd Hinkley, CA 92347 Cell: (760) 498-0549 mahnaz.ghamati@atlantica.com

Attachments: Mojave Solar Project Annual VOC & Benzene Emissions, Carbon System Test report.

# SOURCE TEST REPORT FOR 2023 CARBON ADSORPTION SYSTEMS COMPLIANCE MOJAVE SOLAR, LLC HINKLEY, CALIFORNIA

Prepared For:

# Mojave Solar, LLC

42134 Harper Lake Road Hinkley, California 92347

For Submittal to:

# Mojave Desert Air Quality Management District

14306 Park Avenue Victorville, California 92392

Prepared By:

# Montrose Air Quality Services, LLC

1631 E. St. Andrew Pl. Santa Ana, California 92705 (714) 279-6777

Joe Rubio

Test Date:August 14, 2023Production Date:October 2, 2023Report Number:W002AS-028123-RT-5231





## **CONFIDENTIALITY STATEMENT**

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.



## **REVIEW AND CERTIFICATION**

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature: _	Joe Rulu	Date:	10/2/2023	
Name:	Joe Rubio	Title:	Client Project Manager	

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:	5. Hugh Brown	Date:	10/2/2023
	1.0		
Name:	S. Hugh Brown	Title:	Client Project Manager



## **GENERAL INFORMATION**

Source:	Carbon Adsorption System (CAS) – Alpha Carbon Adsorption System (CAS) – Beta
Source Location:	Mojave Solar, LLC 42134 Harper Lake Road Hinkley, California 92347
Contact:	Ms. Mahnaz Ghamati Telephone: (626) 233-1943 Email: mariaelena.lopez@atlantica.com
Permit Number:	C012015 – CAS Alpha C012016 – CAS Beta
Agency:	Mojave Desert Air Quality Management District 14306 Park Avenue Victorville, California 92392-4178
Contact:	Mr. Chris Anderson Telephone: (760) 245-1661 Email: canderson@mdaqmd.ca.gov
Source Test Contractor:	Montrose Air Quality Services, LLC 1631 E. St. Andrew Pl. Santa Ana, California 92705
Project Manager:	Joe Rubio Telephone: (714) 332-8486 Email: jrubio@montrose-env.com
Test Date:	August 14, 2023



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## 1.0 INTRODUCTION

Montrose Air Quality Services, LLC (MAQS) was hired by Mojave Solar, LLC to conduct source emissions tests on two (2) Carbon Adsorption Systems (CAS) located in Hinkley, California. The purpose of the test was to satisfy the compliance test requirements of the Mojave Desert Air Quality Management District (MDAQMD) Authority to Construct No. C012015 for the Alpha System and Authority to Construct No. C012016 for the Beta System.

A test plan (document W002AS-028123-PP-785 dated May 24, 2023) was submitted prior to the testing. Testing was performed by Joe Rubio, Project Manager, and Dominic Heredero, Field Technician. Dominic Heredero was the on-site Qualified Individual for MAQS. The test was coordinated by Mahnaz Ghamati of Mojave Solar. The District was notified but was not present during the test.



## 2.0 EQUIPMENT AND PROCESS DESCRIPTION

## 2.1 UNIT DESCRIPTION

Carbon adsorption system, HTF Ullage/Expansion System Alpha and Beta consisting of Authority to Construct Modification March 2020 to update carbon adsorption system having two (2) multibed carbon filter sets capturing ullage/expansion system emissions and having a high and lowpressure side. The expansion vessel vents on the high-pressure side and the overflow tank vents on the low-pressure side. The high pressure and low-pressure side each vent to three vertical carbon cylindrical vessels (carbon beds) described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister in standby, with other operating configurations for maintenance and high flow events. Both high pressure and low-pressure vent to atmosphere through one common stack.

<u>High Pressure Side</u> Dimensions: 54" OD bed x 114" side shell Bed Area: (53.25" ID) = 15.466 square feet Nominal Flow Rate (cfm): 1,546.60 CFM Carbon Capacity: 3,000 pounds Fittings: 8"

Low Pressure Side Dimensions: 36" OD bed x 108" side shell

### 2.2 PROCESS DESCRIPTION

The HTF expansion tank adsorbs any thermal dilation (both increase and reduction in volume) occurring in the HTF as a result of variations in temperature. The expansion tank must be free of atmospheric air to avoid degrading the HTF by oxygen and it must be pressurized to prevent the HTF from reaching its evaporation temperature. In order to achieve this, nitrogen is fed in when in the pressure in the tank drops, while nitrogen is expelled when the pressure in the tank increases as a result of an expansion in the HTF's volume. Nitrogen is expelled through the Ullage system to avoid releasing pollutant oil vapor into the atmosphere. This system is composed by an HTF Overflow Tank Vent Scrubber (MV-208), HTF Expansion Tank Vent Scrubber (MV-209); Carbon Filters (MF-206), and HTF Condensate Receiver Vessel (MV-207).

The Ullage system operates when the pressure in the HTF expansion header connected with the ullage system reach the remote set point in the vent control. This control (PIC-20626B) has a remote set point according with the pressure and the time, and the maximum value is 165 psia. Above this pressure, the vent valves will be full open in order to avoid overpressure in the system.

HTF vapors from the HTF Condensate Receiver Vessel (MV-207) or the HTF Overflow Tanks (MT-204A/B) are scrubbed in one of two scrubbers with cool HTF to condense as much HTF and low boilers (LB) as possible. The HTF used in these scrubbers comes from the HTF Tank Cooler (MX-205), normally at ±70°F. After the scrubbers, these remaining HTF vapor streams are combined and routed through a series of three carbon filters to remove as many organics (VOCDs/HAPS) as possible before the vapors are release into the atmosphere. There is a nitrogen blanket system set at 8 bara providing nitrogen to the HTF vapor system (all the way



back to the Expansion Vessels). The vent line to the carbon filters is designed to vent at 12 bara from the pressurized system but, the overflow system (that works at atmosphere pressure) start to vent at 14.40 psia, pressure set according with the pressure safety valve (PSV) in the overflow system.

There are two types of venting from the HTF system:

- 1. The venting of nitrogen due to HTF overflow tank breathing;
- 2. The daily venting of vapor space due to HTF expansion into the expansion vessels.

### 2.2.1 Overflow Tank Venting

As indicated above, during normal operation, there is no exchange of HTF or nitrogen between the expansion vessels and the overflow tanks. However, during the winter months when the HTF temperature drops below the normal daily range, some of the HTF in the overflow tanks may need to be transferred into the expansion vessels to maintain the minimum expansion tank's level. During these conditions, the overflow tank levels may fall and rise, thus requiring nitrogen space venting. The worst case would be if the HTF system became very cold (limited to 120°F) after a few days of sun, in which case all the HTF from the overflow tanks would be pumped back into the system. The next time the system is brought back to normal operation, all of the HTF that was pumped out of the overflow tanks would return to the overflow tanks. Under that condition, the total amount of nitrogen vented is calculated to be 24,731 ft<sup>3</sup> total for both plants. The overflow tanks have vent scrubbers on their stacks before feeding into the carbon filters. Nitrogen and HTF mixture to be released passes through these scrubbers where it is cooled to 117°F by the cooled liquid HTF stream flowing countercurrent. This overflow tank vent scrubber will condense most of the HTF vapor vented from the overflow tanks before reaching the carbon filters. The overflow tanks have a design temperature of 350°F, but the worst-case vapor space temperature has been calculated to be around 250°F. The overflow tanks are designed to be maintained at 150°F to minimize HTF venting but at the same time be sufficiently higher than the high heat tracing (electric heating) initiation temperature of 120°F. The overflow tank has a liquid HTF cooler to maintain this tank's temperature at 150°F.

### 2.2.2 Expansion Vessel Venting

As the HTF expands and contracts daily into and out of the expansion vessels, the low boilers LB's along with some vaporous HTF is released into the vapor space. To help this separation of LB's into the vapor space, a side stream of HTF is also be sprayed to the top of the expansion vessels continuously. As the expansion vessels fill up with HTF, the nitrogen space is compressed until the pressure reaches 12 bara, upon which the vent valve opens and allows any further expansion to force the vapor space through the ullage system. The nitrogen and vapors are pushed through the nitrogen ullage condenser, where most of the HTF and low boiler degradation products are condensed and collected in the low boiler condensate receiver vessel. The nitrogen and other non-condensable constituents will pass through the expansion vessel vent scrubber where the 117°F, countercurrent liquid HTF flow will bring even more HTF and low boilers into the liquid phase. The nitrogen, degradation products, and vaporous HTF remaining in the vapor phase at the exit of the scrubber will enter the carbon filters for further cleaning before venting into the atmosphere.



## 3.0 TEST DESCRIPTION

### 3.1 OPERATING CONDITIONS DURING THE TEST

Both CAS units were tested early in the morning during the peak venting time. The CAS was operated manually to simulate the normal operating condition since the low temperature did not allow the system to vent.

During the testing time, the scrubber's quench line (spray system) was closed to allow most of the gases to be detected at the inlet of the carbon beds, allowing the carbon beds to prove the minimum required 95% efficiency. Opening the quench line resulted on a high percentage reduction of VOC going through the ullage system downstream, which also resulted on a less amount of VOC detection at the carbon beds inlet. Since the calculations are based on the amount of VOCs reduction between the inlet and the outlet of the cannisters, this action allowed to better prove the beds' efficiency. Also, to be able to vent for the duration of the test, some HTF was transferred from the expansion vessel to the overflow tanks in order to build enough pressure to carry out the test.

### 3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS

Table 3-1 presents the dimensions of the sampling port locations.

MOJAVE SOLAR, LLC						
From Scrubber	High Pressure	Low Pressure				
Inlet Sample Port Diameter	8 Inches	4 Inches				
Outlet Sample Port Diameter	8 Inches	4 Inches				
From Expansion Tank						
Inlet Sample Port Diameter	8 Inches	4 Inches				
Outlet Sample Port Diameter	8 Inches	4 Inches				

#### TABLE 3-1 SAMPLING PORT LOCATIONS MOJAVE SOLAR, LLC

A line diagram of the CAS is presented as Figure 3-1.



Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

#### FIGURE 3-1 CAS DIAGRAM MOJAVE SOLAR, LLC CARBON ADSORPTION SYSTEM





## 3.3 SAMPLING AND ANALYTICAL PROCEDURES

Procedures that were used to collect the data are summarized in Table 3-2.

### TABLE 3-2 TEST PROCEDURES MOJAVE SOLAR, LLC

Parameters	Location	Method	Number of Tests	Duration
Flow Rate	Inlet and Outlet	CARB Method 2	2	5 Minutes
Hexane	Inlet and Outlet	EPA Method 18	2	5 Minutes
Benzene	Inlet and Outlet	CARB Method 410A	2	5 Minutes
Moisture Content	Inlet and Outlet	Dry Wet Bulb	2	5 Minutes

### 3.3.1 Velocity and Volumetric Flow Rate

The exhaust gas velocity and volumetric flow rate were determined according to the guidelines specified in CARB Methods 1 and 2.

#### 3.3.2 Moisture Content

The moisture content at the exhaust was determined by using dry and wet bulb temperature measurements.

### 3.3.3 Hexane and Benzene Emissions Testing

In order to minimize any chance of air intrusion into the sample, a 1" sample port was installed to collect all sampling. Prior to collecting each sample, MAQS measured the oxygen level in the inlet location using a Testo portable analyzer, Model 350XL. When no or little oxygen was measured with the Testo, MAQS proceeded with the sampling for benzene and hexane concentrations.

The concentrations of benzene and hexane was collected into SUMMA (specially-prepared stainless steel) canisters. The sampling system includes a stainless-steel probe and components that regulate the rate and duration of sampling into the pre-evacuated and passivated canisters. Each of the three samples were collected over a period of approximately five minutes. The samples were then delivered within 24 hours to a state certified lab, Quantum Laboratories in Carson, California. The samples were analyzed by packed column gas chromatography mass spectrophotometry (GC/MS).



## 4.0 TEST RESULTS

Test results indicate that both the Alpha and Beta CAS serving the HTF ullage/expansion system were found to be operating in compliance with the required 95% control efficiency of VOC emissions. Table 4-1 shows the analytical results of VOC as Hexane and Benzene sampling at the Alpha Plant along with the field measurements taken during the source test. Table 4-2 shows the results at the Beta Plant.

Additional information such as field data, calibrations and permits are located in the Appendices of this report.



#### TABLE 4-1 HEXANE AND BENZENE RESULTS ALPHA PLANT MOJAVE SOLAR, LLC CARBON ADSORPTION SYSTEM AUGUST 14, 2023

	Run No.	Location	Flow Rate DSCFM	Hexane ppm	Hexane Ib/hr	Destruction Efficiency, %	Benzene ppm	Benzene Ib/hr	Destruction Efficiency, %
Low Pressure (Lead = NB17) (Spare = NB15)	1	Inlet Exhaust	190 190	10,949 0.10	27.89 0.0003	100.0	10,627 0.77	24.5 0.0018	100.0
(Spare = NB16)	2	Inlet Exhaust	188 188	13,511 1.01	34.1 0.0025	100.0	13,087 0.77	29.9 0.0018	100.0
High Pressure (Lead = NB6) (Spare = NB5)	1	Inlet Exhaust	407 407	1,184 50	6.46 0.27	95.8	1,149 1.67	5.69 0.0083	99.9
(Spare = NB7)	2	Inlet Exhaust	531 531	1,146 54.3	8.17 0.39	95.3	1,057 2.75	6.83 0.0178	99.7
				Average		97.8%			99.9%



#### TABLE 4-2 HEXANE AND BENZENE RESULTS BETA PLANT MOJAVE SOLAR, LLC CARBON ADSORPTION SYSTEM AUGUST 14, 2023

	Run No.	Location	Flow Rate DSCFM	Hexane ppm	Hexane Ib/hr	Destruction Efficiency, %	Benzene ppm	Benzene Ib/hr	Destruction Efficiency, %
Low Pressure (Lead = NB20) (Spare = NB18)	1	Inlet Exhaust	55 55	6,807 19.5	5.02 0.0144	99.8	16,509 0.73	11.05 0.00049	100.0
(Spare = NB19)	2	Inlet Exhaust	61 61	17,217 16.1	14.19 0.0133	99.8	16,974 0.49	12.69 0.00037	100.0
High Pressure	1	Inlet Exhaust	578 578	643 9.97	4.98 0.0772	99.2	679 1.55	4.77 0.01086	99.2
(Spare = NB9) (Spare = NB9) (Spare = NB10)	2	Inlet Exhaust	586 586	1,637 10.15	12.86 0.0798	99.7	1,396 1.47	9.95 0.01045	99.7
				Average		99.4%			99.9%



Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

# APPENDIX A TEST DATA



Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

# Appendix A.1 Field Data



FACILITY: SOURCE: DATE:	Mojave Solar Alpha - Low Pressure 8/14/2023		
STANDARD TEMP	(EPA = 68 DEG.)	68	
Lead Canister:	No. 17		
Standby Canister:	No. 15		
Standby Canister:	No. 16		
RUN NUMBER		1	2
FIELD DATA INPU	TS:		
BAROMETRIC PRE	ESSURE (Pb)	27.93	27.93
STACK DIAMETER	R (inches)	4.00	4.00
RELATIVE HUMID	ITY (%)	44.0	44.0
STACK TEMP (DE	G. F)	76	75
VAPOR PRESSUR	E of H2O (" Hg)	0.9046	0.875
STACK VELOCITY	(FT/MIN)	2,400	2,370
FLOW RESULTS:			
MOISTURE (%)		1.43	1.38
ACTUAL CFM		209	207
STANDARD CFM		193	191
DRY STANDARD (	CFM	190	188

FACILITY: SOURCE: DATE:	Mojave Solar Alpha - High Pressure 8/14/2023				
STANDARD TEMP	(EPA = 68 DEG.)	68			
Lead Canister:	No. 6				
Standby Canister:	No. 5				
Standby Canister:	No. 7				
RUN NUMBER			1	2	
FIELD DATA INPU	TS:				
BAROMETRIC PRE	ESSURE (Pb)		27.93	27.93	
STACK DIAMETER	R (inches)		8.00	8.00	
RELATIVE HUMID	ITY (%)		49.0	49.0	
STACK TEMP (DE	G. F)		72	76	
VAPOR PRESSUR	E of H2O (" Hg)		0.7648	0.9046	
STACK VELOCITY	(FT/MIN)		1,275	1,682	
FLOW RESULTS:					
MOISTURE (%)			1.34	1.59	
ACTUAL CFM			445	587	
STANDARD CFM			412	540	
DRY STANDARD (	CFM		407	531	

FACILITY: SOURCE: DATE: STANDARD TEMP	Mojave Solar Beta - Low Pressure 8/14/2023 (EPA = 68 DEG.)	68		
Lead Canister: Standby Canister: Standby Canister:	NB20 NB18 NB19			
RUN NUMBER			1	2
FIELD DATA INPU	TS:			
BAROMETRIC PRI	ESSURE (Pb)		27.93	27.93
STACK DIAMETER	R (inches)		4.00	4.00
RELATIVE HUMID	ITY (%)		42.0	42.0
STACK TEMP (DE	G. F)		79	77
VAPOR PRESSUR	E of H2O (" Hg)		0.9989	0.9352
STACK VELOCITY	(FT/MIN)		700	778
FLOW RESULTS:				
MOISTURE (%)			1.50	1.41
ACTUAL CFM			61	68
STANDARD CFM			56	62
DRY STANDARD (	CFM		55	61

FACILITY:Mojave SolarSOURCE:Beta - High PressureDATE:8/14/2023STANDARD TEMP (EPA = 68 DEG.)	68	
Lead Canister:NB8Lag Canister:NB9Standby Canister:NB10		
RUN NUMBER	1	2
FIELD DATA INPUTS: BAROMETRIC PRESSURE (Pb) STACK DIAMETER (inches) RELATIVE HUMIDITY (%) STACK TEMP (DEG. F)	27.93 8.00 42.0 76	27.93 8.00 42.0 76
STACK VELOCITY (FT/MIN)	0.9046 1,824	0.9046 1,850
FLOW RESULTS: MOISTURE (%) ACTUAL CFM STANDARD CFM DRY STANDARD CFM	1.36 637 585 578	1.36 646 594 586

ALPHA PLANT	Run No	). Location	Flow Rate DSCFM	VOC as Hexane ppm	Hexane Ib/hr	Control Efficiency	Benzene ppm	Benzene Ib/hr	Control Efficiency
Alpha Low Pressure	~	Inlet Exhaust	190 190	10,949 0.1	27.89 0.0003	100.0	10,627 0.77	24.5 0.0018	100.0
Alpha Low Pressure	2	Inlet Exhaust	188 188	13,511 1.01	34.1 0.0025	100.0	13,087 0.77	29.9 0.0018	100.0
Alpha High Pressure	-	Inlet Exhaust	407 407	1,184 50	6.46 0.27	95.8	1,149 1.67	5.69 0.0083	6.66
Alpha High Pressure	Ν	Inlet Exhaust	531 531	1,146 54.3	8.17 0.39	95.3	1,057 2.75	6.83 0.0178	99.7
						97.8			6.66
BETA PLANT	Run No	). Location	Flow Rate DSCFM	VOC as Hexane ppm	Hexane Ib/hr	Control Efficiency	Benzene ppm	Benzene Ib/hr	Control Efficiency
Beta Low Pressure	<del></del>	Inlet Exhaust	55 55	6,807 19.5	5.02 0.014	2.66	16,509 0.73	11.1 0.00049	100.0
Beta Low Pressure	7	Inlet Exhaust	61 61	17,217 16.1	14.19 0.013	6.66	16,974 0.49	12.7 0.00037	100.0
Beta High Pressure	-	Inlet Exhaust	578 578	643 9.97	4.98 0.077	98.4	679 1.55	4.77 0.011	<u>99.8</u>
Beta High Pressure	0	Inlet Exhaust	586 586	1,637 10.2	12.86 0.080	99.4	1,396 1.47	9.95 0.010	<u>99.9</u>
						99 <u>.</u> 4			<u>6'66</u>

Mojave Solar 8/14/2023

Facility: Date Tested:

$\frac{M21AVE SCAME}{H16H ACPHA CON PLETHA TELOH LEAD - MMEG LEAD - MIETA TELOH LEAD - MMEG LEAD - MIETA 23.931H3 STREE - AMETA SPACE - AMETA PART - MMS 5 SPACE - MIETS Wighte ACPHA HIGH PUNI Q 2658 [1275 Ppn 02 = 0.1] EH 2 4970, Mag. CHTE PUNI Q 2658 [1282 Ppn 02 = 0.1] EH 2 4970, Mag. CHTE PUNI Q 2658 [1282 Ppn 02 = 0.1] EH 2 4970, Mag. CHTE PUNI Q 2658 [1282 Ppn 02 = 0.1] EH 2 4970, Mag. CHTE PUNI Q 2610 3400 Ppn 02 = 1.96 PH 2 4970, PET 342P PUNI Q 2610 3400 Ppn 02 = 1.96 PH 2 4970, PET 342P PUNI Q 2610 3400 Ppn 02 = 1.96 PH 2 4970, PET 342P PUNI Q 2610 3400 Ppn 02 = 1.96 PH 2 4970, PET 342P PUNI Q 2610 3400 Ppn 02 = 1.96 PH 2 4970, PET 342P PUNI Q 2610 3400 Ppn 02 = 0.90 PH 20 SPACE - BME 03 CHACC - BME 10 SPACE - BME 03 CHACC - BME 20 SPACE - BME 03 CHACC - BME 10 SPACE - BME 03 CHACC - BME $			
MOJAVE SCAR         B/14/25           H16P ALPHA         LOW PLEHA         TE/OH           LEAD - MME 6         LEAD - MME 17         27.93"Hz           SMACE - AME 7         SMACE - MME 16         27.93"Hz           SMACE - AME 7         SMACE - AME 15         27.93"Hz           SMACE - AME 5         SPACE - AME 15         POET 72°F           PUN 1         @755         PPD 02 = 0.11         EH 2 1970.         AME 2 41°           PUN 1         @755         LEAD 02 = 0.02         EH 2 1970.         AME 2 41°           PUN 1         @755         LEAD 02 = 0.03         EH 2 1970.         AME 2 41°           PUN 1         @755         LEAD 02 = 0.03         EH 2 1970.         AME 2 41°           PUN 1         @755         LEAD 02 = 0.03         EH 2 1970.         AME 2 41°           PUN 2         @10         2400 FPM         022 1.94         EH 2 1970.         PUN 2 2 2017.           PUN 2         @16         23.305 FPM         022 2.012         EH 2 1470.         PET 2 40°           PUN 2         @16         2400 FPM         022 2.01         EH 2 10         PET 2 40°           SPARE - BHF 67         CEAD - BME 13         SPARE         PET 10         SPARE 20 <td< th=""><th></th><th></th><th></th></td<>			
MOJAVE         SULAE         SULE         SULE <th< th=""><th>-</th><th></th><th></th></th<>	-		
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$ \begin{array}{c cr} CRO - AMF6 & ILEAD - AMF17 & 37.93 Hz STACC - AMF7 & this - AMF16 this - AMF7 & this - AMF16 this - AMF5 & SPACE - AMF15 Complete ALPHA HIGH POLY - AMF15 Complete ALPHA HIGH POLY - AMF15 Complete ALPHA HIGH POLY - AMF15 Complete RUN 2 (2958 1/682 Ppm 02 = 0.11 RH2 49% AMF6 - 2057 RUN 2 (2958 1/682 Ppm 02 = 0.03 RH2 49% AMF6 - 2057 RUN 1 (2 810 3,400 Ppm 02 = 1.96 PH = 24% Poly - 2057 RUN 1 (2 810 3,400 Ppm 02 = 1.96 PH = 24% Poly - 2057 RUN 2 (2 810 3,400 Ppm 02 = 2.9% RH = 24% Poly - 2057 RUN 2 (2 810 3,400 Ppm 02 = 2.9% RH = 2057 RUN 2 (2 810 3,400 Ppm 02 = 2.9% RH = 0 - 2057 RUN 2 (2 817 2,330 Ppm 02 = 2.9% RH = 2057 RUN 2 (2 817 2,330 Ppm 02 = 2.9% RH = 2057 SPACE - RHF 01 CRACC - BMF-15 SPACE - BMF 01 CRACC - BMF-15 SPACE - CME10 SPACE - 6MF-18 SAFE - CME10 SPACE - 6MF-18 SFACE - RHF 01 CRACC - BMF-15 SFACE - CME10 SPACE - 6MF-18 SFACE - CME10 SPACE - 6MF-18 SFACE - RHF 01 CLE 0, PD RH = 427. FORT = 3677 RUN 1 (2 813 1,821 Fpm 02 = 0.0 RH = 427. FORT = 3677 RUN 2 (2 813 138 Fpm 02 = 0.79 RH = 427. FORT = 3677 RUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm 02 = 0.79 RH = 4172 F0RT = 377 CUN 2 (2 853 138 Fpm $		ItIGH ALPHA LOW ALPHA	JE/DH
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$\frac{4764}{97464} - 10455 - 507762 - 1016 - 15 - 15 - 15 - 15 - 15 - 15 - 15 - $		SPARE - AMEZ - AMEIG	
$\frac{1}{2} \frac{1}{2} \frac{1}$		tAd Server AME 15	
ALPHA HIGH       POET 7247         PUN 1 @ 753       @ 1275         PUN 2 @ 758 $1/632$ pm         QUN 2 @ 759 $0/22$ 0.0         PHE 0 % $1/632$ pm         QUE 0 ~ 9007 970 $0/22$ 0.0         PHE 0 % $1/632$ pm         SPARE - 6ME 10 $5/242$ pm         SPARE - 6ME 10 $6/220$ pm		E SPARE	
PUN 1 @353 @42755 Ppm 02 = 0.11 $PH = 9920$ $Meg = 6477$ $PUN 2$ @358 $1/682$ Ppm 02 = 0.02 $PH = 9920$ $Meg = 787$ $PUN 1$ @ 810 $2/602$ Ppm 02 = 1.96 $PH = 2.9470$ $Per = 3677$ $PUN 2$ @ 810 $2/602$ Ppm 02 = 2.972 $PH = 2.9470$ $Per = 3677$ $PUN 2$ @ 810 $2/602$ Ppm 02 = 2.972 $PH = 2.9470$ $Per = 3677$ $PUN 2$ @ 817 $2/37070$ $PH = 2.9470$ $Per = 3677$ $PUN 2$ @ 816 08 $EEA0 - BMF 20$ $PH = 7877$ $PH = -99$ $CPARC - BMF - 17$ $SPARE - 6MF - 18$ $SPARE - 8MF 09$ $CPARC - BMF - 18$ $SF$ $PUN 1$ @ 837 $1/82470$ $02 = 0.11$ $PH = 4270$ $Por = 3877$ $PUN 1$ @ 837 $1/82470$ $02 = 0.20$ $PH = 4270$ $Por = 3877$ $PUN 1$ @ 837 $1/82470$ $02 = 0.79$ $PH = 4270$ $Por = 3877$ $PUN 1$ @ 837 $1/82470$ $02 = 0.79$ $PH = 4270$ $Por = 3877$ $PUN 1$ @ 837 $1/82470$ $02 = 0.79$ $PH = 4270$ $Por = 3877$ $PUN 1$ @ 833 $1/80070$ $02 = 0.79$ $PH = 4270$		ALPHA HIGH	PORT 720P
$EUN 2 = 2758$ $1/682$ $Ppn 02 = 0.03$ $EH = 4930$ $Padde = 36^{2}$ $ALPHA LOW$ $HTO = 78^{2}$ $PH = 4470$ $Per = 36^{2}$ $RUN1 = 0.810$ $3/16^{2}$ $2/370^{2}$ $PH = 4470^{2}$ $Per = 36^{2}$ $RUN1 = 0.810$ $3/16^{2}$ $2/370^{2}$ $PH = 4470^{2}$ $Per = 36^{2}$ $RUN2 = 0.512$ $2/370^{2}$ $PH = 4470^{2}$ $Por = 370^{2}$ $RETA HJOH$ $BETA LOW$ $UEA0 = BMF08$ $LEA0 = BMF-13$ $VEA0 = BMF08$ $LEA0 = BMF-13$ $SFE = -6ME-15$ $SPARE = 6ME-15$ $SPAEE = 6ME-18$ $SFE = 38^{2}r^{2}$ $SPARE = 0.011^{2}$ $BETA = 0.02^{2}$ $PH = 427^{2}$ $Por = 24^{2}r^{2}$ $RUN = 0.812$ $1/824Fpn = 0.220.0$ $PH = 427^{2}$ $Por = 24^{2}r^{2}$ $RUN = 0.812$ $1/824Fpn = 0.220.0$ $PH = 427^{2}$ $Por = 24^{2}r^{2}$ $RUN = 0.814^{2}$ $1/850$ $PH = 0.2^{2}0.79$ $PH = 127^{2}r^{2}$ $Por = 27^{2}r^{2}r^{2}$ $RUN = 0.833$ $1/86$ $PH = 0.2^{2}0.79$ $PH = 417^{2}r^{2}$ $Por = 27^{2}r^{2}r^{2}r^{2}$ $RUN = 0.833$ $1/867pn - 0.22^{2}0.79$ $PH = $		RUN 1 (2353 (2705 FPM 02 = 0,1) EH= 49	To AMB - 64"F
Λερμα ιου       μπο: 78°         RUNI @ GIO       2,400 Fpm       02: 1.96       21.4 2.47%       21.57 2.45%         RUNZ @ SIK       2,370 Fpm       02: 2.4%       21.5 2.4%       21.5 2.5%         BETA HIGH       BETA LOW       16.60       21.50 Fpm       02: 2.4%       21.5 2.4%         SETA HIGH       BETA LOW       16.60       21.5%       21.5%       21.5%       21.5%         SETA HIGH       BETA LOW       16.60       16.60       30.5%       21.5%       21.5%         SPREE       BHF 03       CRACC       BMF-13       56         SPREE       GME 10       SPREE       60.5%       57.6%         SPREE       GME 10       SPREE       60.5%       56         BETA HIGH       MAB = 35°       76       76       76         RUN 1 @ 837       1,824 Fpn       02: 0.10       21.42%       70.657 : 23.7%         BETA       I.850 fpn       02: 0.0       21.42%       70.657 : 23.7%         SETA       I.850 fpn       02: 0.0       21.42%       70.657 : 23.7%         RUN 2 @ 853       738 fpn       02: 0.79       21.42%       70.657 : 23.7%         SETA       I.850 fpn       02: 0.79       21.42%		FUN 2 @ 758 1/682 Fpm 02 = 0.02 FH = 49	76 AM3: 76 F
ALPHA       LOW       MILE         RUNI @ 810       2,400 Fpm $C_2 = 1.96$ PH = 44%       PH = 24%         RUNZ @ 815       2,370 Fpm $O_{22} = 2.470$ PH = 44%       PH = 24%         RUNZ @ 815       2,370 Fpm $O_{22} = 2.470$ PH = 44%       PH = 24%         RUNZ @ 815       2,370 Fpm $O_{22} = 2.470$ PH = 44%       PH = 24%         RUNZ @ 816       LEAD - BM = 08       LEAD - BM = 20       SPARE			100 = 78°
$2UN1$ ( $0$ 810 $2,400$ Fpm $C_{22} = 1.9.6$ $PLA = UATO       PLA = $		ALPHA LOW	147. DISE 26'F
PUNZ $@ 51K$ 2370 Fpm $0_{22}$ $2.475$ PL = 44.66       FOD = 24.1         BETA H16H       BETA LOW         LEAD - BMF 08       LEAD - BMF 20         SPARE       BMF 09 $\zeta PARC - BMF - 19$ SPARE       BMF 09 $\zeta PARC - BMF - 19$ SPARE       GMF 10       SPARE - 6MF - 18         SPARE       GMF 10       SPARE - 6MF - 18         SETA H16H       AMB = 38*F         PUN 1 (@ 833       1,824 Fpn       022 0.1         RUN 2 (@ 812       1,850 fpn       022 0.0       RH = 427         RUN 2 (@ 812       1,850 fpn       022 0.0       RH = 427         SETA       MME 33       1,824 Fpn       022 0.0       RH = 427         RUN 2 (@ 842       1,850 fpn       022 0.0       RH = 427       9087 = 38*7         RUN 2 (@ 853       338 fpn       022 0.79       RH = 427       9087 = 37*         CUN 2 (@ 853       338 fpn       022 0.79       RH = 427%       7087 = 37*		RUNI @ 810 2,400 Fpm 02= 1.96 RH= 0	11) PETE
BETA HIGH         BETA LOW           LEAD - BHF08         LEAD - BMF20           SPARE - BHF09         CPARC - BMF-19           SPARE - GME1D         SPARE - GMF18           BETA HIGH         MAB = 35° F           RUN 1 @ 837         1,824 Fpn 02 = 0.11           BETA         MAB = 35° F           RUN 2 @ 812         1,850 fpn 02 = 0.0           BETA         MAB = 36° F           RUN 2 @ 812         1,850 fpn 02 = 0.0           RUN 2 @ 812         1,850 fpn 02 = 0.0           RUN 2 @ 833         708 fpn 02 = 0.70           RUN 2 @ 853         738 fpn 02 = 0.79           RUN 2 @ 853         738 fpn 02 = 0.79           RUN 2 @ 853         738 fpn 02 = 0.79           RUN 2 @ 853         738 fpn 02 = 0.79           RUN 2 @ 853         738 fpn 02 = 0.79		RUNZ @ 815 2,370 Fpm 02= 2,420 RH = 0	1940 POD: 75
BETA HIGH       OUTR COM         UEAD - BHF0B       LEAD - BMF20         SPARE - BMF09       SPARE - BMF-19         SPARE - GME1D       SPARE - 6 MF18         BETA HIGH       SPARE - 75		BETHIOU	
Image: CEAO - BMF 03       CEAO - BMF-18         SPARE - BMF 09       CPARC - BMF-18         SPARE - GME 10       SPARE - 6 ME 18         BETA       PABE - 30°F         RUN 1 @ 833       1,824 Epn       02:0.0         RH: 427       POFT = 36°F         RUN 2 @ 842       1,850 fpn       02:0.0         RH: 427       POFT = 36°F         RUN 2 @ 849       300 fpn       02:0.0         RH: 427       POFT = 36°F         RUN 2 @ 853       338 fpn       02:0.39         PH: 4270       POFT = 318         RUN 2 @ 853       338 fpn       02:0.39         RUN 2 @ 853       348 fpn       02:0.39		BEIA HIOH STAD - BMF 20	
SPARE       - BMF 01       CHARLE       OTT THE         SPARE       - BMF 01       SPARE       - BMF 18         BETA       SPARE       - BMF 18       - BMB = 38° F         RUN 1 @ 837       1,824 Fpn       02=0.0       RH = 427       PORT = 36° F         RUN 2 @ 812       1,850 fpn       02=0.0       RH = 427       PORT = 36° F         BETA       PUL @ 849       300 fpn       02=0.70       RH = 427       PORT = 37°         CUN 2 @ 853       338 fpn       02=0.79       RH = 427       PORT = 37°         CUN 2 @ 853       338 fpn       02=0.79       PH = 427       PORT = 37°		LEAD - BMF00 LEBU D	
SPARE     - GME 16     STARE     ONT 10       BETA     PBB = 35° F       RUN 1 @ 837     1,824 Fpn 02 = 0.11     PH = 42°       RUN 2 @ 812     1,850 fpn 02 = 0.0     RH = 42°       BETA     PME = 36° F       PUU 1 @ 849     700 fpn 02 = 0.70       PUU 1 @ 853     738 fpn 02 = 0.70		SPARE - BME 07 STARE DIVISION	
BETA HIGH       PAB = 35°         PUNI@ 837       1,824 Fpn 02 = 0.11       PH = 42°       POPT = 36°         RUN 2 @ 812       1,850 fpn 02 = 0.0       RH = 42°       PORT = 36°         BETA       NMB = 56°       NMB = 56°         RUN 2 @ 812       1,850 fpn 02 = 0.0       RH = 42°       PORT = 36°         BETA       NMB = 56°       NMB = 56°         RUN 2 @ 841       300 fpn 02 = 0.70       RH = 42°       PORT = 39°         RUN 2 @ 853       338 fpn 02 = 0.39       PH = 41°       PORT = 34°         RUN 2 @ 853       338 fpn 02 = 0.39       PH = 41°       PORT = 34°		SPARE - BMEID SPARE UNITIO	*
BETA HIGH     PARD - 40"       PUNI@ 837     1,824 Fpn 02:0.0     PH: 427     POPT: = 76 Fe       RUN 2@ 842     1,850 fpn 02:0.0     RH: 427.     POPT: = 36 %       BETA     MMB: 36     POPT: = 0,70     RH: 427.     POPT: = 79       PUUI@ 849     300 fpn 02:0.70     RH: 427.     POPT: = 79       PUUI@ 849     300 fpn 02:0.70     RH: 427.     POPT: = 79       PUUI@ 849     300 fpn 02:0.79     RH: 427.     POPT: = 79       PUUI@ 853     338 fpn 02:0.79     PH: 427.     POPT: = 37			- 10 - 16° E
RUNI@837       1,824 Fpn       02:0.1       RH: 420       100 Fpn         RUN 2@842       1,850 fpn       02:0.0       RH: 427       FORT := 36 Tr         BETA       MIB: 90       Provide fpn       02:0.0       RH: 427       FORT := 36 Tr         BETA       MIB: 90       Provide fpn       02:0.0       RH: 427       FORT := 36 Tr         BETA       Provide fpn       02:0.70       RH: 427       FORT := 37         CUN 2       853       738 fpn       02:0.79       RH: 427       FORT := 37         CUN 2       853       738 fpn       02:0.79       RH: 427       FORT := 37		BETA HIGH	AND - H
<u>кин 2 С 812 1,850 fpn 02:0,0</u> <u>RH: 427.</u> <u>рокт = 46 0</u> <u>ВЕТА</u> <u>риц С 849 700 fpn 02:0,70</u> <u>RH: 429.</u> <u>рокт = 79</u> <u>син 2 С 853 738 fpn 02:0,79</u> <u>ен: 427.</u> <u>гокт = 37</u>		RUNI@ 837 1,824 Fpn 02=0.11 RH= 426	POPT = 70 60
<u>BEIR</u> <u>PUUI @ 849 700 FPN UL= 0,70 FPH - 4290 β0FT = 79</u> <u>CUN 2 @ 853 778 Fpn 07=0.79 PH = 4270 </u> POFT = 77 <u>CUN 2 @ 853 778 Fpn 07=0.79</u> PH = 4270 POFT = 77 475		RUN 2 @ 812 1,850 fpn 02=0.0 RH= 421	e gort = the v
<u>ВЕТА</u> рабора 02: 0,70 RH - 4290 8001 - 74 2002 @ 853 778 fpm 02: 0,79 PH = 4276 rot = 77 2002 @ 853 778 fpm 02: 0,79 PH = 4276 rot = 77 475			
<u>ВЕТА</u> <u>PUUI @ 849 700 fpn UL= 0,70 RH- 4270 80ef = 79</u> <u>CUN2 @ 853 738 fpn 07=0.79 PH= 4276 РОЕТ = 77</u> <u>CUN2 @ 853 738 fpn 07=0.79 PH= 4276 РОЕТ = 77</u> 475		17.54	AMB: 75
EVDI @ 841 100 111 02 111 02 111 122 POFT = 77 EVD2 @ 853 738 fpm 02=0.79 PH= 422 POFT = 77 AT5		BEIA 0 919 300 600 121 = 0.70 RH = 42	7. PORT = 79
475		PULL @ 841 100 11 02 0.79 PH= 4	270 POFT = 77"
475		eun 2 (2 033 170 1pt 02-011	
475			
475			
475			
475	90 - C		
475	5		
	3	475	

Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

# Appendix A.2 Laboratory Data





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CLIENT	MONTROSE
<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>
LABORATORY NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

# Laboratory Analysis Report

Analysis Method	EPA 18				
Detection Limits	0.1 PPMV				
	Sample ID	ALPHA Low Inlet R1	ALPHA Low Exh. R1	ALPHA Low Inlet R2	ALPHA Low Exh. R2
	Sampling Date	8/14/2023	8/14/2023	8/14/2023	8/14/2023
	Sampling Time	-	-	-	-
	Lab ID	22823-13	22823-5	22823-14	22823-6
	Units	PPMV	PPMV	PPMV	PPMV
C1 - Methane		147.4	93.8	312.3	100.3
C2 - Ethane, Ethylene		157.7	< 0.1	173.1	< 0.1
C3 - Propane, Propyle	ne	148.4	< 0.1	160.0	< 0.1
C4 - Butanes		39.36	< 0.1	80.00	< 0.1
C5 - Pentanes		28.16	< 0.1	43.03	< 0.1
C6 - Hexanes		23.0	< 0.1	32.7	< 0.1
C6+ (including Benzene)		10745	< 0.1	13246	1.01
TOTAL VOC as Hexane	including Ethane	10949	0.00	13511	1.01

Dr. Andrew Kitto President


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CLIENT	MONTROSE
<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>
LABORATORY NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

## Laboratory Analysis Report

Analysis Method	EPA 18						
Detection Limits	0.1 PPMV	0.1 PPMV					
	Sample ID	Sample IDALPHA High Inlet R1ALPHA High Exh. R1ALPHA High Inlet R2ALPHA High Exh. R2					
	Sampling Date 8/14/2023 8/14/2023 8/14/2023 8/14/2023						
	Sampling Time	-	-	-	-		
	Lab ID	22823-9	22823-1	22823-10	22823-2		
	Units	PPMV	PPMV	PPMV	PPMV		
C1 - Methane		106.6	90.7	112.9	91.6		
C2 - Ethane, Ethylene		77.0	57.8	80.2	63.5		
C3 - Propane, Propyle	ne	45.4	50.4	45.8	54.6		
C4 - Butanes		8.55	1.9	8.04	2.2		
C5 - Pentanes		3.43	<0.1	2.41	<0.1		
C6 - Hexanes		<0.1	<0.1	1.20	<0.1		
C6+ (including Benzen	ie)	1125	2.8	1086	2.8		
TOTAL VOC as Hexane	including Ethane	1184	50.0	1146	54.3		

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CLIENT	MONTROSE
<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>
LABORATORY NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

## Laboratory Analysis Report

Analysis Method	EPA 18					
Detection Limits	0.1 PPMV					
	Sample IDBETA LowBETA LowBETA LowBETA LowInlet R1Exh. R1Inlet R2Exh. R2					
	Sampling Date	8/14/2023	8/14/2023	8/14/2023	8/14/2023	
	Sampling Time	-	-	-	-	
	Lab ID	22823-15	22823-7	22823-16	22823-8	
	Units	PPMV	PPMV	PPMV	PPMV	
C1 - Methane		95.7	54.0	99.1	49.6	
C2 - Ethane, Ethylene		75	53.9	67.9	44.6	
C3 - Propane, Propyle	ene	48	< 0.1	55.3	< 0.1	
C4 - Butanes		25	< 0.1	<0.1	< 0.1	
C5 - Pentanes		33	< 0.1	<0.1	< 0.1	
C6 - Hexanes		10	<0.1	0.00	<0.1	
C6+ (including Benzer	ne)	6701	0.7	17165	0.5	
TOTAL VOC as Hexan	e including Ethane	6807	19.5	17217	16.1	

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CLIENT	MONTROSE	
<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>	
LABORATORY NO:	23-874	
SAMPLING DATE:	08/14/23	
<b>RECEIVING DATE:</b>	08/16/23	
ANALYSIS DATE:	08/16/23	
<b>REPORT DATE:</b>	08/24/23	

## Laboratory Analysis Report

Analysis Method	EPA 18						
Detection Limits	0.1 PPMV	0.1 PPMV					
	Sample ID BETA High BETA High BETA High BETA High Inlet R1 Exh. R1 Inlet R2 Exh. R2						
	Sampling Date	Sampling Date 8/14/2023 8/14/2023 8/14/2023 8/14/2023					
	Sampling Time	-	-	-	-		
	Lab ID	22823-11	22823-3	22823-12	22823-4		
Analyyte	Units	PPMV	PPMV	PPMV	PPMV		
C1 - Methane		57.5	38	54.7	38.5		
C2 - Ethane, Ethylene		40.5	23	40.1	24.8		
C3 - Propane, Propyle	ne	15.12	< 0.1	15.53	<0.1		
C4 - Butanes		<0.1	< 0.1	< 0.1	< 0.1		
C5 - Pentanes		<0.1	< 0.1	< 0.1	<0.1		
C6 - Hexanes		<0.1	<0.1	< 0.1	<0.1		
C6+ (including Benzen	e)	621	2.01	1615	1.48		
TOTAL VOC as Hexane	including Ethane	643	9.97	1637	10.15		

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CLIENT	MONTROSE		
<b>CLIENT PROJ NO:</b>	Mojave Solar		
LABORATORY NO:	23-874		
SAMPLING DATE:	08/14/23		
<b>RECEIVING DATE:</b>	08/16/23		
ANALYSIS DATE:	08/16/23		
<b>REPORT DATE:</b>	08/24/23		

## Laboratory Analysis Report (QA\_QC)

#### Sample ID: BETA Low Exh. R2

#### LAB ID: 22823-8

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
C1 - Methane	49.6	51.1	50.3	1.49
C2 - Ethane, Ethylene	44.6	44.3	44.4	0.36
C3 - Propane, Propylene	< 0.1	<0.1	< 0.1	N/A
C4 - Butanes	< 0.1	< 0.1	< 0.1	N/A
C5 - Pentanes	< 0.1	<0.1	< 0.1	N/A
C6 - Hexanes	< 0.1	< 0.1	< 0.1	N/A
C6+ (including Benzene)	0.50	0.49	0.50	0.27
N/A: Not Applicable				*:Must be ≤10%

N/A: Not Applicable

#### Sample ID: BETA Low Inlet R2

LAB ID: 22823-16

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
C1 - Methane	99.1	102.8	100.9	1.81
C2 - Ethane, Ethylene	67.9	66.9	67.4	0.80
C3 - Propane, Propylene	55.3	55.5	55.4	0.15
C4 - Butanes	<0.1	0.00	<2.0	N/A
C5 - Pentanes	< 0.1	0.00	<2.0	N/A
C6 - Hexanes	0.00	0.00	0.00	N/A
C6+ (including Benzene)	17165	17722	17444	1.60

N/A: Not Applicable

\*:Must be ≤10%

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CLIENT	MONTROSE
<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>
LAB PROJ NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

#### **Quality Control/Quality Assurance Report**

I- Blank				
	Results			
Lab ID	PPMV			
C1 - Methane	< 0.1			
C2 - Ethane	< 0.1			
C3 - Propane	< 0.1			
C4 - Butane	< 0.1			
C5 - Pentane	< 0.1			
C6 - Hexane	<0.1			

II- ICV Calibration Verification Standard - C1-C6

	<b>Theoretical Value</b>	<b>Tested Value</b>	%
Lab ID	PPMV	PPMV	<b>Recovery</b> *
C1 - Methane	100.00	104.14	104%
C2 - Ethane	100.00	108.93	109%
C3 - Propane	100.00	108.50	108%
C4 - Butane	100.00	107.50	107%
C5 - Pentane	100.00	108.48	108%
C6 - Hexane	100.00	109.73	110%

\* Must be  $\pm 10\%$ 

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CLIENT	MONTROSE
CLIENT PROJ NO:	<b>Mojave Solar</b>
LAB PROJ NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

## Laboratory Analysis Report

Analysis Method	CARB 410A	
Detection Limits	5 PPBV	
		Benzene
Sample ID	Lab ID	PPBV
ALPHA Low Inlet R1	22823-13	10627480
ALPHA Low Exh. R1	22823-5	774
ALPHA Low Inlet R2	22823-14	13086680
ALPHA Low Exh. R2	22823-6	772
ALPHA High Inlet R1	22823-9	1149292
ALPHA High Exh. R1	22823-1	1673
ALPHA High Inlet R2	22823-10	1057242
ALPHA High Exh. R2	22823-2	2748
BETA Low Inlet R1	22823-15	16508930
BETA Low Exh. R1	22823-7	728
<b>BETA Low Inlet R2</b>	22823-16	16974060
BETA Low Exh. R2	22823-8	493
BETA High Inlet R1	22823-11	678566
BETA High Exh. R1	22823-3	1545
BETA High Inlet R2	22823-12	1395585
BETA High Exh. R2	22823-4	1466

Samples were diluted for the analysis

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CLIENT	MONTROSE
CLIENT PROJ NO:	Mojave Solar
LAB PROJ NO:	23-874
SAMPLING DATE:	08/14/23
RECEIVING DATE:	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

## Laboratory Analysis Report

Analysis Method		CARB 410A	
Detection Limits		0.05 PPMV	
			Benzene
Sample ID	Tank #	Lab ID	PPMV
ALPHA Low Inlet R1	37	22823-13	10627
ALPHA Low Exh. R1	35	22823-5	0.774
ALPHA Low Inlet R2	38	22823-14	13087
ALPHA Low Exh. R2	36	22823-6	0.772
ALPHA High Inlet R1	31	22823-9	1149
ALPHA High Exh. R1	33	22823-1	1.673
ALPHA High Inlet R2	32	22823-10	1057
ALPHA High Exh. R2	34	22823-2	2.75
BETA Low Inlet R1	27	22823-15	16509
BETA Low Exh. R1	29	22823-7	0.728
BETA Low Inlet R2	28	22823-16	16974
BETA Low Exh. R2	30	22823-8	0.493
BETA High Inlet R1	24	22823-11	678.6
BETA High Exh. R1	26	22823-3	1.545
BETA High Inlet R2	25	22823-12	1395.6
BETA High Exh. R2	23	22823-4	1.466

Samples were diluted for the analysis

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CLIENT	MONTROSE
<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>
LABORATORY NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

### Laboratory Analysis Report (QA\_QC)

#### Sample ID: BETA Low Exh. R2

#### LAB ID: 22823-8

Analyte	Analysis #1	Analysis #2	Mean	% Difference
	PPBV	PPBV	PPMV	from the Mean*
Benzene	493.0	491.0	492	0.20

N/A: Not Applicable

\*:Must be ≤10%

#### Sample ID: BETA Low Inlet R2

#### LAB ID: 22823-16

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
Benzene	16974	17109	17042	0.40
				* Marst 1 - <100

N/A: Not Applicable

':Must be ≤10%

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CLIENT	MONTROSE
<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>
LAB PROJ NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

#### **Quality Control/Quality Assurance Report**

I- Blank

	Results
Lab ID	PPMV
Benzene	<0.1

#### II- Calibration Verification Standard - Benzene (PPBV)

Lab ID	Theoretical Value	Tested Value	%
	PPMV	PPMV	Recovery*
CCV - Benzene	2.0	1.9	96%

#### **III-** Calibration Verification Standard - Benzene (PPMV)

Lab ID	Theoretical Value PPMV	Tested Value PPMV	% Recovery*
ICV - Benzene	10.0	9.8	98%
CCV - Benzene	200.0	198.3	99%

\* Must be  $\pm 10\%$ 

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<b>CLIENT PROJ NO:</b>	<b>Mojave Solar</b>
LABORATORY NO:	23-874
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<b>REPORT DATE:</b>	08/24/23

## Laboratory Results

Analysis Method		EPA 3C			
<b>Detection Limits</b>		0.01%			
Sample ID		CH4	CO2	02	N2
Description	Lab ID No.	%	%	%	%
ALPHA Low Inlet R1	22823-13	<0.01	< 0.01	1.73	97.3
ALPHA Low Exh. R1	22823-5	<0.01	< 0.01	1.81	97.2
ALPHA Low Inlet R2	22823-14	<0.01	< 0.01	1.67	97.3
ALPHA Low Exh. R2	22823-6	<0.01	< 0.01	1.83	97.2
ALPHA High Inlet R1	22823-9	<0.01	< 0.01	< 0.01	99.7
ALPHA High Exh. R1	22823-1	<0.01	< 0.01	< 0.01	99.7
ALPHA High Inlet R2	22823-10	<0.01	< 0.01	< 0.01	99.8
ALPHA High Exh. R2	22823-2	<0.01	< 0.01	< 0.01	99.8
BETA Low Inlet R1	22823-15	<0.01	< 0.01	0.10	99.0
BETA Low Exh. R1	22823-7	<0.01	< 0.01	1.27	99.8
BETA Low Inlet R2	22823-16	<0.01	< 0.01	< 0.01	99.6
BETA Low Exh. R2	22823-8	<0.01	< 0.01	< 0.01	99.3
BETA High Inlet R1	22823-11	<0.01	< 0.01	< 0.01	100
BETA High Exh. R1	22823-3	<0.01	< 0.01	< 0.01	99.8
BETA High Inlet R2	22823-12	<0.01	< 0.01	< 0.01	100
BETA High Exh. R2	22823-4	< 0.01	< 0.01	< 0.01	99.8

newstan

Dr. Andrew Kitto President



1210 E. 223rd Street, Suite #314 · Carson, California 90745 · 310/830-2226 · Fax 310/830-2227

CLIENT	MONTROSE
CLIENT PROJ NO:	<b>Mojave Solar</b>
LABORATORY NO:	23-874
SAMPLING DATE:	08/14/23
<b>RECEIVING DATE:</b>	08/16/23
ANALYSIS DATE:	08/16/23
<b>REPORT DATE:</b>	08/24/23

### **Standard Verification**

EPA 3C - Fixed Gases

		Theoretical Value	Tested Value	%
Lab ID	Analyte	Mole %	Mole %	<b>Recovery</b> *
SCOTT STD	CO2	15.00	14.85	99%
SCOTT STD	O2	4.00	4.33	108%
SCOTT STD	N2	69.50	70.84	102%
SCOTT STD	CH4	4.50	4.76	106%
SCOTT STD	СО	7.00	7.04	101%

\* Must be  $\pm 10\%$ 

Dr. Andrew Kitto President



1210 E. 223rd Street, Suite #314 • Carson, California 90745 • 310/830-2226 • Fax 310/830-2227

# Summa Canister Pressure Log

Client:	MONTROSE
Laboratory Project No:	23-874
Sampling Date:	August 14, 2023
Receiving Date:	August 16, 2023

ltem#	Sample ID	Lab ID	<b>P</b> <sub>r</sub> (mmHg)	<b>Pf</b> (mmHg)	<b>Dilution Factor</b>
1	ALPHA Low Inlet R1 TK 37	22823-13	722.7	821.5	1.1367
2	ALPHA Low Exh. R1 TK 35	22823-5	697.6	820.9	1.1767
3	ALPHA Low Inlet R2 TK 38	22823-14	699.8	821.3	1.1736
4	ALPHA Low Exh. R2 TK 36	22823-6	687.5	821.4	1.1948
5	ALPHA High Inlet R1 TK 31	22823-9	725.9	827.3	1.1397
6	ALPHA High Exh. R1 TK 33	22823-1	713.0	821.5	1.1522
7	ALPHA High Inlet R2 TK 32	22823-10	717.7	823.6	1.1476
8	ALPHA High Exh. R2 TK 34	22823-2	687.9	821.8	1.1947
9	BETA Low Inlet R1 TK 27	22823-15	694.5	821.0	1.1821
10	BETA Low Exh. R1 TK 29	22823-7	697.8	820.8	1.1763
11	BETA Low Inlet R2 TK 28	22823-16	707.8	822.3	1.1618
12	BETA Low Exh. R2 TK 30	22823-8	683.7	820.1	1.1995
13	BETA High Inlet R1 TK 24	22823-11	727.5	821.6	1.1293
14	BETA High Exh. R1 TK 26	22823-3	703.6	822.9	1.1696
15	BETA High Inlet R2 TK 25	22823-12	721.0	822.8	1.1412
16	BETA High Exh. R2 TK 23	22823-4	702.1	822.8	1.1719

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Analytica	I Services	s Inc.				310/830	-2226 • Fax	310/830-2227 • www.quantum	nairlab.com
						12101	E. 223rd Str	eet, Suite #314 • Carson, Califo	irnia 90745
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<ul> <li>Analytical Servi</li> </ul>	ices Inc.	310/850.2226 • Fax	(310/830-2227 • www.quantumairlab.com 5.000 • 5.000 • 6.000 • 6.000 • 6.000 • 6.000	
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Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

# APPENDIX B GENERAL EMISSIONS CALCULATIONS



#### **GENERAL EMISSIONS CALCULATIONS**

- I. <u>Stack Gas Velocity</u>
  - A. Stack gas molecular weight, lb/lb-mole

 $MW_{dry} = 0.44 * \% CO_2 + 0.32 * \% O_2 + 0.28 * \% N_2$ 

 $MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$ 

B. Absolute stack pressure, iwg

$$P_{s} = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

- II. <u>Moisture</u>
  - A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd}$$
 = 0.0472 \*  $V_{ic}$  \*  $\frac{T_{ref}}{528^{\circ}R}$ 

C. Moisture content, dimensionless

$$\mathsf{B}_{\mathsf{wo}} = \frac{\mathsf{V}_{\mathsf{wstd}}}{(\mathsf{V}_{\mathsf{mstd}} + \mathsf{V}_{\mathsf{wstd}})}$$

- III. Stack Gas Volumetric Flow Rate
  - A. Actual stack gas volumetric flow rate, wacfm
  - $Q = V_s * A_s * 60$
  - B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$



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IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{ppm * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, Ib/MMBtu

$$\frac{1b}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \% O_2}$$

VI. <u>Percent Isokinetic</u>

$$I = \frac{17.32 * T_{s} (V_{mstd})}{(1 - B_{wo}) 0 * V_{s} * P_{s} * Dn^{2}} * \frac{520^{\circ}R}{T_{ref}}$$

#### VII. Particulate Emissions

- (a) Grain loading, gr/dscf C = 0.01543 ( $M_n/V_m \text{ std}$ )
- (b) Grain loading at 12% CO<sub>2</sub>, gr/dscf  $C_{12\%}$  CO<sub>2</sub> = C (12/% CO<sub>2</sub>)
- (c) Mass emissions, lb/hr M = C \*  $Q_{sd}$  \* (60 min/hr) / (7000 gr/lb)
- (d) Particulate emission factor

 $Ib/10^6 Btu = Cx - \frac{1 Ib}{7000 gr} * F * \frac{20.9}{20.9 - \% O_2}$ 



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#### Nomenclature:

As	=	stack area, ft <sup>2</sup>
B <sub>wo</sub>	=	flue gas moisture content, dimensionless
C <sub>12%CO2</sub>	=	particulate grain loading, gr/dscf corrected to 12% CO <sub>2</sub>
С	=	particulate grain loading, gr/dscf
Cp	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O <sub>2</sub>
Н	=	orifice differential pressure, iwg
I	=	% isokinetics
Mn	=	mass of collected particulate, mg
Mi	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M <sub>wi</sub>	=	molecular weight of specie i:
	SO <sub>2</sub> :	64
	NO <sub>x</sub> :	46
	CO:	28
	HC:	16
0	=	sample time, minutes
$\Delta P$	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P <sub>bar</sub>	=	barometric pressure, inches Hg
Ps	=	stack absolute pressure, inches Hg
P <sub>sa</sub>	=	stack static pressure, iwb
Q	=	wet stack flow rate at actual conditions, wacfm
$Q_{sd}$	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft <sup>3</sup> /lb-mole
T <sub>m</sub>	=	meter temperature, °R
T <sub>ref</sub>	=	reference temperature, °R
Ts	=	stack temperature, °R
Vs	=	stack gas velocity, ft/sec
V <sub>Ic</sub>	=	volume of liquid collected in impingers, ml
V <sub>m</sub>	=	uncorrected dry meter volume, dcf
V <sub>mstd</sub>	=	dry meter volume at standard conditions, dscf
V <sub>wstd</sub>	=	volume of water vapor at standard conditions, scf
Y <sub>d</sub>	=	meter calibration coefficient



Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

# APPENDIX C QUALITY ASSURANCE



# Appendix C.1 Quality Assurance Program Summary



#### QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (Montrose) ASTM D7036-04 certification, Montrose is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. Montrose quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

<u>Assignment of an Internal QA Officer</u>: Montrose has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Montrose has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of Montrose's QA efforts. The manual is revised upon periodic review and as Montrose adds capabilities. The QA manual provides details on the items provided in this summary.

<u>Personnel Testing and Training</u>: Personnel testing and training is essential to the production of high quality test results. Montrose training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the Montrose QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

<u>Equipment Maintenance and Calibration</u>: All laboratory and field equipment used as a part of Montrose's emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

<u>Knowledge of Current Test Methods</u>: Montrose maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.



Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

<u>Chain-of-Custody</u>: Montrose maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Montrose source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Montrose office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

<u>QA Reviews:</u> Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

#### ASTM D7036-04 Required Information

#### **Uncertainty Statement**

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

#### Performance Data

Performance data are available for review.

#### **Qualified Personnel**

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

#### Plant Entry and Safety Requirements

#### Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.



#### Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)
- Flame Resistant Clothing (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.



Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	<ol> <li>Absence of leaks</li> <li>Ability to draw manufacturers required vacuum and flow</li> </ol>	As recommended by manufacturer	<ol> <li>1. Visual inspection</li> <li>2. Clean</li> <li>3. Replace parts</li> <li>4. Leak check</li> </ol>
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	<ol> <li>Absence of malfunction</li> <li>Proper response to zero span gas</li> </ol>	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Van Sampling System	1. Absence of leaks	Depends on nature of use	<ol> <li>Change filters</li> <li>Change gas dryer</li> <li>Leak check</li> <li>Check for system contamination</li> </ol>
Sampling Lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

# TABLE 1 EQUIPMENT MAINTENANCE SCHEDULE



Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO <sub>x</sub> Analyzer	Daily	NO <sub>2</sub> -> NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	± 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	± 5%
Barometer	Semi-Annually	Adjusted to mercury-in- glass or National Weather Service Station	± 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	± 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	± 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for $\Delta H@$	
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	± 1.5%

# TABLE 2 MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS

Note: Calibration requirements that meet applicable regulatory agency requirements are used.



# Appendix C.2 SCAQMD, CARB, and STAC Certificates



South Coast Air Quality Management District 21865 Copley Drive, Diamond Bar, CA 91765-4178 (909) 396-2000 · www.aqmd.gov

May 18, 2023

Mr. John Peterson Montrose Air Quality Services, LLC 1631 E. Saint Andrew Place Santa Ana, CA 92705

Subject: LAP Approval Notice Reference # 96LA1220

Dear Mr. Peterson:

We have completed our review of Montrose Air Quality Services' revised renewal application, which was submitted as notification of Montrose's recent acquisition of AirKinetics, Inc. under the South Coast AQMD Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning May 18, 2023, and ending September 30, 2023, for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

 South Coast AQMD Methods 1-4
 South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1

 South Coast AQMD Methods 10.1 and 100.1
 South Coast AQMD Methods 25.1 and 25.3 (Sampling)

 USEPA CTM-030 and ASTM D6522-00
 Rule 1121/1146.2 Protocol

 Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/1146.2 Protocols includes satellite facilities located at:

McKenna Boiler	Noritz America Corp.	Ajax Boiler, Inc.
1510 North Spring Street	11160 Grace Avenue	2701 S. Harbor Blvd.
Los Angeles, CA 90012	Fountain Valley, CA 92708	Santa Ana, CA 92704
hand the rest of the set of the s	A DESCRIPTION OF THE PROPERTY	No. 1 Contractor and a second state

VA Laundry Bldg., Greater LA Healthcare Sys. 508 Constitution Avenue Los Angeles, CA 90049 So Cal Gas – Engr Analysis Ctr, Bldg H 8101 Rosemead Blvd Pico Rivera, CA 90660

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar Program Supervisor Source Test Engineering

DS:CE Attachment

230518 LapRenewal.doc





Gavin Newsom, Governor Jared Blumenfeld, CalEPA Secretary Liane M. Randolph, Chair

June 30, 2022

Mr. Matt McCune Montrose Air Quality Services , LLC 1631 East Saint Andrew Place Santa Ana, California 92705 mmccune@montrose-env.com

Dear Mr. McCune:

I am pleased to inform you that the California Air Resources Board (CARB) has renewed Montrose Air Quality Services, LLC as an Independent Contractor, by means of the enclosed Executive Order I-22-003. This approval will allow Montrose Air Quality Services, LLC to perform CARB Test Methods 1, 2, 3, 4, 5, 6, 8, 17, 20, and 100 (CO, CO<sub>2</sub>, NO<sub>x</sub>, O<sub>2</sub>, SO<sub>2</sub>, THC), Visible Emission Evaluation (VEE), and U.S. Environmental Protection Agency (U.S. EPA) Test Methods 201A, 202, and 205. The approval is valid through June 30, 2024, during which time additional audits of Montrose Air Quality Services, LLC's testing ability may be performed.

If you have questions or need further assistance, please contact Kathryn Gugeler at kathryn.gugeler@arb.ca.gov or Daniel Moore at Daniel.Moore@arb.ca.gov.

Sincerely, Catherine Dunwoody Date: 20220630 1405:05-0700

Catherine Dunwoody, Chief, Monitoring and Laboratory Division

Enclosure

cc: (via email)

Kathryn M. Gugeler, Monitoring and Laboratory Division

Daniel Moore, Monitoring and Laboratory Division







Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

# Appendix C.3 Individual QI Certificates



ERTIFICATE OF COMPLETION Dominic J Heredero	s individual has passed a comprehensive examination and is now fined in Section 8.3 of ASTM D7036-04 for the following method(s): FPA Method 18		DATE OF ISSUE: 02/17/2022 ems	DATE OF EXPIRATION: 02/16/2027	MONTROSE
	This document certifies that t Qualified Individual (QI) as d	Certificate Number: 002-2022-	Tate Strickler, VP - Quality S)		



	OF COMPLETION	
Domin	ic Heredero	
s document certifies that this individual has p Individual (QI) as defined in Section 8.3	ssed a comprehensive examinat of ASTM D7036-04 for the follo	on and is now a Qualified wing method(s):
CARB Method	i 410A, 428, 429 & 430	
tificate Number: 002-2017-126		
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La Stall	DATE OF ISSUE:	5/8/17
te Strickler, Accreditation Director	DATE OF EXPIRATION:	5/8/22
	NTRO	<b>SE</b>



		is now a hod(s):					
		xamination and le following met			03/07/2022	03/06/2027	SE
OF COMPLETION	c Heredero	passed a comprehensive e 8.3 of ASTM D7036-04 for th	hods 1, 2, 3 & 4		DATE OF ISSUE:	DATE OF EXPIRATION:	NTRO 0 N M E N T
CERTIFICATE	Domini	srtifies that this individual has lual (QI) as defined in Section	CARB Met	ər: <u>002-2022-56</u>	Junk - Quality Systems		E N V I F
		This document cer Qualified Individu		Certificate Number	Tate Strickler, VP		



Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

# Appendix C.4 Statement of No Conflict of Interest



#### STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Date(s) Tested:	August 14, 2023
Facility Name:	Mojave Solar, LLC
Equipment Address:	42134 Harper Lake Road
	Hinkley, California 92347
Equipment Tested:	Alpha and Beta Carbon Adsorption Unit
Device ID, A/N, P/N:	C012015, C012016

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm:	Montrose Air Quality Services, LLC
Business Address:	1631 E. St. Andrew PI.
	Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in *District Rule 304(k)*:

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:

- (1) The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof -
- (2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;
- (3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and
- (4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature:	10	e Rulu	Date:	10/2/2023
Joe Rubio	0	Client Project Manager	(714) 279-6777	10/2/2023
(Name)		(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98



Mojave Solar, LLC 2023 Two Carbon Adsorption Systems Compliance

## APPENDIX D FACILITY PERMITS




#### MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue, Victorville, CA 92392-2310 760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

## **AUTHORITY TO CONSTRUCT**

<u>C012015</u>

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

#### **EXPIRES LAST DAY OF: SEPTEMBER 2021**

#### OWNER OR OPERATOR (Co. #1876)

Mojave Solar LLC 42134 Harper Lake Road Hinkley, CA 92347

#### EQUIPMENT LOCATION (Fac.#3130)

Mojave Solar - Harper Lake Harper Lake Road, adjacent to SEGS VIII & IX Hinkley, CA 92347

#### **Description:**

CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (ALPHA) consisting of: ATC modification March 2020 to update carbon adsorption system as follows:

Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low pressure side. The expansion vessel vents on the high pressure side and the overflow tank vents on the low pressure side. The high pressure and low pressure side each vent to three vertical carbon cylindrical vessels (carbon beds) described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister in standby, with other operating configurations for maintenance and high flow events. Both high pressure and low pressure vent to atmosphere through one common stack.

High Pressure Side Dimensions: 54" OD bed x 114" side shell Bed Area: (53.25" ID) = 15.466 square feet Nominal Flow Rate (cfm): 1,546.60 CFM Carbon Capacity: 3,000 pounds Fittings: 8"

Low Pressure Side Dimensions: 36" OD bed x 108" side shell

Fee Schedule: 7 (h)
---------------------

Rating: 1 device

SCC: 30688801

Location/Coordinates: +35.00390, -117.30370

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

SIC: 4911

Mojave Solar LLC 42134 Harper Lake Road Hinkley, CA 92347		By: Brad Poiriez	3
-	<b>514</b> Page 1 of 3	Permit: C012015	lssue Date: 09/17/2020

Bed Area: (35.25" ID) = 6.73 square feet Nominal Flow Rate (cfm): 673 CFM Carbon Capacity: 1,500 pounds Fittings: 4"

#### **CONDITIONS:**

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011046 is venting.

3. This carbon adsorption system shall provide at a minimum 95% control efficiency of VOC emissions vented from the HTF ullage/expansion system under valid District Permit B011046. Control efficiency shall be demonstrated by sampling VOC emissions per US EPA Method 25 at the inlet and outlet of the carbon beds during initial and annual compliance tests.

4. The owner/operator shall prepare and submit a monitoring and change-out plan for the carbon adsorption system which ensures that the system is operating at optimal control efficiency at all times for District approval 60 days prior to commercial operation date (COD). Once approved, any subsequent changes to the monitoring and change-out plan must be submitted in writing to the District for approval prior to implementation.

5. Total emissions of VOC to the atmosphere shall not exceed 792.1 lbs/year, calculated based on the most recent test results.

6. Total emissions of benzene to the atmosphere shall not exceed 507.4 lbs/year, calculated based on the most recent test results.

7. During operation, o/o shall monitor VOC (as hexane) measured at outlet from the carbon beds. Sampling is to be performed at a minimum on a weekly basis. Samples shall be analyzed using a District approved photo ionization detector (PID).

8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.

9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site for a period of five (5) years. The log shall contain at a minimum the following information and shall be provided to District personnel upon request.

- a. Date and time of VOC monitoring;
- b. Results of VOC monitoring; and
- c. Date and description of all maintenance, malfunctions, repairs, and carbon change out(s).

10. The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

11. Prior to January 31 of each new year, the o/o of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).

12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District

within forty-five (45) days after testing is completed.All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov

13. The o/o shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of COD. The following compliance tests are required:

a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25 and 18 or equivalent).

b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

14. The o/o shall perform the following compliance tests on this equipment at least once every twelve (12) months in accordance with the MDAQMD Compliance Test Procedural Manual. The following compliance tests are required: a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).

b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.



#### MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue, Victorville, CA 92392-2310 760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

## AUTHORITY TO CONSTRUCT

C012016

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

#### **EXPIRES LAST DAY OF: SEPTEMBER 2021**

#### **OWNER OR OPERATOR** (Co. #1876)

Mojave Solar LLC 42134 Harper Lake Road Hinkley, CA 92347

#### EQUIPMENT LOCATION (Fac.#3130)

Mojave Solar - Harper Lake Harper Lake Road, adjacent to SEGS VIII & IX Hinkley, CA 92347

#### **Description:**

CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (BETA) consisting of: ATC modification March 2020 to update carbon adsorption system as follows:

Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low pressure side. The expansion vessel vents on the high pressure side and the overflow tank vents on the low pressure side. The high pressure and low pressure side each vent to three vertical carbon cylindrical vessels (carbon beds) described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister in standby, with other operating configurations for maintenance and high flow events. Both high pressure and low pressure vent to atmosphere through one common stack.

**High Pressure Side** Dimensions: 54" OD bed x 114" side shell Bed Area: (53.25" ID) = 15.466 square feet Nominal Flow Rate (cfm): 1,546.60 CFM Carbon Capacity: 3,000 pounds Fittings: 8"

Low Pressure Side Dimensions: 36" OD bed x 108" side shell

Rating: 1 device

SCC: 30688801

Location/Coordinates: +35.01460, -117.32880

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

SIC: 4911

	BOB	
Mojave Solar LLC 42134 Harper Lake Road Hinkley, CA 92347	By: Brad Poiriez Air Pollution Control Officer	
	Permit: C012016 Issue	Date

Bed Area: (35.25" ID) = 6.73 square feet Nominal Flow Rate (cfm): 673 CFM Carbon Capacity: 1,500 pounds Fittings: 4"

#### **CONDITIONS:**

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011047 is venting.

3. This carbon adsorption system shall provide at a minimum 95% control efficiency of VOC emissions vented from the HTF ullage/expansion system under valid District Permit B011047. Control efficiency shall be demonstrated by sampling VOC emissions per US EPA Method 25 at the inlet and outlet of the carbon beds during initial and annual compliance tests.

4. The owner/operator shall prepare and submit a monitoring and change-out plan for the carbon adsorption system which ensures that the system is operating at optimal control efficiency at all times for District approval 60 days prior to commercial operation date (COD). Once approved, any subsequent changes to the monitoring and change-out plan must be submitted in writing to the District for approval prior to implementation.

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7. During operation, o/o shall monitor VOC (as hexane) measured at outlet from the carbon beds. Sampling is to be performed at a minimum on a weekly basis. Samples shall be analyzed using a District approved photo ionization detector (PID).

8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.

9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site for a period of five (5) years. The log shall contain at a minimum the following information and shall be provided to District personnel upon request.

- a. Date and time of VOC monitoring;
- b. Results of VOC monitoring; and
- c. Date and description of all maintenance, malfunctions, repairs, and carbon change out(s).

10. The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

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12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District

within forty-five (45) days after testing is completed.

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All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov

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a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).

b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.

## THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name:	Mr. Joe Rubio
Title:	Client Project Manager
Region:	West
Email:	JRubio@montrose-env.com
Phone:	(714) 279-6777

Mr. Matt McCune
Regional Vice President
West
MMccune@montrose-env.com
(714) 279-6777



42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

## **Appendix L**

## AQ-66, 70

# Benzene Emission Limit Carbon Adsorption System – Annual VOC Emissions Summary

42134 Harper Lake Road Phone: 760 308 0400 Hinkley, California 92347

#### **Submitted Electronically**

Subject:	09-AFC-5C
Condition Number:	AQ-70
Description:	Summary Report – VOC emissions - CEIDARS
	updated Survey - Year 2023
Submittal Number:	AQ70-09-00

January 19, 2024

Ashley Gutierrez, CPM California Energy Commission 1516 Ninth Street Sacramento, CA 95814 <u>Ashley.Gutierrez@energy.ca.gov</u>

May Mamari, Air Quality Engineer MDAQMD 14306 Park Avenue Victorville, California 92392 <u>mmamari@mdaqmd.ca.gov</u>

Mr. Winstead/ Ms. Mamari

Pursuant to Condition of Certification AQ-70, following Condition 11 of the Permits to operate #s C012015 and C012016 attached is new CEIDARS updated survey related to the annual VOC emissions for Mojave Solar LLC.

Sincerely,

Mahnaz Ghamati

Quality, Environmental & Compliance Manager ASI Operations LLC 42134 Harper Lake Rd Hinkley, CA 92347 Cell: (760) 498 0549

Mahnaz.ghamati@atlantica.com

	EMISSION	CEIDARS II		
	YEAR	CEIP & CEIR UPDATE SURVEY		
	2023	COMPANY     1     8     7     6     FACILITY     3     1     3     0	UDS	
			SIDE 1	
A.	FACILITY E	DATA		
	Mojave Solar	r LLC		
	Address of L	Location		
	42134 Harpe	er Lake Road		
	City	Zip Code		
	Hinkley	9 2 3 4 7 9 3 0 5		
	Facility SIC:	Number of Employees Web Site Address		
	4 9 1 1	92 WWW.atlantica.co	<u>om</u>	
В.	CONTACT I	PERSON		
	Name of Cor	ntact Person		
	Mahnaz Gha	umati (Mrs.)		
	Title			
	Quality Envi	ironmental & Compliance Manager		
	Telephone N	Tumber E-Mail Address		
	7 6 0 4	9 8 0 5 4 9 <u>mahnaz.ghamati@atlant</u>	tica.com	
C.	MAILING A	ADDRESS DATA		
	Company Na	ame		
	Mojave Solar	r LLC		
	Mailing Add	lress		
	42134 Harpe	er Lake Road		
	City	State ZIP Code		
	Hinkley	C A 9 2 3 4 7 9 3 0 5		
	Attention			
	Mahnaz Gha	umati		

	FMISSION	CF	IDARS II	Г	ORM	
	YEAR CEIP & CEIR UPDATE SURVEY			1		
	$\begin{array}{c c} \hline 1 & \mathbf{C} & \mathbf{C} \\ \hline 2 & 0 \\ \hline 1 & 0 \\ \hline 2 & 0 \\ \hline 1 & 1 \\ \hline 1 & 0 \\ \hline 1 & 1 $		T	INC		
	2023  COMPANY = 1 8 7 6  FACILITY = 3 1 3 0					
-					SIDE 2	
D.	The following a new Com	ig section must be answered if this j	facility does not want to complete and sub-	mit		
	u new Comp	OUESTI	ONS		VERS	
	1 What is the	e last emission year this facility submitted a	CEIP?	2017	VLING	
	2 What is the	e last emission year this facility submitted a	CEIR?	2022		
				YES	NO	
	3 Did this fa	cility operate during the past emission (caler	ndar) year?	X		
	4 Based upor	n the SIC for this facility, is this facility requ	tired to updates its CEIP & CEIR?	X	~	
	6 If yes to 5	above did the new or modified processe(s) of equip	equipment hegin operating during the past emission		^	
	(calendar)	year?	equipment begin operating during the past emission		х	
	7 Have the fa	acility's total emissions increased and/or dec	reased so as to cause a 10 percent or greater change			
	(increase a	nd/or decrease) in any emissions? (This ma	y result due to change in process feed rates,			
	temperatur	e. pressure, rentention time, etc.)	s)/control devices, changes in material or fuel,	x		
	8 Has the dis	stance to any receptor decreased since the pro-	evious update/submittal or are there any new			
	receptors s	ince the previous update/submittal?			Х	
	If the facility	ity answered "NO" to questions 5, 6, 7, and $\delta$	AND would like to rollover previously submitted ate which emission year data should be used			
	OLIT und	eline, preuse eneek the box below and mater	ale which emission year data should be used.			
	YES, 1	rollover data* Emission	year of data to rollover:			
E.	This sectio	n must be completed to claim small	business status for the purpose of the			
	Air Toxics	siness is defined as:	This	State	aof	
	1) a facility	who has 10 or fewer full-time	Facility	Calif	ornia	
	equival	ent employees:	Number of employees	Culliv	omu	
	2) a facilit	y whose total annual gross	Annual Gross Receipts **			
	receipts	are less than \$1,000,000; and	Less than \$ 1,000,000			
	3) a compa	my whose total annual California	\$ 1,000,000 to \$ 5,000,000			
	gross re	ceipts are less than \$5,000,000	More than \$ 5,000,000			
			** Check the appropriate box for total annual	gross re	eceipts.	
F.		CER (Ple	TIFICATION ease print or type)			
	I, Mahna	z Ghamati	, a responsible of	fficial of	,	
	Moinve S	olor LLC	houshy contify t	hat have	4	
	Mojave Solar LLC , hereby certify that, based					
	upon information and belief formed after reasonable inquiry, the above and attached information					
	is true, accurate and complete. Executed the <u>19</u> day of <u>January</u> of <u>2024</u> (Year)					
	at San Bo	ernardino County, California (County and State)				
		· · · · · · · · · · · · · · · · · · ·	Mahuar Ghamati			
			(Signature)			
		Mahnaz	z Ghamati/ Environmental & Compliance ]	Manage	er	
			(Ivame and Title)			



Venting Hours				
2022	Alpha	-	Beta	
2025	Expansion	Overflow	Expansion	Overflow
Jan	6.7	13.2	3.9	36.9
Feb	5.8	12.7	3.5	33.8
Mar	7.2	20.3	8.5	47.9
Apr	9.2	42.6	6.7	45.6
May	13.8	30.6	5.8	44.5
Jun	6.0	21.1	4.5	37.3
Jul	3.6	17.1	5.2	37.2
Aug	5.1	17.1	4.8	49.6
Sep	2.5	17.5	5.1	47.5
Oct	3.1	15.8	2.4	44.6
Nov	5.7	2.3	2.3	29.3
Dec	5.9	1.2	5.0	25.7
Total	74.5	211.4	57.8	479.9

#### 2023 Ullage Emission

VOCs as C6, lb				
2022	Alpha		Beta	
2025	Expansion	Overflow	Expansion	Overflow
Jan	0.00938	4.356	0.06942	2.89665
Feb	0.00812	4.191	0.0623	2.6533
Mar	0.01008	6.699	0.1513	3.76015
Apr	0.01288	14.058	0.11926	3.5796
May	0.01932	10.098	0.10324	3.49325
Jun	0.0084	6.963	0.0801	2.92805
Jul	0.00497	5.6265	0.092916	2.91706
Aug	0.007154	5.6529	0.085974	3.893286
Sep	0.0034678	5.77863	0.0908868	3.72762745
Oct	0.0043183	5.212515	0.04280544	3.5008645
Nov	0.007938	0.7458	0.0403348	2.3037395
Dec	0.0082754	0.39171	0.08964792	2.0209825
Total	0.1043035	69.773055	1.02818496	37.67455995

0.0014 lb/yr

0.0178 lb/yr

0.0785 lb/yr

0.0018 lb/yr

0.01305 lb/yr

0.00043 lb/yr

0.010655 lb/yr

0.33 lb/yr

benzene, lb					
2022	Alpha		Beta		
2025	Expansion	Overflow	Expansion	Overflow	
Jan	0.01206	0.17226	0.001677	0.3931695	
Feb	0.001798	0.0006985	0.001505	0.360139	
Mar	0.002232	0.0011165	0.003655	0.5103745	
Apr	0.002852	0.002343	0.002881	0.485868	
May	0.004278	0.001683	0.002494	0.4741475	
Jun	0.00186	0.0011605	0.001935	0.3974315	
Jul	0.0011005	0.00093775	0.0022446	0.3959398	
Aug	0.0015841	0.00094215	0.0020769	0.52844538	
Sep	0.00076787	0.000963105	0.00219558	0.505960134	
Oct	0.000956195	0.000868753	0.001034064	0.475181035	
Nov	0.0017577	0.0001243	0.00097438	0.312692285	
Dec	0.00183241	0.000065285	0.002165652	0.274312975	
Total	0.033078775	0.183162843	0.024838176	5.113661609	

Calculation Notes:

2023 Ullage emission - based on 08/14/2023 test data

Vent valves are considered close if it is <2% open.

15 min average valve positions are used to determine whether each vent valve is open or close. In case of bad PI data, the valve position In the previous period is automatically used.

Alpha expansion vessel vent VOCs emission rate is deteremined by performance test as Alpha overflow vent VOCs emission rate is deteremined by performance test as Beta expansion vessel vent VOCs emission rate is deteremined by performance test as Beta overflow vessel vent VOCs emission rate is deteremined by performance test as

Alpha expansion vessel vent benzene emission rate is deteremined by performance test as Alpha overflow vent benzene emission rate is deteremined by performance test as Beta expansion vessel vent benzene emission rate is deteremined by performance test as Beta overflow vessel vent benzene emission rate is deteremined by performance test as

2023Source Test results		W002AS-028123-RT-5231.pdf			
		Run 1	n 1 Run 2 Avera		
Alpha	Exp Ves VOC as C6, lb/hr	0.0003	0.0025	0.0014	
Alpha	Overflow VOC as C6, lb/hr	0.27	0.39	0.33	
Beta	Exp Ves VOC as C6, lb/hr	0.0144	0.0133	0.0178	
Beta	Overflow VOC as C6, lb/hr	0.0772	0.0798	0.0785	

Annual Totals	
Last compliance test 8/	14/2023
Alpha projected annual VOC	69.88 lb/yr
Beta projected annual VOC	38.70 lb/yr
Alpha projected annual Benzene	0.22 lb/yr
Beta projected annual Benzene	5.14 lb/yr
Annual VOC limit per plant	792.1 lb/yr
Annual benzene limit per plant	507.4 lb/yr

	Run 1	Run 2	Average
Exp Ves Benzene, lb/hr	0.0018	0.0018	0.0018
Overflow Benzene, lb/hr	0.0083	0.0178	0.01305
Exp Ves Benzene, lb/hr	0.00049	0.00037	0.00043
Overflow Benzene, lb/hr	0.01086	0.01045	0.010655

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

# **Appendix M**

## **BIO-1 to BIO-21**

## **Designated Biologist Summaries**

Mojave Solar Project California Energy Commission (09-AFC-5C) Biological Resources Conditions of Certification Biological Resources Section of the Annual Compliance Report

> January 1 – December 31, 2023 Reporting Period

> > Submitted February 2024

Prepared for: Mojave Solar LLC 42134 Harper Lake Road Hinkley, California 92347

Prepared by: Abengoa Solar Industrial Operations LLC 42134 Harper Lake Road Hinkley, California 92347

> Rowe Ecological Consulting, LLC P.O. Box 1018 Weldon, CA 93283 roweecological@gmail.com

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## 1. Introduction

This Biological Resources Section of the Annual Compliance Report (ACR) is provided to the California Energy Commission (CEC) pursuant to the Biological Resources Conditions of Certification (COCs) and Compliance-7 as required by the Mojave Solar Project (MSP) Commission Decision (09-AFC-5; CEC, 2010).

On December 23, 2014, the facility commenced commercial operations. Also on this date, Abeinsa (AEPC) turned the site over to the owner, Mojave Solar LLC, to manage facility operations. From January 2015 through May 29, 2016, monthly compliance reports were submitted to comply with the CEC COCs, while the Chief Building Official's punch list activities were completed. The CEC issued the Final Certificate of Occupancy on May 29, 2016, when installation of all permanent equipment and structures was completed. MSP has been in the Operations and Maintenance (O&M) phase of the project as of May 30, 2016. This report covers O&M from January 1 to December 31, 2023.

## 2. Annual Report Requirements

Annual reporting requirements during O&M are only referenced in BIO-2, BIO-6, BIO-16, and BIO-17; however, this ACR addresses all Biological Resource COCs (BIO-1 to BIO-21) because BIO-6, the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), covers all Biological Resource COCs.

#### 3. Mitigation Measures

Table 1: BRMIMP Mitigation Measures			
COC	Brief Description of Condition		
BIO-1	Designated Biologist Selection		
BIO-2	Designated Biologist Duties		
BIO-3	Biological Monitor Selection, Qualifications, and Duties		
BIO-4	Designated Biologist and Biological Monitor Authority		
BIO-5	Worker Environmental Awareness Program		

Table 1 provides a list of the Biological Resource COCs covered in the BRMIMP.

Table 1: BRMIMP Mitigation Measures			
сос	Brief Description of Condition		
BIO-6	Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance		
BIO-7	Impact Avoidance and Minimization Measures		
BIO-8	Pre-Construction Nest Surveys and Impact Avoidance and Minimization Measures for Migratory Birds		
BIO-9	Golden Eagle Territory-Specific Management Plan		
BIO-10	Documentation of Bald and Golden Eagle Act Compliance		
BIO-11	Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan		
BIO-12	Mohave Ground Squirrel Clearance Surveys		
BIO-13	Burrowing Owl Impact Avoidance, Minimization and Mitigation Measures		
BIO-14	American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures		
BIO-15	Compensatory Mitigation		
BIO-16	Tamarisk Eradication, Monitoring, and Reporting Program		
BIO-17	Monitoring Impacts of Solar Collection Technology on Birds		
BIO-18	Common Raven Monitoring, Management, and Control		
BIO-19	Evaporation Pond Monitoring and Adaptive Management Plan		
BIO-20	Harper Dry Lake Marsh Water Delivery		
BIO-21	USFWS Biological Opinion		

### 3.1. BIO-1: Designated Biologist Selection

BIO-1 requires the project to select a Designated Biologist (DB) to effectively implement the duties in BIO-2 and other relevant COCs. Approved DB, Sean Rowe performed the duties of DB on the project site during the reporting period. The qualifications for Sean Rowe and request for DB approval was submitted (under BIO1-19-00 submittal) (CEC, USFWS and CDFW) to the permitting agencies on March 14, 2018, and Mr. Rowe was subsequently approved March 21 (USFWS and CDFW) and March 27 (CEC), 2018 as a BM, Authorized Avian Specialist, and desert tortoise Authorized Biologist under the project specific Biological Opinion 8-8-11-F-3 (USFWS, 2011B). Mr. Rowe was subsequently approved as DB on October 12, 2018.

#### 3.2. BIO-2: Designated Biologist Duties

An approved DB was onsite or otherwise available during all O&M activities. The DB advised on compliance with Biological Resource COCs, supervised and conducted biological resource compliance inspections, surveyed sensitive biological resource areas, notified the project owner and the CPM of noncompliance events, responded to CPM inquiries, and maintained compliance records.

#### 3.3. BIO-3: Biological Monitor Selection, Qualifications, and Duties

BIO-3 allows the project to utilize approved Biological Monitors to assist the DB. No biological monitors were employed during the reporting period.

### 3.4. BIO-4: Designated Biologist and Biological Monitor Authority

BIO-4 provides the DB and BM authority to halt construction activity in areas specified by the DB if that activity were to potentially harm biological resources or is in violation of any state or federal laws, conditions, permits, or other such agreements made to applicable agencies.

No construction activities took place during the reporting period.

#### 3.5. BIO-5: Worker Environmental Awareness Program

BIO-5 requires that the project owner develop and implement a Worker Environmental Awareness Program (WEAP). On October 22, 2015, the project owner submitted a revised BIO-5 WEAP training for use during operations (MSP, 2015a). The CPM approved the training program for operations on November 17, 2015. On December 9, 2015, the CPM approved immediate use of the operations WEAP for annual refresher training for operations personnel, while still in the construction period. On June 15, 2018, MSP submitted a new version of the BIO5 WEAP training for review and approval. The CEC CPM approved it on June 15, 2018. In 2021, additional slides were added to the training to address roadkill handling and disposal, and the spills. The plan (BIO5-04-03) was approved by CPM on August 18, 2022. The WEAP was provided to all new employees, contractors, and subcontractors within a week of hiring new workers and annually for ongoing workers.

#### 3.6. BIO-6: Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance

BIO-6 requires the project owner to develop and implement a BRMIMP, which covers all Biological Resource COCs as reported herein. BIO-17 (Bird Monitoring Study) was subsequently approved by the CPM on January 27, 2017. BIO-19 (Evaporation Pond Monitoring and Adaptive Management Plan) was resubmitted to the CPM and USFWS in December 2016. Final BIO19 Evaporation Pond Plan, BIO19-00-08 Evaporation Pond Monitoring and Adaptive Management Plan, Rev. 6. (Mojave Solar Project 09-AFC-5C) submittal approved on March 8, 2017, in consultation with the USFWS, CDFW, and Regional Water Quality Control Board (RWQCB), it will be incorporated into the BRMIMP as Appendix I. See Sections 3.17 and 3.19 for more details.

### 3.7. BIO-7: Impact Avoidance and Minimization Measures

BIO-7 requires the project owner to implement seventeen measures to avoid or minimize impacts to local biological resources, several of which overlap with other COCs and are thus addressed separately. Most measures addressed in BIO-7 are construction related and were largely not relevant during this reporting period. No construction activities took place during the reporting period.

Item 11 of BIO-7 requires the project owner to report all inadvertent deaths of sensitive species. There were no deaths of sensitive species during 2023.

#### 3.8. BIO-8: Nest Surveys and Impact Avoidance and Minimization Measures for Migratory Birds

BIO-8 requires impact avoidance and minimization measures for birds protected under the Migratory Bird Treaty Act (MBTA). Nest surveys were conducted by the DB onsite for any activities with the potential to effect MBTA-protected bird nests. Nesting surveys were performed in accordance with the procedures set forth in BIO-8. Eight active nests were discovered and monitored during 2023. No entry buffers were established around active nests and nests were monitored until nestlings fledged or nests were otherwise determined inactive. Four nests (3 Black-necked Stilt and 1 American Avocet) were associated with the evaporation ponds. All three stilt nests failed due to abandonment or predation. The avocet nest successfully fledged two young (Table 2).

Four Common Raven nests were located and monitored during this reporting period. Of the four raven nests three failed due to abandonment or predation and one outcome was

unknown. One nest, in the Alpha power block and one in the Beta SCA were treated with oiling techniques designed to prevent hatching. Both nests failed to hatch and were presumed abandoned as a result of the oiling. A nest in the Alpha west solar field failed due to abandonment or predation. A nest with small young was located in the Beta power block. The outcome of this nest is unknown as it was inaccessible for observation and no sign of fledglings was observed. See the BIO-18 Annual Report for 2023, attached as Appendix J2, for details of raven nesting.

Table 2. Avian Nesting Summary 2023					
Species	Nest ID	Discovery Date	Location	Outcome	
Common Raven	01-A-CORA	3/2/23	Alpha Power Block	Failed - Abandoned	
Common Raven	02-B-CORA	3/2/23	Beta Power Block	Unknown	
Common Raven	03-B-CORA	4/27/22	Beta SCA	Failed - Abandoned	
Common Raven	04-A-CORA	5/20/23	Alpha West SCA	Failed - Unknown	
Black-necked Stilt	05-B-BNST	6/15/23	Beta East Pond	Failed – Unknown	
Black-necked Stilt	06-B-BNST	6/15/23	Beta East Pond	Failed – Unknown	
Black-necked Stilt	07-B-BNST	6/22/23	Beta East Pond	Failed – Unknown	
American Avocet	08-A-AMAV	6/22/23	Alpha West Pond	Fledged Young	

Table 2 summarizes the outcomes of all nesting attempts monitored during 2023.

#### 3.9. **BIO-9: Golden Eagle Territory-Specific Management Plan**

BIO-9 requires that the project owner conduct Golden Eagle surveys and prepare a plan if an occupied territory is found within 10 miles of the project site.

On January 28, 2011, USFWS approved the project owner's findings that no Golden Eagles were located within 10 miles of the project site, and therefore, the project owner did not need to prepare a BIO-9 Golden Eagle Plan. On March 14, 2011, the project owner submitted USFWS's findings to CEC (MSP, 2011a). On March 17, 2011, CEC approved USFWS' letter satisfying the BIO-9 requirement.

#### 3.10. BIO-10: Documentation of Bald and Golden Eagle Act Compliance

BIO-10 requires the project owner document compliance with the Bald and Golden Eagle Protection Act, if required by the BIO-9 survey results.

On March 17, 2011, the CEC via email stated that since a BIO-9 Golden Eagle Plan was not required that the project owner had also met BIO-10 compliance requirements.

# 3.11. BIO-11: Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan

All permanent desert tortoise exclusion fencing was inspected monthly and immediately after major rainfall events.

No desert tortoises were located onsite, and no tortoises were translocated or transmittered during this reporting period.

#### 3.12. BIO-12: Mohave ground Squirrel Clearance Surveys

BIO-12 requires the project to avoid or minimize impacts to Mojave ground squirrel by conducting a clearance survey once the desert tortoise exclusion fence is completed (BIO12-02-0, November 18, 2011).

No Mohave ground squirrels were observed on the site, therefore no handling, capturing, or relocation was necessary for the duration of this reporting period.

#### 3.13. BIO-13: Burrowing Owl Impact Avoidance, Minimization and Mitigation Measures

BIO-13 requires preparation of Burrowing Owl (*Athene cunicularia*) Monitoring and Mitigation Plan to avoid and minimize impacts to burrowing owls in and near construction areas (if identified during the surveys). Last survey performed and approved on January 26, 2011, BIO13-02-01. No Burrowing Owl specific surveys were conducted during the reporting period.

In July 2021, the DB discovered a family of Burrowing Owls using a burrow near the southwest corner of Beta west along the perimeter fence. Mojave Solar staff were notified of the owls and instructed to avoid the area and notify the DB if it was necessary to conduct work in the vicinity. In October 2021, the DB observed a single Burrowing Owl flush from a Kit Fox burrow

in the kit fox den site #9 east of the Alpha east solar collector field. This area is within an existing no-entry buffer established for kit fox. At least one owl and evidence of active burrow use was seen in both locations periodically throughout the remainder of the 2021 and 2022. The DB monitored the sites during routine compliance visits. No owls were observed using the beta site during 2023. A pair of owls were observed using the alpha east site throughout 2023 and show no signs of disturbance.

# 3.14. BIO-14: American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures

BIO-14 requires pre-construction surveys and provides guidance on pre-construction encounters with American badgers and desert kit fox. The MSP site is currently monitored for the presence of desert kit fox and American badger by the DB via observation of tracks, scat, and examination of burrows on or around the site. No signs of American badger were observed during the reporting period. Kit foxes are ubiquitous in the area and often traverse or reside on site in undisturbed areas.

Desert kit fox den site #9, located in east of the solar collector field in Alpha East, was inactive during this reporting period. A game camera documented only occasional kit fox in the vicinity of the den site throughout the reporting period and none of the previously active dens showed signs of active use. An exclusion buffer was established and continues to be maintained around the den site to prevent disturbance. This den site will continue to be monitored by the DB. No other den sites have been observed on the premises.

#### 3.15. BIO-15 Compensatory Mitigation

To fully mitigate for habitat loss and incidental take of desert tortoise and Mohave ground squirrel as well as burrowing owl, BIO-15 requires the project owner, in fee or in easement, to acquire 118.2 acres of land suitable for desert tortoise, Mohave ground squirrel, and burrowing owl and fund the enhancement and long-term management of these compensation lands.

Compensatory mitigation was satisfied and approved by CEC between 2011 and 2014. On July 19, 2016, to address the final requirement of COC BIO-15, the project owner submitted BIO15-06-00, confirming that project construction was limited to the area described in the Commission Decision, therefore, disturbance to desert tortoise and MGS habitat did not exceed 430 acres, and construction activities did not impact desert tortoise, MGS, and burrowing owl habitat adjacent to work areas. The CPM approved the submittal for Verification of Habitat Disturbance Area on September 15, 2016, which was the final requirement related to this COC.

The Transition Habitat Conservancy (THC) acquired 234 acres of land near MSP in 2014 to satisfy the compensatory mitigation requirements of BIO-15. THC manages and monitors

these lands in perpetuity to ensure habitat for desert tortoise, burrowing owl and Mojave ground squirrel is not degraded. THC also works in partnership with the Bureau of Land Management to manage BLM lands that impact THC mitigation properties.

Refer to the Transition Habitat Conservancy's annual reports for further status of the mitigation properties.

#### 3.16. BIO-16: Tamarisk Eradication, Monitoring, and Reporting Program

Condition of Certification (COC) BIO-16, Tamarisk Eradication, Monitoring, and Reporting Program, issued by the California Energy Commission (CEC) as a condition of licensing of the Abengoa Mojave Solar Project (MSP) requires the project owner to prepare and implement a Tamarisk Eradication, Monitoring, and Reporting Plan with the objective of preventing the reinvasion of undesirable weeds and/or invasive wildlife for a minimum of five years. The revised Mojave Solar Project Tamarisk Eradication, Monitoring, and Reporting Plan (Tamarisk Plan) was submitted on August 03, 2016.

The BIO-16 Tamarisk Plan Annual Report for 2020 was submitted to the CEC on February 2, 2021. The revised report was submitted on May 27, 2021, with revisions that addressed CEC comments. The CEC via email (dated 7/14/21), stated: "CEC staff and CDFW have determined that MSP has met the success criteria for BIO-16 and satisfied the requirement for annual reporting as part of BIO-16...MSP will continue to control weeds on site but will not prepare the full stand-alone report. Please continue to report on the status of weed control in the ACR."

MSP has contracted with a California-licensed herbicide applicator and has been applying herbicide to exotic and invasive species within the project. Herbicide application has shown to be effective in controlling weeds onsite.

The DB surveyed for weed species throughout the year as conditions warranted and seasonal germination developed and coordinated with MSP for treatment. No weed species meeting the definition of invasive were observed onsite in 2023. Three species of exotic weeds, Mediterranean grass (*Schismus arabicus*), Russian thistle (*Salsola tragus*), and redstem filaree (*Erodium cicutarium*) were documented onsite during the reporting period. Exotic weed coverage was minimal, and no herbicide was applied in 2023. Russian Thistle was removed sitewide periodically as it germinated. MSP has contracted with a licensed herbicide applicator to treat provide sitewide treatment with a pre-emergent herbicide in January 2024.

### 3.17. BIO-17: Monitoring Impacts of Solar Collection Technology on Birds

BIO-17 requires the project owner to develop and implement a Bird Monitoring Study. Revision 2 of the Bird Monitoring Study was submitted to the CPM on April 15, 2016, to address comments on Revision 1 provided by the CEC staff during a January 27, 2016, meeting. A meeting was held on December 14, 2016, between MSP and CEC to discuss, in part, consistency between the BIO-17 Bird Monitoring Study and BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan. The Bird Monitoring Study was subsequently approved by the CEC on January 27, 2017.

The issuance of the permanent Special Purpose Utility Permit by the USFWS was received on March 3, 2017, and the Scientific Collection Permit from the CDFW was received on August 10, 2017.

The BIO-17 Bird Monitoring Study was initiated on September 1, 2017, and fieldwork was completed on August 30, 2019. The combined second annual and final project summary report was submitted on December 06, 2019. In response to comments received from the agencies, revisions were submitted on December 14, 2020 (2<sup>nd</sup> revision) and September 13, 2021 (3<sup>rd</sup> revision). The final BIO17-11-04 Bird Monitoring Study Annual Report Second Year 2018-2109 (09-AFC-5C) – Final Revision was submitted for review and approval on October 29, 2021. The CEC stated via email (dated 10/13/21) "once the report is finalized the requirements of BIO-17 will be satisfied." The CEC granted final approval via email dated November 1, 2021.

#### 3.18. BIO-18: Common Raven Monitoring, Management, and Control Plan

BIO-18 requires the project owner to implement measures to manage its construction site in a manner to control Common Raven (Corvus corax) populations. In addition, the project owner must develop and implement a Common Raven Monitoring, Management, and Control Plan. BIO18-01-03 reviewed and approved by the CEC on March 26, 2012.

The Common Raven Monitoring, Management, and Control Plan specifies that the project owner will report annually to the California Energy Commission (CEC), United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) during the operation phase of the project. The raven plan requires the Designated Biologist (DB) and/or Biological Monitor (BM) to perform monthly reconnaissance-level surveys for the first five years of the project, unless it is determined that fewer surveys are necessary. In addition, annual breeding season monitoring will be conducted for the life of the project.

In an email dated July 14, 2021, CEC stated "...CEC staff, CDFW and USFWS have determined that the project owner has satisfied the requirement for monthly surveys as part of the BIO-18 Raven Plan." Hence, no point counts were conducted in 2022.

The DB conducted breeding season nesting surveys during 2023. Details of the nest monitoring results are found in the Sec. 3.9 as well as the BIO-18 Annual Report for 2023.

#### 3.19. BIO-19: Evaporation Pond Monitoring and Adaptive Management Plan

BIO-19 requires the project owner to develop and implement an Evaporation Pond Monitoring and Adaptive Management Plan to define the monitoring and reporting procedures as well as triggers for adaptive management strategies that will be implemented to prevent wildlife fatalities at the evaporation ponds. The final BIO-19 Evaporation Pond Plan Monitoring and Adaptive Management Plan was approved in March 2017. The Evaporation Pond Plan defines the monitoring and reporting procedures as well as triggers for adaptive management strategies that shall be implemented to prevent wildlife mortality at the evaporation ponds.

Prior to and after the approval of the Evaporation Pond Plan, various hazing techniques were employed to try to deter birds from using the evaporation ponds, however, avian fatalities in September 2017 resulted in adaptive management triggers being met. Additional avian fatalities on October 16 and 17 2017 resulted in the final adaptive management trigger being met. On, January 23, 2018, the CEC issued a formal letter notifying the MSP that the ponds must be netted. USFWS concluded that the installation of the netting should be delayed for a period of one year to do a comparative study with the netting system at the Genesis solar site. In an email dated January 24, 2020, the CEC directed MSP to begin netting installation, stating "Staff has discussed this with the USFWS and they are in agreement that the ponds should be netted. MSP is advised that to remain in compliance with BIO-19 the project owner shall begin installation of netting at the evaporation ponds, per the requirements of BIO-19." CEC also advised that avian monitoring at the ponds may be reduced from bi-weekly to monthly until netting is installed.

In March 2020, MSP requested, and CEC granted permission to postpone netting installation due to the COVID-19 pandemic. The postponement was again approved on December 17, 2020. On May 21, 2021, CEC notified MSP that the San Bernardino "Stay at Home" order had been lifted and requested that MSP initiate installation of the pond netting as well as provide additional information on the scope of work, schedule, and status of nesting birds.

The CEC, via email dated August 5, 2021, requested that MSP modify the BIO-19 Evaporation Pond Plan to address monitoring of netted ponds and rescue of live and injured birds from the netting. MSP submitted BIO19-98-00 Evaporation Pond and Adaptive Management Plan Rev. 8 on October 19, which was subsequently approved by the CEC on October 27, 2021.

Installation of netting at the Beta west pond on began on September 30 and was completed at the end of October 2021. Due to issues with the initial netting contractor, MSP contracted with a new contractor in 2023 and installation of the remaining ponds began in October 2023. Netting over the Beta East Pond was completed in December. Installation at the remaining ponds began in November and is scheduled to be completed in March 2024.

Refer to BIO-19 monthly Evaporation Pond Plan reports for additional details.

#### 3.20. BIO-20: Harper Dry Lake Marsh Water Delivery

BIO-20 requires the project owner to provide a well with the ability to convey a minimum of 75 acre-feet of water to Harper Dry Lake marsh, prior to decommissioning the on-site well that was serving the marsh.

On August 16, 2012, the project owner completed construction of a new well that meets BIO-20 criteria of providing 75 acre-feet of water to the Harper Dry Lake marsh. In letter to the project owner, the Bureau of Land Management took responsibility for well ownership, including maintenance and electricity. In compliance with the BIO-20 Verification, the project owner submitted all applicable information regarding decommissioning the original well and specifications of the new well to the CPM on September 24, 2012 (MSLLC, 2012).

As noted in the BIO-6 Construction Closure Report, this item was completed in 2012 and no further compliance activities are required related to this COC.

#### 3.21. BIO-21: USFWS Biological Opinion

BIO-21 requires the project owner to incorporate the USFWS's Biological Opinion terms and conditions into the BRMIMP. The USFWS issued the Biological Opinion (8-8-11-F-3) on March 17, 2011 (USFWS, 2011b).

No desert tortoises were encountered onsite in 2022. BIO21-10-00 Biological Opinion Annual Compliance Report 2022 (09-AFC-5C) submitted on December 15, 2023.

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Abengoa Mojave Solar Project California Energy Commission (09-AFC-5C) Condition of Certification BIO-18

Common Raven Monitoring, Management, and Control Plan for Mojave Solar Project San Bernardino County, California

> Annual Compliance Report 2023

### ASI Operations Mojave Solar LLC

42134 Harper Lake Rd. Hinkley California 92347

#### **Rowe Ecological Consulting, LLC**

PO Box 1018 Weldon, California 93283 Roweecological@gmail.com

January 2024

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Appendix A: Raven Nest Monitoring Data Sheets

## 1. Introduction

The California Energy Commission (CEC), in Condition of Certification BIO-18, requires the project owner to implement measures to manage its construction site in a manner to control Common Raven (Corvus corax) populations. In addition, the project owner must develop and implement a Common Raven Monitoring, Management, and Control Plan. The CEC approved the Common Raven Monitoring, Management, and Control Plan (Raven Plan) on March 26, 2012. The raven plan specifies that the project owner will report annually to the CEC, United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) during the operations phase of the project.

The final BIO-18 raven plan specifies that the Designated Biologist (DB) and/or Biological Monitor (BM) will perform monthly reconnaissance-level surveys for the first five years of the project, unless it is determined that fewer surveys are necessary. In addition, annual breeding season monitoring will be conducted for the life of the project.

This report summarizes BIO-18 raven monitoring and control efforts conducted during 2023

#### 2. Monitoring Activities

The raven plan specifies that MSP will incorporate project design features (PDFs), project-specific control measures and management practices to ensure that project activities do not create new subsidies that increase the presence or attraction of ravens to the project area. The raven plan specifically calls out the following PDFs and management practices that will be monitored to assess impacts on raven use of the site.

- Evaporation Ponds
- Raven Perching, Roosting, and Nesting Sites
- Ponding Water
- Raven Food Sources from Soil Disturbance and Roadkill
- Human Food and Waste Management

Mojave Solar Project personnel, the DB, and the BM are responsible for monitoring. The DB/BM routinely monitor MSP site conditions to ensure that the PDFs and management practices specified in the raven plan are implemented and carried out and to determine their effectiveness. In addition, MSP personnel are educated on raven control efforts

and are requested to notify the DB/BM if they encounter raven nesting activity, roadkill, and human food or waste management issues.

### 3. Methods

## 3.1 Point Counts

The raven plan specifies that up to 12 permanent sampling points will be surveyed monthly. Point count locations (7) for the operation phase were submitted to the CEC, USFWS, and CDFW on June 17, 2016, and approved on June 24, 2016. Point counts were conducted monthly by the DB. Data collected include date, time, and weather conditions of survey, as well as time, location, number, age, sex, behavior, distance from the point location and any other pertinent details for each observation.

In an email dated July 14, 2021, CEC indicated that MSP had satisfied the monthly survey conditions of BIO-18.

"As part of the approval of the 2020 ACR, CEC staff, CDFW and USFWS have determined that the project owner has satisfied the requirement for monthly surveys as part of the BIO-18 Raven Plan. Annual breeding season monitoring will be conducted at the MSP for the life of the project and a stand-alone report should still be provided in the ACR. In addition, control measures including any adaptive management measures determined to be necessary by the agencies shall be implemented per the approved plan, as needed."

Point count surveys were discontinued after July 2021 per CEC's communication.

## 3.2 Breeding Season Monitoring

The raven plan specifies that nest search surveys will be conducted twice a month during the raven breeding season (March through June) for the life of the project. The plan also specifies that if nest building is observed, the DB/BM will actively remove inactive nests. Any existing inactive raven nests will be removed prior to the breeding season.

During March through June the DB systematically surveyed all project structures suitable for raven nesting at least twice monthly. Incidental observations of raven nesting behavior by the DB and BM were also used to focus nest search efforts. MSP personnel were requested to notify the DB if they observed any evidence of raven nesting.

#### 4. Results

### 4.1 Point Counts

Point counts were discontinued in 2021.

## 4.2 Nest Monitoring

Nest surveys were conducted by the DB during the breeding season (February-June). In 2019, MSP and the DB began coordinating with Mr. Tim Shields of Hardshell Labs, the CEC and USFWS to obtain permission to apply an oiling technique to raven nests on MSP. Mr. Shields has been working throughout the region using oiling techniques to prevent raven eggs from hatching in an effort to reduce raven predation on desert tortoises in tortoise critical habitat units. This technique involves applying a thin layer of vegetable or silicone-based oil to the surfaces of the eggs to prevent gas exchange across the eggshell and starving the embryo of oxygen. MSP has requested and been granted permission from the CEC annually to conduct oiling on nests located at MSP under Mr. Shields Scientific Collecting Permit.

Four Common Raven nests were located on the project site during the 2023nesting season: one in the Alpha power block, one in the alpha west solar field, one in the beta power block and one between the beta east and west solar fields (Table 1). The alpha & beta power block nests were in the same locations as active nests in 2020, 2021 & 2022. The alpha west solar field nest was in a new location on the ground under a solar array. The DB set up a non-disturbance buffer, flagged off access to the locations, and advised MSP staff to notify the DB if any work needed be done in the area. The DB monitored the nests periodically through July. Scanned nest monitoring datasheets are included as Appendix A.

On 3/2/23, a nest was discovered in Beta power block located near the top of an expansion vessel in the same location as prior years. Due to the inaccessibility of the nest site it is not possible to determine the contents from the ground until nestlings are large enough to be seen however adult behavior can be used to surmise the nesting stage. On 3/30 a drone was used to observe the nest and found it contained three very small young. An adult was observed at the nest periodically until 5/20 when the nest appeared inactive. No evidence of fledged young was ever observed. The outcome of this nest is unknown.

On 3/2/23, an nest was discovered in the construction phase in Alpha power block. This nest was on a cable tray on the third level in the same location as prior years. On 4/5 the nest contained a single egg and on 4/15 a full clutch of six eggs was oiled. On 5/20 an adult was observed incubating six eggs. The nest was not checked again until 6/22

when it was found empty. The nest contained no sign of ever having contained nestlings and no fledglings were observed. This nest was determined to have failed due to abandonment as a result of oiling.

On 4/27 the DB discovered an active nest containing three eggs on the rack between the beta east and west solar fields in the same location as a nest in 2019. On 5/3 the nest contained a complete clutch of five eggs. The clutch was oiled on 5/12. On 5/20 the nest contained four eggs and on 6/14 and 6/22 only two eggs remained, still being incubated by an adult. The nest was found empty on 7/12 with no sign of having contained nestlings. This nest was determined to have failed ultimately due to abandonment as a result of oiling.

On 5/20 a late nest was discovered containing four eggs on the ground below a solar array in the alpha west solar field. On 6/14 the nest was empty with no sign of nestlings or fledglings and no adults in attendance. The nest was determined to have failed due to predation or abandonment.

The DB continued to observe the nest areas and nesting pairs during routine site visits and both prior to and after the expected fledging dates. No evidence of successful nesting by Common Ravens was observed in 2023.

Table 1. Summary of Common Raven Nesting 2023					
Nest ID	Date Discovered	Location	Outcome		
01-A-CORA	3/2/23	Alpha Power Block	Failed - Abandoned		
02-B-CORA	3/2/23	Beta Power Block	Unknown		
03-B-CORA	4/27/23	Beta Wash	Failed - Abandoned		
04-A-CORA	5/20/23	Alpha West SCA	Failed - Unknown		

### 5. Conclusions & Recommendations

BIO-19 point counts, BIO-18 raven point counts and anecdotal observations suggest that the evaporation ponds are not an attractant for ravens. Ravens are rarely noted at the ponds during point counts and when they are observed, they are typically flying through the area or offsite. Additionally, the ponds are scheduled to be completely netted in early 2024 which will remove them as a water source for ravens. The Harper
Lake wetlands to the east of MSP offer a nearly permanent fresh water source for ravens and ravens are often seen flying in the direction of or away from the wetlands. On-site application of water is minimal as is ponding of water, which is typically associated with winter rain events.

Project associated food sources for ravens include roadkill, primarily along Lockhart Road. MSP personnel routinely contact the DB when roadkill is observed in the vicinity of the project. Roadkill is either disposed of or buried so that it is not available to ravens. BIO-17 avian mortality study carcasses previously provided ample food supply for ravens. Placement of study carcasses ceased in August 2019 and is no longer a food source.

The power block structures offer a nearly unlimited number of perching and nesting sites for ravens and ravens routinely use these structures for perching and nesting. Efforts to dissuade ravens from nesting in previously used nest sites by covering the nest substructure with wire mesh have proven ineffective as the ravens simply nest elsewhere on the structure. Ravens are persistent in their nesting efforts and can rebuild a nest and lay eggs within a few days if necessary. Continued diligent efforts to ensure prior season's nest are removed and to locate nesting attempts and remove nesting material before commencement of egg laying each season are recommended. Additionally, MSP is coordinating with researchers to apply egg-oiling techniques on nests that are accessible. In 2020, this technique resulted in only one raven pair successfully fledging young however, in 2021, nesting timing and inaccessibility precluded using this technique. In 2022 and 2023 the oiling technique resulted in no successful nesting on Mojave Solar Project. The technique is being used on MSP as part of a larger regional effort to reduce raven nesting success and predation on desert tortoise.

Appendix A Raven Nest Monitoring Data Sheets

#### **NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT**

 Species:
 Conmon Raven
 Nest ID\*:
 OI - R - CORA

 Project Location\*:
 Alpha PB
 Coordinates (UTM):
 35.013 §49

 -117.329683
 -117.329683

Discovery Date (mo/day/yr): \_\_\_\_\_

				1			1000	ġű.	inactive/Outcome			
Date Observer	Ground	Structure	Vegetation	# Eggs	# Nestlings	# Fledglings	# Adults	Adult Incubatir	Abandoned	Depredated	Fledged	Unknown.
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#### **NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT**

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Discovery (	ate (mo/day/yr):				-									
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Comments \_\_\_\_\_

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#### **NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT**

Species: COMMON RAVEN Nest ID\*: 03-B-CORA

Project Location\*: <u>BETA WASN</u> Coordinates (UTM): <u>35:006221</u>

-117.312235

Discovery Date (mo/day/yr): <u>4.27.23</u>

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Species:	Cert	nman	R	AVEN
Project Loca	tion*:	Alpi	ha	WAST

Nest ID\*: <u>04-A-CoRA</u>

\_\_\_\_ Coordinates (UTM): <u>35, 013138</u> \_\_\_\_7.347975

Discovery Date (mo/day/yr): 5.20-23

		Nest	Loca	tion			Active		ŝ.	Ina	ctive/(	Outco	me
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## **CNDDB Online Field Survey Form Report**



California Natural Diversity Database Department of Fish and Wildlife 1416 9th Street, Suite 1266 Sacramento, CA 95814 Fax: 916.324.0475 <u>cnddb@wildlife.ca.gov</u>

www.dfg.ca.gov/biogeodata/cnddb/



Source code_	ROW23F0002
Quad code	3511713
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Map index no.	

This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

#### Scientific name: Athene cunicularia

Common name: burrowing owl

Date of field work (mm-dd-yyyy): 01-13-2023

**Comment about field work date(s):** First observed on 1/13/23 then periodically throughout the year during routine site visits.

OBSERVER INFORMATIO	ON								
<b>Observer:</b> Sean Rowe									
Affiliation: Rowe Ecologie	cal Consulting, LL	.C							
Address: PO Box 1018, V	Weldon, CA 9328	3							
Email: roweecological@g	mail.com								
Phone: (321) 863-5709									
Other observers:									
DETERMINATION									
Keyed in:									
Compared w/ specimen a	at:								
Compared w/ image in:									
By another person:									
Other: Expert opinion									
Identification explanation: Pair of owls using former kit fox burrow complex.									
Identification confidence: Very confident									
Species found: Yes If not found, why not?									
Level of survey effort: Cl	hecked for presence	e of owls at site roughly	monthly.						
Total number of individu	als: 2								
Collection? No	Collection num	ber:							
	Museum/Herba	rium:							
ANIMAL INFORMATION									
How was the detection n	nade? Seen								
Number detected in each	age class:								
2	0								
adults	juveniles	larvae	egg mass	unknown					
Age class comment:									

Bird site use:	
Nesting Rook	ery Nesting colony 🖌 Burrow site 🗌 Lek
Non-breeding (over-wir	Itering) Communal roost Other
Site use description: Pair sec	on at active burrows throughout the year.
What was the observed beha	avior? Pair using burrows.
Describe any evidence of re	production:
SITE INFORMATION	
Habitat description: Habitat	mmediately adjacent to project site is disturbed saltbush scrub.
Slope: Flat	Land owner/manager: Private - Mojave Solar Project.
Aspect:	

Site condition + population viability: Fair

Immediate & surrounding land use: Mix of BLM & private undeveloped with a few residential parcels.

Visible disturbances: Dirt roads, trash, dogs.

**Threats:** Site is currently protected within the fenced boundaries of the Mojave Solar Project. No immediate threats.

#### General comments:

#### MAP INFORMATION



ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone					
	San Bernardino	Lockhart	2038	35.01233	-117.30862	471842	3874455	11					
1	Public Land Survey	Feature Comment											
1	S T11N R04W 28	Pair using former kit fox burrows.											

#### The mapped feature is accurate within: $20\ m$

Source of mapped feature: Internet map application

#### Mapping notes:

Location/directions comments: Located inside Mojave Solar Project east of the Alpha East solar field. North of Lockhart Road near the SE corner of the project.

Attachment(s):

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

# **Appendix N**

# HAZ-1

# **Hazardous Materials List**

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42134 Harper Lake Road Phone: 760 308 0400 Hinkley, California 92347

#### **Submitted Electronically**

Subject:	09-AFC-5C
Condition Number:	HAZ 2
Description:	Hazardous Materials Business Plan, Emergency Response Plan and Process Safety Management Plan
	Fiant and Frocess Safety Management Fian,
Number:	HAZ2-11-00

February 16,2024

Ashley Gutierrez, CPM California Energy Commission 1516 Ninth Street Sacramento, CA 95814 Ashley.Gutierrez@energy.ca.gov

Ms. Gutierrez,

As required by the California Energy Commission and more specifically by Condition of Certification HAZ-2, attached please find the revised Hazardous Materials Business Plan (HMBP), Spill Prevention, Control, and Countermeasures (SPCC) Plan and Process Safety Management Plan (PSMP) for your review and approval. The approval from San Bernardino County Fire Departments included in the transmittal.

MSP is planning to introduce 11 new chemicals to the site for Boiler/Cooling Water Chemical Treatment and the RO membrane cleaning process due to switching chemical providers. These chemicals have similar properties to the current ones used for their respective applications but are marketed under different names and brand. These chemicals have been added to the chemical inventory through the CERS Website and have been approved.

Additionally, we plan to replace the AFFF 3% with Chemgurd NFF-331 3x3 after repairing the Foam system. Although this change hasn't been reflected in the CERS chemical inventory yet, it will be added after your approval. None of these 12 chemicals are currently on-site.

42134 Harper Lake Road Phone: 760 308 0400 Hinkley, California 92347

Here's the list of the 12 new chemicals:

Boiler: BL1260 (O2 Scavenger), BL1794 (Phosphate), BL8411 (Amine), PBL126 (O2 Scavenger)

Cooling Tower: CL5428 (To replace the GenGard GN8004 for cooling Tower), CT790 (To replace Flogard MS6009 for cooling Tower),

Water Treatment: RL 9009 (Antifouling), BL1260 (Sodium Bisulfate), RL2000 (Citric Acid), RL100 (Versene), RL3400 (CIP Basic), RL20232 (CIP Acid), P813E (Polymer or Floculant).

Fire Protection System: Chemgurd NFF-331 3x3

For your convenience, referenced below is the HAZ-2 CEC Compliance Condition:

HAZ-2: The project owner shall provide a Hazardous Materials Business Plan (HMBP), a Spill Prevention, Control, and Countermeasure Plan (SPCC), and a Process Safety Management Plan (PSMP) to the San Bernardino County Fire Department and the CPM for review. After receiving comments from the San Bernardino County Fire Department and the CPM, the project owner shall reflect all final recommendations in the final documents. Copies of the final HMBP, SPCC, and PSMP shall then be provided to the San Bernardino County Fire Department for information and to the CPM for approval. Verification: At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan, Spill Prevention, Control, and Countermeasure Plan, and a Process Safety Management Plan to the CPM for approval.

Should you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

Mahnaz Ghamati

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

Quality, Environmental & Compliance Manager **ASI Operations LLC** 42134 Harper Lake Rd Hinkley, CA 92347 Cell: (760)498-0549 <u>mahnaz.ghamati@atlantica.com</u>

#### Attachments:

- PP-O&M-MJV-030 Hazardous Material Business Plan, Rev 07
- PP-O&M-MJV-006 Spill Prevention, Control, and Countermeasures (SPCC) Plan, Rev 6
- SP-OM-MJV-087 Process Safety Management (PSM) Plan, Rev 7
- New chemicals SDSs
- San Bernardino County approval included.



# **Emergency Plan. Hazardous Material Business Plan (HMBP) HAZ-2, Rev7**

Operation and Maintenance Plan PP-O&M-MJV-030

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Revision	Date	Reason for Revision
01	06/17/2016	Initial Release (from AEPC document) Update Contact Information for Operations, Update SDS information and material list, other updates applicable to operations
02	06/16/2017	Contact information updated. New facility phone numbers. Plan name changed on the header. (JMBR)
03	11/06/2018	Chemical list updated. Contact information updated. New facility phone numbers (JMBR). Document's internal code changed.
04	02/03/2020	Update to ASI Corporate fonts and Logos. MEL
04	02/19/2020	General review. Spill section (5.4 and 5.5) updated.
05	08/19/2021	Contact information and template update.
06	01/23/2023	Chemical inventory updated
07	01/17/2024	Chemical inventory updated

Produced by:	Department	Date
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Approved by:	Department	Date
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## **1** Objective

The primary purpose of this plan is to provide readily available information regarding the location, type, and health risks associated with hazardous materials at the Mojave Solar Project. Each business in San Bernardino County that handles, uses, generates or stores hazardous materials is required to comply with State and Federal community right to know laws, and to submit a Hazardous Materials Business Plan (HMBP). The requirement for a HMBP is also contained in Condition of Certification HAZ-2 of the California Energy Commission Permit issued to the Mojave Solar Project (09-AFC-5C):

- **HAZ2** the project owner shall provide a Hazardous Materials Business Plan (HMBP), a Spill Prevention, Control, and Countermeasure Plan (SPCC), and a Process Safety Management Plan (PSMP) to the San Bernardino County Fire Department and the CPM for review. After receiving comments from the San Bernardino County Fire Department and the CPM, the project owner shall reflect all final recommendations in the final documents. Copies of the final HMBP, SPCC, and PSMP shall then be provided to the San Bernardino County Fire Department for information and to the CPM for approval.
- <u>Verification:</u> At least 60 days prior to receiving any hazardous material on site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan, Spill Prevention, Control, Counter measure Plan and a Process Safety Management Plan to the CPM for approval

The Hazardous Materials Division of the San Bernardino County Fire Department is the Administering Agency and the Certified Unified Program Agency (CUPA) for San Bernardino County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances

#### 1.1 **Project Location**

Project Name:	Mojave Solar Project
Project Address:	42134 Harper Lake Road
City, State:	Hinkley, CA
County:	San Bernardino





#### Figure 1: Site Layout Map

#### **1.2 Key Contacts**

Primary Site Contact: David Rosas, Plant Manager, (480) 286-6070 Project Owner's Representative: Eduardo Martinez, Asset Manager, (442) 285-8999

#### **EHS Responsible Parties:**

Mahnaz Ghamati, Quality and Environmental Compliance Manager, (760) 498-0549 Brandon Barnes, H&S Site Manager, (442) 285-5581 Alpha Control Room, 760-308-0400

### 2 Definitions

**Hazardous Materials** - means any chemical, substance or material regulated or governed by any Applicable Permit or Applicable Law, or any substance, emission or material now or hereafter deemed by any Governmental Authority to be a "regulated substance," "hazardous material," "hazardous waste," "hazardous constituent," "hazardous substance," "toxic substance," "radioactive substance" or "pesticide."



**MSP** – Mojave Solar Project

**MSLLC** – Mojave Solar LLC

ASIO - ASI Operations, the operations and maintenance organization for MSP

**SDS** Safety Data Sheet

**CEC** – California Energy Commission

### **3 Development**

#### 3.1 General Facility Information

Mojave Solar LLC is a wholly owned subsidiary of Atlantica Sustainable Infrastructure, formerly Atlantica Yield. The project uses established parabolic trough solar thermal technology to produce electrical power using a steam turbine generator fed from a solar steam generator. The solar steam generator receives heated heat transfer fluid (HTF) from solar thermal equipment comprised of arrays of parabolic mirrors that collect energy from the sun. The California Energy Commission (CEC) has exclusive jurisdiction to license this project. The Mojave Solar site occupies a 1,765-acre site in an unincorporated area of San Bernardino County near the community of Hinkley, California. The project site is accessed by Harper Lake Road, which is located approximately 20 miles west of Barstow along the Highway 58 corridor. The project site is approximately six miles north of where Harper Lake Road intersects with Highway 58.

The project has a combined gross electric output of 280 MW from twin, independently operable solar fields. Each field feeds a 140 MW power island. One site, known as the Alpha site, is in the northwest portion of the project site and occupies approximately 884 acres. The Beta site is in the southwest portion of the project site and occupies approximately 800 acres. The Alpha and Beta sites will share the remaining area of the project site for activities that include drainage improvements. The collector fields are comprised of single-axis-tracking parabolic trough solar collectors. These collectors are arranged to form many parallel rows aligned on a north-south axis. Each solar collector has a linear, parabolic-shaped reflector that focuses the sun's radiation on a specially designed linear receiver known as a heat collection element (HCE). The collectors track the sun from east to west to ensure that the maximum amount of the sun's radiation is continuously focused on the HCE. The HTF is heated to approximately 740°F as it circulates through the HCEs and returns to a series of heat exchangers where the fluid is used to generate steam in the solar steam generator system at the power island, thereby providing steam to the steam turbine generator.



The project will use a wet cooling tower for power plant cooling. Water for cooling and other plant purposes will come from groundwater obtained from onsite wells, using adjudicated water rights owned by MSLLC. A single treatment facility for each pair of wells treats the groundwater to meet potable standards for employee use. A septic system and onsite leach field is used to dispose of sanitary wastewater. The sun will provide 100 percent. of the power supplied to the project through solar thermal collectors. No supplementary fossil-based energy source such as natural gas is proposed for electrical power production.

Electric freeze-protection heaters supply steam to HTF heat exchangers as needed during offline hours to keep the HTF in a liquid state when ambient temperatures fall below its freezing point of 54° F. Each power island has a diesel engine-driven firewater pump for fire protection and a diesel engine-driven backup generator for power plant essentials. The Mojave Solar electrical transmission lines interconnect with the Southern California Edison (SCE) 220-kV Kramer-Coolwater #1 transmission line, which is located adjacent to the southern border of the site. SCE constructed the new Sandlot Substation and associated facilities (including fiber optic cable routes located outside the site), to interconnect the project to the Kramer–Coolwater 220-kV line.

#### 3.2 General Requirements

- Operations and maintenance personnel must report any spill immediately as stated in the spill report form number P-IMS-003 Incident Report Form and follow Q&E department directions. All operations and maintenance staff are responsible for identifying all hazardous material and waste that can possibly be used or produced during operations and maintenance activities. Operations and maintenance personnel have the appropriate training and are aware of project procedures and requirements in order to perform their work.
- Any subcontractor is responsible for identifying all hazardous material and waste that can possibly be used or produced during service provided at the project site.
- Subcontractors that may be expected to create or could accidentally create a material that could be classified to be hazardous waste shall provide ASIO/MSLLC a copy of their EPA Disposal number (or equivalent).
- Safety Data Sheets (SDS) supplied by the manufacturers, suppliers, contractors, subcontractors, and/or property owner will be the principal source of health hazard information.
- SDS information must be provided by all contractors and suppliers.



- All containers must be appropriately labeled, identifying the material(s), their potential hazard(s), and any personal protective equipment requirements.
- When personnel are working with chemicals, they shall know the following:

1. Methods and observations that may be used to detect and identify chemicals, such as odor, visual appearance, etc.

2. The potential health and environmental hazards associated with the chemicals they use.

3. The location of the applicable SDS information and the format by which they are maintained.

4. Methods for protection against chemical exposure

- Workers should always review the SDS before working with a new or unknown product.
- Workers should never handle harmful or work near harmful, toxic materials, flammable liquids, or gases until they have been instructed in the safe handling and use of said materials.
- Each Subcontractor is responsible for preparing a plan to control such hazards including compliance and observance to the state and/or federal OSHA Hazard Communication standards. The plan shall be prepared by a competent employee and periodically reviewed for change implementation. For more information refer to the Operations Waste Management Plan and Emergency Response Plan.
- Hazardous materials (or any other materials) must not be discharged into sewer systems. For additional information regarding this matter, contact the ASIO safety representative for the proper storage and drainage procedures. Water discharge guidelines will be enclosed within the local permit for the project. In the event of a spill, the subcontractor shall follow appropriate procedures and protocol for spill response and notify the project HS and Environmental representatives. After incident, MSP's site EHS representatives shall follow up with the details regarding level of spill response and appropriate reporting procedures to governmental agencies (reference Emergency Plan, Emergency Response Plan, Incident Investigation, and Reporting Accidents and Injuries and the SPCC plan).
   ASIO/MSLLC will ensure that subcontractors have the appropriate training and are aware of project procedures and requirements in order to perform their work.



- Outside Storage Lockers built as a separate building set apart from the main facility are acceptable. These lockers must be constructed of material that will be separated from any ignition source and include signage with conspicuous lettering, "FLAMMABLE – Keep Fire Away".
- All hazardous waste or waste which could be considered hazardous waste, as determined by the methodology and definitions from applicable environmental regulators shall be stored and collected in special areas and properly disposed of by contractor and subcontractors. ASIO/MSLLC will supervise all hazardous waste storage and disposal (if any).
- ASIO/MSLLC will perform inspections to ensure materials are being stored according to Applicable Laws.
- ASIO/MSLLC will perform inspections and require from subcontractors that produce and dispose of hazardous waste all information pertinent regarding storing, transportation and the facility where waste will be send to.
- No waste haulers, disposers, recyclers or scavengers shall be allowed on the site without the permission of ASIO/MSLLC.
- No waste may be removed from the site by any person without the authorization of ASIO/MSLLC. No waste may be brought onto the site and disposed of.

#### 3.3 Transportation, Storage and Handling

All materials contained on-site will be stored in appropriate containers protected from environmental conditions, including rain, wind, and direct heat and physical hazards such as vehicle traffic and sources of heat and impact. Additionally, hazardous material storage and management will be in accordance with requirements set forth by the San Bernardino County Fire department (SBCFD), California Energy Commission, DTSC, and CUPA for storage and handling of hazardous materials. Further, site activities would occur according to Cal-OSHA regulatory requirements; therefore, it is not anticipated that the operation of this project will release hazardous emissions generally, it was not foreseen that operation of the project would result in the handling of hazardous or acutely hazardous materials, substances or waste in large quantities. However, if in Large Quantity Generator status, as defined by the U.S. EPA, the requirements that apply to this status will be followed.

The Community Right-to-Know (EPCRA) concerns the environmental and safety hazards posed by the storage and handling of toxic chemicals. Its provisions help increase the public's knowledge and access to information on chemicals at the facilities, their uses, and releases into the environment.



ASIO/MSLLC will not permit any of its subcontractors to directly or indirectly, manufacture, storage, transmission or presence of any hazardous materials on the site, and the release, discharge or other disposal of any hazardous materials on the site, in each case except in accordance with Applicable Law and as required for the performance of the work.

Any hazardous material transportation will be done according to Hazardous Materials Transportation Act (HMTA) that has the objectives to provide adequate protection against the risk to life property inherent in the transportation of hazardous material by improving regulatory and enforcement authority of the Secretary of Transportation. The Safety Management Plan, submitted and approved in accordance with CEC Permit COC HAZ-3, also addresses delivery and handling of liquid hazardous materials. Additionally, TRANS-5 requires that the project owner shall not allow hazardous materials deliveries during non-daylight periods to enhance safety at the rail crossing.

#### **3.4 Actions in response to spills**

#### 3.4.1 Spills of HTF

#### I. In Containment areas (retention basins and secondary containments):

If it is possible, the HTF spill will be collected using a pump or other system and put into adequate containers for liquid substances (metal drums, FIBCs, etc.).

If it is not possible to collect the HTF spill will be cleaned up using absorbents (absorbent blankets, granular mineral absorbent or other absorption system).

If the collected HTF is reusable (it can be returned to the system), the containers used will be adequately labelled. It will be identified as HTF to be reused and, if it is not put into the storage tank immediately, it will be stored at the place designated for this type of reused substances (loading bay, for example) in closed containers.

Once the fluid has been removed, any remaining spilt HTF, which it is impossible to recover will be removed by means of the use of absorbents (absorbent blankets, granular mineral absorbent or other absorption system), eliminating all the remains of HTF.

The waste generated (contaminated absorbents, contaminated HTF or others) will be stored in adequate containers for appropriate management (metal drums, bulk bags), correctly identified by means of labels, and, if necessary, placed on pallets with absorbent blankets in order to ensure safe transfer which avoids contamination during the transfer or storage. The container will be transferred to the plant's waste store.

The affected area will be clear up and cleaned with concentrated cleaning liquid if necessary.



#### II. In Impermeable areas which are not contained

In the case of spills in impermeable areas which are not contained, the greatest priority is to contain and cut off the spill of HTF by means of retention dykes, tanks and/or barriers formed by absorbents, in order to prevent, insofar as possible, the spill from spreading to areas which are permeable to HTF or contaminating rain or process water systems.

Once the spill has been contained, absorbent will be spread over the affected area. It will be left to act and then removed and put into adequate containers for contaminated absorbents, identified with the corresponding label, which will then be transported to the plant's waste store.

The affected area will be clear up and cleaned with concentrated cleaning liquid if necessary.

#### III. Permeable areas

In the case of a spill in an area which is not contained, and which is permeable to HTF, the spill must be addressed as quickly as possible by means of barriers of soil/absorbents, so it cannot affect rainwater retention pond/evaporation ponds or gutter and does not contaminate a larger area.

• For spills which have affected a small area:

The spill can be treated using appropriate manual means and spades. The containers used (bulk bags, drums) will be adequate to contain the waste, they will be perfectly identified by means of the corresponding waste label, and they will be removed to the corresponding waste store.

• For spills which have affected a large area:

The main priority is to prevent the spill from affecting rainwater systems, for which all the necessary physical barriers will be used, such as absorbent barriers (soil, sepiolite, etc.), dykes, the placement of pipe shut-off devices or by closing compartments of the solar field. Depending on the size of the affected surface area, mechanical or manual means will be used to clean up the spill. If there are accumulations of HTF or contaminated water, they will be sucked up using bilge pumps (if possible) and/or absorbents until all liquid remains have been removed from the affected soil, before putting the soil into containers.



In the case of plants which have authorized facilities for the bio-remediation of soil or water contaminated with HTF, these substances will be transferred to those facilities for treatment and decontamination

#### 3.4.2 Spills of hazardous substances. Scenario with acids or alkalis.

Whenever there is a spillage of acid (Sulfuric, hydrochloric or others) or alkalis (soda or other alkali substances), it must be dealt with rapidly, effectively and appropriately in order to neutralize it and adequately manage the waste generated. Spills of strong acids and alkalis must be treated as rapidly as possible because both direct contact and the vapors they may generate can cause harm to people, installations and equipment.

The neutralization and cleaning work must be carried out using adequate protective equipment (face mask with breathing protection for organic vapors, coverall, chemical protection boots and gloves).

To coordinate the management of a spill of acid, the following sequence of actions will be carried out:

- 1. All existing sources of ignition will be eliminated and the personnel will get ready to intervene in the case of a fire. Sulfuric acid reacts violently with alcohol and water, releasing heat, and it also reacts violently or explosively with organic matter, fuels, strong alkalis (sodium hydroxide, potassium hydroxide, etc.), aluminum, peroxides, permanganates, nitrates, chlorine, bromine and fluoride. It also reacts with the majority of metals, producing gaseous hydrogen which is flammable and explosive.
- 2. The spill will be neutralized with sodium bicarbonate, Soda Ash or another neutralizing agent approved by the authorities, adding it slowly. Never use water or any wet product.
- 3. Add bicarbonate, if this is the agent used, until the fizzing stops.
- 4. The spill must never be allowed to reach the drain system. If necessary, the spill must be contained with sand or any other inert material.
- 5. Once the acid has been neutralized, if possible, the spill will be channeled to the effluent treatment plant or wastewater treatment system of the plant, having first received the go-ahead from the plant's chemical expert, by means of bilge pumps or by opening valves. The parameters of the spill will be monitored (pH, conductivity or another established in the corresponding legal permit) to verify that there is no deviation from any of them.



If it is not possible to channel the spill or treat it in the effluent treatment plant or wastewater management system of the plant, it will be stored in order to be managed as established by the most updated regulation

#### 3.4.3 Spills of hazardous substances. Scenario with other chemical products.

In the case of a spill of a chemical product other than an acid or an alkali, the sequence of actions will be as follows:

1. The designated personnel will do everything possible to detain or contain the leak, using the available environmental protection means. Before going into the area of the accident, you must put on adequate protective equipment (gas-tight safety goggles, mask with breathing protection for organic vapors, safety boots, coverall and chemical protection gloves).

2. If necessary, the safety data sheet of the spilt product must be consulted; that data sheet must be in a place which is accessible for all the personnel.

3. Once the spill has been halted and contained, the affected area must be cordoned off and access by unauthorized personnel restricted.

4. The spill must be contained as quickly as possible, to avoid its dispersion and so it affects the smallest possible surface area. The spill will be treated by means of the application of absorbents (chemical absorbent blankets, sepiolite or similar). In the case of a risk of the spill getting into the rainwater system, it must be contained with absorbent material, and the necessary maneuvers must be carried out (closing sinks, construction of dykes, placement of pipe shut-off devices) to avoid contamination of those waters.

5. Having first received the go-ahead from the plant's chemical officer, and if it is possible, the spill will be diluted with water and directed to the water treatment plant or wastewater treatment system of the plant, where the applicable chemical parameters of the spill will be monitored prior to the final disposal of it. If the volume of the spill is very large, the spill will be removed by means of aspiration and the area will then be cleaned with sepiolite, chemical absorbents or water. Pertinent authority's communication will follow.

6. If waste is generated, it will be put into adequate containers, correctly identified, and subsequently transferred to the plant's waste staging area for transportation and disposal.

#### 3.4.4 Spills of hazardous substances. Scenario with diesel or mineral

In the case of a spill of diesel or mineral oil, the procedure will be as follows:

1. The designated personnel will do everything possible to halt or contain the leak, using the available environmental protection means. Before going into the area of the



accident, you must assess the potential risk and put on adequate protective equipment (gastight safety goggles, safety boots, coverall and protective gloves).

2. Remove any source of ignition from the area.

3. The spill must be contained as quickly as possible, to avoid its dispersion and so it affects the smallest possible surface area. In the case of a risk of the spill getting into the drainage system, it must be contained with absorbent material, and the necessary maneuvers must be carried out (closing sink valves) to avoid contamination of those systems.

4. If possible, the spill will be removed through aspiration and the area will be cleaned with chemical absorbents (absorbents for oils will be used only in the case of a spill of oils or hydrocarbons). If this is not possible, the spill will be treated by means of the application of absorbents and mechanically. The waste generated will be put into adequate containers, correctly identified, and transferred to the hazardous waste staging area.

#### 3.4.5 Action in response to emission into the atmosphere

If there is a fire and/or explosion with any gas or HTF, the emergency plan or equivalent will be activated, and its directions will be followed.

#### 3.5 Prevention and Containment Measures

#### 3.5.1 Preventing measures

Environmental training: All personnel, both in-house and subcontracted, will receive environmental training and awareness-program. This training will be given by the personnel of the solar plant's Environmental Department whenever this is considered necessary, in order to ensure the implementation and monitoring of the Environmental Management System.

**Drills**: An annual program of drills including health, safety and the environment will be drawn up. In the carrying-out of these drills, the response capacity to an environmental accident will be evaluated and the strengths and weaknesses in decision-making and the execution of actions carried out during the emergency situation will be identified.

#### 3.5.2 Containment measures

If there are portable spill-kits at the plant, these will be used to contain chemical products, oils or HTF in the case of spills

Likewise, there are environmental emergency points distributed around the different plants for use in the case of any accident.

#### 3.5.2.1 Spill Kit Location



The Spill Kits are distributed around the plant, accessible to plant personnel for first spills responders.

These environmental emergency kits are at places near the areas with risk of spillage or leak. Therefore, at least, they must be located near the HTF area, the chemical products store, the hazardous waste store, chemical dosing and the turbine system.

The containers must be identified and the materials they must contain, at the very least, will be:

- Absorbent blankets.
- Granular industrial absorbent.
- Bicarbonate or other pH neutralization system at those points close to chemical dosing or stores where there are acids or alkalis.

In addition, there will be available a specific emergency kit at the plant for any serious or very serious emergency situations which could occur in the solar field or the power block. At least, blankets, granular absorbent material, portable tanks or buckets and metal drums must be available.

#### **3.6 Disposal of Hazardous Waste**

An "EPA disposal Identification (ID) number" must be provided by any producer and disposer of any kind of hazardous materials classified according to California laws.

The disposal of hazardous waste (e.g. used oil, gasoline spill, motor oil spill, etc.) will be done according to DTSC regulations which establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act

#### 3.7 Notice of Hazardous Materials

If discovered, encountered or is notified of any spill or release of any Hazardous Materials at the Site:

- Quality and Environmental Compliance Manager and H&S Manager shall be notified immediately.
- Notification to CA Emergency Management Agency, CEC shall be provided.
- Site Owner (Mojave Solar LLC) shall be notified upon receiving knowledge of release.



- Quality and Environmental Compliance Manager / H&S Manager shall restrict access to the area containing such hazardous materials as required by Applicable Law or Applicable Permits.
  - If applicable, the Subcontractor responsible from bringing such hazardous materials onto the Site or generated such material is responsible for remediating such hazardous materials under this document and immediately notifying the Quality and Environmental Compliance Manager/designee and H&S Manager/designee. The responsible party shall promptly contain and remediate the material in accordance with all Applicable Laws and Applicable Permits (to the extent the Applicable Permits relate to the Work).

#### 3.7.1 Local Emergency Contacts

In the event of a release or threatened release of a hazardous material the following site personnel and agencies shall be notified:

Name / Emergency Response	Phone Numbers
Project Q&E Manager	760-498-0549
Project HS Manager	442- 285-5581
Plant Manager	480- 286-6070
Alpha Control Room	760-308-0400
Local Emergency Response Agencies	9-1-1
Hazardous Materials Division	1-800-33-TOXIC or (909) 386- 8425
California State Warning Center (CSWC)/CAL OES.	(800) 852-7550 or (916) 262-1621
National Response Center	(800) 424-8802
Poison Control Center	(800) 222-1222



Local Unified Program Agency (UPA)

(909) 386-8425

## 4 Applicable Documentation

- California Energy Commission (CEC) Commission Decision for the Abengoa Mojave Solar Project (09-AFC-5)
- Spill Prevention, Countermeasure and Control Plan (SPCC) for MSP (part of CEC Condition of Certification HAZ-2).
- Operations Waste Management Plan for MSP (CEC Conditions of Certification WASTE-9, WASTE-11, Soil&Water-8)
- CEC Condition of Certification Worker Safety-2, including the Hazardous Materials Management Program and Emergency Response Plan for MSP
- Safety Management Plan for MSP (COC HAZ-3)
- Spill Report Form Number G78-16-1600-EN-FOR-000006
- OSHA 29 CFR 1926 and 1910
- California Department of Toxic Substances Control Regulations, DTSC: California Health and Safety Code (HSC), Division 20, Chapter 6.5, Hazardous Waste Control Law
- California Code of Regulations List of Hazardous Wastes and Materials Division 4.5 Title 22 CCR
- EPA 40 CFR 260-299 Managing Hazardous Waste
- EPA CERCLA
- OSHA 29 CFR Part 110.119
- Emergency Planning Community Right-to-Know Act of 1986 (42 USC 11001 et seq.)
- EPA 40 CFR 355 List of Extremely Hazardous Substances
- SARA Title III California Accidental Release Prevention (CalARP)
- Hazardous Materials Transportation Act (HMTA)
- SWRCB State Water Resources Control Board
- Cal-EPA
- Cal-OSHA



- California Department of Toxic Substances Control (DTSC)
- Resource Conservation and Recovery Act passed by Congress in 1976
- ISO 9001:2008, Quality Management Systems-requirements
- ISO 14001: 2004, Environmental Management System-requirements
- OHSAS 18001:2007, Occupational Health and Safety and Assessment System
- California Health & Safety Code (CHSC), Division 20, Chapter 6.95
- California Code of Regulations (CCR), Title 19, Division 2
- Title 40, Code of Federal Regulations (CFR)
- California Energy Commission Decision Hazardous Materials (HAZ 2)
- EPA (SARA, Title III)
- San Bernardino County CUPA

## 5 Scope of Application

This plan applies to the entire Mojave Solar Project site for plant operations

This plan will apply to all direct hire personnel of ASI Operations LLC, Owner, Contractors and Subcontractors performing work at the construction site or while working inside any subsidiary facilities or suppliers when delivering to the site. Describing the responsibilities of the different players involved in the activity or activities forming the object of the document.

## 6 Health, Safety and Environmental

All tasks described in this procedure must be implemented according with the specific safety directives and procedures existing in Atlantica Yield and following safety standards established on site where it performs works.

Likewise, hazards and preventive measures established in actual Workplace Hazard Assessment for the staff involved will be considered.

## 7 Tools and Records

Employee training records. These records are required to be retained for the life of the project and as specified by Cal-OSHA:

- SDS
- EPA Identification (ID) Number



## 8 Appendix

#### 8.1 Annex 1

Hazardous material list (Excel file submitted through the local authority's website)

#### 8.2 Annex 2

General Layout Map for the site and for the Power Blocks, Extinguisher location Map. Safety Shower Location Map. Evacuation Routes and Assembly Areas Map.

#### 8.3 Annex 3

SDS Forms



#### 8.1 Annex 1

Hazardous material list

				lazardo	us Materials A	nd Waste	s Inventory	Matrix F	teport			
283 Business/Org. addity Name	Mojave 5 Mojave 5 42134 Harp	iolar LLC iolar LLC ser Lake Rd, Hinkley 923-	17			Alpha and	d Beta			CERS ID 1 Facility ID 6 Status D	10453255 A0014607 Waft	
						Quantities		Annual Watte	Federal Hasard	Histo	ardous Components For mixture only)	
OCT Code/Fire Has. C	Tane .	common Name		Link	Max. Daily	Largest Cont.	Avg. Daily	Amount	Categories	Component Name	264.10	EHS CAS NO.
XOT: 3 - Flammable Combustible Liquid	e and is , Class II	Diesel Fuel <u>CAS No</u> 68476-34-6 Marc 1003 and 1004	Grid them 3 and 33	Gallons State Liquid	Horego Container Aboveground Tank,	4000 Steel Drum	7000 Pressee Ambient Temperature	Waxte Code	- Physical Flammable	Petroleum Hydrocarbons	100%	
		map: coop and cook	aria: item 2 aria 23	Mature	Days on Site: 365		Ambient					





Version: 07

Hazardous Materials And Wastes Inventory Matrix Report										
ORS Business/Org. Facility Name	Mojave Solar LLC Mojave Solar LLC 42134 Harper Lake Rd, Hinkley 92347	Oversial lacetion CERS to 10453255 Alpha and Beta Cooling tower Chemical dosing Factory to FA0014607 Status Drift								
			Quantities			Avenual	Federal Hazard	Hazindous Components (For mixture only)		
OCT Code/Tire Har. C	Jain Common Name	Umit.	Max. Daily	Largest Covt.	Avg. Daily	Amount	Categories	Component Name	16 WH	EHS CAS No.
	BD 1500	Gallons	500	200	180					
	CAS No	Liquid	Storage Container Tank Inside Building		Pressue	Waste Code				
	Map: L003 and L004 Grid: Item 37A	Type Mixture	Days on Site: 365		Temperature					
DOT: 9 - Misc. Hazi Materials	indous DCL 30	Gallons	500	50	50			Sodium bisulfite	40%	
	CAS No	State	Storage Container Tank Inside Building		Pressue	Waste Cade	3			
	Map: L003 and L004 Grid: Item 37A	Tipe Moture	Days on Site: 365		Temperature	5				
	GN8004	Gallons	500	200	180					
	CAS No	State Liquid	Storage Container Tank Inside Building		Pressue	Wante Code				
	Map: L003 and L004 Grid: Item 37A	Type Mixture	Days on Site: 365		Temperature					
	M56209	Gallons	500	200	180			Zinc bis (dihydrogen pho	osphate) 60%	60%
	CAS No	State Liquid	Storage Container Tank Inside Building	1	Pressue	Waste Code	2	and Phosphoric acid		
	Map: L003 and L004 Grid: Item 37A	Type Mixture	Days on Site: 365		Temperature	-				
OT: 9 - Misc. Haza	sodium Hypochlorite	Gallons	2200	1100	600			Sodium Hypochlorite	13%	
Aaterials	CA5 No. 7681-52-9	State Liquid	Storage Container Tank Inside Building		Ambient	Waste Code	1			
	Mag: L003 and L004 Grid: F5, H9	Type Mixture	Days on Site: 365		Ambient					

2RS Business/Org. actility Name	Mojave Solar LLC Mojave Solar LLC 42134 Harper Lake Rd, Hinkley 92347				Chemical Locat Alpha and	CERS ID 10453255 Facility ID FA0014607 Status Draft					
DOT Code/Fire Haz. 6	Dass	Common Name	Unit Pounds State Uquid Type Waste	Max. Daily	Quantities argent Cont.	Avg. Dally Pressue Ambient Temperature Ambient	Annual Waster Amount	Federal Hasard Categories	Hazardous Components (For ministure rethy) Component Name Ni Wit EHS: CAS N		
	Liquid CAS No - Map: LO item#5	Liquid hazardous waste CAS No - Map: L003 and L004 Grid: North of Item#6		1200 Sherage Containet Steef Drum, Can, Fib Plastic Bottle or Jug, Wagon Days on Site: 365	528 er Drum, Tote Bin, Tank		8000 Wante Code 221		Spent chemicals, used hydraulic 13% fluid, oil, and grease, effluent from oil water sparator, used phrenin, oily water from the cooling tower		
		Liquid hazardous waste CAS No - Map: L003 and L004 Grid: Item#19	Gallons State Liquid Type Waste	600 Iterage Centainer Steel Drum, Can, Fib Plastic Bottle or Jug, Wagon Days on Site: 365	275 er Drum, Tote Bin, Tank	Pressue Ambient Temperature Ambient	3600 Wante Code 223	8	Spent chemicals, used hydraulic 1% fluid, oil, and grease, effluent from oil water separator, used glycerin, oily water from the cooling tower		
		Used Oil <u>CA3 Re</u> - Map: L003 and L004 Grid: North of Item#5	Gallons State Liquid Type Waste	1200 Storage Container Steel Drum, Can, Fibr Plastic Bottle or Jug. Wagon Days on Site: 365	275 er Drum, Tote Bin, Tank	Pressue Ambient Temperature Ambient	8000 <u>Wante Code</u> 221		Spent chemicals, used hydraulic 1% fluid, oil, and grease, effluent from oil water separator, used glycerin, oily water from the cooling tower		



Hazardous Materials And Wastes Inventory Matrix Report CONT ID 10453255 Mojave Solar LLC Mojave Solar LLC 42134 Harper Lake Rd, Hinkley 92347 Alpha and Beta Plant Fector (D FA0014607 other Name Matus Draft Her mi Nante Federal Nasard state poly Amount Categories 0 - Physical Watte Cade Health Skin Corrosion Invitation DOT Code/Fire Has. Class Avg. Daily Laignst Co Water Propylene Glycol t-butyl ether magnesium sulfate 7732-18-5 AFFF 3% Gallons 1500 350 1000 90% 4% \$7018-52-7 Inute Statage Container Liquid Tank Inside Building, Plastic/Non-Presture CAS No. 7487-88-9 nbustible Liquid, Class III-8 proprietary hydrocarbon surfactant proprietary fluorosurfactant metalic Drum Tamperature proprietary Type Mature Days on Site: 365 - Health Serious Eye Damage Eye proprietary - Health Hazard DOT: 2.2 - Nonflammable Gases Argon Gas Cu. Feet 10000 336 8000 Watte Code Not Otherwise Classified State Starage Container Gas Cylinder Presour 7440-37-1 Temperature Pure - Health Acute Weste Code - Health 107-21-1 111-46-6 Coolant, Antifreeze Gallons 15000 55 8000 Ethanediol Diethylene Glycol 60% 3% State Starage Container Liquid Plastic/Non-metalic Drum Ambient CAS No 107-21-1 Respiratory Skin Sensitization Ambient 165 Mixture 007: 6.1 - Toxic Substances - Physical Hydrocarbon polymer Alkanes Duraclear \$50 55 Gallons Waste Code Flammable 50% 151006-58-5 State Starage Container Liquid Steel Drum Ambient CAS No. fasic Intern Mature Days on Site: 365 Temperature Ambient DOT: 2.2 - Nonflammable Gases Sulfur Hexafluoride - Health Hacard 129 Pounds 500 260 Ambient Weste Cade Not Otherwise Classified Stata Starage Container Gas Cylinder CAS No 2551-62-4 Ambient Pure Days on Site: 365

Hazardous Materials And Wastes Inventory Matrix Report											
CORN Rasiment/Drg. Mr Facility Nume Mr 42	lojave So lojave So 134 Harpe	lar LLC lar LLC : Lake Rd, Hinkley 92347	Chemical Los Alpha and	d Beta plant	s		crassio 10453255 Facility III FA0014607 Isatas Draft				
		15 – 17 –			Quantities		Annual Weste	Federal Nacard		1	
DOT Code/Tire Haz. Clear	-	Common Name	Vinit :	Max. Daily	Largest Cast.	Avg. Dally	Ameunt	Categories	Component Name	% Wt	DIS CAS No.
DOT: 2.1 - Flammable G	Gases	Acetylene welding gas	Cu. Fe	et 350	70	300			Acetylene Gas	100%	
Combustible Liquid, Class II		CAS No. 74-86-2	Gas	Elininge Cardaleer Cylinder	-	> Ambient	Watte Code				
		Map: L003 and L004	Mixture	Days on Site: 365		Ambient					
DOT: 2.2 - Nonflammat	ble Gases	Argon, Liquid	Cu. Fe	et 336		336					
Cryagen		CAS No. 7440-37-1	<u>State</u> Gas	Inorage Container Cylinder	-	ferour	Wanter Code	L.			
		Map: L003 and L004	Pure	Days on Site: 365	5	Temperature					
		Carbohydrazide	Gallon	is 1200		300					
		CAS No 497-18-7	State Liquid	Storage Container Tote Bin	<u>-</u>	Ambient	Waste Cash	-			
		Map: 1003 and 1004	Pure	Days on Site: 365		Ambient	-				
DOT: 2.2 - Nonflammat	ble Gases	Carbon Dioxide	Cu. Fe	et 52000	50	480					
Cryogen		CAS No 124-38-9	Gas	Stange Castainer Cylinder	-	Ambient	Waste Code	£.			
		Map: L003 and L004 Grid: SW of item#7	Pure	Days on Site: 365	5	Ambient					
DOT: 3 - Flammable an	vđ.	Galvanizing Compound	Pound	is 15		5			Zinc	100%	7440-66-6
Combustible Liquids		CAS Ne	Solid	Steel Drum	-	Ambient	Waste Code	£	hydrotreated light distill	ate 10%	64742-47-8
		Map: L003 and L004	Type_ Misture	Days on Site: 365	5	Ambient			Stoddaard Solvent Zeolite	3%	8052-41-3 1318-02-1
DOT: 2.2 - Nonflammat	ble Gases	Oxygen gas	Cu. Fe	et 560	140	300			Oxygen Gas	100%	
Oxidizing Gas, Gaseous		CAS No. 7782-64-7	Gas	Cylinder		Ambient	Wanter Code	L.			
		Map: L003 and L004	Pure	Days on Site: 365	5	Ambient					
-		Propylene Glycol	Cu. Fe	et 440	55	440			Propylene Glycol	100%	57-55-6
		CAL No. 57-55-6	State Liquid	Startige Certainer Plastic/Non-metu	alic Drum	Ambient	Waste Cash	<u>.</u>			
		Map: L003 and L004	Minture	Days on Site: 365		Tampetatara Ambient					