T.O. 1

SYSTEM OR COMPONENT TURNOVER

UNIT 2

TO

FINAL TURNOVER

HETROPOLITAN EDISON COMPANY

DATE: SKAP8

SYSTEM CONDENSATE POLISHING - MIX 24

Drawit & No. 206

COMPONENTS / Boundaries

PER ATTACHED EUI SHEET.

THESE CHELES COMMETE SYSTEM TO.

STATUS

TESTING COMPLETED.

MET ED RESPONSIBILITY

Assume complete responisibility for operation of system or component.

UEAC START UP RESPONSIBILITY

Assist Met. Ed. only if requested.

OFFICIAL COPY

UE&C CONSTRUCTION RESPONSIBILITY

Assist Start Up only if requested.

2 127

CATALYTIC

Sela

UEAC START UP

Date

HET ED SUPERINTENDENT

8011050420

METROPOLITAN EDISON COMPANY SUBSCRIPT OF GARRIER CONT. SERVICES OF SERVICES

Subject SIGNIFICANT ITEMS AT TIME OF TURNOVER

Lacation TMI Nuclear Station
Middletown, PA 17057
Date 5/25/78

To MR. L. L. LAWYER

SYSTEM TURNOVER COND. POUSHING HTX-24

1. None

2

3.

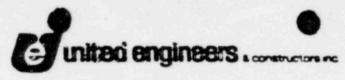
4.

5.

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I



INCOMPLETE WORK 1.1ST

Ites	Date and Disposition
i) None	
	OFFICIAL COPY
	2 129

EQUIPMENT COMPLETION REPORT

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINED IN This MANUAL AND IS READY TO BE EMERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

MANE OF SYSTEM OR EQUIPMENT Condensate Polisher Co-24 (CADLE CHECK)

FEEDER OR DRAWING		TEST NUMBERS				AIL	TEST PER- FORMED BY		TEST WIT- NESSED BY	COMMENTS OR EXCEPTIONS			
EQUIPMENT NO.	NO. 6 REV.	02	09	10							& DATE	& DATE	LACET I I WIS
M430 C.	3065 RW1	P	P	P		-			1		5 kapade 410/77	NA	
MABIC	30 5 5 Revi	P	P	P		1			-		S Kalente	1	
W132	3055 AW2	P	P	P		1	1		-		3/10/27 S babada 2/10/27	\vdash	
TT3322PA	3055 Pevi	P	P	P		T			_	11	5 tabala 2/10/17		
IT3 089C	3055 PWI	P	P	P					-	1	5. bahana 2/10/17		
I T 3090C	3055 Rul	P	P	P	1	1	1		- -	- -	5. Kabade 2/10/27		
IT3091C	3065 Pevi	P	P	P		1			-	+-1	S tabale		
I 13092C	3055 Per1	P	P	P		T				11	5: babada 3		
TEMPLE	3033240	E	•	7.		T			-	+	States as		
IT 853, -	3055 Paul	P	P	P		T			\top	+	S & shada		
IT 3087C		P	P	P		1			+	11	3 60000	1	
IT 3533C		P	P	P.			1	+	1	11	S katada	1	

^{02 -} Integrity of Field Fraction, Installation Assembly & Bolted Connection Check.

09 - Termination Integrity Ches.

10 - Chetinuit Check

* Note 8 Function chick of Valves WT-V-1189119
are checked under Radiahou Test Judines by Mered 5 kay

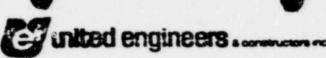
MICROFILM

DOCUMENT INDEX TARGET

	MICROFILM	
	DOCUMENT INDEX TARG	<u>E1</u>
	C "SCRIPTION	
MTX_		NSATE
	CHING SYST.	
	C.A	
	DATE	
/	8-76	(18 space
		maximun
	FILE NUMBER	
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NOTE: Maximu words.	o 0 2 · o 0 1 1 · o um) Im spaces include all punctuation marks, das tion continuation should only be used when	hes and spaces between

FILE NUMBER

E	06	
020		



	MOTOR C	ONTROL CENTER	A TEST DATA
	DATE	11/18/12	
		Shak	
Carrie			
ICC FAMEL 335			
NIT NA Circuit (Left) AMI			
IFG. KEST. (Right) n.s	Part set i		
	• 1	Ø 2	23
reaker Size /5 Amp Long Time at 3X Inst.	N'A	4.0	AA Sec
그리 그리 이번 나는 사람이 작곡하고 함께서 보고를	NA	10	A H
treaker Size Al Amp Long Time at 3X Inst.	**	NA	NO NE
	٧٥ .	NA	na ~
Starter Size			
Mechanical	NEW		
Aux. Contacts /	n=line		
Continuity C			
Aux. Transformer_	N. Y.		
Control Puse	B F		
Heater Size	W 3 3		
		1-6.2 1-	
Time at 3X Ave.	1 01 675	. 02 NA	63K
"iring to ground 200 Megs.			
Remarks:			
		22.2	
TEST EQUIPMENT. MULTI-AMP MS-1A	Serial	- 2712	
	to play /2-		

2-1

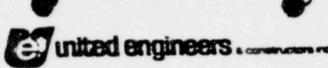
ME - 4

HOTOR BIRT ING CHECK LIST

24.2

	WT 0	
_	dragine Prinp	
wer Source (S	TERMEC) Pune 305	
bicle Number_	BKR 10412	
otection Device		
Switchgear	Ref. Design DataN	1
	Design	\ctum1
L. T. D.	NA .	NA
S. T. D	NA .	A A
INST.	N b	NA .
		4/4
Thermal Ove	1 10000000	NA
Thermal Ove	-loading s/Number <u>H 3 3</u>	#33
Thermal Ove	1-loading 2/Number <u>H 3 3</u> tias <u>+72-5.14</u>	# 3 3 # 72 -5.1+ Bap
Thermal Ove	1-loading 2/lumber <u>H 3 3</u> tiug <u> </u>	#33
Thermal Ove Mfg Rat ontrol Circuit	1-loading 2/Number <u>H 3 3</u> ting <u>+72-5.14</u> hr ts Checked 3/2-//-	#33 472 - S.14 Bap Date
Thermal Ove Mfg Rat ontrol Circuit	1-loading 2/lumber <u>H 3 3</u> tiug <u> </u>	#33 472 -5.1+ Bap Date
Thermal Ove Mfg Rat Control Circuit Cubrication Che	1-loading 2/lumber	# 3 3 # 72 - S.1+ B-p Date Date
Thermal Ove Mfg Rat Control Circuit Lubrication Che	1-loading 2/lumber	Date Date Date Date

UNIT 2



			MOTOR CO	NTROL CENTER	TEST DATA	
			DATE	112:2		
				S. 2. A		
c FANEL	305					
IIT NA Circuit	(Left)	A1:1-1'11	·			
C. NEST	(Right)	A.A.				
			• 1	0 2	03	→ Sec.
eaker Size _/S	_ Amp Long	inst.	Ad	AH	11	Amp
			NA	Ad.	**	Sec
eaker Size AA	Amp Long	Time at 3X	AH	Aid	**	- Amp
right		-	74.	NA	#8	-
tarter Size	- Mach	Lanical	NEW			_
		Contacts 1				
		rinuity_Ch				
		Transformer_				
		troi Fuse				
	Hee	er Size				
				1-62 11-		
	T'	me at 3X Ave.	1 61 70 xx	62 NA	034	YA_
diring to ground	200	Negs.				
Remarks:						
TEST EQUIPMENT.	MULTI-AN	IP MS-1A	Serial	- 2712		
			100		600	v
	1- 0 C :			OFFICIA	I con	•
Test Performed By:			1,1,01	2/11/		

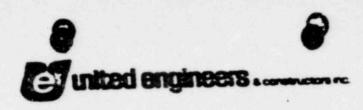
2-5

UNIT 2 CUNITED INGINEERS

MOTOR BOMPING CHECK LIST

tor Name Hydrogue	P	Number	AM-1-113
wer Source (SOURCE)			
bicle Number	BKR 21 1	2.3	
otection Devices			
Switchgear Ref. Design I	ata	NA	
			Actual
Design			F4
L. T. D			
S. T. D	4		N 4
INST			NA
otor Control Center Ref. D	esign Data		
Molded Case Breaker	Desig	m	ual
AMP Rating	Single S De 12	91	15 Amo
			N+
Trip Setting	• 7		
Thermal Overloading			
Hfg/Number	#33		H 3 ?
mating 472	514 Amp		4.72 - 5.14 Ange
Control Circuits Checked			
			ate.
Lubrication Checked	NA		
			ete
Megger Records Complete	3/29/26	14	ate
V			
Motor Ready for Bumping			
100.00		. 1 2.	
Performed by:	Date:	3/27/1/6	OFFICIAL COPY
			/ / P P / / w

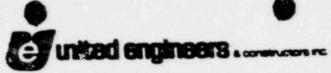
UNIT L



				MOTOR CON	TRUL SEVIER	TEST INTA
				DATE	1/15/14	
					in the the	
				BY_	3. 1. 10	
cc	Parel	305				
			AM -12	.2		
FG	-	(Right)_	NA			
				0 1	6 2	0 3 s
reaker Size_	15	Amp	Long Time at 3X	40	A r)	100
				40	MA	100
	NA.		Long Time at 3X	74	14	100
right				7.6	<i>pa</i>	1
tarter Size		_				
			Mechanical	NEW		
			Aux. Contacts	INSLINE		
			Continuity			
			Aux. Transformer	NONE		
			Control Fuse	NONE		
			Heater Size			
					7-1	
				nt Rating 5		
			Time at 3X Ave	. I 01 65 xc	62 N.7	03
Wiring to g	round	a	Less Mega			
districted for the					100	
temrks:						
****	EQUIPMENT	. MUI	TI-AMP MS-1A	Serial	- 2712	
11001						
1150						NAME OF TAXABLE PARTY OF TAXABLE PARTY.
1601			_			
						CODY
		Ve.	i por k	Date 11/15/76	OFFIC!	AL COPY

ME - 4

UNIT 2



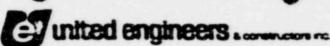
MOTOR BUMPING CHECK LIST

yeten <u>b.T</u>	
tor Name Ammun Pump	
mer source (SMCAPACE) Pure 1 3	:5
ubicle Number Sc. 567	
rotection Devices	
Switchgoar Ref. Design Data	NA .
Design	Actua!
L. T. D	NA NA
S. T. D	
INST. NA	
otor Control Center Ref. Design Data	
Molded Case Breaker Des	ign Actual
AMP Mating	
Trip Setting AA	
Thermal Overloading	
Mfg/Number 133	/33
	by 452-518 by
Control Circuits Checked 3-29	Date
Lubrication Checked	N/A
	Date
Hegger Records Complete 5/24/1	Date
Motor heady for Bumping	
	COPY
Performed by: William Day	OFFICIAL COPY
	Off.
	1./

HOTOR BIM ING CHECK LIST

tor Name Amount Hydrin	de Pomp	_ Number	AM-1-	
ver Source (STATEC)	F xl M	PT-IA		
bicle Number	5-13			
rocection Devices				
Switchgoar Ref. Design Dat	•	NA		
Design			Acti	1
L. T. D			n's	
S. T. D NA			NO	
INST. NA			NU	
otor Control Center Ref. Desi				
Molded Case Breaker	Design			ctual
AMP Mating	20			2.
Trip Setting				NA
Thermal Overloading				
Mfe/Sumber CLA	H1028		11	248
Rating	HAMP	-		4 Amp
Control Circuits Checked				
Control Circuits Charles	700/10		ate	
Lubrication Checked	NA	V.S		
Megger Records Complete	na la la c	m/	ate	
mether mecords compress	12/8/16		ate	
Motor Ready for Bumping				
	-			COPY
Performed by: # Lhit	Date: /	2/8/16	- OFF	ICIAL COPY
Witnessed By: NA	Date:		0	

E 06

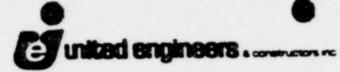


				MOTOR CO	NTROL CENTE	R TEST DATA	
				DATE	11/18/76		
				BY H.	Sed ter		
100	Loite	57/	mren.				
MIT AH	Circuit	(Left)_	AMP . A. HYPK-	HINE MIK TA	er Son	AM-1.3	
IFC. CH		(Right)	n +				
	MPT-IH			0 1	0 2	Ø 3	
reaker Size _	20 day	Assp	Long Time at 3X lust.	~ ^	NA	NA.	Sei
			.usc.	12	NA	NA	
reaker Size	MA	_ Amp	Long Time at 3X	AA	WA	*4	Se
right				44 .	* *	44	_,~
tarter Size_		_					
			Mechanical				
			Continuity	Ch. Ki			
			Aux. Transformer	Line			
			Control Fuse	N: +J			
			Heater Size	HISLA			
			Curren	t Rating	4 8- 0		
			Time at 3X Ave.				
				1 61 20 3 -	2		
articular un des			Megs.				
emarks:							

Date ______OFFICIAL COPY Test Performed by: # Sibility Test Witnessed By:_

2-8

NIT 2



MOTOR BUM ING CHECK LIST

or Name AMONIA PUMP	Number	AM-P-4A
Source (SUCRACC) 2-3/D		
cle Number 4B		
tection Devices		
Switchgear Ref. Design Data	WA	
Design		Actual
L. T. D		VA
S. T. D		NA
INST. NO		**
or Control Center Ref. Design Pata	3084	84 22 81
Molded Case Breaker Design		Actual
AMP Rating		15
Trip Setting N/A		w/A
Thermal Overloading		
Mfg/Number		T-16
Rating . 89A	english (sev	· 89A
trol Circuits Checked 5-3	-76 MM	
	Date	
rication Checked NA		
re- Records Complete 5-3	-76 DR	
	Date	
or Ready for Bumping		
formed by: Willie Date:	5/3/16	- OFFICIA
		- 0
nessed By: NA Date:	9	_

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MAESCO TEST FORM 23-A

NOTOR CONTROL CENTER TEST DATA

		TI	REE MILE	SUME PR			
				DATE	12-9-7	75	
				BY _	J. Rose	74	
DC	310						
NIT IIM	CIRCUIT	(LEFT)	mis Posp	H-P-4A			 :
FG	1	(RIGHT) KA					—
Brooker SID	EE3-8015	Amp Long Tim	e at XX	31	2d	24,5	Sec.
Hein or Lef	+ -	Ina		NA	NA	WA	1
Breaker Siz (Right)	• <u>**</u>	Amp Long Tim	st.				Sec. Amps.
Starter 512	. 1	Mechanical	Bev				
		AUX. Contacts _	290 - 2	mc			
		Continuity	Checked			· .	
		Aux. Transform					
		Control Fuse					
		Heater Size					
		Current Ra					
		Time at 3X	1000		2 35 54	se#3 51	Sec.
							Megs .
Wiring to				•	Ourment	CILCAR	1274
REHARKS:	Set Per	Drawing 3084 St	1. 22 HeV.	1	<u> </u>		
TEST EQUI	PMENT CS	-25		SERIA	L NO.	200	
ASSOCIATE	D RESEARCH I	DOO WOLT D.C. MED	-CHECK Set	rial 9	62		
WEATHER		58 1/12					
- Inter	14-7						CIAL

2-10

mulli-amp

480Y INTERNAL POWER WIRING CHECKLIST

MCC.	2-31D UNIT_	43	COMPONENT	AN-7-4A	MFR_	ITE	_
1.	Power wiring a	eets m	anufacturers spe	ĸ.	_1_54	t	_Unset.
2.	All screws and	bolte	d connections as	re tight.		t	_Unsat.
3.	All lugs are p	roperi	y installed.		_1_54	ıt	_thsat.
4.	Physical condi	tion o	f insulation.		X_S4	it	_Unsat.
5.	Explanation of	f any u	msatisfactory c	andition or other	er irregula	rities:	
	162 F.Q. 16.	194		11	10		

6. Ref. dwg. 3064, Sh.22, Rev.1

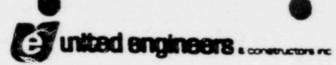
	Perfor	med By_	J. Knox	Date_12-6-75
QC	(where	app1.)_	WA	Date

N/A 235

OFFICIAL COPY.

"E - 4

INIT 2



MOTOR B. " 'ING CHECK LIST

wstemWT	
otor Name AMUNIA PUNIP	* mber _ Am-P 48
over Source (SWGR MCC) 2-3-2	
ubicle Number 4C	
rotection Devices	
Switchgear Ref. Design Data	NA .
Design	
L. T. D	Actual MA
S. T. D	**
INST.	NA NA
otor Control Center Ref. Design Lata	
Moided Case Breaker Desi	
AMP Rating 15	15
Trip Setting N/A	w/A
Thermal Overloading	
Mfg/Number	T-1
Rating .89A	. 89A
	5-3-76 PR
	Date
ubrication Checked	
	Date
egger Records Complete	5-3-76 PPS
otor Beady for Bum/	Date
otor Ready for Bumping	
Performed By: #10-1 Date:	OFFICIAL CO
Date:	OFFICIAL CO
itnessed by: NA Date:	
1	.12

multi-amp w

MOTOR CONTROL CENTER TEST DATA .

THREE MILE ISLAND PROJECT

Breaker Size Main or Left Breaker Size (Right)							
Breaker Size Mein or Left Breaker Size (Right)				BY	J.	Knox	
Breaker Size Main or Left Breaker Size (Right)	310						
Main or Left Breaker Size (Right)	CIRCUIT	(LEFT)	Amonia Pr	MP AM-P-4	<u> </u>		·
Main or Left Breaker Size (Right)		(RIGHT)	MA				
(Right)	HE3-8015	App Long	Time at 3	× 23	27_	25.5	Sec. Amps.
Starter Size	· KA	Amp Long	Time at 3	X NA	NA	NA.	Sec. Amps.
	. 1	- Nechani d	-al	New			
		Aux. Contact	ts	280 - 28	С		
	* *	Continuity		Checked			
		Aux. Transf	ormer	.100KVA			
		Control Fus	•	MDX3			
		Heater Size		T-16			
		Current	Rating	.894			
		Time at	3X Ave. 1	#1 38 Sec	. Ø2 35 Se	e Ø3 _ :	37.5 Sec.
Wiring to	Ground					200	Meg*
REMARKS:	Set Per	Drawing 3084	sh. 22 Re	v. 1	Current	C⊓	1274
STATE OF THE PARTY NAMED IN COLUMN 2 IS NOT THE OWNER, THE PARTY NAMED IN COLUMN 2 IS NOT THE OWNER, THE PARTY NAMED IN COLUMN 2 IS NOT THE OWNER, THE PARTY NAMED IN COLUMN 2 IS NOT THE OWNER, THE O	PMENT CB-25				RIAL NO.	200	
ASSOCIATED	D RESEARCH IC	DOD FOLT D.C.	MEG-CHECK	Serial	962		
VEATHER	14 °C	SE SHIR					AL CO

MAESCO TEST FORM 23-A

י בי מותב לוונותן

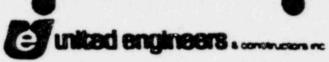
487 Sweet Was Dates. Name 75237 . (\$144 255-2804 .) THE BESCHOOLS

480Y INTERNAL POWER WIRING CHECKLIST

MCC	5-31D	_UNIT_	4C	COMPONENT	AH-P-4B	MFR_	III	
1.	Power s	dring s	eets m	anufacturers sp	ec.		Uns	at.
2.	All sci	rens and	bolte	d connections a	re tight.	I Sat	Uns	et.
1.	All lug	gs are p	roperl	y installed.		X Sa.	Uns	et.
4.	Physica	al condi	tion o	f insulation.		_ I Sat	Uns	at.
5.	Explana mes l qx3	ation of	f any u	msatisfactory o	condition or oth	er frregular	itles:	
	B6R 7.	Q. Bo.	894		TES-10			
			•					
				•				
6.	Ref. d	wg. 308	, Sh. 2	2, Rev.1				
					Performe	ed By J. Kn	ox Date_	12-8-75
					QC (where ap	p1.)	Oate	
W	A 238						AL CO	24

2-14

ME - 4



MOTOR BUM! INC CHECK LIST

stenWT				
otor Name AMONIA	PUMP	Number	MM- P.4C	
ower Source (SWGR/MCC)_	2-3,0			
bicle Number	4D			
otection Devices				
Switchgear Ref. Design	Deta	NO		
Dest	Ign		Actual	
L. T. D. #4			NO	
S. T. D. #	•		N.	
INST.	4		W1	7.4
Trip Setting_ Thermal Overloading Mfg/Number Rating	15 N/A T-16 . E 3 A		7-1	
ntrol Circuits Checked		5-3-76	The second secon	
brication Checked		A/A Dat	-	
gger Records Complete	5	-1-16 HI		
otor Ready for Bumping	2,m 2,m	Date		
erformed by: Hill	Date:	5/1/14	OFFICIAL	CO
tnessed By: NA	Date:		- Ottio	
	1-	15		

multi-amp wa.

MAESCO TEST FORM 23-A

1271 Branco Way, Dallos, Touas 78237 . (214) 333-3201

MOTOR CONTROL CENTER TEST DATA

THREE MILE ISLAND PROJECT

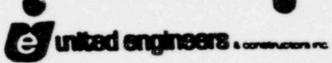
REMARKS: Set Per Drawing 3084 Sh. 22 Rev. 1 Current curve 1			N-D-4C	Pusso	Ammonia I	(LEFT)	CIRCUIT		
### Presker Size ME3-B015 Amp Long Time at 3X 23 20 21.5 ### Inst.									-
Inst. Inst.	13	2 6	62						-
Replace Size MA	5 Sec	21	20	23	Time at 3X	Amp Long	HE3-8015	\$120_	reeker
Tarter Size	Sec	N	HA	MA		Amp Long	TA.		
Aux. Contacts	Amp				inst.				
Continuity				Nev		Mechanic	1	Size _	tarter
Aux. Transformer									
Control Fuse			d	Checke		Continuity _			
Heater Size			A	.100KV	rmer	Aux. Transfo			
Current Rating				MDX3	. 641.3/57	Control Fuse			
Time at 3X Ave. 61 38.5 62 33 63 43. Wiring to Ground				T16		Heater Size			
REMARKS: Set Per Drawing 3084 Sh. 22 Rev. 1 Current curve 1				.89A	Rating	Current			
REMARKS: Set Per Drawing 3084 Sh. 22 Rev. 1 Current curve 1	43.5 Sec.	ec.	\$2 33 Sec.	38.5 Sec.	3X Ave. I				
SERTAL ED. 200			Current	. 1	Sh. 22 Rev.				
TEST EQUIPMENT CB-25 SERIAL NO. 200		200	MIAL NO.	SER		3-25	er c	QUIPME	TEST E
ASSCCIATED RESEARCH 1000 FOLT D.C MEG-CHECK Serial 962				eriai	MEG-CHECK S	O VOLT D.C	ESEARCH 10	IATED RE	AS SCC

mulli-amp

480Y INTERNAL POWER WIRING CHECKLIST

CC.	2-310 UNIT 41	COMPONENT	AFF	Mrk	
	Power wiring seet	s manufacturers s	pec.		Unsat.
	All screws and bo	Ited connections	are tight.		Unsat.
	All lugs are prop	erly installed.		Sat	Ursat.
١.	Physical condition	on of insulation.		I Sat.	Unsat.
5.	Explanation of an	y unsatisfactory			les:
	BER F.Q. No. 894		78	9-10	
6	Ref. dwg. 3084,	5h.22, Rev.1			
			Perfor	med By J. Knoz	Date 12-8-7
			QC (where	appl.) MA	Date
	/A 238			-	CAT COS
		* :	4	OFF	
			2-17		

ME - 4



MOTOR SUMPING CHECK LIST

이 사람들은 이 경험이 부리하다 그 보다 되었다.	
otor Name STrong Const. Pump	**** P13
over Source (SECRIMCC) MCC2-310	
ubicle Mumber30	
rotection Devices	
Switchgear Ref. Design Data	NO.
Design	Actual
L. T. D	NA
S. T. D	NA
INST	**
Notor Control Center Ref. Design Data	
	ctual
Molded Case Breaker Design	
AMP Rating Buls	Buis
Trip Setting	
Thermal Overloading	
HITE/ MUMBER	186 mg
	185 Mp
Control Circuits Checked 1/21/27	pu
	Date
Lubrication Checked A.	
	Marie Marie
Hegger Becords Complete //24/17	
	Date
Motor Basedy for Bumping	
	- COPY
Performed by: Will Date: 1/	LYII SIAL CO.
	OFFICIAL COPY
Witnessed By: NA Date:	
2-18	Contraction of Contraction

mulli-amp`

4971 Brence Way, Dates, Touas 78237 - (214) 332-3201

MOTOR CONTROL CENTER TEST DATA

THREE MILE ISLAND PROJECT

		DATE	12-5-	15	
		BY	J. Ka	28	
C 2-31D Water	Treetment				
IT CIRC	UIT (LEFT) 2T-P-13, Condens	ate Strong	Causti	: Poss	
G. ITE	(RIGHT) NA				
		61	@2	63	
eaker Size 8015/3	Amp Long Time at 3X	29	25	26	Sec.
in or Left					Sec.
eaker Size KA	Amp Long Time at 3X inst.	NA.	NA.	NA	Amps
	Mechanical Key				
- I					
	Aux. Contacts 2-WO				
	Continuity Chec	ked			
	Aux. Transformer 1009	/A			
	Control Fuse MOX	1			
	Heater Size 724				
	Current Rating 1.85				1.10
	Time at 3X Ave. I 81			27 29	
tiring to Ground				00	
EMARKS: Set F	er Drawing 3634 Sh. 22 Rev.	1 0	urrent	urve	1274
TEST EQUIPMENT MS-1	, Weston Ammeter	SERIAL	NO. 18	48. 263	78
	1000 VOLT D.C. MEG-CHECK Ser	ial	962	-	
WEATHER LOC				~C	
APLIENT TAG					

MAESCO TEST FORM 23-A

First in Electric Power Maintenance Through

2-19

OFFICIAL

Personnel Train - 3

Test Equipment

multi-amp

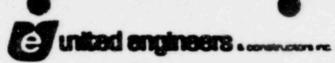
871 Shoras Way, Cohes, Taxes 75537 o (214) 233-2301 o 760: 916-651-666

480V INTERNA . POWER WIRING CHECKLIST

CC	2-31D UNIT	3D	_COMPONE'IT	WT-P-13		TTE PT	
•	Power wiring a	eets ma	nufacturers s	pec.		Sat.	Unsat.
	All screws and	bolted	connections	are tight.		Sat.	Unsat.
	All lugs are p	roperly	installed.		_:	K_Sat	Unsat.
	Physical condi	tion of	finsulation.			C Sa∵.	Unsat.
	Explanation of	any u	satisfactory	condition or ot	her irn	egulariti	es:
	BAR F.Q. No. 1	194			184-10		
		IR.					
5.	Ref. dwg. 308	, Sh.2	2, Rev.1				
				Perform	ed By	J. Knoz.	Date 12-5-75
				QC (where a	pp1.)_		
	238						CAL CO

ME - 4

UNIT



MOTOR BUMPING CHECK LIST

yates WT	0.4
otor New Strong Aid Page	Number V/+
over Source (###/HCC) MG-2-310	RANK TARK SPECIAL SERVICE
ubicle Number	
rotection Devices	
Switchgear Ref. Design Data	N A
Design	Actual
L. T. D	N1
S. T. D. #6	
INST. #4	
otor Control Center Ref. Design Data	
Holded Case Breaker Design	ctual
AMP Mating &_ IS	
Trip Setting 3	
Thermal Overloading	
Hfg/Number T 2+	Tet
meting 485 Amp	1.15 1-0
Control Circuits Checked (/11/17	
	Date
Lubrication Checked NA	
	Date
Megger Records Complete 1/4/17 Hr	Date
Motor heady for Bumping	OFFICIAL COPY
	CIAL CO.
Performed by: Willife Date: 1/	OFFICE OFFICE
Witnessed By: Not Date:	
2-21	

mulli-amp`

4271 Branco Way, Dellos, Toxos 78231 . (214) 333-3201

MOTOR CONTROL CENTER TEST DATA

THREE MILE ISLAND PROJECT

	IRCUIT (LEFT)		cid Pump		
recker Size _BO1	(RIGHT) NA	61	6 2 26.	Ø3 29	Sec.
neker Size MA	Amp Long Time at 3X Inst.	NA.	A).	NA.	Sec. Amps
tarter Size 1	Mechanical Ne				
	Aux. Contacts	NO - 2-NC			
	Continuity Ch	ecked			
	Aux. Transformer 10	AVC			
	Control Fuse M	ж3			
	Heater Size	4			
	Current Rating 1.	.85			
	Time at 3X Ave. 6	1 47 8	2 34	33 31	
diring to Ground				200	Megs.
	t Per Drawing 3044 Sh. 22 Rev.		Current	כטייש	1274
TEST EQUIPMENT N	-1. Weston Ammeter	SERTA	L NO. 18	48, 263	78
	OH 1000 WOLT D.C. MEG-CHECK Se	rial 962			
ASSOCIATED RESEAR	A 1000 1721 3.0. 125 G. 25 30)FFICI	

mulifamp

4871 Searce May Dates Terms 75257 . (214) 135-2201 . "WE 910-051-075

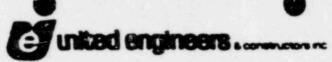
480V INTERNAL POWER WIRING CHECKLIST

MCC	2-31D UNIT_	32	COMPONENT	WT-P-14		IFR	ITE	
1.	Power wiring s	eets m	anufacturers s	oec.		x_Sa	t	Unsat.
2.	All screws and	bolte	connections	ire tight.		∡ Sa	t	Unsat.
3.	All lugs are p	roperly	installed.			I Sa	t	Umsat.
١.	Physical condi	tion o	f insulation.		_	x Sa	t	Unsat.
5.	Explanation of BAR F.Q. No. 1		nsatisfactory (condition or of	ther irr	egula	ities:	
6.	Ref. dwg. 3084	, Sh.2	2, Lev.1					
				Perform	ned By	J. Kr	wx D	ate 1:-5-75
				QC (where a	pp1.)_	NA.		ate
M/A	238							
								m

2-23

OFFICIAL COPPE

INIT 2



MOTOR BUMPING CHECK LIST

veten W7			
otor Nem SULPHITE	LOGENERATION A	mP Number W	T-P-ISA
over Source COOR/MC	c) MCC 2	- 510	
ubicle Number	3F		
rotection Devices			
Switchgon, Ref. D	esign Data	N4	
	Design		Actual
L. T. D			NII.
	NA .		NA .
INST.			NA
	Ref. Design Data	SOY+ S	4 11 KI
Me'ded Core Rreak			Actual
AMP Ratin	1.5		15
	ing N/A		NIA
The Overloads			
Mfg/Number	T- 20		T-20
	1.30A		1.EOA
ontroi _ uits Chec		5-4-76	
oneror		Date	<u> </u>
ubrication Checked	NA		
		Date 5 1 7	04
legger Records Comple		5-4-76 Date	org
totor Ready for Bump	ing		
Performed By: HA	kil Dete:	5/4/16	OFFICIAL COPY
Witnessed By:	YA Date:		TICIAL
	2.2	d	OFFICE

multi-amp

MAESCO TEST FORM 23-4

4271 Bronze Way, Dellas, Texas 78237 • (214) 333-320

MOTOR CONINUL CENTER TEST DATA

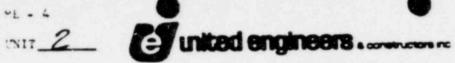
THREE MILE ISLAND PROJECT

T 37	CIRCUIT	(LEFT) WI-P-15		Regene	ration P	OR P	
ITE	_	(RIGHT) KA			62	63	
aker Size _	B015/3	Apu Long Time	at 3X	27	21	21	Sec.
n or Left paker Size _ (ght)	_	Amp Long Time	at 3X	MA	NA	NA.	Sec.
erter 3120	1	Machanical	New				
Brier 3120 .		Aux. Contacts		2-NC			
		Continuity					
		Aux. Transformer					
		Control Fuse					
		Heeter Siza					
		Current Rati					
		Time at 3X /			8 2 30	63 26	
							Neg
wiring to Gr							
REMARKS:	Set Pe	r Drawing 3084 Sh.	22 Rev.	1	Current	curve	12/9
		Weston Ammeter		SER	AL WO.	1848. 26	378

mulli-amp

480Y INTERNAL FOMER WIRING CHECKLIST

HCC.	2-31D UNIT	37	COMPONENT	WT-P-15A	MFR_	ITE	
1.	Power wiring a	eets #	unufacturers sp	ec.	_ x_s	ıt	Unsat.
2.	All screws and	bolte	d connections a	re tight.	<u> r</u> _s	et	Unsat.
3.	All lugs are p	roperl	y installed.		_X_S	at	Unsat.
4.	Physical condi	tion o	of insulation.		<u> </u>	at	Unsat.
5.	Explanation of	fany	unsatisfactory (condition or oth	er irregul	arities	:
	MAR F.Q. No.	894		TRM	-10		
6.	Ref. dwg308	4, Sh.	22, key.1				
				Perform	d By J.	Knox	Date 12-5-7
				QC (where as			
*	A 252				~ 	FICI	AL COPY
				2-26	0		



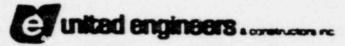
MOTOR BUMPING CHECK LIST

TOT NAME SULPHITE REMEMBERATION PUMP NE	mber WT-P-15B
ver Source (SOR/MCC) 2-3/D	
picle Numb	
otection Devices	
Switchgear Ref. Design Data	NA
	Actual
Design	
L. T. D	NA
S. T. D	NA
INSTNA	NA .
tor Control Center Raf. Design Data -	3054 56 22 RI
Moided Case Breaker Design	Ac .al
15	15
AMP Rating N/A	N/A
Trip Setting	
Thermal Overloading	
Mfg/Number	T-2L
Rating	1.301
	-76 PA
onerol circuits checke	Date
ubrication Checked	
	Date
degger Records Complete 5-4	-76 DR
	Date
coror Ready for Bumping	
	204
Performed by While Date: 5/4/10	- OFFICIAL COPY
Stressed By: NA Date:	-CIC AL
2-27	Orti

(Test Priord/Acceptance Form EAR-1)

lests and Checks Scheduled to Start

24.2



ELECTRICAL EQUIPMENT/SYSTEM TEST AND CHECK RECORD AND ACCEPTANCE PORM

Metropolitan Edison	Company
Three Mile Island	
Unit No. 2	
J. O. 9459-02	

Equipment/System) Coupensale Augusta

Rafer to Equipment/Syntem Data Sheet (Not required for Motors or Wire & Cable)

The test and check forms indicated are attached hereto and are a part of this Electrical Equipment/System Test and Theck Record and Acceptance Form:

Electrical Test and Check Form

01	06	11	16	21	26
02	07 08	12 13	17	4 23	27
04	X09	14	X 19	24	
05	10	15	20	25	30

above have been performed as directed, in accordance with the "Procedures"; that all of the Electrical tests and checks, required by the "Procedures"; lave been made; that the results were as stated in the attached records; that the equipment/system is installed in accordance with the contract documents; and that said equipment/system is secured and ready for service.

BY: Helif 2/12

APPROVED BY

UESC Startup Eng.

(Date)

OFFICIAL COPY

UNIT_2

E MIPHENT COMPLETION REPORT

TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

MANS OF SYSTEM OR EQUIPMENT CONDENSAGE 1 . SELEC (CABLE CHECK)

CIRCUIT OR FEELER OR EQUIPMENT NO.	SCHEHATIC ENAMING NO. & REV.	TEST NUMBERS P = PASS F = FAIL									TEST PER-	TEST WIT-	CONSTRUCTS OR
			T	1	120	T		fi	ALL T	1	FORMED BY	MESSED BY	EXCEPTIONS
		02	09	10									
MISC	3.11 11 11	Ľ	ľ	ı,							LAEB 51	NA	
HIISC	1	1'	1.	1'			1				AFER : "	. 1	
MILSPA	035-1 RI	P.	P	P						1	MY IEH		
MAGIC	77 :-160	F,	1'	1			1				Mi :		
M175P	D. W. I RI	<u>'</u>	,'	Ľ			-				PIFEB 5 197	7	
M177C	Dana KT	1	"	1'	4		1		44	_	10713 EV	17	
MISOF	034 1 K F	1'	r	Ľ_			1		44	1	Mitt :		
M1 82	Oh. + KI	1	1'	P		_			\perp	_	11.		ð
Mx 70 P	Dir-i RE	1'	P	P.	_	_			44	1	WAFEB. 5	17	0
M1 920	Dives RE	P	P	P	1				11	4	PAFEE 6	n	3
MISSI	036-5 KE		_	P	4	_			44	1	MIB :	(1)	- P
MI 916	011., RE	P	P	P			11				125EB. 5197	1	ð

02 - Integrity of Field Erection, Installation Assembly & Bolted Connection Check. It the fe

09 - Termination Integrity Check

10 - Continuity Check

EQUIPMENT COMPLETION REPORT

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINED IN THIS MANUAL AND IS READY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

****			(CARLE CHECK)
MANUE OF	BYSTEM OR	EQUIPMENT	(CABLE CHECK)

CIRCUIT OR FEEDER OR EQUIPMENT NO.	DRAWING NO. & REV.	T				EST I	NUMBER			ST PER-	TEST WIT-	COMPLENTS OR	
		P - PASS P - PAI							PAIL		PORMED BY	A DATE	EXCEPTIONS
		02	09	10						11	· Dure		
W 63L	8-25-35 R1	ľ,	1'	1							PARED 51	" NA	
WG Y C		,	P	1					Ц		MEB 5	27	
WESE		P	1	,				_			AFE	·	
WELL		,	1'	17				_			MO		
weis		P	P	P				上		11	PA FEB. 6		
WGY C		P	P	F				1	1	1	PUFFB 5	117	
WERC		r	P	r				1	Ц		P/ 113 :	1.1	
N 70(P	r	1							MFEB. 51		_8 _
W 11C		r	P	P.						11	M FEB. L	77	Ö
w 12c		P	P	P					Ш		MH 1.1		7
W 23c		P	P	r							MFEB. 61	" ,	C)
W 746		P	F	P			T	T			V418 51	111	-

DESCRIPTION OF TEST HOS.

02 - Integrity of Field Erection, Installation Assembly & Belted Connection Check.

09 - Termination Integrity Check

10 - Continuity Check

EQUIPMENT COMPLETION REPORT

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINED IN THE MANUAL AND IS READY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

MANS OF SYSTEM OR EQUIPMENT CONVENSATE POLISHERS (CABLE CHECK)

CIRCUIT OR FEEDER OR EQUIPMENT NO.	DRAWING NO. & REV.	Γ		P -	TEST PASS	NUMBER	RS F = F	TEST PER-	TEST WIT-	CONSTRUTS OR	
		02	09	10		П		T	6 DATE	& DATE	SACET LIGHT
MIJOUP	D36-5 4'1	P	I'	ľ			力		MPE 51	77 NA	
MA IOL	030. 45	r	1	P					MFEB 5 19	7	
M\$104.1	D34-1 K+	1'	P	P					MED 5		
MIJOZE	P36-1 51	1	1	C					M FEB. 5	177	
MAINEL	1 38 , 81	r	r.	e_					A FEB 5		
MAILE	D11-5 C1	P	P	P					# H3 51	77	
MILLES	036: 55	r	P	P					MILE O		
M1 113 (Pari RI	P	P	P					MIFEB. 61	77	
WI3 C	04747 50	P	E	P.					M FEB 5	¥11	4
NITE	3-15-3- 45	P	P	P					A EB S		Q
W61 (3-15-15 PH	P	P	P					AT FEB. 5		
. WELC	3-25-36 44		F	P			Π	T	MIFEB 5	977	2

09 - Termination Integrity Check

10 - Continuity Check

^{02 -} Integrity of Field Erection, Installation Assembly & Bolted Connection Check. He have

EQUIPMENT COMPLETION REPORT

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINE IN THIS MANUAL AND IS READY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

NAME OF SYSTEM OR EQUIPMENT COLLENSATE PUBLESTERS (CABLE CHECK)

T- CUMENTS OR											140	25	76	0
TEST WIT-	& DATE		111 00			11.11	17.1	+	11	11.	1.4	111	133	7
FORED BY	& DATE		MEER 51	W 'to		FEB 5	AN FEF :	1.11	MEB. 5 1977	F. tt. 5.1	A The	LYFEB. 6 P	FFF :	
- FAIL		+												
TEST NUMBERS		-												
P . PAS	- 5	01	1	-	' '	.,	.,	`	.,	,	1	1	6	d
	-	60	. 1		.,	1,		1	1.1	Pr	,	, ,	, ,	0,
DRAWING	٧.	70	1 54 4 2.4	1	,	``			7	,	,	1,	0	3015 - 57 KL P
CIRCUIT OR	EQUIPPENT NO.	•	N.75.C	wiles	w 711c	w 18c	31.1 m	White	With	WY AL	W83c	NI4C	WISC	3635

02 - Integrity of Field Erection, Installation Assembly & Bolted Connection Check.

13 - Continuity Check

-	-	TO1
20	200.0	84/4

EQUIPMENT COMPLETION REPORT

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINED IT THIS MANUAL AND IS BEAUT TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BOLOW.)

MAKE OF SYSTEM OR EQUIPMENT CON PLANTE P. LINEAS (CABLE CHECK)

FEEDER OR	SCHEMATIC DRAWING			P - PAS	1EST NUM	BERS	FAIL	TEST CER-	TEST WIT-	CONTENTS OR
EQUIPMENT NO.	NO. 6 REV.	02	09	10				6 DATE	& DATE	
WYYC	3045-51 K4	Ľ	1'	,				MY FEB. 51	OTI A'A	
WYYC	-	1	1'	1'				by tto :		
W got		1	1'	1				m/1.		
V416	1	1'	1'	1				MUFEB 51	12	
WYZ	B-11-31 4-	1'	ť'	0				W 115 .	.77	
NIL	-	1	1'	P				1		
WITE		ľ	1	P				MI FEB. 6	977	
MASC		1	1	1				My Fee	97,	7
NEC		1	1	1				M		.8
wyjc		F	e	P				M/ FEB. 5	197	
NESC		ſ	ſ	F				my tes	16.7	15
W49C SCRIPTION OF T		8	8	0				W		& T

10 - Continuity Check

^{02 -} Integrity of Field Erection, Installation Assembly & Bolted Connection Check. H. S. h. f. 09 - Termination Integrity Check

FORM EOI

EQUIPMENT CONTRETTON REPORT

MILE

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINED IF THIS MANUAL AND IS READY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

MANG OF SYSTEM OR EQUIPMENT CONVENSATE PULLSKENS (CABLE CHECK)

CINCULT OR	DRAWING		۵.	- PASS	ESI NUMBERS	LORMED SY	NESSED BY	EXCEPTIONS
EQUIPMENT NO.	NO. 6 REV.	0 20	60	10		& DATE	• DATE	
let have	L. (1.3) (6	-	1	-		KUFEB. 5 1877	7 44	1
2000				-		PLIFTB SS	+	
Wield		1	1			M.		
With E.		-	1	,,		74FEB. 5 1977	"	
Miles 4		1.	1			A FEB C. E.	-	
Lynd Ct		5	1	- (1	
		0	-	0		PJFEB. 5 1	5 1171	1
4814	1		1			M Pro 5	11	Plek it shistin
N-to-		0	12	9				
2000		,	10	0			6 1117	
Jalla		٠,	0	,		KAFFP C.	u.	á
10,000	1	1	1	9		MIEE :	*	1

02 - Integrity of Field Erection, Installation Assembly & Bolted Connection Check. MI & A.

09 - Terrifination Integrity Check

10 - Continuity Check

4

EQUIPMENT CONPLETION REPORT

THE POLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINED IN THIS MANUAL AND IS BEADY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

WANG OF SYSTEM OR EQUIPMENT SAMELLE THE LINES (CABLE CHECK)

ENCEPTIONS											79	f ₂	14
NESSED BY	• DATE	1 v 1	+	+	11	1		*					
FORKED BY	& DATE	PIFFE 5 1907	F/18. 6 18	E/16	PyFEB 5 1817	MAFR S W	11/8/1: 1/1	Pe stester					
F - FAIL		1											
TEST NUMBERS													
P = PASE	10	,	,	.,	,,	1	1	2					
	60	1 4	,			-	1	-	-	+	+	-	\vdash
BCHEHATIC	NO. 6 REV. 02	3026-27 56 1	,	, ,		1							
CIRCULT OR	EQUIPMENT NO.	Will C		241120	MISC	26.00	Solling	W114C					

02 - Integrity of Field Erection, Installation Assembly & Bolted Connection Check. Mr 4. No. 99 - Termination integrity Check DESCRIPTION OF TEST NOS.

10 - Continuity Check

POUTPHENT CONCLETION REPORT

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINE THE MANUAL AND IS READY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

(HOTOR CHECKS) MANAGE OF SYSTIM OR EQUIPMENT

EQUIPMENT NO. NO. 6 REV.				PASSA -		-	L - PAIL	PORTED ST	A DATE	
M-7-11	-	-	-					e Dais		
M-7-11	05	5 09	13	=	28	29				
1		9	-	4	-			H.FEB. 6:17	11 110	200 p = 0.5
	1	1	1	-	13	1		A FEB		
1	1	+		1	1	, ;		FEB :		
T	\neg	-	-	1	1:	1		W.FEB. 61111	ш	
Am. F. 1 3.11 24 1 6 /4 /7	Ne Vit	+		1	1	1,		WIFEB. 5.1		
An-1 40 030. Cu.	1		1	+	-			We HE		
AM 7.10 DIES Su.	+	+	4	1	4	1	+	933	E. Ind.T.	
AM-F. 4C DELI SEL		1	2.	2	1	0				
Dr. W. L. V. V. V. K. F.	THE OWNER WHEN		<u>`</u>	-	`	`\		2 83160 S	11	1
T	1	1	-	-	1	0		A 11: .		
T	_	1	1.	12	13	-		// FEB. 6	NA	70
W 1' 15 6 31 - 1'- 1'-		1	1:	-	-			A FEB. 5	32:	2
T		-	-	-	-					7

DESCRIPTION OF

62 integrity of Fld. Erection, Installation Ass'y. & Bolted Connection Chack Termination Integrity Check

13 Lubrication & Cooling Systems Check

14 Physical Rotation Check 28 Operational Check 29 Manaplate, Ident. Tag. Checks

mulli-amp ==.

OTOR CONTROL CENTER TEST DATA

			THREE MILE	ISLAND PRO	JECT	
				DATE	12-	8-75
*				_ 87	J.	Lacx
x2	-310	IT (LEFT)	Sulphite Re	generation	Pump WI-	-131
		(RIGHT)				
FG	**		at 3X	24.8	18.5	83 27.5 Sec.
reaker Si ein or Le	20 HE3-80	15 App Long				Amps.
reaker SI Right)	20 KA		lime at 3X			Amps.
Starter SI	20 _1	Mechanic				
		Aux. Contact Continuity	75	secked		
		Aux. Transf		TOOKAY	,	
		Control Fut		DX3		
		Heater Siz		-20		
		Curren	t Rating	.30A		33 22 8m
	-	. Time 1	st 3X Ave. I	61 36 Sec.	24 <u>5 Sec</u>	200 Megs
WITING T	to Ground _	Per Drawing 3.	284 Sh. 22 Ren	v. 1	Current	c:rve 1274
				SERC	AL WO.	200
TEST E	DUIPMENT	CB-25	MEG-CHECK		962	
	ATED RESEARC	H 1000 WOLT D.				ICIAL CO
		SB SHR		Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner,	A STATE OF THE PARTY OF THE PAR	

480V INTERNAL -OMER WIRING CHECKLIST

MCC_	2-31D UNIT 44 COMPONENT	WT-P-158	MFR ITE	_
1.	Power wiring mets manufacturers spec			
	All screws and bolted connections are			_Umat.
	All lugs are properly installed.			
	Physical condition of insulation.			unsat.
5.	Explanation of any unsatisfactory co	endition or ot	her irregularitie	
٠.	342 F.Q. No. 894	n	rg-10	

6. Ref. dwg. 3084, Sh.22, Bev.1

Performed By J. K-7x Date 12-6-73

QC (where appl.) Ki Date

NA 238

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MOTOR BUMPING CHECK LIST

System COMMENSATE POLISHER	
MOTOR NAME HOT WATER TANK N	umber co-T-4
Power Source (MOR/MCC) 2-310	
Cubicle Number 50	
Protection Devices	
Switchgear Ref. Design DataAA	
New term	
L. T. D.	Acrual
INST.	**

dotor Control Center Ref. Design Data 3	38+ 5h 22 Ri
Molded Case Breaker Lesign	Actual:
AMP Rating HE3-8100	HE3 - 8100
Trip Setting NA	NA
Thermal Overloading	
Mfg/Number	NA
Rating #4	
Control Circuits Checked 12/16/12 1/21	
	Date
ubrication Checked ND	
egger Records Complete	Date
regger Records Complete 12/16/7 14	Date
Hotor Ready for Bumping	
	Year
Pe ormed by: MICE Date: 14/4/1	OFFICIAL COPY
itnessed By: A'4 Date:	011.
2.30	

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4271	-	Way.	Dates.	-	75237	•	(214)	353	320
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MOTOR CONTROL CENTER TEST DATA

THREE MILE ISLAND PROJECT

				DAT	E 12-	5-75	
				BY	J. 1	(noz	
MCC 2-31D							
UNIT 5D	CIRCUIT	(LEFT)	Caustic Di	lution Heat	er Polisi	er co-	7-4
MFG. ITE		(RIGHT)	NA				
Orankan film				61	Ø 2	63	
Breaker Size Main or Left	HE3-8100	- Aub rou?	Inst.	52.5 NA	S2 NA	37.5 NA	Sec.
Breaker Size	••	les toss	T!4 7V			130	
(Right)	- MA	- with row!	Inst.	NA	NA	NA.	Sec.
Starter Size	3	Mechanic	31	New			
		ux. Contact	s	2NO - 2NC			
		ontinuity _					
		ux. Transfo					
	Q	ontrol Fuse		34			
	н	eater Size		XA			
		Current	Rating	MA			
		Time at	3X Ave. 6	1 MA 92	. MA	23 NA	
Wiring to Gro	ound					200	
REMARKS:	Set Per Dr	awing 3034	Sh. 22 Rav.	1 (200
TEST EQUIPMEN	r CB-25			SERIAL	NO. 20	0	
ASSOCIATED RE	SEARCH 1000	WOLT D.C. M	EG-CHECK Se	rial	189		
WEATHER 13	oc 76	SHR					
					OFFIC!	1 0	264
MAESCO TEST F	ORM 23-A			0)FFIC:	12	
First in Flores	. Pomer Marates	This					

multiamp

4871 Beares Way Cubes, Toxas 75257 + 1214 327-3281 + THE SIGNA 405

480V INTERNAL POWER WIRING CHECKLIST

MCC	2-31D UNIT_	5D	COMPONE.17	CO-T-4	MFR	ITE	
1.	Power wiring me	ets mar	ufacturers spe	ĸ.	_ X Sa	t	_Unsat.
2.	All screws and	bolted	connections ar	e tight.	X_Sat		Unsat.
3.	All lugs are pr	operly	installed.		_ X Sat		_Unsat.
4.	Physica ¹ condit	ion of	insulation.		_ x Sat		_Unsat.
5.	Explanation of	any uns	atisfactory co	ndition or othe	r irregular	ties:	
	MAR F.Q. No. 89				10 2-4		
6.	Ref. dwg3084,	Sh. 22,	Rev.1				
				Performed	8y J. Kn	cx Ca	te_12-5-75
				QC (where app	1.)NA	Da	te
FVA	238						Yac
					- **	CIAL	COPY
198					Ort		

UNIT 2 Trst Record/Acceptance Form EAF-1) Tests and Checks Scheduled to Start A united engineers ELECTRICAL EQUIPMENT/SYSTEM TEST AND CHECK RECORD AND ACCEPTANCE FORM Equipment/System) Condensate Polishers Netropolitan Edison Company Name and Number) CO 24 Three Mile Island Unit No. 2 J. O. 9459-02 Refer to Equipment/System Data Sheet (Not required for Motors or Wire & Cable The test and check forms indicated are attached hereto and are a part of this Electrical Equipment/System Test and Check Record and Acceptance Form: Electrical Test and Check Form _17 07 80 13 03 19 CERTIFICATION - is hereby made that the Electrical tests and checks indicated above have been performed as directed, in accordance with the "Procedures"; that all of the Electrical tests and checks, required by the "Procedures", have been made; that the results were as stated in the attached records; that the equipment/ system is installed in accordance with the contract documents; and that said equipment/system is secured and ready for service. APPROVED BY OFFICIAL COPY

OEM KOL

THE THE CONTRACT OF THE PARTY OF

THE POLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHECKED AND TESTED AS OUTLINED IN THIS MANUAL AND IS READY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

(CABLE CHECK) Polishers MANG OF SYSTEM OR EQUIPMENT Condensate

	SCHEMATIC DRAVING		-	- PASS	TEST NUMBERS	PORMED NY	MESSED BY	RECEPTIONS
EQUIPMENT NO. N	NO. & REV.	8		9		• DATE		
1		_	_	1		KTChaller	NA	
W861 3	3055 Rev 1	1	1	1		NT Cale	0.00	
	3057 Rev 1	d	a	a		11/00/10	1	
	3055 Res 1	d	c	P		11/29/24	NA.	
	3055 Rev 1	P	d	7		11/20/11	NA	
	3055 Rul	¢.	0	7		11/25/16	NA N	
	3055 Res 1	P	P	P		12/20/11	48	
	1055 Res 1	P	P	d		1/80/11	NA	
	3025 Rw 1	d	4	d		76/a6/11	NA	
1	3055 Rev 1	d	a	d		2440/11	NA	
1	PON R. 1	P	d	Ь		11 al / 11 al / 12 al	MA	
	30>5 Raul	d	0-	P		1/0/10	MA	
1	2055 Rev 1	2	d	d		Media	N.Y	

POM ECL

ROUTHENT CONSTRUCTOR REPORT

TO BE EMERGIZED. (ANY EXCEPTIONS TO BE CLEARLY ITEMIZED BELOW.)

MANGE OF SYSTEM OR EQUIPMENT CONTENSOTE POlishers (CABLE CHECK)

W 113 I 305	NO. & REV.	Charle Street, Great	-	* PASS		TEST NUMBERS 7 - PAIL	AIL	FORMED BY	NESSED BY	RECEPTIONS
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	3055 Rev 1	d	d	7				refeeting		
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WIIST 3059	3055 Rev 1	d	9	d				RICAL		
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				-	-					

DESCRIPTION OF TEST NOS.

02 - Integrity of Field Erection, Installation Assembly & Bolted Connection Check.

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09 - Termination Integrity Check DESCRIPTION OF TEST NOS.

09 - Termination Integrity Check 10 - Continuity Check

AULITHUM CONTESTION REPORT

THE FOLLOWING EQUIPMENT OR SYSTEM HAS BEEN CHROMED AND TESTED AS OUTLINED IN THIS MANUAL AND IS READY TO BE ENERGIZED. (ANY EXCEPTIONS TO BE CIEARLY ITEMIZED BELOW.)

MANG OF SYSTEM OR EQUIPMENT

Mes 2. 310

(HCC CHECK)

90. NO. 6 REV. 02 05 07 06 19 23 28 29 30	CIRCUIT OR	SCHENATIC		-	PASS	ASS	EST	TEST NUMBERS	200	- TATE	11,	FOR	FORUED BY	MESSED BT	EXCEPTIONS
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Ass'y. & Boltrd Connection Check

of Thank Batatten Ck. (By Instr. only) CS C.T. 6 P.T. 1-ntn

Brysteal Fo . location ch.

Operational Check

29 Nameplate, Ident. Tog, Checks 30 Lamp Install., Clean Reflector and Color Cap or lens checks

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United engineers.

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ature of Ci	rcuit:	P-wer		System	wT	Ye	8	No	<u> </u>
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United engineers.

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United engineers

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United engineers

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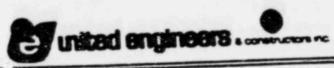
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MODULE C

(L.A. Deg. D4050)

INITIAL CONDITIONS

- Set the following timers: #10 10 minutes; #11 5 minutes; #12 6 minutes;
 #13 2 minutes; #14 4 minutes; and #15 6 minutes.
- 2. Set STOP & ALARY-D sel. sw. in STOP & ALARY position.
- 3. Set MANUAL-AUTO sel. sw. in MAN' L position.

	Set TIME-EXTEND sel. sw. in TIME position.	
		PASS
PR	OCEDURE	
1.	Depress and release pushbutton "C" and verify that timer #10, the amber MODULE "C" light and relay CR-1 are energized.	M
2.	Verify that the following valves' red OPEN lights are energized:	
	2.1 Valve C10 dilute sulfite inlet	1
	2.2 Valve C13 sulfite and backwash outlet	24
	2.3 Valve E9 strong sulfite	-
	2.4 Valve R10 sulfite dilution water	1
3.	After the allocated time for timer #10 has elapsed, verify that t mer #11 and rolay CR2 are emergized.	M
4.	Verify that all valves are closed.	pf
5.	After the allocated time for timer #11 has elepsed, verify that timer #12 and relay CR-3 are energized.	<u></u>
6	. Verify that the following valves' red OPEN lights are energized:	
	f 1 Valve CSC backwash inlet	100
	6 2 Value C10 dilute sulfite inlet	-
	6.3 Value C13 sulfite and backwash outlet	141
	6.4 Valve R10 sulfite dilution water	
,	7. After the allocated time for t ner #12 has elapsed, verify that timer #13 and relay CR-4 are energized.	1
	8. Verify that the following valves' red OPEN lights are energized:	41
	8.1 Valve 14A rinse inlet	70
	5.2 Valve CA waste outlet	£3
	9. After the allocated time for timer #13 has elapsed, werify that timer #14 and relay CR-5 are emergized.	11.
	timer #14 and relay CR-5 are e mrgired.	FOR
		CO.
	at Fich	

<u>P</u>	ROCZ DURZ P	ASS
10	. Verify that the following values' red OPEN lights are energized:	
		17/
11	. After the allocated time for timer #14 has elapsed, verify that timer #15 and relay CR-6 are energized.	pri
1.2	. Verify that the following red lights are energized:	
	12.1 Valve CSA backwash inlet 12.2 Valve C12 vent 12.3 Vibrator	Di MI
13	After the allocated time for timer #15 has elapsed, verify that the green MODULE C COMPLETE light is energized after a 3 second delay and the alarm is energized. Silence the alarm.	NC)
14		12
15	. Verify that REPEAT STEPS 14 and 15 pushbutton initiates steps 14 and 15.	19
16	stope 14 and 15.	01
17	in AUTO position. Verify that MODULE "D" is initiated.	101
7	INAL CONDITIONS	, ,,

1. Set all switches in AUTO position.

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MODULE D

(L.A. Deg. D-4050)

INITIAL CONDITIONS

- 1. Set the following timers: #16 15 minutes; #16A 6 minutes; #17 15 minutes; #18 10 minutes; #19 20 minutes; and #20 1 minute.
- 2. Set STOP & ALARM-F-E switch in STOP & ALARM position.
- 3. Set MANUAL-AUTO sel. sw. in MANUAL position.

PRO	CEDUZE	PASS
1.	Depress and release pushbutton 'D" and verify that timer #16, the amber MDDULZ "D" Light and relay DR1 are energized.	my.
2.	Verify that the following valves' red OPEN lights are energized:	
	2.1 Valve CA waste outlet	M
	2.2 Valve C9 dilute caustic inlet	
	2.3 Valve R5 & SV-R-6 caustic b'ock	724
	2.4 Valve R8 Caustic Dilution water	7
3.	After the allocated time for timer #16 has elapsed, verify that	
	timer 16A and relay DR2 is ene gized.	M
4.	Verify the the following valves' red CPEN lights are energized:	
	4.1 Valve Cl3 sulphice and backwash outlet	1
	4.2 Valve C5B backwash inlet 140GPM	1
5.	After the allocated time for timer 16 has elapsed, verify	Ni
	that timer 17 and relay DR3 are energized.	
6.	Verify that the following valves' red OPEN lights are energized:	
	6.1 Valve C4 waste outlet	K.
	6.2 Valve C9 dilute caustic inlet	100
	6.3 Valve R8 caustic dilution water	W_
7.	After the allocated time for timer 17 has elapsed, verify that timer 18	44
	and relay DMA are energized.	1
8.	Verify that the following valves' red OPEN lights are energised:	
	8.1 Valve C4 waste outlet	P.I
	8.2 Valve Claa rinse inlet	13
	의 경우는 아이지는 아이는 아이는 아이는 그들은 사람들이 가는 바다는 그 가는 것이 되었다.	
9.	After the allocated time for timer 18 has elapsed, verify that	KI_
	timer 19 and relay DRS are one rgized.	Colonial
		COPY
	MCIAL	CO.
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PASS PROCEDURE 10. Verify that the following valves' red OPEN lights are energised: K 10.1 Valve C3 dilute acid inlet 10.2 Valve C4 waste outlet 10.3 Valve R1/2 acid block 10.4 Valve R4 acid dilution water 11. After the allocated time for timer 19 has elapsed, verify that timer 20 and relay DR6 are ener .zed. 12. Verify that the following valves' red OPEN light are energized: 12.1 Valve C3 dilute acid inle: 12.2 Valve C4 waste outlet 12.3 Valve R4 acid dilution water 13. After the allocated time for timer 20 has elapsed, verify that the green MODULE "D" COMPLETE light is energized after 3 seconds delay 11_ and the alarm is energized. Silence the alarm. 14 Set sel. sw. in F position, MANUAL-AUTO switch in AUTO position, and N verify that MODULE F is energized. 15. Reset sequence. Set sel. sw. in E position and verify that MODULE E is initiated.

FINAL COMDITIONS

1. Set all switches in AUTO position.

History 12/28/12

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MODULE E (L.A. Dwg. D4050) INITIAL CONDITIONS 1. Set timer 28 for 10 minutes and timer 29 for 2 minutes. 2. Set STOP & ALARM-F sel. sw. in STOP & ALARM position. 3. Set MANUAL-AUTO sel. sw. in MANUAL position. PASS PROCEDURE Depress and release pushbutton "E" and verify that timer 28, the amber r. MODULE E light and relay ER1 are energized. 2. Verify that the following valver red OPEN lights are energized: P3 2.1 Valve C17 full bed am monia inlet 119_ 2.2 Valve CA waste outle: N 2.3 Valve Ell strong ammonia 2.4 Valve R12 amonia dilution water 3. After the allocated time for timer 28 has elasted, verify that timer 29 11 and relay ER2 are energized. 4. Verify that the following valves red OPEN lights are energized: 4.1 Valve C17 full bed ammonie inlet N 4.2 Valve CA waste outlet 4.3 Valve R12 armonia dilution water 4.4 Valve Cl48 rinse inlet 60GPM 5. After the allocated time for timer 29 has elasped, verify that the green MODULE E CONFLETE light is energized after a 3 second delay and the alarm is emergized. Silence alarm. 6. Set sel. sw. to "F" position and MANUAL-AUTO switch in AUTO position H and verify that MODULE F is initiated. FINAL CONDITIONS HF & hit 1. Set all switches in AUTO pos'tion. OFFICIAL COPY 2-61

MODULE F (L.A. Deg. D4050) INITIAL CONDITIONS 1. Set the following timers: #12 20 minutes; #21A 4 minutes; #215 3 minutes; #22 4 minutes. 2. Set STOP & ALARM-G sel. w. in ST ? & ALARM Position. 3. Set MANUAL-AUTO switch in MANUAL position. PASS PROCEDURE 1. Depress and release pushbutton "F" and verify that timer 21, the [7] amber MODULE F light and relay Fil are energized. Verify that the following valves' red lights are energized: 2.1 Valve C7 sluice water 2.2 Valve C8 resin outlet 2.3 Valve Cll transfer air 2.4 Valve S6 rinse outlet 2.5 Valve S2 vent 3. After the allocated time for timer 21 has elapsed, verify that tirer 21 MI. and relay FR2 are energized. 4. Verify that the following valves' red lights are energized: 4.1 Valve S2 vent 4.2 Valve S11 sluice water 5. After the allocated time for timer 21A has elapsed, verify that M timer 218 and relaw FR3 are emergized. 6. Verify that the following valves' red lights are energised: 6.1 Valve S2 vent 6.2 Valve S7 mixing air 7. After the allocated time for timer 21B has elapsed, verify that timer 22 and relay FRA are energized. 8. Verify that the following valves' red lights are energized: 8.1 Valve S2 went 8.2 Valve S4 waste outlet 8.3 Valve S7 mixing air 9. After the allocated time for timer 22 has elapsed, verify that the green MODULE ? COMPLETE light is energized after 3 seconds dels, and the OFFICIAL COPY alarm is energised. Silence the slarm. 2-62

PROCEDURE

PASS

10. Verify that the REPEAT STEPS 21A, 21B, 22 pushbutton is capable of repeating steps 3 to 9.

M

11. Set STOP & ALARM-G sel. sw. in the G position and the MANUAL-AUTO Switch in the AUTO position. Verify that MODULE G is initiate!.

MI

FINAL CONDITIONS

1. Set all switches in the AUTO position.

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HODULE G

L.A. Deg. D4050)

INITIAL CONDITIONS

- 1. Set the following timers: '23 3 minutes; #24 o minutes.
- 2. Set RELEASE-STOP & ALARM-REPEAT CYCLE switch in STOP & ALARM position.
- 3. Set AUTO-MANUAL Switch in MANUAL position.

PROCEDURE

Depress and relacse pushbutton "G" and verify that timer #23, the amber MODULE G light and relay GR-1 and energized.

- 2. Verify that the following valves' red lights are energized:
 - 2.1 Valve S2 vent
 - 2.2 Valve SSA refill and rinse
- 3. After the allocated time for timer #23 has elapsed, verify that timer #24 and relay GR2 are energized.
- 4. Verify that the following valves' red lights are energized:
 - 4.1 Valve SSA refill and rinse
 - -. 2 Valve S6 rinse outlet
- 5. After the allocated time for timer #24 has elapsed, verify that the green MODULE G COMPLETE light is energized after a 3 second delay and the alarm is energized. Silence the alarm.
- 6. Set AUTO-MANUAL sel. sw. in AUTO position and RELEASE-STOP GALAR"-REPEAT CYCLE sel. . in SEPEAT CYCLE position. Verify that MODULE J is initiated when pushbutton J is pressed and released.

FINAL CONDITIONS

1. Set all switches in AUTO position.

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PASS

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MODULE H

(L.A. Dargs D4050 and D4051)

INITIAL CONDITIONS

- 1. Set timers 25, 26, 27 for 5 minut: s.
- 2. Set STOP & ALARM -F-D-C selector switch in STOF & ALARM position.
- 3. Set MANUAL-AUTO sel. sw. in MANUAL position.
- 4. All switches in AUTO position.

PRO	CEDURE	PASS
1.	Depress and release pushbutton "H" and verify that timer 25, the amber MODULE H light, and relay "RI are energized.	M
2.	Verify that the following red OPT lights are energized:	
	2.1 Valve C6 lancing air	M
	2.2 Valve Cl2 went	MI
3.	After the allocated time for time = 25 has elasped, verify that timer 26 and relay HR2 are energized.	Mi
4.	Verify that the following red OPE; light are energized:	
	4.1 Valve C12 vent	Wi
	4.2 Valve CSB Backwash Inlet 140 GPM	R/
	4.3 Vibrator energized.	128
5.	After the allocated time for timer 26 has elapsed, verify that timer 27 and relay HR3 are energized.	me
6.	Verify that the following rea OPEN lights are energized:	
	6.1 Valve C4 Waste Outlet	W.S.
	6.2 Valve C16 Strainer flush	WX
	6.3 Valve % Rinse/Recovery (Dwg. D3835)	PS
	6.4 Conductivity circuit energized.	The state of the s
7.	Verify that the green MODULE B COMPLETE light is energized after a 3 second delay and the alarm is energized. Silence the alarm.	Wing

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PROCEDURE

PASS

8. Set Sel. Sw. to F position and AUTO-MANUAL switch in AUTO position. Verify that MODULE F is initiated.

M

9. Reset sequence. Set sel. sw. in D position and verify that MODULE D is initiated.

mi

10. Reset sequence. Set sel. sw. in C position and verify that MUDCLE C is initiated.

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FINAL COND! TOMS

1. Set all switches in AUTO position.

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MIX & STORAGE TANK (L.A. Dwgs. D4051 and D4088) INITIAL CONDITIONS 1. Set the following electrical switches in the OFF position: 1.1 Vent 1.2 Waste Outlet 1.3 Refill & Rinse 1.4 Rinse Outlet 1.5 Mixing Air 1.6 Motive Air In 1.7 Sluice water 1.8 Acid block and bleed valves R1/2/3 1.9 Acid Dilution water 1.10 Strong Caustic Block and B) sed valves R 5/6/7 1.11 Caustic dilution water 1.12 Strong Ammonia 1.13 Amonia Dilution Water 1.14 Sulphite dilution water 1.15 Vibrator on 2. Set the following electrical switches in the CLOSED position: 2.1 Backwash water inlet 2.2 Backwash outlet 3. 120VAC applied to circuit L9B. 4. Air pressure applied to the above valves and the air valve's selector switch in the AUTO position. PAS3 PROCEDURE 1. Verify that the green CLOSE lights are energized on the above values with 451 the exception that the red OPEN lights are energized for SVR 3 and 7. 2. Vent valve SVS2 2.1 Set the sel. sw. in the EAND position and verify that the red OPEN light is energized. 2.2 Set the sel. sw. in the ACTO Position and verify that the red OPEN light is energized when: OFFICIAL COPY 2.2.1 Relay FR4 is energized. 2.2.2 Relay FR1 is energized. 2.2.3 Relay FR3 is ene gized. 2.2.4 Relay FR2 is energized. 2.2.5 Relay CRl is energized.

- 14. Sulphite Dilution Water valve SVR10
 - 14.1 Set sel. sw. in the HAND position and verify that the red OPEN light is energised.

121

14.2 Set sel. sw. in the ALTO position and verify that the red OPEN light is energized when

14.2.1 Relay CRI is energized. 14.2.2 Relay CR3 is energized.

- 15. Vibrator on Solemoid SSVB
 - 15.1 Set sel. sw. in the HAND r sition and verify that the red OPEN light is energized.

15.2 Set sel. sw. in the ACTO resition and verify that the red OPEN light is energized when

15.2.1 Relay CR6 is energized. 15.2.2 Relay HR2 is energized.

FINAL CONDITIONS

Set all switches in OFF or CLOSED porition.

RECEIVING TAKE CO-T-3 (L.A. Degs. D4051 and D4088) INITIAL CONDITIONS 1. Set the following electrical switches in the OFT position: 1.1 Dilute Acid Inlet 1.2 Weste Outlet 1.3 Backwash Inlet Lancing Air 1.4 Sluice water 1.5 Resin outlet 1.6 Dilute Caustic inlet 1.8 Dilute sulphite inlet 1.9 Transfer air 1.10 Vent 1.11 Sulphite & backwash outlet 1.12 Rinse inlet 1.13 Resin inlet from M&S can't 1.14 Strainer Flush 1.15 Pul bed amonia inlet 1.16 Cation bed assonia inlet 2. 120 VAC applied to circuit L9B. 3. Air prossure applied to the valves and the above air valves' selector switch in the AUTO position. PASS PROCEDURE 12 1. Verify that the green CLOSE lights are energized on the above valves. . DILUTE ACID INLET VALVE SV-C-3 2.1 Set the sel. sw. in the HAND position and verify that the red Hole . CPEN light is emergized. 2.2 Set the sel. ew. in the AUTO position and verify that the red OFER light is energized when: 2.1.1 Relay DR5 is energized. 2.1.2 Relay DE6 is ener ized. 3. WASTE OUTLET VALVE SV-C-4 3.1 Set the sel. sw. in the HAMD position and verify that the red Md OPEN light is energized. 3.2 Set the sel. ew. in the AUTO position and verify that the red OFFICIAL COPY OPEN light is energized .hen: 2.71

PROCEDURE

3.2.1	Relay	JRI	10	energized.

3.2.2 " DR1 " "
3.2.3 " DR3 " "
3.2.6 " DR4 " "
3.2.5 " DR5 " "
3.2.6 " DR6 " "
3.2.7 " ER1 " "
3.2.8 " ER2 " "
3.2.9 " CR4 " "

DR.6 " "
ER1 " "
ER2 " "
CR4 " "
HR3 " "

4. BACKWASH INLET VALVE SV-C-SA/B/C

3.2.10

4.1 Set the sel. sw. in the MONUAL A 100 GPM position and verify that the red OPEN and green CLOSE lights are energized.

4.2 Set the sel. sw. in the MANUAL B 140 GPM position and verify that the red and green lights are energized.

4.3 Set the sel. sw. in the WNUAL C 28 GPM position and verify that both lights are energized.

4.4 Set the sel. sw. in the EUTO position

4.4.1 Verify that solenoid SV-C-SA and both lights are emergized when:

- (a) Relay CR6 is energized.
- (b) BES " "

(c)

4.4.2 Verify that solenoid SV-C-5B and both lights are emergized when:

- (s) Relay HR2 is energized.
- (b) " CR5 "
- (e) " DR2 "

5.4.3 Verify that solemoid SV-S-5C and both lights are exergised when:

(a) heley CR3 is energized.

5. LANCING AIR VALVE SV-C-6

- 5.1 Set sel. sw. in HAND position and verify that red OPEN light is emergized.
- 5.2 Set sel. sw. in AUTO p sition and werify that the red OPT' light is lit when relay HRl is emergised.

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P HOCKDURZ	PASS
11.2.1 Relay CR5 is energized.	<u> </u>
11.2.2 " 122 " "	RI.
11.2.3 " ERJ "	- Tab
11.2.4 " ЈЪ1 " "	
12. SULPHITE & BACKWASH OUTLET VALVE SV-C-13	
12.1 Set sel. sw. in HAND position and verify that red OPEN	KI
light is energized.	
12.2 Set sel. sw. in AUTO po-ttion and werify that red OPEN	
light is lit when	w
12.2.1 Relay HR5 is energized.	1
12.2.2 " CR1 " 12.2.3 " CR3 "	THE
12.2.3 " CR3 " 12.2.4 " CR5 "	
12.2.5 " 192 "	P4
13. RESIN INLET TO RECEIVING TANK VALVE SV-C-1	
13.1 Set sel. sw. in the CLCSED position and verify that the	*
green GLOSE light is energized.	14
in the OPEN position and verify that the red	100
OPEN light is lit when relay LOR-1 is not energized.	H.J.
13.3 Verify that the green CLOSE light is lit when LOR-1 is energized.	KL_
14. RINSE INLET VALVE SV-C-14A/B/C	
14.1 Set sel. sw. in the 120GPM position and verify the red OPEN and green CLOSE lights are energized.	<u> </u>
14.2 Set sel. sw. in 60 GPM position and verify that the red OPEN and green CLOSE lights are energized.	#1
14.3 Set sel. sw. in the AUTO position	
14.3.1 Verify that sciencid SV-C-14A is energized when	
	· V
(a) Relay DR4 is energized.(b) Relay CR4 is energized.	
14.3.2 Verify that solenoid 5V-C-14B is energized when	.4
relay ER2 is energried.	17
15. RESIN INLET FROM MAS TANK VALVE SV-C-15	
15.1 Set sel. sw. in HAND position and verify that red OPEN	int
light is energized.	F
15.2 Set sel. sw. in AUTO position and verify that the red PEN	W
15.2 Set sel. sw. in Auto posterior JR1 is energized.	COPE
15.2 Set sel. sw. in AUTO position and verify that the red PEN light is energized when relay JR1 is energized. 2-74 OF CIAL	

- 16. STRAINER FLUSH VALVE SV-C-16
 - 16.1 Set sel. sw. in HAND position and verify that the red OPEN light is energized.

de

16.2 Set sel. sw. in AUTO position and verify that the red OPEN light is margized when relay HR3 is energized.

M

- 17. FULL BED APPONIA INLET VALVE SV-C-17
 - 17.1 Set sel. sw. in HAND position and verify that the red OPEN light is energized.

14

17.2 Set sel. sw. in AUTO position and werify that the red OPEN light is emergized when relay LR1 is not energized and

M

- 17.2.1 Relay ER2 is energized.
 - 17.2.2 Relay ERl is energized.

P.L

- 18. CATION BED APPONIA INLET VALVE SV-C-2
 - 18.1 Set sel. sw. in HAND position and verify that the red OPEN light is energized.

RI

18.2 Set sel. sw. in AUTO position and verify that the red OPEN light is energized when relay LRl is energized and

18.2.1 Relay ER2 is energized.

Me Do

18.2.2 Relay ERl is energized.

FINA COMDITIONS

1. Set all switches is AUTO position.

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ELECTRICAL CONTROL AND INTERLO

THET PROCEDURE

APPORIA HYDROXIDE PUMP AM-P-2

INTRODUCTION

The following test procedure is to determine if the control and interlock system

L.A. Dwg. D3801

performs as indicated by Dwg. D4714

Sh. Rev. F

Rev. D

Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column.

PREREQUISITE

All start up checks, as cutlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

POWER REQUIREMENTS

- 1. 120 VAC power is obtained from distribution panel at control panel 305
- 2. Bars 5 & 7 AMPP-2

INITIAL CONDITIONS

- 1. Open power links at Assonia Hydroxide Tank control box.
- 2. Set RUN-STOP selector switch at pal 305 in the STOP position.
- 3. No liquid in tank.

7	CEDURE	PASS
1	Verify that he green STOP light is energized at pml 305.	2'
:	Verify that the amber Assonia Hydroxide TANK LOW LEVEL light is energized.	M
	Verify that ennunciator window 1-2 is glowing brightly and the alarm is energized. Silence the alarm.	r_
	Fill tank with liquid and verify:	
	4.1 The amber LOW-LEVEL light is not energized. 4.2 Window 1-2 is flashing dimly. 4.3 Clear window 1-2 alarm.	H-
	Set both pump sel. sw. in RUN po ition and verify that the red RUM light is energized. NAL COMPITIONS Set pump sel. sw. in STOP position.	Ngv Ygo
	Set pump sel. sw. in STOP position.	,

2. Close power links for pump.

UE& C Test & Start Up Engr.

DATE

DELECTRICAL CONTROL AND INTERLOG

TEST PROCEDURE

HYDROZINE PURPS AM-P-LA/B

INTRODUCTION

The following test procedure is to determine if the control and interlock system

L.A.Dwg. D3801

performs as indicated by Dwg. D4650

Sh. Rev. F

Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column.

PREREQUISITE

All start up checks, as outlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

POWER REQUIREMENTS

1. 120 VAC power is obtained from distribution pnl at Control pnl 305.

Bkr 10 and 12 AMP-1A

Bkr 21 and 23 AM-2-15

INITIAL CONDITIONS

- 1. Open power links at Hydrazine tank control box.
- 2. Set RUN-STOP selector switch at pml 305 in the STOP position for both pumps.
- 3. No liquid in tank.

1.2 AM-P-18

PROCEDURE

1. Verify that the green STOP lights are energized at pnl 305:

1.1 AM-P-1A

2. Verify that the amber HYDRAZINE TANK IOW LEVEL light is energized.

 Verify that amnunciator window 1-1 is glowing brightly and the alarm is energized. Silence the alarm. PASS

the _

FL

PRO	CEDURE	PASS
6.	SLUICE WATER VALVE SV-C-7	
	6.1 Set sel. sw. in HAND position and verify that red OPEN ligits energised.	-
	6.2 Set sel. sw. in AUTO position and verify that the red OPE light is lit when relay FR1 is energized.	<u> </u>
7.	RESIN OUTLET VALVE SV-C-8	
	7.1 Set sel. sw. in HAND position and verify that red OPEN light is energized.	in
	7.2 Set sel. sw. in AUTO position and werify that the red OPEN light is lit when relay FR1 is energized.	N
8.	DILUTE CAUSTIC INLET VALVE SV-19	
	8.1 Set sel. sw. in HAND position and verify that red OPEN light is energized.	141_
	8.2 Set sel. sw. in AUTO position and verify that the red OPEN light is lit when	
	8.2.1 Relay DR1 is energized. 8.2.2 Relay DR3 is energized.	MA PI
9.	DILUTE SULPHITE INLET VALVE SV-C-10	
	9.1 Set sel. sw. in HAND position and verify that red OPEN light is emergized.	my
	9.2 Set sel. sw. in AUTO position and verify that the red OPEN light is lit when	
	9.2.1 Relay CR1 is energized. 9.2.2 Relay TR3 is energized.	N. S.
10.	TRANSFER AIR VALVE SV-C-11	
	10.1 Set sel. sw. in HAND position and verify that red OPEN light is emergized.	IK)
	10.2 Set sel. sw. in AUTO position and werify that the red OPEN light is lit when relay FRI is energized.	14_
11	. VENT VALVE SV-C-12	
	11.1 Set sel. sw. in HAND position and verify that red OPEN light is emergized.	Ko
	11.2 Set sel. sw. in AUTO position and verify that the red OPEN light is energized when:	CIAL COPY.
	200	The same

ECTRICAL CONTROL AND INTERLO

TEST PROCEDURE

HOT WATER TANK CO-T-4

INTRODUCTION

The following test procedure is to determine if the control and interlock system performs as indicated by Dwg. LA D3805 Sb. - Rev. I . Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column.

PREREQUISITE

All start up checks, as outlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

POWER REQUIREMENTS

1. 480 VAC power is obtained from MCC-3:D Unit 5D.

INITIAL CONDITIONS

PROPERTIES

- 1. No liquid in tank.
- 2. Heater leads lifted at MCC.
- 3. Thermostat set at 200°Y.

1. KG	CEDURE	PASS
1.	Verify that the heater's green CFF light is energized.	151
2.	Set HEATER switch to the ON position and verify that the green OFF light is energized.	#4_
3.	Fill tank with liquid and verify that: 3.1 Red HEATER On light on panel 304 is energized.	MI
	3.2 Red indicating light on low level switch is energized.	14_
4.	Verify that thermostat is capable of de-energizing heaters.	M
5.	Verify that the green HEATER OFF light is energized when heaters are de-energized. (thermostat set below ambient temperature.)	K /_
FI	NAI COMPTETONS	
2.	OFFICE.	COPY
	111 think 12/16/196	
	UESC Test & Start Up Engr.	DATE

2-79

PROCEDURE

PASS

4. Energise Hydraxine tank low level relay R1 and verify:

4.1 The amber LOW LEVEL light is not energized.

M

4.2 Window 1-1 is flashing dimly.

N

4.3 Clear window 1-1 alarm.

MI

 Ser both pumps selector switches in RUN position and energize hydrazine pump starter cutoff relay R1. Verify that the red RUN light is energized.

5.1 AM-P-1A

TK!

5.2 AM-P-18

12X

FINAL CONDITIONS

1. Set pump Sel. Switches in STOP position.

2. De-energise El relays.

3. Close power links for both pumps.

UESC Test & Start Up Engr.

3//

DATE

CLECTRICAL CONTROL AND INTERLOO

TEST PROCEDURE

AMMONIA HYDROXIDE HIX TARK PUMP AM-P-3

INTRODUCTION

The following test procedure is to etermine if the control and interlock system performs as indicated by Dwg. 3077 Sh. 20A Rev. 1 . Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column.

PREREQUISITE

All start up checks, as outlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

POWER REQUIREMENTS

120VAC is obtained from panel MPT-1A bkr. 13

INITIAL CONDITIONS

1. Remove thermal overload at starter.

PROCEDURE

PASS

1. Verify that green STOP light is energized at starter.

MI

2, Press START button and ver by that red RUN light is energized.

MI

FINAL COMPLITIONS

1. Replace thermal overload.

Selit 1/22/71

INTRODUCTION

The following test procedure is to determine if the control and incerlock system performs as indicated by Dug. LA D 3805 Sh. Rev. I . Setisfactory perform mance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column. Items which do not meet test requirements will be indicated by initial in fail column and it will be resolved by established procedure as outlined in Testing and Checking of Mechanical and Electrical Equipment Manual.

PREREQUIS'TE

. All start up checks, as outlined in "Testing and Checking of Fachanical and Electrical Equipment", IP 250/2, must be completed prior to performing the following cests.

PURE REVULACIONED

480 VAC Power is Obtained from MCC 2-31D UETT 4.8

DEITIAL CONDITION

- smove Motor Leads from Terminal Block in MCC
- 2. Amonia Tank Empty

3.	Belays ACR and ERL not Energised			
780	CEDURE	٠.	PASS ·	PAIL
1.	Pump Nade Selector Switch in OFF Position.			
d	1.1 Verify that Neither the Rad RUN or Green STOP light is emergized.		Wi	
	1.2 Install Jumper Across ACR Relay Contacts(Wire marks 2635 - 2636).		- 16.	
	Werify That the Green STOP Ligh is Energised.		- RJ	
2.	Pump Mode Selector Switch in MAND Position			
	2.1 Verify That the red MON Light is Energised.		m_	

Pump Mode Selector Switch in AUTO Position

PROCEDURE (CORT'D)

3.1 Parify that the Green STOP Light is Energised.

3.2 Actuate Relay ERL and Verify that the Red ROW light is Emergised.

MI THE

TH-

PINAL CONDITIONS

1. Remove BCR Relay Jumper

2. Reconnect Motor Leads.

White = 12/2/76

TEST PROCEDURE .

MICHTA PORP AN-P-4-3

THEODUCTION

The following test procedure is to determine if the control and interlock system performs as indicated by Dwg. IA D 1805 Sh. ______ Rev. ____ . Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the para column. Items which do not meet test requirements will be indicated by initial in fail column and it will be resolved by established procedure as outlined in Testing and Checking of Mechanical and Electrical Raufpment Manual.

PREQUISITE

All start up checks, as outlined ir "Testing and Checking of Nechanical and Electrical Equipment", TP 250/2, must be emplated prior to performing the following tests.

FURBE REQUEREMENTS

480 VAC Power is Obtained from MCC 2-31D THET 4 C

INITIAL COMDITION

- 1. Remove Notor Leads from Terminal Block in MCC . Amonia Tank Empty
- 3. Relays ACR and ERI not Emergised

PROCEDURE

- 1. Pump Made Selector Switch in OFF Position.
 - 1.1 Verify that Neither the Rad MUN or Green STOP light is energised.
 - 1.2 Install Jumper Across ACR Relay Contacts __(Wire marks 2640 \$2641).

Verify That the Green STOP Light is Energized.

- 2. Pump Mode Selector Switch in HAMO Position
 - 1.1 Verify That the red RUM Light is Energised.
- 3. Pump Mode Selector Switch in AUTO Position

PASS PATE

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PHOCEDURE (COMT'D)

- 1.1 Verify that the Green STOP Light is Emergised.
- 3.2 Actuate Relay ER1 and Verify that the Red HOW light is Energised.

WEG THE

FINAL CONDITIONS

- 1. Remove BCR Relay Jumper
- 2. Reconnect Motor Leads.

Describer & START OF ENG. DATE

This puceduce reberefuel on 12/2/76

AMORIA PURP MI-P-4C

THITRODUCTION

The following test procedure is to determine if the control and interlock system performs as indicated by Dwg. LA D 1805 Sh. ______ Rev. _____. Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column. Items which do not meet test requirements will be indicated by initia in fail column and it will be resolved by established procedure as outlined in Testing and Checking of Nachanical and Electrical Equipment Nanual.

PREREQUISITE

All start up checks, as outlined in "Testing end Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

PURGE REQUIREMENTS

480 VAC Power is Obtained from MCC 2-31D UMTT 4D

INITIAL COMDITION

- 1. Remove Motor Leads from Terminal Block in MCC
- 2. Amonia Tunk Empty

. Relays ACR and ERl not Emergised

PRO	CEDURE	PASS PAIL
1.	Pump Made Selector Switch in OFF Position.	W.Ea
	1.1 Verify that Heither the Red NOW or Green STOP light is emergized.	DES
	1.2 Install Jumper Across ACR Relay Contacts(Wire marks	Misa.
	Verify That the Green STOP Light is Energized.	400
2.	Pump Mode Selector Switch in HAMED Position	MEU
	2.1 Verify That the rod NOW Light is Energized.	72
3.	Pump Node Selector Switch in AUTO Position	FICIAL COPY

PROCEDURE (CORT.D)

- 3.1 Verify that the Green STOP Light is Energised.
- 3.2 Actuate Relay ER1 and Verify that the Red RDS light is Emergised.

MAN PAIL

FINAL COMPLETIONS

- 1. Remove ECR Relay Jusper
- 2. Reconnect Motor Leads.

Plane & 5-3-7

This procedure reveiled on 12/2/16

LECTRICAL CONTROL AND INTERLO

TEST PROCEDUAL

TED BED A LID PUMP WT-P-11

MIXED BED A:ID PUPP WI-F-II
INTRODUCTION
The following test procedure is to determine if the control and interlock system
performs as indicated by Deg Sh Rev Satisfactory perfor-
mance of the system is based upon successful completion of the following test and is
indicated by the tester's initials in the pass column. * L.A. Dwg. D3805 Rev. I L.A. Dwg. 476/ Rev. R L.A. Dwg. D3804 Rev. I
PREFEQUISITE
All start up checks, as outlined in "Testing and Checking of Mechanical and
Electrical Equipment", TP 250/2, must be completed prior to performing the following
tasts.
POMER REQUIREMENTS
1. 480VAC power is obtained from MCC 2-31D unit 2D.
INITIAL COMDITIONS
1. Disconnect wire 1633 at Acid and Caustic Dilution Water Flow recorder (Pamel 304).
2. Energize 120VAC circuit L9A (panel 304).
3. Lift motor leads at MCC 2-31D.
4. WT-F-11 selector switch in POLISHER AUTO position (Penel 305).
5. WT-P-14 selector switch in OFF position (Panel 304).
NOTE:
This procedure pertains only to the POLISHER AUTO position on WI-P-11 selector switch on Panel 305. The other sect: one of the selector switch were checked under MIX-49.
POCEMIRE

- 1. Verify that the following lights are energised:
 - 1.1 Amber MIXED BED OFF NORMAL (Panel 305).
 - 1.2 Red SPARE PUMP IN USE (Pane.. 304).
 - 1.3 WT-P-11 green STOP (Panel 305).
 - 1.4 WT-P-14 green STOP (Penel 304).

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PASS PROCEDURE 2. Verify that the following red MIN lights are lik only when relays APCR and DRS are energised (WT-P-14 sel. sw. in OFF position): KI 2.1 WT-P-11 K 2.2 WT-P-14 3. Verify that both pumps green CLOSE lights are lit when relays APCR and DR5 are energised and WT-P-14 sel. ww. (panel 304) is in either WTO or N HAND position. 4. Verify the following lights are de-emergized when relay 12 (panel 305) is energized: M N 4.1 WT-P-11 green STOP 4.2 WT-P-14 green STOP 4.3 Amber MIXED BED PURP OFF NORMAL (Panel 305)

FINAL COMDITIONS

1. Reconnect wire 1633 at recorder.

4.4 Red SPARE PURP IN USE (Panel 344)

2. Reconnect motor leads.

UESC Test 6 Start Up Bag . DATE

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LECTRICAL CONTROL AND INTERLO

TEST PROCEDURE

MIXED BED STRONG CAUSTIC PUMP WT-P-12

INTRODUCTION

	The	following	og test p	rocedur	e is to	determin	if the con	trol and interl	ock system
peri	oras	as indic	ated by	Dwg	٠	Sh	Rev.	Satisfacto	ry perfor-
man	e of	the syst	em is bar	sed upor	succe	saful comp	oletion of t	he following te	st and is
indi	cate	ed by the	tester's	initial	ls is t	he pass co	olumn.		
PREF	EQU1	SITE				67 Rev. B			
	ALI	start up	checks,	as out	inec i	"Testing	and Checki	ng of Mechanica	l and
Eler								performing the	
test									
POME	R RE	QUIREMENT	<u>s</u>						
1.	80V	AC power i	s obtaine	d from	MCC 2-3	1D Unit 30			
INIT	LAL (COMDITIONS							
1. 1	Cherg	ize 120VA	C Circuit	L9A (p	nl 104)				
2. 1	ift	motor les	de at MCC	2-31D.					
3. 1	T-P-	-12 sel. s	w. in Pol	isher A	UTO pos	ition.			
4. 1	T-P-	-13 sel. e	w. in OFF	positi	æ.				
MOTE	:								
PATE	ch le	cedure per ocated on X-49.	Panel 305	y to th	e Polis	her AUTO	the Selector	or Switch were o	becked
PROC	EDUR	<u>L</u>							158
1.	Veri	fy that th	e follows	ing ligh	ts are	energized:			
	1.1	Amber NII	DED BED PO	MP OFF	NORYAL	(Panel 30	05).		Leis
	1.2	Red SPARI	PUMP IN	USE (Pa	nel 304).			M
	1.3	WT-P-12	reen STOP	(Panel	305).			COPY	Jan Jan
	1.4	WT-P-13 a	reen STOP	(Panel	304).		OFFI	CIAL COPY	M
							0.		

mulli-amp ==...

OTOR CONTROL CENTER TEST DATA

DATE 12-4-75 BY J. ROTE NIT 44 CIRCUIT (LEFT) Sulphite Regeneration Pump WT-P-15B FIG. TIE (RIGHT) EA GI 62 63 Resident Size HS3-8015 App Long Time at 3X 24.5 18.5 27.5 Amps. Main or Left Breaker Size HA Amp Long Time at 3X RA RA BA SA (Right) Starter Size 1 Machanical Here Aux. Contacts 280 - 28C Continuity Checked Aux. Transformer 1000VA Control Full MEXIS Hearter Size T-20 Current Rating 1.30A Time at 3X Ave. I 8136 Sec. \$245 Sec. 33 32 Sec. Wiring to Ground 73-A TEST EQUIPMENT CB-25 SERIAL NO. 209 ASSOCIATED RESEARCH 1000 VOLT D.C. MEG-CHECK Serial 962 VEATHER 14 9C 59 SHR			THREE MILE	ISLAND PROJE	CT	
CC 2-31D				DATE	12-8-75	
Sulphite Regeneration Flam NT138 FG. ITE (RIGHT) EA				87	J. Logz	
### Control Full House #### Ave. I ### 1 30 Av	cc <u>2-310</u>				WT-P-158	
### Research Size ### ### ### ### ### ### ### ### ###	NIT CIR	WIT (LEFT)	Sulphite Key			1.00
Second S		(TIMES	EA		82 63	
Reseaser Size NA Amp Long fine at 3X (Right) Starter Size 1 Mechanical New Aux. Contacts 280 - 28C Continuity Checked Aux. Transformer .100KVA Control Full Hox3 Heater Size T-20 Current Rating 1.30A Time at 3X Ave. I \$1.36 Sec. \$2.45 Sec. \$3.32 Sec. Wiring to wround 700 Megs. REMARKS: Set Per Drawing 3.384 Sh. 22 Rev. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL NO. 200	min or Left			24.8		Amps.
Aux. Contacts ZBC - ZBC Continuity Checked Aux. Transformer .100KVA Control Full MDX3 Heater Size T-20 Current Rating 1.30A Time at 3X Ave. I 8136 Sec. \$245 Sec 23 32 Sec. Wiring to Ground 200 Megs. REMARKS: Set Per Drawing 3.84 Sh. 22 Rev. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL BO. 200	Breaker Size KA (Right)					Amps.
Continuity Checked	Starter Size 1					
Control Full HOX3 Heater Size T-20 Current Rating 1.30A Time at 3X Ave. I 8136 Sec. \$245 Sec 23 32 Sec. Wiring to Ground 200 Megs. REMARKS: Set Per Drawing 3.84 Sh. 22 Rev. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL BO. 200		Aux. Contac	ts) - ZHC		
Control Full HOX3 Heater Size T-20 Current Rating 1.30A Time at 3X Ave. I 8136 Sec. 8245 Sec 23 32 Sec. Wiring to wround 200 Megs. REMARKS: Set Per Drawing 3.84 Sh. 22 Rav. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL NO. 200		Continuity	Che	ocked		
Control Fut MOX3 Heater Size T-20 Current Rating 1.30A Time at 3X Ave. I \$136 Sec. \$245 Sec 23 32 Sec. 200 Megs. REMARKS: Set Per Drawing 3384 Sh. 22 Rev. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL NO. 200						
Current Rating 1.30A Time at 3X Ave. I 8136 Sec. 8245 Sec 33 32 Sec. Wiring to Ground						
Current Rating 1.30A Time at 3X Ave. I \$136 Sec. \$245 Sec 33 32 Sec. 200 Megs. REMARKS: Set Per Drawing 3384 Sh. 22 Rev. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL NO. 200						
Time at 3X Ave. I 81 36 Sec. \$245 Sec 33 32 Sec. 200 Megs. REMARKS: Set Per Drawing 3384 Sh. 22 Rev. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL BO. 200						
REMARKS: Set Per Drawing 3384 Sh. 22 Rev. 1 Current c:rve 1274 TEST EQUIPMENT CB-25 SERIAL NO. 200 TEST EQUIPMENT CB-25 SERIAL NO. 200		Curre	at 3X Ave. I f	11 3 <u>6 Sec</u> . #2	4 <u>5 Sec</u> 33	32 Sec. Megs.
TEST EQUIPMENT CB-25 SERIAL NO. 200 SERIAL NO. 200	Wiring to wround			· ·		
TEST EQUIPMENT CB-25	REMARKS:S4	t Per Drawing 3	384 Sh. 22 Rev	. 1	urrent City	- 44.5
DESCRIPTION TOOD WOLT D.C. MEG-CHECK Serial 902		73-25		SERIA	, NO. 200	
VEATHER 14 °C SE SHR	TEST EQUIPMENT	TO WOLT D	C. MEG-CHECK	Serial 96	2	
WEATHER 14 °C SO SHE CO						
OFFICIAL .	VEATHER 14 °C	SO SHR				N CO
					OFFICI	AL

MAESCO TEST FORM 23-A

KUCEDURE PASS .. Verify that the following red RDM lights are lit only when relays CPCR and DRI and emergized. (WT-P-13 sel. sw. in the OFF position.) 2.1 WT-P-12 (Penel 305). 2.2 WT-P-13 (panel 304). 3. Verify that both pumps green CLOSE lights are lit when relays CPC? and DR1 are energized and hT-P-13 sel. sw. is in either the HAND or AUTO M position. 4. Verify that the following lights a de-energized when relay 13 (Panel 305) is energized: -. 1 WT-P-12 green STOP 4.2 WT-P-13 green STOP .3 Amber MIXED BED PUMP OFF NORMAL A 4.4 Red SPARE PURP IN USE 421

FINAL CONDITIONS

1. Reconnect motor leads.

We have to Supert Up Engr. DATE

LECTRICAL CONTROL AND INTERLO

TEST PROCEDURE

CONDENSATE PLANT STRONG CLUSTIC PUMP HI-5-13

INTRODUCTION

The following test procedure is to determine if the control and interlock system performs as indicated by 509: D3804 Sh. - Rev. I . Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column.

PRERECUISITE

All start up checks, as outlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

POWER REQUIREMENTS

1. 480VAC power is obtained from MCC 2 31D Unit 3D.

INITIAL CONDITIONS

- 1. Lift motor leads at MCC.
- WT-P-13 selector switch in OFF position.
- 3. Relay SCPR (pml 304) not energized.

PROCEDURE

1. Verify that the green STOP light is lit only when relay CPCR (pml 364) is

energised.

2. Verify that the green STOP light is not lit when

2.1 Telays R13 (pml 305) and CPCR (pml 304) are energized.

2.2 Melay SCPR (pal 304) is energized.

3. Set pump sel. sw. in HAND position and werify that the red RUN light is energized when

3.1 Relay SCPR is not energized.

3.2 Relay R13 is not energized.

3.3 Relay CPCR is energized.

OFFICIAL COPY 4. Set pump sel. sw. in AUTO position and werify that the red RIN light s lit when relay IRl is energized.

MIN T COMBILIONS

1. Reconnect motor leads.

PASS

M_

LECTRICAL CONTROL AND INTERLO

TEST PROCEDURE

CONDENSATE PLANT STRONG ACID PUMP WT-P-14

INTRODUCTION

The following test procedure is to determine if the control and interlock system performs as indicated by Dug. D3804 Sh. - Rev. I . Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column.

PRERIQUISITE

All start up checks, as outlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

POWER REQUIREMENTS

1. 480VAC power is obtained from MCC 2.31D unit 3E.

INITIAL CONDITIONS

- 1. Lift motor leads at MCC.
- 2. WT-P-14 sel. sw. in OFF position.
- 3. Relay SAPR (pml 304) not energized.

														PASS
PROCEDURE				cenn.	14-6-	4.	140		when	relay	APCR	18	energized.	Here
1. Verify	Sads	the	green	STOP	TIRUC	7.20	TTC	oury	-u-	,				

- 2. Verify that the green STOP light is not lit when
 - 2.1 Relays R12 (pml 305) and APCR (pml 304) are energized.
 - 2.2 Relay SAPR (pml 304) is energized.
- 3. Set pump cal. sw. in HAND position and werify that the red RUN light is energised when
 - 3.1 Raley SAPR is not energized.
 - 3.2 Relay R12 is not energized.
 - 3.3 Relay APCR is emergized.

... Set pump sel. sw. in AUTO position and werify that the red RUN light is lit when relay DR5 is energized.

FINAL CONDITIONS

1. Reconnect motor leads.

UESC Test & Start Up Engr. DATE

ELEGENICAL CONTROL AND INTERLOCK

TEST PROCEDURE

SULPRITE REGENERATION PURE

INTRODUCTION

The following test procedure is to determine if the control and interlock system performs as indicated by Dwg. 3804 Sh. - Rev. I . Satisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column. Items which do not meet test requirements will be indicated by initial in fail column and it will be resolved by established procedure as outlined in Testing and Checking of Nachamical and Electrical Equipment Honnal.

PREREQUISITE

All start up checks, as outlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, must be completed prior to performing the following tests.

POWER REQUIREMENTS

480 VAC power from MCC 2-31D Dait 3F .

INITIAL COMDITIONS

- 1. Circuit Breeker off.
- 2. Motor leads removed.
- 3. Relay CEl de-energised.
- 4. Pump mode selector OFF .

	UEAC test & Start Up Engr.		DA.T
	D Grame C		5-4-76
3.	Pump mode selector OFF. Circuit Breaker OFF. ke manect motor leads.	,	
2.	Circuit Breaker OFF.	IAL	
1.	Pusp mode selector Off.	(OLI
FI	NAL COMDITIONS		
3.	RED run light is emergised.		-
	Pump mode selector in AUTO position. Actuate CRI relay and verify the	CA	
2.	Pump mode selector in HAMED position and verify the red ROM light is energized.	00	
	Turn on circuit breaker and verify the green STOP light is energised.	red.	-
1 800	COUNTY OF THE PROPERTY OF THE	C 2	

PAIL

PASS

RESCREECES CONTROL AND INTERLOCK TEST PROCEDURE

SULPRITE RECEMERATION PURP V1-P-15B

INTRODUCTION

The following test procedure is to determine if the control and interlock system performs as indicated by Dwg. 3804 Sh. - Rev. I . Setisfactory performance of the system is based upon successful completion of the following test and is indicated by the tester's initials in the pass column. Items which do not meet test requirements will be indicated by initial in fail column and it will be resolved by established according as outlined in Testing and Checking of Mechanical and Electrical Equipment Manual.

PREREQUISITE

All start up checks, as outlined in "Testing and Checking of Mechanical and Electrical Equipment", TP 250/2, wast be completed prior to performing the following tasts.

POWER REQUIREMENTS

480 VAC power from MCC 2-31D Dais 4A .

DITTIAL COMDITIONS

- Circuit Breaker off.
- 2. Motor leads
- Relay CRI de-mergized.
- Pump mode selector OFF .

PROCEDURE

- 1. Turn on circuit breaker and verify the green STOP light is energized.
- 2. Pump mode selector in HAND position and verify the red RUM light is mergized
- 3. Pump mode selector in AUTO position. Actuate CR1 relay and verify the RED run light is energised.

FINAL COMDITIONS

- Pump mode selector OFF.
- 2. Circuit Breaker OFF.
- 3. Reconnect motor leads.

Dame OFFICIAL UESC Test & Start Up Rogr.	COPY
Daine	5-4-76
UESC Test & Start Up Bagr.	DATE

FAIL

PASS

POLISHER . T (L.A. Deg. D-383 7 Rev. D) INITIAL CONDITIONS 1. Set the following electrical switches in the CLOSED position: 1.1 Inlet and bypass valve 1.2 Outlet 1.3 Vent 1.4 Air inlet 1.5 Resin inlet 1.6 Recycle 1.7 Sluice water inlat 1.8 Resin outlet 2. 120 VAC applied to circuit 7A. 3. Air pressure applied to the valves and the above air valve's selector switch is the AUTO position. PASS PROCEDURE 1. Verify that the green GLOSE lights are energized on the following valves: KL 1.1 Inlet M 1.2 Inlet bypass KL 1.3 Octlet 1.4 Vent 11 1.5 Air inlet 12 1.6 Resin talet M 1.7 Racycle M 1.8 Sluice Water inlet 1.9 Resin outlet 2. Verify that the white STAND B" light is energized. OFFICIAL COPY

2-95

- 15. EECTCLE valve MC2:
 - 15.1 Set sel. aw. in CLOSED position and verify that green indicating light is emergized.

18

15.2 Set sel. sw. in OPEN position and verify that red indicating light is emergized.

101

ALAM SECTION

- 1. 2rd POLISHER EXHAUSTED alarm window 19-2 (dwg. D-3835 line 3 -00
 - 1.1 Set valve's electrical sel. switches so that the amber TRANSFER OUT light is emergized. Set gallonage counter to the OFF position. Verify that the alarm window and the red POLISHER EXHAUSTED lights are flashing brightly.

pd

1.2 Depress Amnumicator alarm STLENCE button and verify that alarm lights have a bright steady glow.

N

1.3 Set counter to read 10 counts. Verify that the alarm lights are flashing dimly.

N

1.4 Verify that alarm lights can be extinguished by depressing the ammunicator RESET button.

W

- 2. 24 OLISHER LOW FLOW slare window /8-2 (dwg. D-3835 line 3-38)
 - 2.1 Circuit L9A not energized and OUTLET valve's electrical sel. sw. in the OPEN position. Energize circuit L9A and verify that after approx. 3 minutes the alira window and the red LOW FLOW lights are flashing brightly.

N

2.2 Depress annunciator ALARM SILENCE button and verify that the alarm lights have a bright steady glow.

W

2.3 Set OUTLET valve electrical switch in the CLOSED position. Depress the annunciator 'LARM SILENCE button and verify that the alarm lights are flashing dimly.

H

3.4 Verify that the alarm lights can be extinguished by depressing the annunciator RESET button.

HAM

- 3. 28 FOLISHER HICE COMDOCTIVITY alarm window (8-1 (Dag. D4088 line6-1/3)
 - 3.1 Verify that there is no continuity between contacts L-C on polisher # ? in rear of Beckman-Honeywell conductivity recorder.

R/

3.2 Install jumper across contacts L-C and set C'.TLET valve switch in OPEN position. Remove jumper and verify that alarm window and red HIGH COND. light are flashing brightly.

3.3 Depress ALARM SILENCE button and verify that the slare lights have a bright steady glow.

3.4 Set OUTLET valve's electrica. sv. in the CLOSE position. Verity that the alarm lights are flashing dimly.

MY

3.5 Verify that the alarm lights can be extinguished by depressing the EESET button.

HRY

- 4. 2 M POLISHED HIGE PRESSURE DEOP RESIN TRAP alarm window /9 -1 (dwg. D4767 line 7-15)
 - 4.1 Open contacts /629 -/630 at differential pressure switch. Verify that alarm window and red HIGH D/P lights are flashing brightly.

4.2 Depress ALARM SILENCE button and werify that the alarm lights have a bright steady glow.

4.3 Close contacts and verify that the alarm lights are flashing dialy.

4.4 Varify that the alarm lights can be extinguished by depressing the MESET button.

Helef 12/9/12

POLISHER # (L.A. Deg. D-3836 Bev. D) INITIAL CONDITIONS 1. Set the following electrical switches in the CLOSED position: 1.1 Inlet and bypass valve 1.2 Outlet 1.3 Vent 1.4 Air inlet 1.5 Rects inlet 1.6 Recycle 1.7 Sluice water inlet 1.8 Resin outlet 2. 120 VAC applied to circuit 7A. 3. Air pressure applied to the valves and the above air valve's selector switch in the AUTO position. PASS PROCEDURE 1. Verify that the green CLOSE lights are energized on the following valves: w 1.1 Inlet 1.2 Inlet bypues 1.3 Outlet M 1.4 Vent 41 1.5 Air islet 11 1.6 Regin talet BL 1.7 Recycle 19

2. Verify that the white STAND BY light is emergized.

1.8 Sluice Water inlet

1.9 Resin outlet

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14

2-100

2-101

the amunciator MISET button.

M

- 3. 2 A POLISHER RICE COMMUNITY slave window 2-1 (Deg. D4088 line 6-74)
 - 3.1 Verify that there is no continuity between contacts L-C on polisher # / in rear of Beckman-Honeywell conductivity recorder.
 - 3.2 Install jumper across contacts L-C and set OUTLET valve switch in OPEN position. Remove jumper and verify that alarm window and red HIGH COND. lights are flashing brightly.
 - 3.3 Depress ALARM SILENCE button and verify that the alarm lights have a bright steady glow.
 - 3.4 Set OUTLET valve's electrical sw. in the CLOSE position. Verity N that the alarm lights are flashing dimly.
 - 3.5 Verify that the alarm lights can be extinguished by depressing M the RESET button.
- 4. 24 POLISHED HIGH PRESSURE DROP RESIN TRAP alarm window 3 -1 (deg. D4767 line 7-1)
 - at differential pressure switch. 4.1 Open contacts /641 - /642 Verify that alarm window and red HIGH D/P lights are flashing brightly.
 - 4.2 Depress ALARM SILENCE button and verify that the alarm lights W have a bright steady glow.
 - 4.3 Close contacts and verify that the alarm lights are flashing 11
 - 4.4 Verify that the alarm lights can be extinguished by 14 depressing the RESET button.

HBLIF MICHTE

(L.A. Darg. D-3836 Rev. D)

INITIAL COMPITIONS

- 1. Set the following electrical switches in the CLOSED position:
 - 1.1 Inlet and bypess valve
 - 1.2 Outlet
 - 1.3 Vent
 - 1.4 Air inlet
 - 1.5 Rein inlet
 - 1.6 Recycle
 - 1.7 Sluice water inlet
 - 1.8 Resin outlet
- 2. 120 VAC applied to circuit 7A.
- 3. Air pressure applied to the valves and the above air valve's selector switch in the AUTO position.

PROCEDURE		PASS
1.	Verify that the green CLOSE lights are energized on the following alves:	
	1.1 Inlet	11
	1.2 Inlet bypass	N
	1.3 Outlet	14
	1.4 Vent	M
	1.5 Air inlet	W.E
	1.6 Resin inlet	P.S
	1.7 Becycle	KI_
	1.8 Sluice Water inlet	12
	1.9 Resin outlet	M
2.	Verify that the white STAND BY light is energized.	100

2-103

PROCEDURE PASS 3. Set the DILET valve's electrical switch in the OPEN position and verify that: _24 3.1 Bypass Inlet valve's red OPEN light is emergized. 3.2 Inlet valve's red OPEN light is energized approx. 180 seconds after step 3.1. 3.3 White STAND BY light is de-energized. 4. Set the OFFLET valve's electrical switch in the OPEN position and verify that: 4.1 Red OPEN light is energized. 4.2 Red SERVICE light is energized. 5. Set the VENT valve's electrical satish in the OPEN position and verify that the red OPEN light is energized. 6. Set the AIR INLET valve's electrical switch in the OPEN position M and verify that the red OPEN light is energized. 7. Set the RESIN INLET valve's electrical switch in the OPEN position 11 and varify that the red OPEN light is energized. 8. Set the RECTCLE valve's switch electrical in the OPEN position M and verify that the red OPEN light is energized. 9. Set the SLUICE WATER INLET valve's electrical switch in the OPEN position and werify that the red OPEN light is energized. 10. Set the RESIS OUTLET valve's electrical switch in the OPEN 12 position and verify that the red OPEN light is energized. 11. Set the INLET, OUTLET, AIR INLET, SLUICE WATER INLET, and RESIN OUT electrical switches in the CLOSE position. Set the RECYCLE, VEN , and MESIN IN electrical switches in the OPEN position. Verify that the white TRANSFER IN light is energized. 12. Set the INLET and RECTCLE electrical switches in the OPE; position. Set the OUTLET electrical switc. in the CLOSE position. Verify that the green RECYCLE light is energized.

- 13. Set the AIR INLET, SLUICE WATER IN, RESIN OUTLET, electrical switches in the OPEN position. Set the RESIN IN, INLET, CUTLET, VENT, RECYC'E electrical switches in the CLOSE position. Verify thatthe amber TRANSFER OUT light is energized.
- 14. RINSE POLISHER TO WASTE valve M. 1:
 - 14.1 Set selector sw. in CLOSED position and verify that green indicating light is energized.
 - 14.2 Set selector sw. in OPEN position and werify that red indicating light is emergized.



LAL

PROC	EDCRE	•	PASS
15.	RECTO	LE valve NC2:	
	15.1	Set sel. sw. in CLOSED position and verify that green indicating light is energized.	JES
	15.2	Set sel. sw. in OFEE position and verify that red indicating light is emergised.	M
ALA.	M SECT		
1.	2.5 P	PLISHER EXHAUSTED elers window 5-2 (dwg. D-3835 line 3-46)	
	1.1	Set valve's electrical sel. Twitches so that the amber TRANSFER OUT light is emergized. Set gallonage counter to the OFF position. Verify that the alarm window and the red POLISHER EXHAUSTED lights are flashing brightly.	N
	1.2	Depress Annunicator alarm SILENCE button and verify that alart lights have a bright steady glow.	Pl
	1.3	Set counter to read 10 counts. Verify that the alarm lights are flashing dimly.	11
	1.4	Verify that alarm lights can be extinguished by depressing the ennunciator RESET button.	14_
2.	2.80	LISHER LOW FLOW slare window 4-2 (dwg. D-3835 line 3-47)	
	2.1	Circuit L9A not energized and OUTLET valve's electrical sel. Tw. in the OPER position. Energize circuit L9A and verify that after approx. 3 minutes the alarm window and the red LOW FLOW lights are flashing brightly.	<u>=1</u>

2.2 Depress annunciator ALARM SILENCE button and verify that the alarm lights have a bright steady glow.

2.3 Set OUTLET valve electrical swiich in the CLOSED position. Depress the annunciator ALARM SILENCE button and werify that the alarm lights are flashing dimly.

3.4 Verify that the alarm lights can be extinguished by depressing the annunciator RESET but on.

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14

4.4 Verify that the alarm lights can be extinguished by

depressing the EESET button.

Helif 12/6/16

44

(L.A. Dog. D-3836 Rev. D)

INITIAL CONDITIONS

- 1. Set the following electrical switches in the CLOSED position:
 - 1.1 Inlet and byposs valve
 - 1.2 Outlet
 - 1.3 Vent
 - 1.4 Air inlet
 - 1.5 Resin inlet
 - 1.6 Recycle
 - 1.7 Sluice water inlet
 - 1.8 Resin outlet
- 2. 120 VAC applied to circuit 7A.
- Air pressure applied to the valves and the above air valve's selector switch in the AUTO position.

PROCEDURE	
1. Verify that the green GLOSE lights are energized on the following valve	#1_
1.1 Islet	M
1.2 Inlet >ypass	K
1.3 Outlet	EL
1.4 Vent	R
1.5 Air inlet	Pl
1.0 Mesin inlet	W.L
1.7 Becycle	N
1.8 Sluice Water inlet	12
1.) Resin outlet	141
2. Verify that the white STAND BY light is energised.	

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PASS

PROCEDURE

PARS

- 15. MECTGLE valve MC2:
 - 15.1 Set sel. sw. in CLOSED position and verify that green indicating light is energised.

15.2 Set sel. ow. in OPER position and verify that red indicating light is emergized.

ALAM SECTION

- 1. 2C POLISHER EXHAUSTED alarm windo" 7-2 (dwg. D-3835 line 3 -29)
 - 1.1 Set valve's electrical sel. switches so that the amber TRANSFER OUT light is emergized. Set gallonage counter to the OF? position. Verify that the alarm window and the red POLISHER EXHAUSTED lights are flashing brightly.

M

1.2 Depress Ameunicator alarm SILENCE button and verify that als m lights have a bright steady glow.

M

1.3 Set counter to read 10 counts. Verify that the alarm lights are flaching dialy.

100

1.4 Verify that alarm lights can be extinguished by depressing the emmediator EISET button.

- 2. ECPOLISHER LOW FLOW slarm window 6-2 (dwg. D-3835 line 3 19
 - 2.1 Circuit L9A not emergized and OUTLET valve's electrical sea. sw. in the OPER position. Energize circuit L9A and verify that after approx. 3 minutes the alarm window and the red LOW FLOW lights are flashing brightly.

2.2 Depress annunciator ALARM SILENCE button and verify that the alarm lights have a bright steady glow.

2.3 Set OUTLET valve electrical swrich in the CLOSED position. Depress the annunciator ALARM SILENCE button and verify that the alarm lights are flashing dimly.

OFFICIAL COPY 3.4 Perify that the slarm lights can be extinguished by depressing the enemciator RESET button.

- 3. 25 POLISHER HIGH COMPOCITYITY alasm window 6-1 (Dag. DAGGE line 6-98)
 - 3.1 Verify that there is no continuity between contacts L-C on polisher # 3 in rear of Becames-Honeyvell conductivity recorder.

M

3.2 Instail jumper across contacts L-C and set OUTLET valve switch in OFEE position. Remove jumper and verify that alarm window and red HIGE COMD. light are flashing brightly.

pel .

3.3 Depress ALARM SILENCE button and verify that the alarm lights have a bright steady glow.

HZ

3.4 Set OUTLET valve's electrical sw. in the CLOSE position. Verify that the alarm lights are flashing dimly.

11

3.5 Verify that the alers lights can be extinguished by depressing the RESET betton.

KI

4. 2 _ POLISHED HIGH PRESSURE DROP MESIN TRAP elers window 7 -1 (dwg. DA767 line 7-5)

M

4.1 Open contacts /6-9 - 16:0 at differential pressure switch.

Verify that alarm window and red HIGH D/P lights are flashing brightly.

Д__

4.2 Depress ALARM SILENCE button and verify that the alarm lights have a bright steady glow.

12

4.3 Close contacts and verify that the alarm lights are flashing dimly.

491

4.4 Verify that the alarm lights can be extinguished by depressing the RESET button.

KL

HP Slif 4/18

POLISHER # # (L.A. Dog. D-38% Rev. D)

DITTAL CONDITIONS

- 1. Set the following electrical switches in the CLOSED position:
 - 1.1 Inlet and bypass valve
 - 1.2 Outlet
 - 1.3 Vent
 - 1.4 Air islet
 - 1.5 Resin inlet
 - 1.5 Recycle
 - 1.7 Sluice water inlet
 - 1.8 Resin outlet
- 2. 120 VAC applied to circuit 7A.
- 3. Air pressure applied to the valves and the above air valve's selector switch in the AUTO position.

PRO	CEDURE	PASS
1.	Verify that the green CLOSE lights are energized on the following valves:	
	1.1 Inlet	NS.
	1.2 Inlet typose	M
	1.3 Outlet	11
	1.4 Vent	M
	1.5 Air inlet	N
	1.6 Resin inlet	-4
	1.7 Bacycle	M
	1.8 Sluice Water islat	12
	1.9 Resin outlet	M
2.	Verify that the white STAND BY light is energized.	EU.

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- 3. Set the DELET valve's electrical switch in the OPER position and werlfy that:
 - 3.1 Bypase Inlet valve's red OPEN light is emergized.
 - 3.2 Inlet velve's red OPEN light is energized approx. 180 seconds after step 3.1.
 - 3.3 White STAND BY light is de-energised.
- 4. Set the OFFLET valve's electrical switch in the OPEN position and warify that:
 - 4.1 Red OPEN light is energized.
 - 4.2 Red SERVICE light is energized.
- 5. Set the VENT valve's electrical swrich in the OPEN position and verify that the red OPEN light is energized.
- 6. Set the AIR DELET valve's electrical switch in the OPEN position and verify that the red OPEN light is energized.
- 7. Set the RESIS INLET valve's electrical switch in the OPEN position and verify that the red OPEN light is energised.
- 8. Set the RECYCLE valve's switch electrical in the OPEN position and werify that the red OPEN light is emergized.
- 9. Set the SLUICE WATER INLET valve's electrical switch in the OPES position and werify that the red OPEN light is energized.
- 10. Set the RESIE OUTLET valve's electrical switch in the OPER position and verify that the red OPEN light is energized.
- 11. Set the DELET, OUTLET, AIR DELET, SLUICE WATER INLET, and RESIM OUT electrical switches in the CLOSE position. Set the RECYCLE, VYNT, and RESIE IN electrical switches in the OPEN position. Verify that the white TRANSFER IN light is energized.
- 12. Set the INLET and RECYCLE electrical switches in the OPEN position. Set the OUTLET electrical switch in the CLOSE position. Verify that the green RECYCLE light is energized.
- 13. Set the AIR INLIT, SLUICE WATER IN, RESIN OUTLET, electrical switches in the OPEN position. Set the RESIN IN, INLET, OUTLET, VENT, RECYCLE electrical switches in the CLOSE position. Verify thatthe amber TRANSFER OUT light is energized.
- 14. RIMSE POLISHER TO WASTE valve HC1:
 - 14.1 Set selector sw. in CLUSED position and verify that green indicating light is energized.
 - 14.2 Set selector sw. in OPEN position and warify that red indicating OPY light is emergised. 2-112 OFFICIAL

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W.

PROCEDURE

PASS

- 15. RECTGLE valve MC2:
 - 15.1 Set sel. sw. in CLOSED position and werify that green indicating light is emergised.

AL

15.2 Set sel. sw. in OPEN position and verify that red indicating light is emergised.

100

ALL IN SECTION

- 1. 20 POLISHER EXHAUSTED alarm wirdow 9-1 (dwg. D-3835 line 3 -34)
 - 1.1 Set valve's electrical sel. switches so that the amber TRANSFER OUT light is energized. Set gallonage counter to the OFF position. Verify that the alarm window and the red POLISHEP.

 EXMAUSTED lights are flashing brightly.

M

1.2 Depress Annunicator alarm SILENCE button and verify that alarm lights have a bright steady glow.

M

1.3 Set counter to read 10 counts. Verify that the alarm lights are flashing dimly.

M

1.4 Verify that alarm lights can be extinguished by depressing the

M

- 2. 2 POLISHER LOW FLOW slare window 8-2 (dwg. D-3835 line 3 37)
 - 2.1 Circuit L9A not emergized and OUTLET valve's electrical sel. sw. is the OPEN position. Emergize circuit L9A and verify that after approx. 3 minutes the alarm window and the red LOW FLOW lights are flashing brightly.

W

2.2 Depress amunciator ALARM SILENCE button and verify that the alarm lights have a bright steady glow.

11

2.3 Set OUTLET valve electrical swtich in the CLOSED position. Depress the ammunistor ALARM SILENCE button and verify that the elem lights are flathing dimly.

PS

3.4 Verify that the alarm lights can be extinguished by depressing the assumptiator RESET button.

11

4.4 Verify that the alarm lights can be extinguished by

depressing the RESET button.

dialy.

Hos hafe 12/12

A.

2-114

POLISHER # 6 (L.A. Dog. D-3837 Rev. D) INITIAL CONDITIONS 1. Set the following electrical switches in the CLOSED position: 1.1 Inlet and bypass valve 1.2 Outlet 1.3 Vent 1.4 Air inlet 1.5 Resin talet 1.6 Recycle 1.7 Sluice water inlet 1.8 Resin outlet 2. 120 VAC applied to circuit 7A. 3. Air pressure applied to the valves and the above air valve's selector switch in the AUTO position. PASS PROCEDURE 1. Verify that the green GLOSE lights are energised on the following valves: R. 1.1 Inlet RENERATION 1.2 Inlet bypass 1.3 Outlet 1.4 Vent 1.3 Air islet 1.6 Rects inlet 1.7 Recycle 1.8 Sluice Water inlet 1.9 Resis outlet

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2 Verify that the white STAND BY light is energized.

14.2 Set selector sw. in OPEN position and werify that red indicating

light is energized.

2-116 OFFICIAL COPY PI

- 15. EXCTCLE valve MC2:
 - 15.1 Set sel. sw. in CLOSED position and verify that green indicating light is energised.

N

15.2 Set sel. sw. in OPEN position and verify that red indicating light is emergized.

M

ALAM SECTION

- 1. 26 POLISHER EXHAUSTED alarm wind w 13-2 (dwg. D-3835 line 3-42)
 - 1.1 Set valve's electrical sel. switches so that the amber TRANSFER OUT light is energized. Ser gallonage counter to the OFF position. Verify that the slare window and the red POLISEER EMADSTED lights are flashing brightly.

W

1.2 Depress Annunicator alarm SILENCE button and verify that alarm lights have a bright steady glow.

N

1.3 Set counter to read 10 counts. Verify that the alarm lights are flashing dimly.

12

1.4 Verify that alarm lights can be extinguished by depressing the annunciator RESET button.

M

- 2. 26 POLISHER LOW FLOW slarm window (2 2 (dwg. D-3835 line 3 165)
 - 2.1 Circuit L9A not emergized and OUTLET valve's electrical sel. sw. in the OPEN position. Energize circuit L9A and verify that after approx. 3 minutes the allers window and the red LOW FLOW lights are flashing brightly.

N

2.2 Depress annunciator ALARM SILENCE button and verify that the alarm lights have a bright steady glow.

PJ

2.3 Set OUTLET valve electrical swtich in the CLOSED position.
Depress the annunciator ALARM SILENCE button and verify that
the alarm lights are floshing dimly.

10

3.4 Verify that the alarm lights can be extinguished by depressing the ensunciator RESET button.

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- 3. 2 FOLISHER HIGH COMDUCTIVITY alarm window (2-1 (Dag. Dioss line 6-44)
 - 3.1 Verify that there is no continuity between contacts L-C on polisher # 5 in rest of Becamen-Honeywell conductivity recorder.

M

3.2 Install jumper across contacts L-C and set OUTLET valve switch in OPEN position. Remove jumper and verify that alarm window and red HIGH COND. lights are flashing brightly.

M

3.3 Depress ALAMM SILENCE button and verify that the alarm lights have a bright steady glow.

M

3.4 Set OffileT valve's electrical sw. in the CLOSE position. Verify that the alarm lights are flashing dimly.

N

3.5 Verify that the alarm lights can be extinguished by depressing the RESET button.

MI

- 2 E POLISHED HIGH PRESSURE DROP RESIN TRAP alarm window 13 -1 (dag. DA767 line 7-7)
- 4.1 Open contacts /6/7 /6/9 at differential pressure switch. Verify that alarm window and red HIGH D/P lights are flashing brightly.

w)

4.2 Depress ALARM SILENCE button and werify that the alarm lights have a bright steady glow.

11

4.3 Close contacts and verify that the alarm lights are flashing dimly.

H

4.4 Verify that the alarm lights can be extinguished by depressing the RESET button.

N/

HPSelf 12/8/16

POLISHER & G (L.A. Dog. D-3637 Nov. D)

DITTLAL COMDITIONS

- 1. Set the following electrical switches in the GLOSED position:
 - 1.1 Inlet and bypess valve
 - 1.2 Outlet
 - 1.3 Vent
 - 1.4 Air inlet
 - 1.5 Rosin inlet
 - 1.6 Recycle
 - 1.7 Sluice water inlet
 - 1.8 Resin outlet
- 2. 120 VAC applied to circuit 7A.
- 3. Aft pressure applied to the valves and the above air valve's selector switch in the AUTO position.

PK	OCZIOURE	PASS
1.	Verify that the green GLOSE lights are energized on the following valve	res:
	1.1 Islet	ps.
	1.2 Inlet bypess	R!
	1.3 Outlet	H
	1.4 Vent	K
	1.5 Air inlet	KL
	1.6 Regin inlet	M
	1.7 Recycle	KL
	1.8 Sluice Water inlet	14
	1.9 Resin outlet	M
2.	. Verify that the white STAND B. light is emergized.	M

OFFICIAL COPY

?10	CIDIN CIDIN	PASS
3.	Set the DKLET valve's electrical switch in the OPEN position and worlfy that:	
	3.1 Dypass Inlet valve's red OFE: light is energiasd.	M
	3.2 Inlet valve's red OPEN light is energised approx. 180 seconds after step 3.1.	M
	3.3 White STAND BY light is de-veergized.	141
4.	Set the OFTLET valve's electrical switch in the OPEN position and verify that:	
	4.1 Red OPEN light is emergized.	<u>M_</u>
	4.2 Red SERVICE light is energized.	MI
5.	Set the VENT valve's electrical sytich in the OPEN position and verify that the red OPEN light is energized.	M
6.	Set the AIR IMLET valve's electrical switch in the OPEN postion and verify that the red OPEN limit is energized.	M _
7.	Set the RESIN DRLET valve's electrical switch in the OFEN position and verify that the red OPEN light is energized.	M
8.	Set the RECTCLE valve's switch electrical in the OPEN position and werify that the red OPEN light is energized.	M
9.	Set the SLUICE WATER INLET valve's electrical switch in the OPEN position and verify that the red OPEN light is energized.	W
10.	Set the RESIS OUTLET valve's electrical switch in the OPEN position and verify that the red OPEN light is energized.	
	Set the INLET, OUTLET, AIR INLET, SLUICE WATER INLET, and RESIN GOT electrical switches in the CLOSE position. Set the RECYCLE, VENT, and RESIN IN electrical switches in the OPEN position. Verify that the white TRANSFER IN light is energized.	<u>N</u>
12.	Set the INLET and RECTCLE electrical switches in the OPEN position. Set the OUTLET electrical switch in the CLOSE position. Verify that the green RECTCLE light is one gized.	*
13.	Set the AIR INLET, SLUICE WAYER IN, RESIN OUTLET, electrical switches in the OPEN position. Set the RESIN IN, INLET, OUTLET, VENT, PECYCLE electrical switches in the CLOSE position. Verify thatthe amber TRANSFER OUT light is energized.	M
14.	RIMSE POLISHER TO WASTE VALVE MC1:	
	14.1 Set selector sw. in CLCSED position and verify that green indicating light is energized.	M
	14.2 Set selector sw. in OPEN position and worlfy that red indicating light is emergized. 2-120 OFFICIAL COP	MM
	2-120 OFFICIAL CO	
	,	

PROCEDURA

PASS

15. RECTCLE valve M":

15.1 Set sal. sw. in GLOSED position and warify that green indicating light in emergised.

15.2 Set sel. sw. in OPEN position and werify that red indicating light is energised.

ALAEM SECTION

- 1. 2 FPOLISHER EXHAUSTED alarm window /5-2 (dwg. D-3835 line 3 -30)
 - 1.1 Set valve's electrical sel. switches so that the amber TRANSFFR OUT light is energized. Set gallonage counter to the OFF position. Verify that the alarm window and the red POLISHER EXHAUSTED lights are flashing brightly.

1.2 Depress Ammenicator alarm STLENCE button and verify that alarm lights have a bright steady glow.

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1.3 Set counter to read 10 counts. Verify that the alarm lights are flacking dimly.

1.4 Verify that slare lights can be extinguished by depressing the amendiator RESET button.

- 2. 2FTOLISHER LOW FLOW slarm window 14-2 (dwg. D-3835 line 3 -20)
 - 2.1 Circuit L9A not emergized and OUTLET valve's electrical sel. sw. in the OPEN position. Energize circuit L9A and verify that after approx. 3 minutes the alarm window and the red LOW FLOW lights are flashing brightly.

2.2 Depress annunciator ALARM SILENCE button and verify that the alars lights have a bright steady glow.

2.3 Set OUTLET valve electrical sweich in the CLOSED position. Depress the annunciator AL RM SILENCE button and werify that the alarm lights are flashing dimly.

3.4 Verify that the alarm lights can be extinguished by depressing the ensurciator MESET butten.

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- 3. 2 FOLISHER HICE CHEDUCTIVITY clare window H-1 (Deg. DAGGE line 6-tal)
 - 3.1 Verify that there is no continuity between contacts L-C on polisher # to in rear of Becames-Roseywell conductivity recorder.

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3.2 Install jumper across contacts L-C and set CUTLE? valve switch in OPER position. Remove jumper and verify that alara window and red HIGH COND. lights are flashing brightly.

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3.3 Depress MARM SILENCE button and werify that the alarm lights have a bright steady glow.

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3.4 Set OUTLET valve's electrical sw. in the GLOSE position. Verify that the alarm lights are flashing dimly.

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3.5 Verify that the alarm lights can be extinguished by depressing the RESET button.

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- 4. 2 F POLISHED HIGH PRESSURE DEOF RESIR TRAP alarm window 15-1 (dwg. D4767 line 7-11)
 - 4.1 Open contacts /62/- /621 at differential pressure switch.

 Verify that alarm window and red HIGE D/P lights are flashing brightly.

pel .

4.2 Depress ALARM SILENCE button and werify that the alarm lights have a bright steady glow.

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4.3 Close contacts and verify that the alarm lights are flashing dimly.

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4.4 Verify that the alarm lights can be extinguished by depressing the RESET button.

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HP Slif 12/8/16

POLISHER # 7 (L.A. Deg. D-3837 Bev. D) DITTLAL CONDITIONS 1. Set the following electrical switches in the CLOSED position: 1.1 Inlet and bypass walve 1.2 Outlet 1.3 Vent 1.4 Air islat 1.5 Bests talet 1.6 Recycle 1.7 Sluice water inlet 1.8 Resin outlet 2. 120 VAC applied to circuit 7A. 3. Air proceurs applied to the valvas and the above air valve's selector switch in the AUTO position. PASS PROCELURE 1. Verify that the green CLOSE lights are energized on the following valves: MANDANANA 1.1 Inlet 1.2 Inlet bypass 1.3 Octlet 1.4 Vent 1.5 Air inlet 1.6 Besin inlat 1.7 Recycle 1.8 Sluice Water inlet 1.9 Resin outlet 2. Verify that the white STAND BY light is energized. OFFICIAL COPY

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14.2 Set selector sw. in OPEN position and werify that red indicating

light is energized.

- 15. RECTCLE valve MC2:
 - 15.1 Set sel. sw. in GLOSED posit; m and worlfy that green indicating light is energised.

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15.2 Set sel. sw. in OFER position and verify that red indicating light is emergised.

LASH SECTION

- 1. 26 POLISHER EXHAUSTED alarm window 17-2 (dwg. D-3835 line 3 -8)
 - 1.1 ber valve's electrical sel. switches so that the amber TRANSFER Of 'ight is energized. Set gallonage counter to the OFF position. Verify that the alarm window and the red POLISHER EXHAUSTED lights are flashing brightly.

1.2 Depress Annunicator alarm SILENCE button and verify that alarm lights have a bright steady glow.

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1.3 Set counter to read 10 counts. Verify that the alarm lights are flashing dimly.

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1.4 Verify that alars lights can be extinguished by depressing the secunciator MESET button.

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2. FOLISHER LOW FLOW slarm window 16-2 (dwg. D-3835 line 3-64)

2.1 Circuit L9A not energized and OUTLET valve's electrical sel. sw. in the OPEN position. Erergize circuit L9A and verify that after approx. 3 minutes the als m window and the red LOW FLOW lights are flashing brightly.

2.2 Depress annunciator ALARM SILENCE button and verify that the elers lights have a bright steady glow. 2.3 Set OUTLET valve electrical sweich in the CLOSED position.

Depress the annunciator ALARM SILENCE button and werify that the alara lights are flathing dimly.

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3.4 Verify that the alarm lights can be extinguished by depressing "he ansunciator MESET bucton.

- 3. 26 POLISHER MICH COMPOCTIVITY alarm window & -1 (Dag. D4088 lime6-11.)
 - 3.1 Verify that there is no continuity between contacts L-C on polisher # 7 in rear of Berkman-Roneywell conductivity recorder.

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3.2 Install jumper across contacts L-C and set OUTLET valve switch in OPTON position. Remove jumper and verify that alarm window and red HIGH COMD. lights are flashing brightly.

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3.3 Depress ALAEM SILENCE button and werify that the alarm lights have a bright steady glow.

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3.4 Set OUTLET valve's electrical sw. in the CLOSE position. Verify that the alarm lights are flashing dimly.

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3.5 Verify that the alarm lights can be extinguished by depressing the EESET button.

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- 4. 2 & POLISHED HIGH PRESSURE DEOP RESIN TRAP alarm window /1 -1 (dag. D6767 line 7-/3)
 - 4.1 Open contacts /625-/626 at differential pressure switch. Verify that alarm window and rad HIGH D/P lights are flashing brightly.

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4.2 Depress ALARM SILENCE button and warify that the alarm lights have a bright steady glow.

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4.3 Close contacts and verify that the alarm lights are flashing dimly.

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4.4 Verify that the alarm lights can be extinguished by depressing the EESET button.

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Hallif 14/8/16