

 MEG ENERGY	CHRISTINA LAKE REGIONAL PROJECT Phase 3A EPC for Central Plant Facilities	 SNC-LAVALIN
	SLI Project No. 511036	

 SNC-LAVALIN	<input type="checkbox"/> A1 Not suitable to initiate fabrication. modify as noted, resubmit for review
	<input type="checkbox"/> B1 Suitable to initiate fabrication as noted. modify as noted, resubmit for review
Vendor's drawing review for conformity with specifications and design drawing.	<input type="checkbox"/> C1 Suitable to fabricate to completion as noted. submit final documents including as-builts as required
This review does not relieve the vendor of his responsibility for errors in design and detailing as detailed in his contract.	<input checked="" type="checkbox"/> D1 Suitable to fabricate to completion. submit final documents including as-built documents as required
	<input type="checkbox"/> E1 Not suitable as final documents as noted. modify as noted and resubmit.
	<input type="checkbox"/> F1 Suitable as final documents. no further resubmittal required (unless revised by vendor)
Vendor: Sulzer Pumps (US) - P00031 No.: MDS100130449-0010-01 Rev: 3 Date Rec'd 2013/11/22	
Doc. Title: D00.01 - Induction Machine API 541 4TH Edition - DATA SHEETS- Tag: 3A-P-304 ABC	
Client Code:	Project: MEG Phase 3A EPC
Reviewed by: <i>Jankey L</i>	Document No
Date: <i>2/Dec/2013</i>	P-5411-01-0032
	Submittal 03


MDS100130449-0010-01

Suizer SO Number	100130449
Suizer Item Number	0010
Purchaser	MEG ENERGY CORPORATION
End User	MEG ENERGY CORPORATION
Project Name	CHRISTINA LAKE REGIONAL PROJECT
Customer PO Number	PHASE 3A - CENTRAL PLANT FACILITIES
Service	5411201
Pump Site	HIGH PRESSURE BOILER FEED WATER PUMP
Pump Tag/Item Number	CHRISTINA LAKE REGIONAL PROJECT
	PHASE 3A
	3A-PM-304A, 3A-PM-304B, 3A-PM-304C

REV	AP American Petroleum Institute	INDUCTION MACHINE		JOB NO. <u>511036</u>	ITEM / TAG NO. <u>3A-PM-304A/B/C</u>
		API 541 4TH Edition -- DATA SHEETS		PURCHASE ORDER NO. <u>511036-300-45-MR-5411-0001</u>	
		U.S. CUSTOMARY UNITS		REQ / SPEC NO. _____	
				REVISION NO. <u>3</u> DATE <u>11-20-13</u> BY <u>IAN</u>	
				PAGE <u>1</u> OF <u>6</u>	
1	FOR / USER	<u>MEG Energy CL03A Project</u>		DRIVEN EQUIPMENT <u>HP Boiler Feed Water Pump</u>	
2	SITE LOCATION	<u>Conklin, Alberta</u>		QUANTITY <u>3</u>	
3	SUPPLIER	<u>SIEMENS</u>		SUPPLIER PROJECT NO. <u>SNP00665</u>	
GENERAL					
4	Applicable To:	<input type="radio"/> Proposal <input checked="" type="radio"/> Purchase <input type="radio"/> As built			
5	NOTE:	<input checked="" type="radio"/> DATA SHEET STATUS <input type="radio"/> INDICATES INFO. TO BE COMPLETED BY PURCH. <input type="checkbox"/> BY MANUFACTURER WITH PROPOSAL <input checked="" type="checkbox"/> BY MANUFACTURER AFTER ORDER <input type="checkbox"/> BY MANUFACTURER OR AFTER ORDER			
6	Basic Data:				
7	Applicable Standards(1.3):	<input checked="" type="radio"/> NORTH AMERICAN(i.e. ANSI, NEMA) <input type="radio"/> International (i.e. IEC, ISO)			
8	Nameplate Power (2.2.1.1)	<u>3300</u> kW <u>3600</u> RPM (Synchronous)			
9	<u>4000</u> Volts (2.2.1.2) ✓	<u>3</u> Phase <u>60</u> Hertz ✓			
10	Motor Power Source:	<input checked="" type="radio"/> SINE WAVE POWER <input type="radio"/> ASD power(Purchaser must confirm details, see page 2 line 14)			
11	Insulation (2.3.1):	CLASS F <input type="radio"/> Other _____ Temperature Rise (2.3.1) CLASS B <input type="radio"/> Other _____			
12	Other:				
13	Minimum % Overspeed (2.4.5.2.7):	<input checked="" type="radio"/> PER NEMA MG-1 OR IEC 60034-1 <input type="radio"/> Other _____			
14	Site Data (2.1.2)				
15	Ambient Temperature	Max _____ °C Min <u>10</u> °C			
16	Site Elevation:	<u>611</u> meters Relative Humidity: Max _____ % Min _____ %			
17	Motor Location	<input checked="" type="radio"/> Indoor <input type="radio"/> Outdoor <input type="radio"/> Outdoor with roof			
18	Dust (2.4.1.2.2,c)	<input type="radio"/> Chemicals(2.1.2) <input type="radio"/> Cor 2			
19	Area Classification (2.1.7):	<input checked="" type="radio"/> Nonclassified <input type="radio"/> Classified as: _____			
20		Class _____ Group _____ Division _____ Autoignition Temp _____ °F			
21	Maximum Sound Pressure Level (2.1.3):	<u>85</u> dBA @1m. NO-LOAD, FULL VOLT/FREQ, SINE WAVE POWER <input type="radio"/> Other _____			
22	Seismic Loading (2.4.2.2):	<input checked="" type="radio"/> Nonmassive Foundation (2.4.6.1.2), Description _____			
23	Other:				
24	Enclosure (2.4.1.2):				
25	<input type="radio"/> Drip Proof Guarded	<input type="radio"/> Weather kg <input checked="" type="radio"/> Weather Protected Type II (WPII)			
26	Air Filters (3.5)	<input type="radio"/> Provision Only <input checked="" type="radio"/> Required (3.5.4) <u>90%, 10 MICRONS</u> <input type="radio"/> other _____			
27		<input type="radio"/> Manufacturer <input type="radio"/> Type _____ <input type="radio"/> Model _____			
28	<input type="radio"/> TEFC	<input type="radio"/> TEPV			
29	<input type="radio"/> TEAAC	Tube Materials (2.4.10.8,a): <input type="radio"/> Copper Alloy <input type="radio"/> Stainless Steel			
30	<input type="radio"/> TENAC	Redundant Coolers (2.4.1.2.4,b): <input type="radio"/> Yes <input type="radio"/> No (Other) _____			
31		Cooling Water Conditions per 2.4.1.2.4.a: <input type="radio"/> Yes <input type="radio"/> No (Other) _____			
32		GPM _____			
33		Tube Construction (2.4.1.4,d) <input type="radio"/> Double Tube			
34		<input type="radio"/> Flow Sensor Local Indicator Required Relay Contacts <input type="radio"/> No <input type="radio"/> NC			
35		<input type="radio"/> Air Temperature Sensor Required (2.4.1.2.4,h) <input type="radio"/> Type _____			
36		<input type="radio"/> Leak Detection Required Outer Type and Description _____			
37		<input checked="" type="radio"/> High Flow Alarm Set Point _____ GPM Low Flow Shutdown Set Point _____ GPM			
38		Provision for Pre-Start Purging (2.4.1.1,f) _____			
39		Degree of Protection IP (2.4.1.2.1) IP _____ Method of Cooling IC (2.4.2.6) _____			
40	Other				
41	Mounting				
42	<input checked="" type="radio"/> Horizontal:	<input type="radio"/> Foot Mounted <input type="radio"/> Flange Mounted <input type="radio"/> Flange Details _____			
43	<input type="radio"/> Vertical:	<input type="radio"/> Shaft Down kg _____ kg			
44	<input type="radio"/> Baseplate: Furnished by (2.4.2.6):	<input type="radio"/> Soleplate: Furnished By (2.4.2.6) _____			
45	<input type="radio"/> Epoxy Grout to be Used (2.4.2.7.3):	<input type="radio"/> Manufacturer _____ <input type="radio"/> Type _____			
46	Other				
47					
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 API American Petroleum Institute	INDUCTION MACHINE API 541 4TH Edition -- DATA SHEETS U.S. CUSTOMARY UNITS		JOB NO. <u>511836</u> ITEM / TAG NO. <u>3A-PM-304A/B/C</u> PURCHASE ORDER NO. <u>511036-300-45-MR-5411-0001</u> REQ / SPEC NO. _____ REVISION NO. <u>3</u> DATE <u>11-20-13</u> BY <u>IAN</u> PAGE <u>3</u> OF <u>6</u>	
	MAIN CONDUIT BOX			
	NOTE: DATA SHEET INDICATES INFO. TO BE BY MANUFACTURER BY MANUFACTURER OR STATUS COMPLETED BY PURCH. WITH PROPOSAL AFTER ORDER PURCHASER AS APPLICABLE			
	MAIN TERMINAL BOX(3.1): 4 <input checked="" type="radio"/> BOX LOCATION <u>NEMA F1 Position</u> CONDUCTOR SIZE _____ TYPE _____ INSULATION _____ QTY. PER PHASE _____ 5 <input type="radio"/> BUSHING STUDS OR RECEPTACLES(3.1.6,h) _____ <input type="radio"/> TERMINATIONS AND INTERIOR JUMPERS: <input type="radio"/> INSULATED <input type="radio"/> NON-INSULATED 6 <input type="radio"/> SPACES FOR STRESS CONES(3.1.6,g) _____ <input type="radio"/> TOP <input checked="" type="radio"/> BOTTOM <input type="radio"/> DRIVE SIDE <input checked="" type="radio"/> NON-DRIVE END SIDE 7 <input checked="" type="radio"/> SPACE HEATERS(3.1.6,b): <input type="radio"/> TEMP. CODE _____ <input type="radio"/> THERMAL INSULATION(3.1.6a) _____ VOLTS _____ PHASE _____ n/a kW 8 <input checked="" type="radio"/> DIFFERENTIAL PROTECTION CURRENT TRANSFORMERS(3.1.6,j; 3.1.8; 3.6.3): <input checked="" type="radio"/> ACCURACY CLASS <u>C20</u> <input checked="" type="radio"/> RATIO <u>50:5 A</u> <input checked="" type="radio"/> Quantity <u>3</u> 9 TYPE: <input checked="" type="radio"/> CORE BALANCE <input type="radio"/> _____ <input type="radio"/> SUPPLIED BY _____ <input type="radio"/> MOUNTED BY _____ 10 <input type="radio"/> SURGE CAPACITORS(3.1.6,i; 3.6.2.1): <input type="radio"/> MICRO FARADS _____ <input type="radio"/> SUPPLIED BY _____ <input type="radio"/> MOUNTED BY _____ 11 <input type="radio"/> SURGE ARRESTERS(3.1.6,i; 3.6.2.2): <input type="radio"/> kV RATED _____ kW _____ <input type="radio"/> SUPPLIED BY _____ <input type="radio"/> MOUNTED BY _____ 12 <input type="radio"/> CURRENT TRANSFORMERS(3.1.6,j) FOR AMMETER _____ <input type="radio"/> ACCURACY CLASS _____ <input type="radio"/> RATIO _____ <input type="radio"/> QUANTITY _____ 13 _____ <input type="radio"/> SUPPLIED BY _____ <input type="radio"/> MOUNTED BY _____ 14 <input type="radio"/> POTENTIAL TRANSFORMERS(3.1.6,i) FOR VOLTMETER _____ <input type="radio"/> ACCURACY CLASS _____ <input type="radio"/> RATIO _____ <input type="radio"/> QUANTITY _____ 15 <input type="radio"/> FUSES REQUIRED _____ <input type="radio"/> SUPPLIED BY _____ <input type="radio"/> MOUNTED BY _____ 16 <input type="radio"/> PRESSURE WITHSTAND CAPABILITY(3.1.2) _____ <input checked="" type="radio"/> DRAINS(3.1.6,c) _____ <input checked="" type="radio"/> BREATHERS(3.1.6,d) _____ <input type="radio"/> PROVISIONS FOR PURGING(3.1.6,e) _____ 17 <input type="radio"/> REMOVABLE LINKS(3.1.6,f) <input type="radio"/> SILVER OR TIN-PLATED BUS JOINTS(3.1.6,k) <input type="radio"/> GROUND BUS(3.1.6,m) _____ 18 OTHER: _____			
ACCESSORIES				
20 <input checked="" type="radio"/> FRAME SPACE HEATERS(3.4): <input checked="" type="radio"/> TEMP CODE <u>200</u> <input type="radio"/> SHEATH MATERIAL _____ <u>120/240</u> VOLTS <u>1</u> PHASE <u>0.800</u> kW 21 <input type="radio"/> BEARING HEATERS(2.4.8.3): _____ VOLTS _____ PHASE _____ kW 22 <input checked="" type="radio"/> WINDING TEMPERATURE DETECTORS(3.2.1): <u>TWO</u> PER PHASE, 3 WIRE PLATINUM, 100 OHMS AT 0°C GROUND ONE COMMON LEAD(3.2.1.2) 23 <input type="radio"/> OTHER DETECTOR: QTY/PHASE _____ TYPE _____ MATERIAL _____ WIRES _____ 24 <input checked="" type="radio"/> RECOMMENDED SETTINGS ALARM <u>155</u> °C <input type="radio"/> SHUTDOWN <u>175</u> °C 25 <input type="radio"/> HYDRODYNAMIC & THRUST BEARING TEMPERATURE DEVICES(3.3): <input type="radio"/> INSTALL PER API 670 26 <input checked="" type="radio"/> RTDs QTY/BRG. <u>1</u> TYPE <u>100 Ohm</u> MATERIAL <u>Platinum</u> WIRES <u>3</u> <input type="radio"/> GROUND ONE COMMON LEAD(3.2.1.2) 27 <input type="radio"/> THERMOCOUPLE: QTY/BRG. _____ TYPE _____ MATERIAL _____ WIRES _____ 28 <input type="radio"/> DIAL TYPE THERMOMETERS(2.4.7.1.16): TYPE _____ <input type="radio"/> ALARM CONTACTS _____ NUMBER OF CONTACTS _____ <input type="radio"/> NO <input type="radio"/> NC 29 LOCATION OF BEARING TEMPERATURE SENSOR WIRE TERMINATIONS: <input type="radio"/> TERMINAL BOX AT MOTOR SIDE <input type="radio"/> STATOR RTD BOX <input type="radio"/> CONDUIT HEAD AT BEARING 30 <input checked="" type="radio"/> RECOMMENDED SETTINGS ALARM <u>100</u> °C <input type="radio"/> SHUTDOWN <u>105</u> °C 31 <input checked="" type="radio"/> VIBRATION DETECTORS(3.8): <input type="radio"/> PROVISIONS ONLY <input checked="" type="radio"/> INSTALLED 32 PHASE REFERENCE PROBE(3.8.1) <input type="radio"/> PROVISIONS ONLY <input checked="" type="radio"/> INSTALLED 33 <input type="radio"/> PROBE, OSCILLATOR-DEMULATOR MFR. _____ MODEL/SERIES _____ 34 <input type="radio"/> PROBE SUPPLIED BY _____ INSTALLED BY _____ <input type="radio"/> OSC-DEM. FURNISHED BY _____ INSTALLED BY _____ 35 BEARING HOUSING SEISMIC SENSORS(3.8.3) <input type="radio"/> PROVISIONS ONLY <input type="radio"/> INSTALLED <input type="radio"/> SENSOR TYPE _____ SENSOR MFR. _____ 36 QTY./D.E. BEARING _____ LOCATION (H,V,A) _____ QTY./N.D.E. BEARING _____ LOCATION (H,V,A) _____ 37 <input type="radio"/> SENSOR SUPPLIED BY _____ 38 LOCATION OF VIBRATION SENSOR WIRE TERMINATIONS: <input type="radio"/> TERMINAL BOX AT MOTOR SIDE <input type="radio"/> WITHIN STATOR HOUSING <input type="radio"/> OTHER _____ 39 ALARM AND CONTROL SWITCHES(3.6.1): _____ DC RATED CONTACTS: _____ 40 PARTIAL DISCHARGE DETECTORS(3.4.6) YES _____ DESCRIBE REQUIRED SYSTEM: _____ 41 _____ 42 SEPERATELY POWERED AUXILIARY FAN(S): DRIVER INFORMATION (WHERE APPLICABLE) 43 QUANTITY _____ LOCATION _____ ENCL. _____ HP _____ RPM _____ VOLTS _____ PHASE _____ Hz 44 QUANTITY _____ LOCATION _____ ENCL. _____ HP _____ RPM _____ VOLTS _____ PHASE _____ Hz 45 OTHER: _____ 46 _____ 47 _____ 48 _____ 49 _____ 50 _____ 51 _____ 52 _____ 53 _____				

R E V		INDUCTION MACHINE API 541 4TH Edition -- DATA SHEETS U.S. CUSTOMARY UNITS	JOB NO. <u>511036</u> ITEM / TAG NO. <u>3A-PM-304A/B/C</u> PURCHASE ORDER NO. <u>511036-300-45-MR-5411-0001</u> REQ / SPEC NO. _____ REVISION NO. <u>3</u> DATE <u>11-20-13</u> BY <u>IAN</u> <div style="display: flex; justify-content: space-between;"> PAGE <u>5</u> OF <u>6</u> </div>	
		MOTOR DATA - SECOND SECTION		
		NOTE: DATA SHEET INDICATES INFO. TO BE BY MANUFACTURER BY MANUFACTURER BY MANUFACTURER OR STATUS COMPLETED BY PURCH. WITH PROPOSAL AFTER ORDER PURCHASER AS APPLICABLE		
		BEARINGS		
	BEARING, DRIVE END:	CAPABLE OF SELF LUBE: <u>Yes</u>	MFG: <u>Siemens</u> TYPE: <u>Sleeve</u> MODEL/PART NO.: <u>58-454-205-501</u>	
	BORE DIAMETER:	MIN: <u>76.200</u> mm MAX: <u>76.2254</u> mm	BORE LENGTH: <u>101.092</u> mm	
	DESIGN CLEARANCE WITH SHAFT:	MIN: <u>0.127</u> mm MAX: <u>0.1778</u> mm	BEARING LOADING: _____ PSI	
	BRG, NON-DRIVE END:	CAPABLE OF SELF LUBE: <u>Yes</u>	MFG: <u>Siemens</u> TYPE: <u>Sleeve</u> MODEL/PART NO.: <u>58-454-205-501</u>	
	BORE DIAMETER:	MIN: <u>76.200</u> mm MAX: <u>76.2554</u> mm	BORE LENGTH: <u>101.092</u> mm	
	DESIGN CLEARANCE WITH SHAFT:	MIN: <u>0.127</u> mm MAX: <u>0.1778</u> mm	BEARING LOADING: _____ PSI	
	THRUST BEARING:	<input type="checkbox"/> NON-DRIVE END MANUFACTURER: _____ TYPE: _____ MODEL/PART NO.: _____	<input type="checkbox"/> DRIVE END kW _____ BEARING LOADING: _____ PSI	
	OTHER: _____			
	INDUCTION MOTOR EQUIVALENT CIRCUIT DATA:			
	<u>3878</u> KVA BASE AT RATED VOLTAGE AND 77 °F	SUBTRANSIENT REACTANCE X"D: <u>0.1795</u>		
	TOTAL WINDING CAPACITANCE TO GROUND:	_____ uF		
	LOCKED ROTOR AT RATED VOLTAGE:	STATOR R: <u>0.0061</u> ROTOR R: <u>0.0194</u> MAGN R: <u>n/a</u>		
		STATOR X: <u>0.1368</u> ROTOR X: <u>0.0723</u> MAGN X: <u>n/a</u>		
	RATED LOAD AT RATED VOLTAGE:	STATOR R: <u>0.0061</u> ROTOR R: <u>0.0054</u> MAGN R: <u>4.287</u>		
		STATOR X: <u>0.1368</u> ROTOR X: <u>0.1072</u> MAGN X: <u>4.287</u>		
	RESIDUAL VOLTAGE OPEN-CIRCUIT TIME CONSTANT:	MOTOR ONLY: <u>2.122</u> SEC		
		MOTOR WITH SURGE CAPACITORS: <u>n/a</u> SEC		
	PHASE-TO-PHASE RESISTANCE:	<u>0.03914</u> OHM, @ <u>77</u> °F		
	OTHER: _____			
	STATOR AND ROTOR WINDING REPAIR DATA			
	STATOR COIL INFORMATION:			
	TOTAL COPPER WEIGHT:	<u>563.36</u> kg	COPPER STRAND SIZE: <u>3.509 x 9.999</u> mm INSULATION: <u>Mica</u>	
	NUMBER OF STRANDS PER COIL TURN:	<u>2</u>	TURN INSULATION DESCRIPTION: <u>Mica Tape</u>	
	NUMBER OF TURNS PER COIL:	<u>5</u>	COIL GROUND-WALL INSULATION DESCRIPTION: <u>2.5908</u> mm	
	COIL CONFIGURATION:	<u>1</u> ROWS BY: <u>2</u> COLUMNS		
	FINISHED COIL DIMENSION IN SLOT REGION, W x H x L (ALSO GIVE TOLERANCES):	<u>13.0556 x 41.6052 x 1417.32</u> mm		
	TOTAL NUMBER OF STATOR SLOTS:	<u>54</u>		
	SLOT FILLER DESCRIPTION - THICKNESS:	TOP: <u>0</u> SIDE: <u>0</u> BETWEEN TOP-BOTTOM COILS: <u>2.9972</u> mm		
	STATOR BORE DIAMETER:	<u>444.5</u> mm WINDING THROW: <u>1-18</u> WINDING CONNECTION: <u>2 circuit Wye</u>		
	SPECIAL END-TURN BRACING:	<u>Heavy Duty Bracing</u>		
	COIL DIMENSION DRAWING NO.:	<u>51-009-404-000</u>		
	OTHER: _____			
	ROTOR CAGE INFORMATION:			
	TOTAL COPPER WEIGHT:	<u>150.14</u> kg	BAR SIZE: <u>6.35 x 44.45</u> mm CONDUCTOR MATERIAL: <u>CDA 110</u> NO. OF BARS: <u>64</u>	
	RETAINING RING ALLOW, IF APPLICABLE:	_____		
	RING MATERIAL:	<u>CDA 110</u> RING DIMENSIONS PRE-MACHINING: <u>OD 410.67 / ID 292.100</u> mm Width <u>67.31</u> mm		
	OTHER: _____			
	MISCELLANEOUS			

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					PAGE <u>6</u> OF <u>6</u>

ANALYSIS, SHOP INSPECTION, AND TESTS				
		REQUIRED (4.1.3.3)	WITNESSED (4.1.3.1)	OBSERVED (4.1.3.2)
2	3	ACCEPTANCE CRITERIA:		
2	4	DESIGN REVIEW (6.2.1.4)	On one motor	
5	5	TORSIONAL ANALYSIS (2.4.6.2.4) BY		
2	6	LATERAL CRITICAL SPEED ANALYSIS (2.4.6.2.1)		
2	7	SHOP INSPECTION (4.1.1) Advance visit from customer or 3rd party inspectors only		
2	8	SUBMIT TEST PROCEDURES 6 WEEKS BEFORE TESTS (4.3.1.5)		
9	9	INSPECTION FOR CLEANLINESS PER API 614 (4.2.3.2; 4.2.3.3)		
10	10	OBSERVANCE OF ASSEMBLY/DISMANTLING(4.3.1.1)		
11	11	DEMONSTRATE ACCURACY OF TEST EQUIPMENT(4.3.1.14)		
12	12	STATOR CORE TEST(4.3.4.1)		
2	13	SURGE COMPARISON TEST(4.3.4.2)		
14	14	SPECIAL SURGE TEST OF COILS(4.3.4.2.1)		
2	15	COMPLEMENT BALANCE((2.4.6.3.1)		
16	16	FINAL BALANCE(4.3.1.6.1)		
2	17	RESIDUAL UNBALANCE VERIFICATION TEST(2.4.6.3.6; 6.2.5.1,a)		
18	18	BALANCE CHECK WITH HALF COUPLING(2.4.6.3.3)		
19	19	RUNNING TESTS WITH COUPLING HALF(2.4.6.3.3; 4.3.1.6)		
20	20	STATOR INSPECTION PRIOR TO VPI(4.3.4.5)		
21	21	SEALED WINDING CONFORMANCE TEST(4.3.4.4)		
22	22	POWER FACTOR TIP-UP TEST(4.3.4.3)		
2	23	BEARING DIMENSIONAL & ALIGNMENT CHECKS BEFORE TESTS(4.3.2.1,j)		
2	24	VIBRATION RECORDING(4.3.3.12)		
2	25	COMPLETE TEST(4.3.5.1.1) On one motor only.		
26	26	EFFICIENCY(4.3.5.1.1,a)		
27	27	LOCKED ROTOR(4.3.5.1.1,b)		
28	28	HEAT RUN(4.3.5.1.1,e)		
29	29	SOUND PRESSURE LEVEL TEST(4.3.5.1.1,g)		
2	30	BEARING DIMENSIONAL & ALIGNMENT CHECKS AFTER TESTS(4.3.2.1,k)		
31	31	DC HIGH-POTENTIAL TEST(4.3.5.1.2)		
2	32	UNBALANCED RESPONSE(4.3.5.3)		
33	33	BEARING HOUSING NATURAL FREQUENCY TESTS(4.3.5.4)		
34	34	FINAL ASSEMBLY RUNNING CLEARANCES(4.2.1.1,e)		
35	35	MATERIAL INSPECTION(4.2.2)		
36	36	RADIOGRAPHIC TEST(4.2.2.2) PARTS _____		
37	37	ULTRASONIC TEST(4.2.2.3) PARTS _____		
38	38	ULTRASONIC INSPECTION OF SHAFT FORGING(2.4.5.1.8)		
39	39	MAGNETIC PARTICLE TEST(4.2.2.4) PARTS _____		
40	40	LIQUID PENETRANT TEST(4.2.2.5) PARTS _____		
2	41	RATED ROTOR TEMPERATURE VIBRATION TEST(4.3.5.2.1)		
2	42	OTHER _____		
<div style="text-align: center;">COMMENTS</div>				
2	44	Complete witnessed test on one motor only. Rated rotor temperature vibration test (4.3.5.2.1) for motors 2 & 3 not subjected to complete test.		
2	45			
2	46	The release for Engineering Only includes line item 4 (Design Review)		
2	47	All other inspection and tests indicated with an (*) are anticipated to be included in the final scope of supply once a release for manufacturing has been received.		
2	48			
49	49			
50	50			