

Form 1157 (04/01/05)

Rev

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MM109266
Elliott Document No.

of

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Sheet

Southern Company Generation Kemper County MM109766 B Unit 1

ELLIOT COMPANY PO: MPC18137-0001 DOC00000058642 Rev: 2

Ву:

Date:

8/20/2012

By: Ivan Donahey

Date:

8/6/2012

IGCC - GASIFIER - MULTIPAGE - RECYCLE GAS COMPRESSOR - MAIN INDUC

contract is in manufacturing process.

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Note to Bidders: Do not add rows or columns to spread sheeet. Row height can be modified.

## Motor Proposal Evaluation Data Form Section 7 for Kemper County

Recycle Compressor Drive
Job No: SCS MJ42
Item No:
Requisition No:

## 7.0 DESCRIPTIVE DATA

7.0	DESCRIPTIVE DATA
7.1	BASIC DATA
	Application
	Quantity
	Horsepower
	Voltage
	Current
	RPM
	Service Factor
	Frame Size
	Rotor Weight
	Motor Weight
	IEEE Voltage Withstand Curve (IEEE 522 Fig. 1 or Fig. 2)
	Speed (Single, Dual, Variable)
	Orientation (Horizontal or Vertical)
	Non-reverse Ratchet?
	Inverter Duty?
	Insulation Class
	Temperatur Rise
	Sound Level
	Stator Temperature Rise @ 1.0 SF
	Embedded Detector/Resistance
	Stator Temperature Rise @ 1.15 SF
	Embedded Detector/Resistance
	Subtransient Reactance Xd"
	Subtransient Reactance kVA Base
	X/R Ratio (Fault)
7.2	VERTICAL MOTORS ONLY
	Critical Reed Fregency (Hz)
	Motor Static Deflection (in.)
	Motor CG above base (in.)
7.3	STANDARDS
	Motor
	Welding
	Brazing
7.4	STATOR
, . <del></del>	Winding Material:
	Lamination insulation material:
	Number of Stator Slots
	VPI Test Coils?
	Turn Insulation
	Volts/Turn:
	Groundwall Volts/Mil:
7.5	ROTOR
	Rotor Material:
	Fabricated Rotor Construction?
	No. of Rotor Bars
	Floating Rotor?
	If yes, Allowable Rotor Movement (in.)

0 1: 1 0 0	
Centrifugal or Screw Comp	ressor
2 2800	
4000	
345	
1780	
1700	
5614	
4400	
16406	
Fig 2	
=	
Single	
Horizontal	
NA	
NA	
Class F	
155C	
80dBA at 3 feet	
80C	
Embedded Detector	
NA	
NA	
0.152	
1205.968	
37	
	$\rightarrow$
Copper	
C5	
60	
Yes	(Yes/No)
Polyimide Film	
39	
41	
Copper Alloy	
Yes	(Yes/No)
47	/
No	(Yes/No)



Recycle Compressor Drive Job No: SCS MJ42 Item No:

can be modified. Requisition No: If yes, Necessary thrust force (lbs) If no, Allowable thrust load (lbs) **BALANCE & VIBRATION** 7.6 Balance RPM Vibration Acceptance Criteria SERVICE CONDITIONS 7.7 3300 Altitude Indoor/Outdoor Outdoor 40C Ambient Temperature Humidity unknown Other 7.8 **STARTING** Starting Method (Across-the-line, reduced voltage, etc) Reduced Voltage 85% Maximum Locked Rotor Current (% FLA) 600% Minimum Starting Voltage 3400V Safe Stall time (Hot) 15.9 @100%V, 23.3@ 85%V Safe Stall time (Cold) 18.6 @ 100%V, 27.2 @ 85%RVS Driven Load WK2 (lb-ft2): 5354 Motor Maximum Load WK<sup>2</sup> (lb-ft<sup>2</sup>) Capability (Design): 5354 Motor Rotor WK<sup>2</sup> (lb-ft<sup>2</sup>): 1724 Total Number of Starts Per Motor Life: 5000 Limiting Component for Starting Duty: Rotor Bar From Rated From Ambient Oper Temp Number of Consecutive Starts 2 Time Between Additional Starts (Idle) 45 45 Time Between Additional Starts (Running) 20 20 Thermal Time Constant 45 min Running 90 min stopped 7.9 MINIMUM RIDE-THRU VOLTAGE (% and Duration (sec)) NA NA PERFORMANCE Min. Eff (%) 7.10 pf (%) 100% Load 96.34 90.8 75% Load 96.69 90.3 96.67 87.2 50% Load Locked Rotor 2001 Rated Torque 8260 88 Locked Rotor Torque (% Rated) Dynamic Starting Torque 88 (% Rated) Transient Short Circuit Torque 758 (% Rated) Transient System Switching Torque 1341 (% Rated) (% Rated) Pull-Up Torque 88 253 Breakdown (% Rated) **BEARINGS** 7.11 Number of Bearings 2 DE BEARING 7.11.1

Page 2 of 5

Renk

Manufacturer:

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## Motor Proposal Evaluation Data Form Section 7 for Kemper County

Recycle Compressor Drive Job No: SCS MJ42 Item No:

can be m	nodified. Type	Ī	Split Sleeve	equisition No:
			Self	
	Lubrication (Self or Forced)	GPM	PSI	TEMP
	If Forced, Provide Design Requirements	GFIVI	FSI	I EIVIP
	•	-	<del></del>	
	L-10 Life	-		
	AMBA Bearing No.			
	Bearing Alarm Temperature			
	Bearing Trip Temperature			
	Cooling Water Required?			(Yes/No)
		GPM	PSI	TEMP
	Cooling Water Design Requirements (if required)			
7.11.2	ODE (Horizontal) / Guide (Vertical) Bearing			
	Manufacturer:		RENK	
	Туре		Split Sleeve	
	Lubrication (Self or Forced)		Self	
	Eublication (Seli of Forced)	GPM	PSI	TEMP
	If Forced, Provide Design Requirements			
	ii Forced, Frovide Design nequirements	<u> </u>	<del>-</del>	
	L-10 Life			
	AMBA Bearing No.	-		
	Bearing Alarm Temperature		80-90	
	Bearing Trip Temperature		90-100	
				na na s
	Cooling Water Required?	GPM	No PSI	(Yes/No) TEMP
	Cooling Water Design Requirements (if required)	-		/ <del></del>
7.11.3	THRUST BEARINGS (VERTICAL MOTOR ONLY)		NA	
	Manufacturer:			
	Туре			
	Lubrication			
	L-10 Life			
	AMBA Bearing No.			
	Bearing Alarm Temperature	-		
	Bearing Trip Temperature	-		
	Cooling Water Required?		Pol	(Yes/No)
	Cooling Water Design Requirements (if required)	GPM	PSI	TEMP
	Thrust at Design (lbs)			
	Momenatary Down (lbs)			,
	Thrust at Shutdown (lbs)			
	Momentary Up (lbs)			
7.12	COUPLING HALF			
	Installed Prior to Shipment?		NO	(Yes/No)
	Provided by others?		Yes	(Yes/No)
7.13	ENCLOSURE			, ,
5	Type (ODP, WPI, WPII, etc)		WPII	
	Screens?	7   49	Yes	(Yes/No)
	Filters?			(Yes/No)
			Yes	` ′
	dP switch		Yes	(Yes/No)
	Explosion Proof?		No	(Yes/No)
	Class		1	
	Division		2	

Page 3 of 5

CD

Group

Recycle Compressor Drive
Job No: SCS MJ42
Item No: \_\_\_\_\_
Requisition No: \_\_\_\_\_

Do not a to sprea	Bidders: add rows or columns ad sheeet. Row height	Motor Proposal Evaluation Data Form Sector For Kemper County		ele Compressor D Job No: SCS M Item No:
7.15	modified. CONDUIT BOX	Ī	ne	equisition No:
	Arrangement (F1 or F2)		F1	
	Conduit Entry (Top/Bottom)		Bottom	
	Type (NEMA, ANSI II, etc)		NEMA	
	Oversized		Yes	(Yes/No)
	Surge Protection recommended?		Yes	- (Yes/No)
	Arresters Rating		4.5 KV, 3.8MCO	- ' '
	Capacitors Rating		4160 V, 0.5 mf/po	
	· · ·		·	
	Capacitors Dielectric Material:		Faradol 800	
	Hawk IR View Ports		Yes	(Yes/No)
	Isolation Barriers		No	(Yes/No)
	Rupture (Pressure Relief) Panel		Yes	(Yes/No)
	Expected Life:			
	Differential: 3 Current Transformer	s	Yes	(Yes/No)
	If Yes: Ratio If Yes: Accuracy		50:05:00	
7.10	COATING SYSTEM		C10	<del></del>
7.16			Epoxy coating w/ Polyuretha	no overcest
	Type			ine overcoat
	Finish Color:		Storm Blue	
7.47	Color ID:		99M40P	
7.17	TEMPERATURE DETECTORS		0	
	Stator Quantity		6	
	Stator Type		100 Ohm Platinui	
	Bearings Quantity		1 Dual element/bea	
	Bearings Type		100 Ohm Platinui	m
	SEL 2600D RTD Module		Yes	
7.18	SPACE HEATERS		918W, 460V, 1PI	4
	Quantity		8	
	Туре		strip finned	
	Voltage		460V circuit	
	Watts per heater		500W,240V/htr derated to 11	4.75W, 115V
	No. of Heater elements		8	
7.19	SOLE PLATES			
	Provided? (if no, please provide op	tional pricing in proposal)	No	(Yes/No)
7.20	VIBRATION EQUIPMENT			
	Provisions for non-contacting trans	ducers only?	Yes	(Yes/No)
	Provide non-contacting transducers	s? (ProxPac Type)	No	(Yes/No)
	Provide options for non-contacting	transducers?	No	(Yes/No)
	Provide Bearing Housing Vibration	Sensors?	Yes	(Yes/No)
7.21	IMPACT RECORDER		NA	
	Manufacture			
	Model			
	Quantity			
	Featrues:			
	Data Logger			_ (Yes/No)
	Date and Time Stamping		<u></u>	(Yes/No)
	GPS Tracking			(Yes/No)
	Environment Indicator (Humidity	y and Temperature)	<b>▼</b>	(Yes/No)
	Real Time Data Reporting	, and isimpotatory		(Yes/No)
7.22	TESTS			_ (100/140)
1.22	Routine?		VOC	(Yes/No)
	rioutine:		yes	(162/140)

Page 4 of 5

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Recycle Compressor Drive Job No: SCS MJ42 Item No: \_\_\_\_\_

can be m	nodified.		Rea	uisition No:
	Complete?	y€	-	(Yes/No)
	Witnessed?	ує	es	(Yes/No)
	Vibration Acceptance Standard for Motors?	n	0	(Yes/No)
7.23	DOCUMENTATION INCLUDED WITH PROPOSAL			
	Outline Drawings	ує	es	(Yes/No)
	Conduit Box Details	ує	es	(Yes/No)
	Connection Diagrams	y€	es	(Yes/No)
	Performance Curves	y€	es	(Yes/No)
	Completed VDSS Form			(Yes/No)
7.24	DOCUMENTATION INCLUDED AFTER AWARD			
	Specification Clause 8.1.2 Requirements			(Yes/No)
	Outline Drawings	Ye	es	(Yes/No)
	Connection Diagrams	Ye	es	(Yes/No)
	Other documents specified in VDSS			(Yes/No)
	Instruction book	Ye	es	(Yes/No)
	Proposal Evaluation Data Form - Section 7			(Yes/No)
	Performance Curves	100% Voltage	Min Voltage	
	Torque - Speed	Yes	Yes	(Yes/No)
	Current - Speed	Yes	Yes	(Yes/No)
	Current - Time	No	No	(Yes/No)
7.25	ADDITIONAL INFORMATION REQUIREMENTS			
7.25.1	Utility user list is attached.  Detailed description of insulation system is attached.	-		(Yes/No) (Yes/No)
	List and description of Complete Test is attached.			(Yes/No)
	List of Subvendors is attached.			(Yes/No)
	Rate sheet for start-up support is attached.  Additional Data Required:	-	-	(Yes/No)
	Rotor weight	Ye		(Yes/No)
	Transient Torque: Short circuit & System Switching	N	lo	(Yes/No)
7.26	TECHNICAL SPECIFICATION			
	Exceptions			(Yes/No)
7.27	EXCEPTIONS (List Exceptions in column or provide reference to attached)			
			7	
		7		
		•		