

DWG.  
No. 310SD03-759

REVISIONS						
REV.	DESCRIPTION	REVD.	CHKD.	APPD.	DATE	
1	Revised by our design progress.	T.Fujisawa 2014-03-28	N.Matsumoto 2014-03-28	N.Matsumoto	2014-03-28	
2	Revised by customer comments.	T.Fujisawa 2014-04-29	N.Matsumoto 2014-04-29	N.Matsumoto	2014-04-29	
3	Issue for Final.	T.Fujisawa 2015-12-22	Y.Kimura 2015-12-22	Y.Kimura	2015-12-22	

## H25 GAS TURBINE STARTUP AND SHUTDOWN BLOCK DIAGRAM



Final Drawing

REV	DESCRIPTION	DRAWN	CHK'D	APP'D	PD	DATE
0	Issue for Final	T.Fujisawa	Y.Kimura	Y.Kimura	M.Arai	2015-12-22
C	Issue for Approval	T.Fujisawa	N.Matsumoto	N.Matsumoto	M.Arai	2014-04-29
B	Issue for Approval	T.Fujisawa	N.Matsumoto	N.Matsumoto	M.Arai	2014-03-28
A	Issue for Approval	T.Fujisawa	N.Matsumoto	N.Matsumoto	M.Arai	2013-10-11

Company Project Description Contractor

Project No. GB090 Contract No. 090-13-BD-205-00 Job No. SG-2614

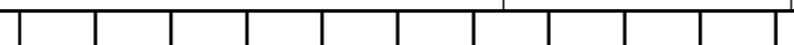
### H25 GAS TURBINE STARTUP AND SHUTDOWN BLOCK DIAGRAM

Drawing -No.	GB090-4500125277-MP-D06-0001	Sheet 1	Sheets 8	Rev. 0	Scale NTS
					CAD file:

Drawn : T.Fujisawa /2013-10-11 Name/Date	Title, supplementary title <b>H25 GAS TURBINE STARTUP AND SHUTDOWN BLOCK DIAGRAM</b>		
Checked : N.Matsumoto /2013-10-11 Name/Date			
Approved : N.Matsumoto /2013-10-11 Name/Date			
Responsible dep. Instrument & Control Department Hitachi I&C Engineering Section	Scale NTS		DWG. No. 310SD03-759 Rev. 3 Sheet 1/8 Date of issue 2015-12-22

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Plant Engineering Division

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CAD SOFTWARE MS VISIO SIZE DESIGNATION A3

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2	CONTENT
3	STARTUP BLOCK DIAGRAM (1)
4	STARTUP BLOCK DIAGRAM (2)
5	STARTUP BLOCK DIAGRAM (3)
6	STARTUP BLOCK DIAGRAM (4)
7	STARTUP BLOCK DIAGRAM (5)
8	SHUTDOWN BLOCK DIAGRAM

NOTE1 : <CUSTOMER'S TAG-NO>

ASTERISKS(\*\*) SHOWS THE GT-UNIT NO.  
36: UNIT NO.A, 37: UNIT NO.B, 38: UNIT NO.C,  
39: UNIT NO.D, 40: UNIT NO.E

NOTE2 : <CUSTOMER'S TAG-NO>

ASTERISKS(\*) SHOWS THE GT-UNIT NO.  
A: UNIT NO.A, B: UNIT NO.B, C: UNIT NO.C,  
D: UNIT NO.D, E: UNIT NO.E

NOTE3 : <CUSTOMER'S TAG-NO>

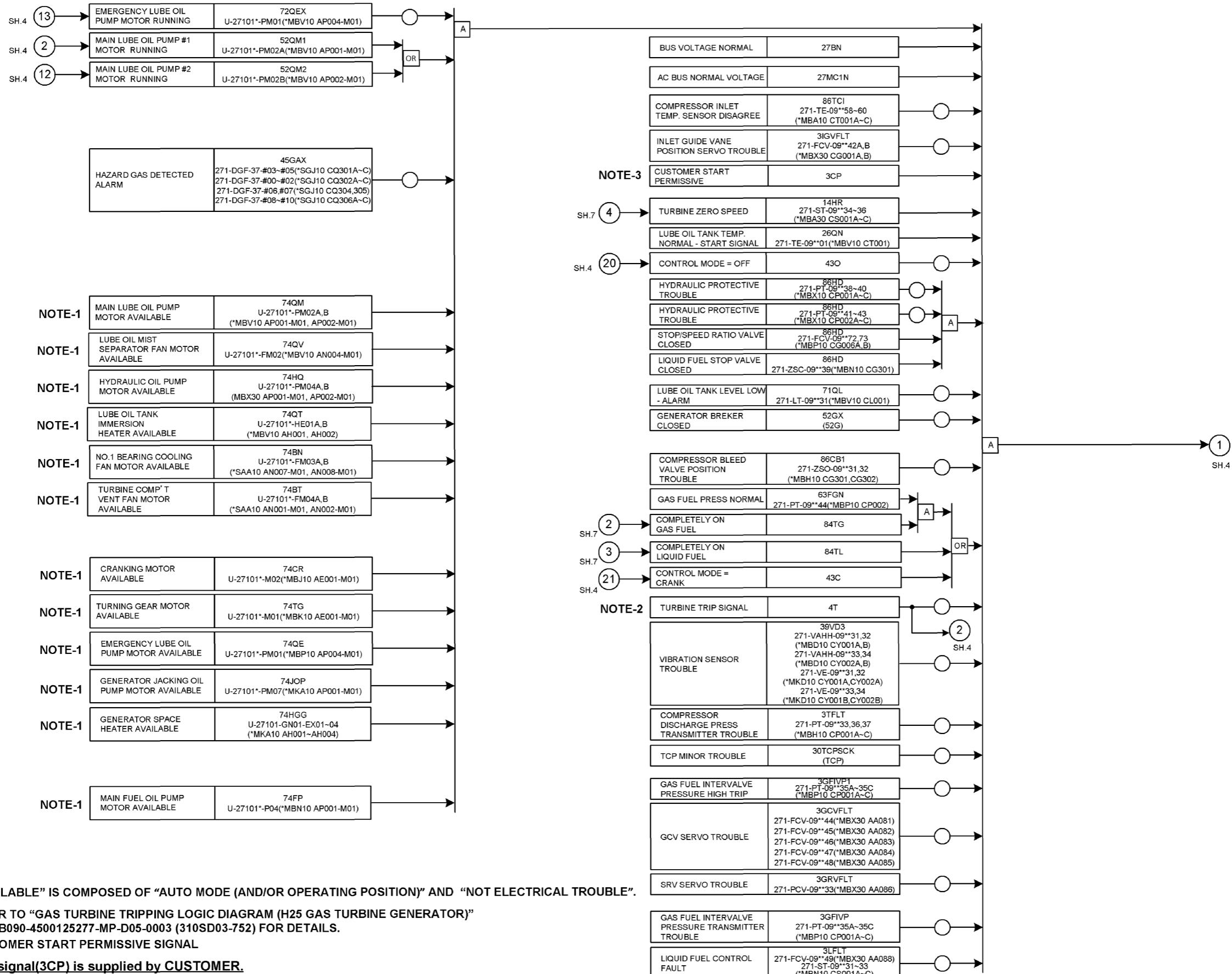
OCTOTHORPE(#) SHOWS THE GT-UNIT NO.  
1: UNIT NO.A, 2: UNIT NO.B, 3: UNIT NO.C,  
4: UNIT NO.D, 5: UNIT NO.E

NOTE4 : <MHPS'S TAG-NO>

ASTERISKS(\*) SHOWS THE GT-UNIT NO.  
A: UNIT NO.A, B: UNIT NO.B, C: UNIT NO.C,  
D: UNIT NO.D, E: UNIT NO.E

SYMBOL	
SYMBOL	DESCRIPTION
→	CONTINUOUS LINE ON DRAWING INDICATES SEQUENCE BY MEANS OF ELECTRONIC CIRCUIT.
→○→○→	THIS TYPE OF LINE ON DRAWING INDICATES SEQUENCE BY MEANS OF MECHANICAL SEQUENCE.
CRT	CATHODE-RAY TUBE (HMI)
ANN	ALARM
	MANUAL OPERATION
→ A →	"AND" GATE
→ OR →	"OR" GATE
→ ○ →	"NOT" GATE
→ DI t →	TIMER (DELAY PICK UP) t= SETTING TIME
→ DT t →	TIMER (DELAY DROP OUT) t= SETTING TIME
→ n N	LOGIC CONTINUATION (DESTINATION) n : CONNECTION POINT NUMBER N : PAGE No.
N n →	LOGIC CONTINUATION (DEPARTURE) n : CONNECTION POINT NUMBER N : PAGE No.

Company 	Project Description EPC CPF Phase-2 at BADRA OIL FIELD	Contractor 	Responsible dep. Instrument & Control Department Hitachi I&C Engineering Section	Scale NTS	DWG. No. 310SD03-759	Rev. 2	Sheet 2 / 8	Date of issue
Project No. GB090	Contract No. 090-13-BD-205-00	Job No. SG-2614						
Drawing No. -	GB090-4500125277-MP-D06-0001	Sheet 2	Sheets 8	Rev. 0	Scale NTS			MITSUBISHI HITACHI POWER SYSTEMS, LTD. Engineering Head quarters Plant Engineering Division
								CAD SOFTWARE MS VISIO SIZE DESIGNATION A3

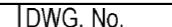


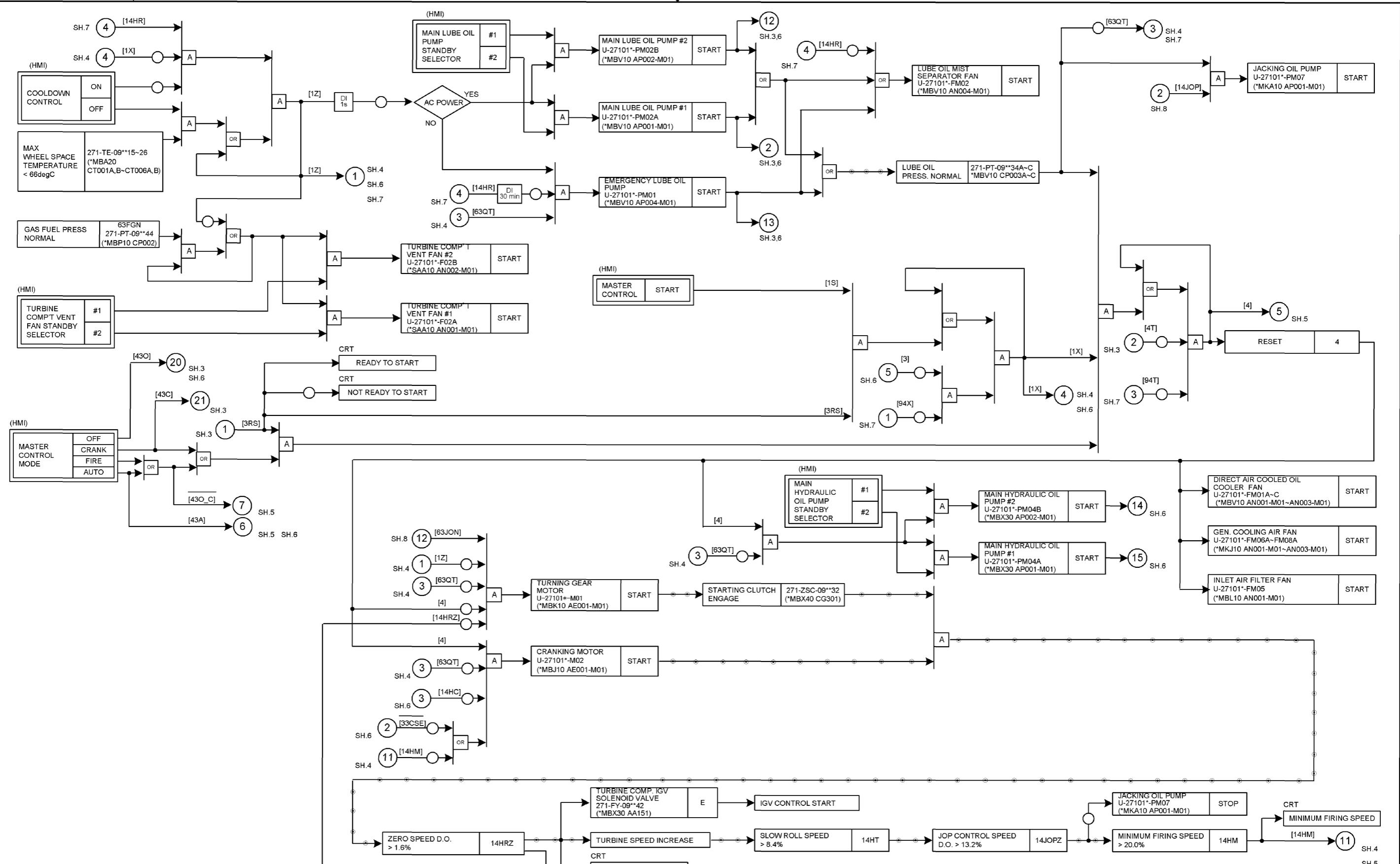
**NOTE-1: "AVAILABLE" IS COMPOSED OF "AUTO MODE (AND/OR OPERATING POSITION)" AND "NOT ELECTRICAL TROUBLE"**

**NOTE-2: REFER TO "GAS TURBINE TRIPPING LOGIC DIAGRAM (H25 GAS TURBINE GENERATOR D# GB090-4500125277-MP-D05-0003 (310SD03-752) FOR DETAILS.**

#### **NOTE-3: CUSTOMER START PERMISSIVE SIGNAL**

This signal(3CP) is supplied by CUSTOMER

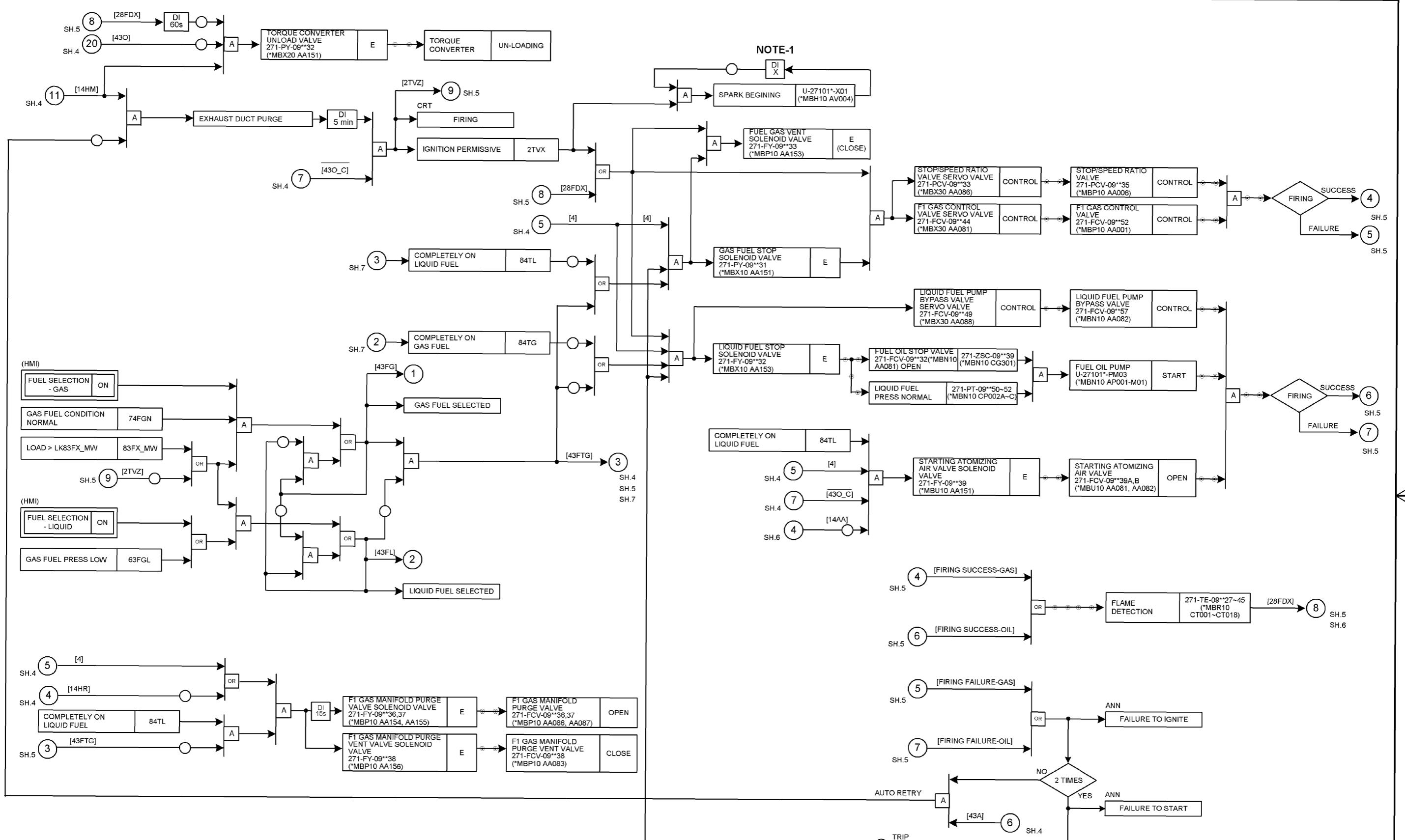
Company 		Project Description EPC CPF Phase-2 at BADRA OIL FIELD		Contractor  SAMSUNG ENGINEERING		Responsible dep. Instrument & Control Department Hitachi I&C Engineering Section		Scale NTS		DWG. No. 310SD03-759	Rev. 2	Sheet 3 8	Date of issue		
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Project No. GB090	Contract No. 090-13-BD-205-00	Job No. SG-2614						
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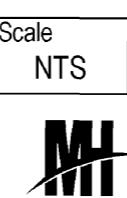
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## STARTUP BLOCK DIAGRAM - 2



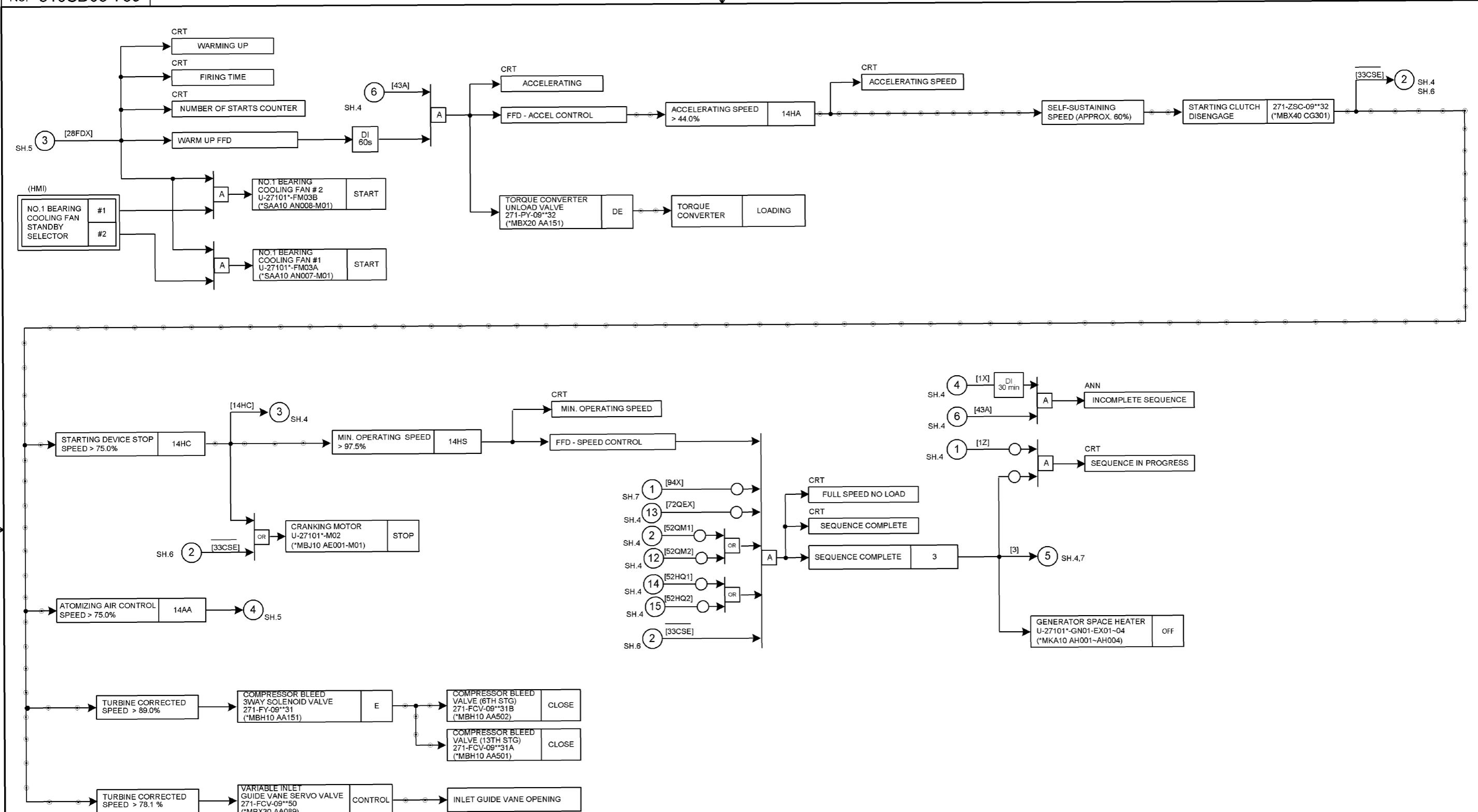
Company		Project Description		Contractor	
<b>GAZPROM NEFT</b>		<b>EPC CPF Phase-2 at BADRA OIL FIELD</b>		<b>SAMSUNG</b> SAMSUNG ENGINEERING	
Project No.	GB090	Contract No.	090-13-BD-205-00	Job No.	SG-2614
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Responsible dep.  
Instrument & Control  
Department  
Hitachi I&C Engineering  
Section



DWG. No. **310SD03-759**  
**MITSUBISHI HITACHI POWER SYSTEMS, LTD.**

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Project Description  
EPC CPF Phase-2 at  
BADRA OIL FIELD

Contractor  
SAMSUNG  
SAMSUNG ENGINEERING

Responsible dep.  
Instrument & Control  
Department  
Hitachi I&C Engineering  
Section

Scale  
NTS

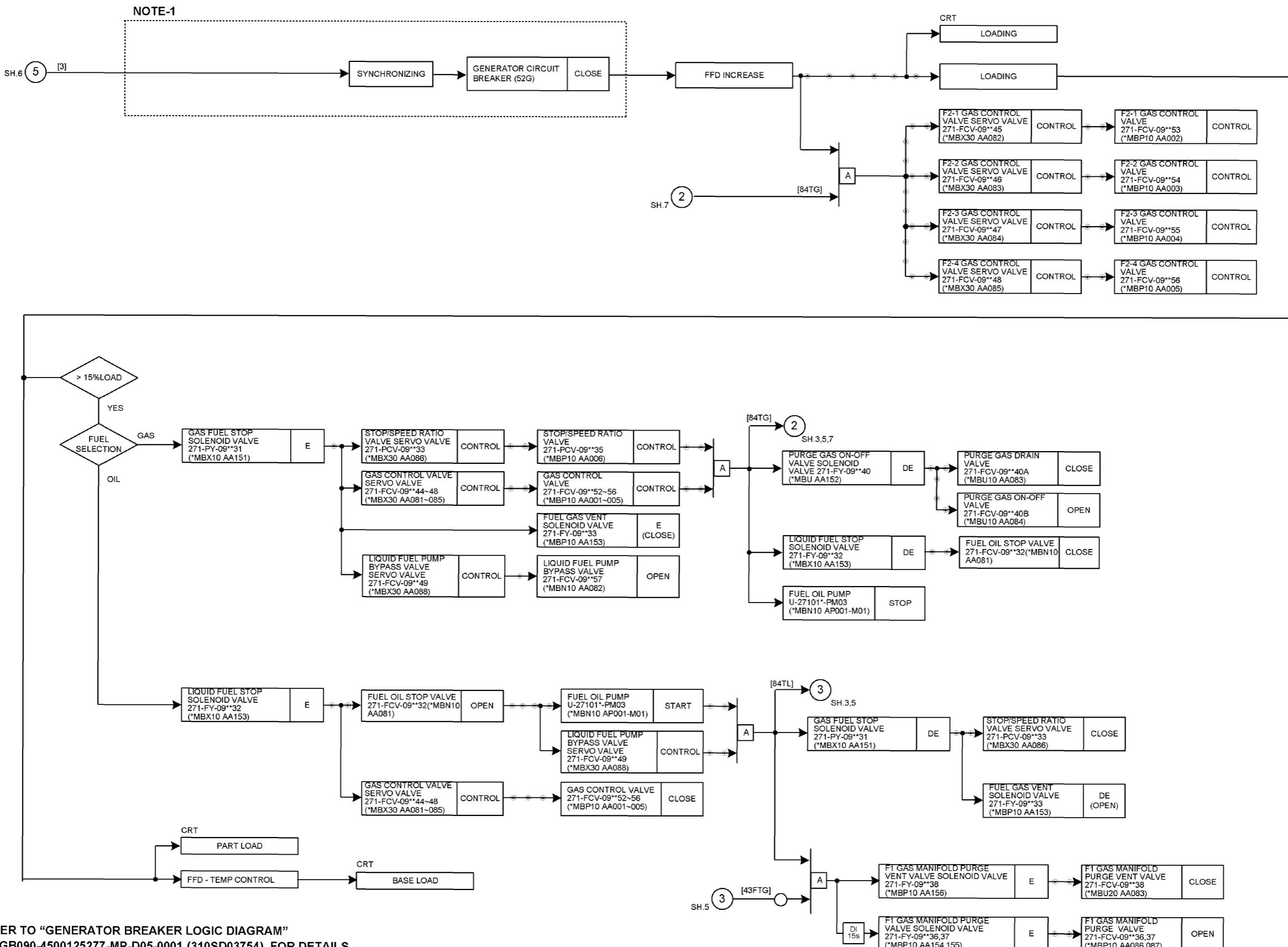


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2

Sheet  
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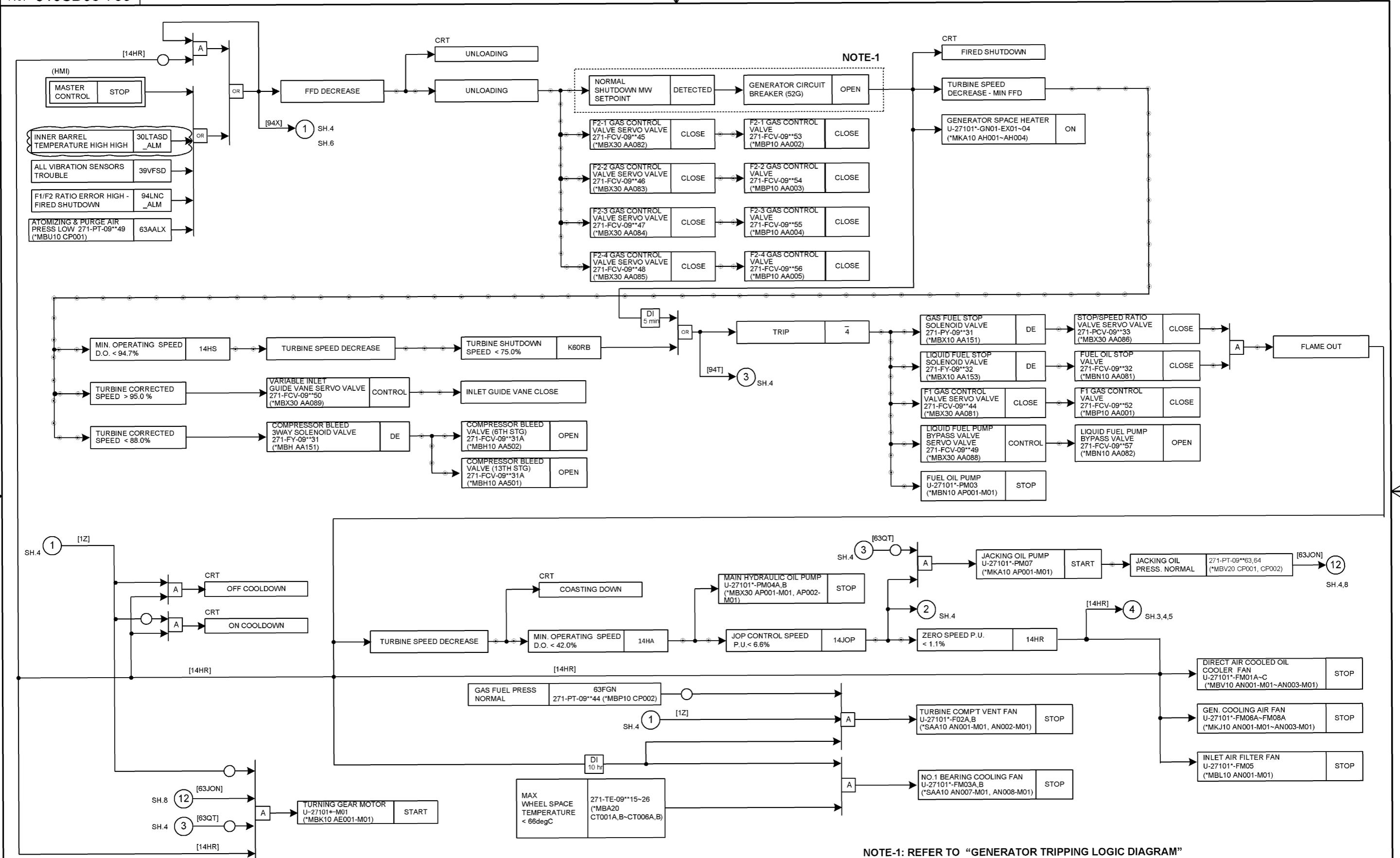


NOTE-1: REFER TO "GENERATOR BREAKER LOGIC DIAGRAM"  
D# GB090-4500125277-MP-D05-0001 (310SD03754) FOR DETAILS.

Company 	Project Description EPC CPF Phase-2 at BADRA OIL FIELD	Contractor 	Responsible dep. Instrument & Control Department Hitachi I&C Engineering Section	Scale NTS	DWG. No. 310SD03-759	Rev. 2	Sheet 7 / 8	Date of issue
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## STARTUP BLOCK DIAGRAM - 5

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SHUTDOWN BLOCK DIAGRAM			
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Company <b>GAZPROM NEFT</b>	Project Description <b>EPC CPF Phase-2 at BADRA OIL FIELD</b>	Contractor <b>SAMSUNG</b> SAMSUNG ENGINEERING	Responsible dep. Instrument & Control Department Hitachi I&C Engineering Section
Project No. GB090	Contract No. 090-13-BD-205-00	Job No. SG-2614	Scale NTS
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