CG Power and Industrial Solutions Limited

Railway Transportation-Traction Electronics

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Our Ref: CLW/SW/TCN-VCU/2025/Feb 18 Date: 18-02-2025



To, The Dy. Chief Electrical Engineer, (C D&D) Chittaranjan Locomotive Works Chittaranjan.

Kind Attention: Shri Pankaj Kumar (Dy.CEE-D&D-I /CLW)

SUB: Permission for uploading software version 16XX for Multi-Unit Locomotive in CGPISL make TCN-VCU

Ref. - i) RDSO MoM no. EL/11.5.5/21 dtd: 03.02.2025

Dear Sir,

This is with reference to reliability improvement of our IGBT based Traction Converter and as per the letter mentioned in reference, we had addressed the issue of the Multi unit functionality with different make of the WTB gateway (Hasler Rail & AMiT) for freight locomotive- WAG9H along with the feature of CAB redundancy.

Software version in FLG1 to be upload as 1608 for Hasler Rail make WTB gateway, 1609 in FLG1 for AMiT make WTB gateway and for interoperability FLG1 (1608) for Hasler Rail and FLG1 (1610) for AMiT make WTB gateway.

This upgraded version of software is uploaded in below mentioned locomotives and their performance found to be satisfactory.

Sr. No.	Loco No.	WTB make	Software version	Release Date
1	33681 MU 38806	33681- Hasler Rail (1000) 38806- Hasler Rail (1000)	1608	13.12.2024
2	38961 MU 38847	38961 -Hasler Rail (450) 38847 –AMiT	1608 & 1610	09.01.2025
3	41413 MU 43015	41413 –Hasler Rail (450) 43015 - Hasler Rail (450)	1608	18.01.2025
4	38858 MU 38964	38858 - AMiT 38964 – AMiT	1609	26.01.2025
5	41579 MU 41432	41579 –Hasler Rail (1000) 41432 -AMiT	1608 & 1610	30.01.2025

Hence we request for the approval and permission to upload this software with our equipped TCN-VCU. Thanking you and assuring for best services to Indian Railway all the times.

Thanking You.

With Best Regards, Krishan Junwani Sr. Manager – Design

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Encl: 1) Joint Note copy attached.

2) Release Note

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Rolling Stock Software for CGL and ABB based full propulsion

Loco type	WAG9
Propulsion/ VCU	CGL
Manufacturer	
Version No	FLG1 & STB1 -1608,1609,1610
WAG9	FLG2 & STB2-1608
	HBB1 –1608, HBB2-1608
Date of release	12.02.2024
Description	Software for WAG9
Version	Release Version

Major modifications in present release:

- 1. Multi loco WTB software for WAG9 locomotives
- 2. Version to be loaded in FLG1:
 - a) 1608(FLG1) Version when WTB is HASLERAIL (1000) or HASLERAIL (450),
 - b) 1609(FLG1) for AMIT GATEWAY multi is formed between AMIT GATEWAY locos
 - c) When Multi is between 1610(FLG1) for AMIT and 1608(FLG1) for HASLERAIL GATEWAY, when coupled with loco of AMIT and HASLER





दक्षिणपूर्वरेलवे / South Eastern Railway





An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 certified shed CERT. NO.- QIBPLK1305, EIBPLK1155, OIBPLK1124

No: ELSB/E6/M/24/10/05



कार्यालय/ Office of the वरिष्ठमंडलविद्युतअभियन्ता (क. च. 🗆 🗆 🗓),बोकारो

Sr. Divisional. Electrical Engineer(TRS), Bokaro Electric Loco Shed, Bokaro,

Jharkhand-827010 Rly Tel No: 86600

BSNL Tel No: (06542) 253062

E-mail: srdeebksc@gmail.com

Date: 23/10/24

Joint note between M/s CGL and ELSB against thenew test software for full redundancy given by CDAC based TCN VCU in loco no. 38808

OBSERVATION OF CAB-REDUNDANCY DURING TESTING

New test software for full redundancy given by CADAC loaded in loco no 38808

Software version loaded (As shown in DDU):

FLG1	1609	STB1	1609	SLG1	1D	нвв1	1609
FLG2	1608	STB2	1608	SLG2	1D	нвв2	1608

From both CAB FLG1 removed before battery on, then Main power off and all BUR got isolated with life sign missing message-

Details of the testes conducted by isolating MVB Life sing signal through D413 and its observations are as follows-

TESTING FROM CAB 2-

	(A) FLG-1 isolated	Simulation mode not working-
S.N.	Equipments	Remarks
1	BPFA	Glows when fault comes.
2	LSFI	Blink when fault comes
3	BL	Ok

4	POP-UPS	Ok
5	PANTO	Ok
6	VCB	Ok
7	REVERSER	Ok
8	THROTTLE	Ok
9	SANDING	Ok
10	PVEF Operation	Ok
11	VIGILANCE	Normal
12	A9	Ok
13	SA9	Ok
14	BLCP	Working
15	BPCS	Working
16	BLHO	NA
17	P1 fault	Only DJ Trip no Panto lower
19	BE MCB tripped	Not checked
20	FLG 1 - L/S missing forced @504	Working normal
21	FLG 1 - L/S missing forced @550	Working normal
22	FLG 1 – L/S missing forced @590	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal remain high) with redundant software in DIO card.
3	FLG 1 – L/S missing forced @596	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal remain high) with redundant software in DIO card.

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		B)HBB-1 isolated	
	Equipments	Remarks	
	BPFA	Glows when fault comes.	
2	LSFI	Blink when fault comes	
3	BL	Ok	
4	POP-UPS	Ok	
5	PANTO	Ok	
6	VCB .	Ok	
7	REVERSER	Ok	
8	THROTTLE	Ok (RB working)	
9	SANDING	Ok 編練	
10	PVEF Operation	Ok	
11	VIGILANCE	Normal	
12	A9	Ok	
13	SA9	Ok	
14	BLCP	Working	
15	BPCS	Not checked	
10	6 P1 fault	DJ trip without Panto lower	
1	7 P2 fault	Message pop-up and working normal	
1	BE MCB tripped	NA	
	HBB-1 - L/S missing forced @504	Working normal	

20	HBB-1 - L/S missing forced @550	Working normal
21	HBB-1 - L/S missing forced @590	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.
22	HBB-1 - L/S missing forced @596	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.

(C)FLG-2 isolated			
S.N.	Equipments	Remarks	
1	BPFA	Glows when fault comes.	
2	LSFI	Blink when fault comes	
3	BL	Ok(MCE not off)	
4	POP-UPS	Ok	
5	PANTO	Ok	
6	VCB	OK	
7	REVERSER	Ok	
8	THROTTLE	1) Angle transmitter failed and can be operated in failure mode and RB not working. 2) Angle transmitter failed message was logged on Pixy data and can be operated in failure mode and RB not working	
9	SANDING	Not working	
10	PVEF Operation	Working	
11	VIGILANCE	Normal	
12	A9	Ok The second se	
13	SA9	OK .	

or other

15	BPCS	Not checked
16	P1 fault	Only DJ Trip no Panto lower
17	P2 fault	Message pop-up and working normal
18	BE MCB tripped	NA NA
19	FLG 2 - L/S missing forced @504	Working normal.
20	FLG 2 - L/S missing forced @550	Working normal.
21	FLG 2- L/S missing forced @590	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card. Panto not down.
	12 tags	Andrew An
22	FLG 2 - L/S	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB
	missing forced @596	signal changed) with redundant software in DIO card. Panto not down.

		(D)HBB-2 isolated
S.N.	Equipments	Remarks
1	BPFA	Glows when fault comes.
2	LSFI	Blink when fault comes
3	BL	Ok
4	POP-UPS	OK
5	PANTO	Ok
6	VCB	Ok
7	REVERSER	Ok

8	THROTTLE	Traction working but RB not working,
9	SANDING	Not working
10	PVEF Operation	Not working
11	VIGILANCE	Working in standing position
12	A9	Ok
13	SA9	Ok
14	BLCP	Auto mode not working
15	BPCS	Not checked
16	P1 fault	Message pop-up and working normal. (VCB open)
17	P2 fault	Message pop-up and working normal.
18	BE MCB tripped	NA
19	HBB-2 - L/S missing forced @504	Working normal
20	HBB-2 - L/S missing forced @550	Working normal
21	HBB-2 - L/S missing forced @590	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.
2	HBB-2 - L/S missing forced @596	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.

TESTING FROM CAB 1-

(A) When FLG-1 isolated loco could not be energized.

(B)HBB-1 isolated

N.	Equipments	Remarks
1	BPFA	Not ok
2	LSFI	Not ok
3	BL	Ok
4	POP-UPS	Not show
5	PANTO	Ok
6	VCB	Ok
7	REVERSER	Ok
8	THROTTLE	Traction working but RB not working.
9	SANDING	Working
10	PVEF Operation	Not working
11	VIGILANCE	Not Working
12	A9	Ok
13	SA9	Ok
14	BLCP	Auto mode working
15	BPCS	Not checked.
16	P1 fauit	Working normal.
17	P2 fault	Working normal.
18	BE MCB tripped	
19	HBB-1 - L/S missing forced @504	Working normal

20	HBB-1 - L/S missing forced @550	Working normal
21	HBB-1 - L/S missing forced @590	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.
22	HBB-1 - L/S missing forced @596	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.

	(C)FLG-2 isolated				
S.N.	Equipments	Remarks			
1	BPFA	Glows when fault comes.			
2	LSFI	Blink when fault comes			
3	BL	Ok(MCE not off)			
4	POP-UPS	Ok			
5	PANTO	Ok			
6	VCB	Ok			
7	REVERSER	Ok			
8	THROTTLE	Message comes and throttle working.			
9	SANDING	Working			
10	PVEF Operation	Working			
11	VIGILANCE	Normal			
12	A9	Ok			
13	SA9	Ok			
14	BLCP	Working			
15	BPCS	Not checked.			

6	P1 fault	Only DJ Trip no Panto lower	
17 P2 fault		Message pop-up and working normal	
18	BE MCB tripped	NA	
19	FLG 2 - L/S missing forced @504	Working normal.	
20	FLG 2 - L/S missing forced @550	Working normal.	
21	FLG 2- L/S missing forced @590	DJ tripped. Again press ZPT and BLDJ found working normal (VCB signal changed) with redundant software in DIO card	
22	FLG 2 - L/S missing forced @596	DJ tripped. Again press ZPT and BLDJ found working normal (VCB signal changed) with redundant software in DIO card	

(D)HBB-2 isolated				
S.N. Equipments		Remarks		
1	BPFA	Glows when fault comes.		
2	LSFI	Blink when fault comes		
3	BL	Ok		
4	POP-UPS	Ok		
5	PANTO	Ok		
6	VCB	Ok		
7	REVERSER	OK .		
8	THROTTLE	Traction working but RB not working		
9	SANDING	Not working		

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10	PVEF Operation	Working	
11	VIGILANCE	Working in standing position	
12	A9	Ok	
13	SA9	Ok	
14	BLCP	Auto mode not working	
15	BPCS	Not checked	
16	P1 fault	Message pop-up and working normal(VCB open	
17	P2 fault	Message pop-up and working normal	
18	BE MCB tripped	NA-	
19	HBB-2 - L/S missing forced @504	Working normal	
20	HBB-2 - L/S missing forced @550	Working normal	
21	HBB-2 - L/S missing forced @590	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.	
22	HBB-2 - L/S missing forced @596	DJ tripped. Again press ZPT and BLDJ found working normal. (VCB signal changed) with redundant software in DIO card.	

Cab redundancy related all wirings/cables checked by firm staff and found ok. Loco was given fit for normal service by firm staff. Firm has assured that this software will not affect the normal operation

Daryon Lr. Pandey Sign of Firm representative

Whella Kong prope Brok Sign of SSE/PPIO

Sign of SSE/E6

Countersign.

ADEE/ELSB महाव महल विद्युत अभियन्तः (क घ.स्टा, Assit Divisional Electrical Engineer (TRS) विद्युत लोको शेंड ही के० एस सी द० पूर्व रेलवे Electric Loco Shed, BKSC, S.E. Ratway

JOINT NOTE

Electric loco shed Rourkela

Date-21.09.2024

New test software for full redundancy given by CDAC based TCN VCU in locomotive 33847 on from 10.09.2024 to 21.09.2024

OBSERVATION OF CAB-REDUNDANCY DURING TESTING

New test software for full redundancy given by CDAC loaded in loco: 33847 and tested from 11.09.24 to 21.09.2024.

Software version loaded (As shown in DDU):

FLG1	1608	CTD4						
FLC2		STB1	1608	SLG1	1D	HBB1	1608	
FLG2	1608	STB2	1608	SLG2				
			2000	JLUZ	1D	HBB2	1608	

Details of the tests conducted by isolating by removing processor card and its observations are as follows-

TESTING FROM CAB2-

)FLG-1 isolate		e not working	
S.N.	Equipments	Function	Remarks given by ELS/ROU	Remarks given by CDAC
1	BPFA	Glows when fault comes.	LLJ/NOU	representative
2	LSFI	Blink when fault comes.		
4	BL	ОК		
5	POP-UPS	OK		
6	PANTO	OK	1	
7	VCB	OK		
8	REVERSER	OK		
9	THROTTLE	OK(TE/BE demand showing 0 but actual is ok.)		Not in the scope of CDAC DDU SW uploading required by ARC
10	SANDING	OK		1.7
11	PVEF Operation	ОК		
12	VIGILANCE	OK	5.0	17
13	A9	OK	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
14	SA9	OK	l V	
15	BLCP	OK	(19	1
16	BLHO	OK		
17	P1 fault	DJ tripped but panto not lowered (lowered only if required as per priority message)		

	1	,	
		after acknowledge	
		BLDJ pressed loco	
		charged normal.	
18	P2 fault	Message popup and working normal.	
19	FLG1-L/S	Working Normal.	
	Missing		
	forced @504		
20	FLG1-L/S	Working Normal.	
	Missing		
	forced @550		,
21	FLG1-L/S	Only DJ tripped.	
	Missing	Again after press BLDJ	,
	forced @590	found working normal	
22	FLG1-L/S	Only DJ tripped. Again	
	Missing	after press BLDJ found	
	forced @596	working normal	

S.N.	Equipments	Remarks	Remarks given by ELS/ROU	Remarks given by CDAC representavie
1	BPFA	Glows when fault comes.		
2	LSFI	Blink when fault comes.		
3	BL	OK		
4	POP-UPS	ОК	Gr.	
5	PANTO	ОК		
6	VCB	ОК	9	
7	REVERSER	OK		
8	THROTTLE	OK		
9	SANDING	OK		
10	PVEF Operation	OK		
11	VIGILANCE	Normal		
12	A9	OK		
13	SA9	OK		
14	BLCP	Working		
15	BPCS	OK		
16	P1 fault	DJ tripped but panto not lowered (lowered only if required as per priority message)		
17	P2 fault	Message pop up and working normal.		
18	HBB-1 L/S Missing forced @504	Working Normal		

19	HBB-1 L/S Missing	Working Normal	
	forced @550		
20	HBB-1 L/S Missing	Only DJ tripped. Again	
	forced @590	after press BLDJ found	
		DJ closing normal	
21	HBB-1 -L/S Missing	DJ tripped after	
	forced @596	acknowledge press	
		BLDJ found DJ closing	*
		normal.	

(C) FLG-2 isolated			Remarks given by
S.N.	Equipments	Remarks	Remarks given by ELS/ROU	CDAC representavie
1	BPFA	Glows when fault comes.		
2	LSFI	Blink when fault comes.		
3	BL	Loco not getting off by MCE. (Required BA OFF/ON)	Cable is not provided for redundancy by clw	
4	POP-UPS	OK		
5	PANTO	OK		
6	VCB	ОК		
7	REVERSER	OK		
8	THROTTLE	Angle transmitter failed message was logged on Pixy data and can be operated in failure mode and RB not working.	8	As per MICAS logic analog value is not available, only digital value based operation possible. Brake blending is not possible because of nonavailability of BP
9	SANDING	Not working	Cable is not provided for redundancy by clw	. 4
10	PVEF Operation	ОК	R .	,
11	VIGILANCE	VCD acting in normal condition also (i.e after VCD acting condition satisfied- BVigReset signal always low). So, VCD should be kept isolated.		As per MICAS logic Analog value is not available for throttle reset
12	A9	OK (in DDU BP showing zero).		As per MICAS logic BP pressure is not available
13	SA9	OK	1 P	
14	000710-10711	Working		
15		Not Working	Cable is not provided	

		,	for redundancy by clw	
16	P1 fault	DJ tripped but panto not lowered (lowered only if required as per priority message	Tor redundancy by ciw	
17	P2 fault	Message pop up and working normal.		
18	FLG2-L/S Missing forced @504	Working normal		
19	FLG2-L/S Missing forced @550	Working normal		
20	FLG2-L/S Missing forced @590	Only DJ tripped. Again after press BLDJ found DJ closing normal.(VCB ON symbol remains high).		For VCB symbol high, DDU SW uploading required by ARC.
21	FLG2-L/S Missing forced @596	Only DJ tripped. Again after press BLDJ found DJ closing normal.(VCB ON symbol remains high).		For VCB symbol high, DDU SW uploading required by ARC.

)HBB-2 isolate	ed		
S.N.	Equipments	Remarks	Remarks given by ELS/ROU	Remarks given by CDAC representavie
1	ВРГА	Glows when fault comes.		os de representavie
2	LSFI	Blink when fault comes.		
4	BL	OK		
5	POP-UPS	OK		es and a second
6	PANTO	In auto mode PT1 should raise, but PT2 is raising.	Cable is not provided for redundancy by clw	A STATE OF THE STA
7	VCB	OK OK		
8	REVERSER	ОК		
9	THROTTLE	Traction working but RB not working.	1 11000	
10	SANDING	Not working		
11	PVEF Operation	Not working.	Cable is not provided for redundancy by clw	
12	VIGILANCE	VCD acting at standstill condition, so loco can be operated only after vigilance isolation from rotary switch.	Cable is not provided for redundancy by clw	

40		-	
		depa	
	Working		
BLCP	Auto mode not	Cable is not provided	
		for redundancy by clw	
	working normal.		
	OK		
P1 fault	DJ tripped but panto		
	not lowered (lowered		
	only if required as per		
	priority message		
P2 fault	Message pop up and		
	working normal.		
HBB-2 L/S	Working normal as per		
Missing forced	above point no (1-18)		
@504			
HBB-2 L/S	Working normal as per		
Missing forced	above point no (1-18)		
@550			
HBB-2 L/S	DJ tripped. And panto		As per cabling scheme
Missing forced	down Again after press		provided in loco
@590	ZPT and BLDJ found DJ		,
	closing normal.		
HBB-2 -L/S	DJ tripped after		As per cabling scheme
Missing forced	acknowledge press		provided in loco
@596	BLDJ found DJ closing	1	F 1. 404 III 1000
	normal.		
	Missing forced @504 HBB-2 L/S Missing forced @550 HBB-2 L/S Missing forced @590 HBB-2 -L/S Missing forced	SA9 BLCP Auto mode not Working, but manually working normal. BPCS OK P1 fault DJ tripped but panto not lowered (lowered only if required as per priority message P2 fault Message pop up and working normal. HBB-2 L/S Missing forced @504 HBB-2 L/S Missing forced @504 Working normal as per above point no (1-18) Working normal as per above point no (1-18) DJ tripped. And panto down Again after press ZPT and BLDJ found DJ closing normal. HBB-2 -L/S Missing forced @590 DJ tripped after acknowledge press BLDJ found DJ closing	SA9 BLCP Auto mode not Working, but manually working normal. BPCS OK P1 fault DJ tripped but panto not lowered (lowered only if required as per priority message P2 fault Message pop up and working normal. HBB-2 L/S Missing forced @504 HBB-2 L/S Missing forced @550 HBB-2 L/S Missing forced @590 DJ tripped. And panto down Again after press ZPT and BLDJ found DJ closing normal. HBB-2 -L/S Missing forced @596 BLDJ found DJ closing

TESTING FROM CAB1-

With CAB-1 leading, loco was powered and Throttle was given to check kN output. Operates during all processors in service like compressor, SA9, A9 Panto, VCB, Sander Vigilance, PVEF, PFA, LSFI Various P1 and P2 faults etc. was tested. All are working normal.

(/	A)FLG-1 isolate	ed simulation mode n	ot working & Loco ni	umbor will not als see
S.N.	Equipments	Remarks	Remarks given by ELS/ROU	Remarks given by CDAC representavie
1	BPFA	Glows when fault comes. Turns Off once acknowledged.		CDACTEPIESEIITAVIE
2	LSFI	Blinks when fault comes. Glows once acknowledged.		
3	BL	Unable to turn off loco.(Required BA OFF/ON)	Cable is not provided for redundancy by clw	
4	POP-UPS	OK		
5	PANTO	OK		
6	VCB	OK		
7	REVERSER	OK		

				For TE/BE Showing
8	THROTTLE	Angle transmitter failed	,	zero in DDU SW
		and Working only in		uploading required in
		Failure mode.(TE/BE		
		demand showing zero).		DDU by ARC.
9	BPCS	Not working	Cable is not provided	
			for redundancy by clv	1
10	SANDING	Not working	Cable is not provided	
			for redundancy by clw	1
11	PVEF	OK		
	Operation			
12	VIGILANCE	VCD acting in normal		As per MICAS logic
		condition also (i.e after		Analog value is not
		VCD acting condition		available for throttle
		satisfied- BVigReset		reset
		signal always low). So,		
		VCD should be kept		
		isolated.		
13	A9	OK		
14	SA9	OK		
15	BLCP	OK		
16	BLHO	-		
17	P1 fault	DJ tripped but panto not		
		lowered (lowered only if		
		required as per priority	" %	
10	D0 6 1:	message)		
18	P2 fault	Message pop up and		
19	FI C1 1 /C	working normal		
19	FLG1-L/S Missing	Working normal		
	forced @504			,
20	FLG1-L/S	Working normal		
20	Missing	working normal		
	forced @550			
21	FLG1-L/S	Only DJ tripped. Again	7	For VCD and the same
	Missing	after press BLDJ found		For VCB symbol high,
	forced @590	DJ closing normal.(VCB	,	DDU SW uploading required by ARC.
		symbol remains high).		required by AKC.
22	FLG1-L/S	DJ tripped after		For VCB symbol high,
	Missing	acknowledge press BLDJ		DDU SW uploading
	forced @596	found DJ closing		required by ARC.
		normal.(VCB symbol		2,71110.
		remains high).	1 10	*

^{*}After FLG1 isolation inching mode working but status is not getting ON in DDU.

(B)	HBB-1 isolated					
S.N.	Equipments	Remarks	Remarks given by	Remarks	given	by

1	DDFA		ELS/ROU	CDAC representavie
1	BPFA	Glows when fault	416.838	одине гори сосина и
		comes. Turns Off once		
_		acknowledged.		
2	LSFI	Blinks when fault		
		comes.		
3	BL	OK		
4	POP-UPS	Pop up message not		DDU SW uploading
		coming		required by ARC.
5	PANTO	OK		required by rine.
6	VCB	OK		
7	REVERSER	OK		
8	THROTTLE	OK		
9	BPCS	OK		
10	SANDING	OK		
11	PVEF	Not working	Cable is not provided	
		THE WORKING	for redundancy by clw	
12	VIGILANCE	Working without	Cable is not provided	
		buzzer.	for redundancy by clw	<u>.</u>
13	A9	Normal		•
14	SA9	Normal		3
15	BLCP	Working in auto mode	Cable is not provided	
		only.	for redundancy by clw	
16	BLHO	-		/
17	P1 fault	DJ tripped but panto		
		not lowered (lowered	11.1	
		only if required as per		
	 	priority message)	, , , , , , , , , , , , , , , , , , ,	
18	P2 fault	Message popup and		
10	LIDD 4 L/C	working normal.		
19	HBB-1 L/S	Working normal		
	Missing forced @504			
20	HBB-1 L/S	Working normal		
	Missing	Working normal		
	forced @550			
21	HBB-1 L/S	Only DJ tripped. Again		
	Missing	after press BLDJ found		
	forced @590	DJ closing normal		
22	HBB-1 -L/S	DJ tripped after		
	Missing	acknowledge press		,
	forced @596	BLDJ found DJ closing		
		normal	25 3	

(C) FLG-2 isolate	d				
S.N.	Equipments	Remarks	Remarks given by ELS/ROU	Remarks	given	by
1	BPFA	Glows when fault	125/1100	CDAC rep	resentav	ie

		off once		
		comes. Turns Off once		
E (*)		acknowledged.		
2	LSFI	Blinks when fault		
2	2311	comes. Glowing		
		continuously after		
		acknowledging.		
	DI	OK		
3	BL POP-UPS	OK	· · · · · · · · · · · · · · · · · · ·	
4		In auto mode PT2	Cable is not provided	'
5	PANTO	should raise, but PT1 is	for redundancy by clw	
		raising.		
		OK		
6	VCB			AUCAS logis
7	REVERSER	OK		As per MICAS logic
8	THROTTLE	RB not working.	2	analog value is not
				available, only digital
				value based operation
				possible.
				Brake blending is not
				possible because of
				non-availability of BP
				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
9	BPCS	OK	-0.15	
10	SANDING	OK		
11	PVEF	Working		
	Operation		a short days	
12	VIGILANCE	Working without	1	
12	V.G.2	buzzer		
13	A9	Normal (BP showing		As per MICAS logic
15	73	zero in DDU)	,*	BP pressure is not
		25.5 2.2.2,		available
14	SA9	Normal		
	BLCP	Working		
15	BLHO	-		
16	P1 fault	DJ tripped but panto	n ppl .	
17	PI lault	not lowered (lowered		
	1	-		Baran Daniel
		only if required as per		, it is
	20.5	priority message)		
18	P2 fault	Message popup and	et production of the	Other March
	TI 00 1 /5	working normal.	11	
19	FLG2-L/S	Working normal as per	- and	All A
	Missing	above point no (1-18)	10.0	. E. s
	forced @504		i mi gr,	A 1 12 1
20	FLG2-L/S	In auto mode PT2 down		As per cabling scheme
	Missing	automatically but signal		provided in loco
	forced @550	remains high in DDU,		
		after pressing ZPT PT1		
		raised.	A-1-2-3-1	# 1 T
21	FLG2-L/S	DJ tripped and panto		As per cabling scheme
21				

found DJ closing normal. 22 FLG2-L/S Missing forced @596 DJ tripped and panto lowered. Again after press ZPT and BLDJ found DJ closing normal. As per cabling scheme provided in loco
--

S.N.	D)HBB-2 isola	teu		
	-darbinetit?	Remarks	Remarks given by	Remarks given
1	BPFA	Glows when fault	ELS/ROU	CDAC representavie
		comes. Turns Off once		
		acknowledged.		
2	LSFI	Glows when fault		
		comes. Turns Off once		500
		acknowledged.		
3	BL	OK		
4	POP-UPS	OK		
5	PANTO	OK	ť.	
6	VCB	OK		Talen Magica
7	REVERSER	OK	14 4	, ,, , ¢ , • ,
8	THROTTLE	RB not working.		
		No not working.		Brake blending will
9	BPCS	Not Working	0.11	not work
		Not Working	Cable is not provided	
10	SANDING	Not working.	for redundancy by clw	
		as working.	Cable is not provided	
11	PVEF	ОК	for redundancy by clw	
	Operation			(
12	VIGILANCE	VCD acting at standstill		
		condition, so loco can		As per cabling scheme
		be operated only after		provided in loco
		vigilance isolation from		
		rotary switch.	ĺχ.	
13	A9	Normal		
14	SA9	Normal		
15	BLCP	Manually Working but	Cable is not provided	
		Auto mode not	for redundancy by clw	
16		working.	is reduitable by ciw	
16	BLHO			
17	P1 fault	DJ tripped but panto		
		not lowered (lowered	4	
		only if required as per		,
18		priority message)		77
10		Message popup and working normal.	,	

19	HBB-2 L/S Missing forced @504	Working normal as per above point no (1-18)		
20	HBB-2 L/S Missing forced @550	Working normal as per above point no (1-18)		,
21	HBB-2 L/S Missing forced @590	Only DJ tripped. Again after press BLDJ found DJ closing normal		, y
22	HBB-2 -L/S Missing forced @596	Only DJ tripped. Again after press BLDJ found DJ closing normal	N _P	

21.09,24 (Saikat Nandy) Executive of CGL

(Arun Raj kumar K P) Scientist 'E' CDAC

SSE/ELS/ROU (Sudhansu Mishra)

Biswas 24. 09. 2024 ADEE/TRS/ROU

^{*}For MU operation VCU SW 1608 for HASLER WTB and 1609 VCU sw for AMIT make WTB in FLG1 only.

^{*}In MU AMIT and HASLER make WTB is not compatible for intermediate cab operation.

South Eastern Railway Electric Loco Shed: Rourkela Joint note for cab redundancy software

No. TRS/ROU/E6/02/25/05

Date-10.02.2025

The following locos uploaded Cab redundancy software of CGL propulsion and given fit below mentioned date.

SL No	Loco No	WTB make	Cab Redundancy software	Release Date
1	33681 MU 38806	33681-HASERAIL (1000) 38806- HASERAIL (1000)	1608	13.12.2024
2	38961 MU 38847	38961-HASERAIL(450) 38847-AMIT	1608 & 1610	09.01.2025
3	41413 MU 43015	41413- HASERAIL(450) 43015- SAIRA (450)	1608	18.01.2025
4	38858 MU 38964	38858-AMIT 38964-AMIT	1609	26.01.2025
5	41579 MU 41432	41579- HASERAIL (1000) 41432-AMIT	1608 & 1610	30.01.2025

(Saikat Nandy)
Representative of CGL

(Sudhansu Mishra) SSE/ELS/ROU

(countersign)

@ Varan

ADEE/TRS/ROU