

RECD Type Approval Certificate No	ARAI/MoEF/RECDTA/PGIPL-R2/2023-02-E2	Date: 3 rd November 2023
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EXTENSION-2

Cert	Rep	Spec + Drg	Total
8	1	10	19 Pgs

**OF
TYPE APPROVAL**

FOR

**COMPLIANCE TO PARTICULATE MATTER EMISSION
NORMS FOR RETROFIT EMISSION CONTROL DEVICE
ON IN-USE DIESEL GENSET ENGINE (up to 800 kW)**

1. In order to establish compliance to the provisions of Particulate Matter emission, applicable as on date, documental verification/ necessary testing was carried out on the following Retrofit Emission Control Device model(s), submitted by the manufacturer / supplier referred below:

Retrofit Emission Control Device Manufacturer (RECD Manufacturer, Assembler Type Approval Certificate Owner)		Retrofit Emission Control Device Manufacturing Plant		Test Report Reference	
M/s. Pi Green Innovations Pvt. Ltd., Pune, Maharashtra.		M/s. Pi Green Innovations Pvt. Ltd. Gat. No. 95/5, 95/6, Muray Vasti, Kurali, Chakan, Pune- 410501 Maharashtra		1.EDL/RECDTA/ PGIPL-R2/2023/02 dt. 04.05.2023 2.EDL/RECDTA/PGIPL-R2/2023/02-E1 dt. 03.08.2023	
Retrofit Emission Control Device Model		RECD Class		RECD Family	System and Procedure
Parent		CCM-F-500	Class I	R2	Pollution Control Series PCLS/12/2021-22
Engine Manufacturer		Tested Engine Model/s	Engine Family	Gross Engine Power	Engine Type approval Certificate No.
Phase I	M/s. Cummins India Limited	KTA-19-G9	F-16	447 kW @ 1500 rpm	ARAI/MoEF/DGTA/CIL-F16/2007-053
Phase II	M/s. Cummins India Limited	KTAA-19-G10	F-43	438 kW @ 1500 rpm	ARAI/MoEF/DGTA/CILP-F43/2014-06
RECD suitable for Phase I and Phase II Certified Diesel Generator engine / engine families					See Annexure I
This extension certificate is issued for addition of engine in RECD family.					
Earlier RECD Type Approval Certificate No		ARAI/MoEF/RECDTA/PGIPL-R2/2023-02 dt. 08.05.2023 ARAI/MoEF/RECDTA/PGIPL-R2/2023-02-E1 dt. 11.08.2023			

2. It is certified that the above-mentioned Retrofit Emission Control Device family/models comply with the emission limits applicable for In-Use Genset Diesel Engines (upto 800 kW), as prescribed under NGT Order O.A. No. 681/2018 dt. 06.08.2019.
3. The above R2 RECD Family / model is suitable for retro fitment of In-use DG Set manufactured for Phase I - On or after 1st July 2004 till 1st July 2014 and for Phase II - On or after 1st July 2014.

4. Validity of the Certificate:

This RECD Type Approval Certificate is Valid till	1. The validity of existing emission requirements as per NGT Order No. O.A. 681/2018 dated 06.08.2019 or until further amendment, whichever is earlier.
	2. No change in technical specification of the Retrofit Emission Control Device specified
	3. Explicitly the Type Approval Certificate withdrawn by the engine supplier
	4. Till CoP is not missed

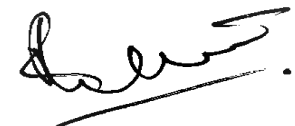
5. Conformity of Production (CoP) requirements:

COP test shall be carried out every year (between the period 1st July and 30th June) as per "System and Procedure for Emission Compliance Testing of Retro-fit Emission Control Devices (RECD) For IN-USE Diesel Power Generating Set Engines Up to Gross Mechanical Power 800 kW" or further amendment.

AUTHORISED SIGNATORY



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SENIOR DEPUTY DIRECTOR & HEAD
HOMOLOGATION MANAGEMENT REGULATIONS,
VEHICLE CUM SAFETY EVALUATION & AUTO PLI CELL,
ARAI, PUNE.
Place of Issue: Pune



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DIRECTOR,
ARAI, PUNE.

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ANNEXURE-I

To

RECD Type Approval Certificate No **ARAI/MoEF/RECDTA/PGIPL-R2/2023-02-E2**


Date: 3rd November 2023

RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR371 (E)/ dated 17-May-2002 Phase I Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 463 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
Cummins India Ltd.	F8	NTA-14-G3 NTA-14-RG3	336 kW 336 kW	ARAI/MOEF/DGTA/CIL-F8/2007-026 Dated: 7 th September 2007
Cummins India Ltd.	F13	KTA19-G4-I KTA19-F3-I KTA19-F5-I	447.2 kW 403 kW 366 kW	ARAI/MOEF/DGTA/CIL-F13/2004-07 Dated: 26 th February 2004
Cummins India Ltd.	F16	KTA19-G4 KTA19-G3-I KTA19-RG3 KTA19-G5-I KTA19-G5-E	448 kW 403 kW 403 kW 366 kW 366 kW	ARAI/MOEF/DGTA/CIL-F16/2007-053 Dated: 31 st August 2007
Cummins India Ltd.	F24	NTA-855-G4-I	325 kW	ARAI/MOEF/DGTA/CIL-F24/2006-004 Dated: 8 th May 2004
Cummins India Ltd.	F25	NTA-14-G3-I NTA-14-RG2-I	336 kW 336 kW	ARAI/MOEF/DGTA/CIL-F25/2006-005 Dated: 08 th May 2006
Cummins India Ltd.	F27	QSX-15-G8	444 kW	ARAI/MOEF/DGTA/CIL-F27/2007-067 Dated: 20 th November 2007
Cummins India Ltd.	F31	QSN14-G3 QSN14-G1 QSN14-G2 QSN14-G4 QSN14-G5	396 kW 334 kW 363 kW 319 kW 346 kW	ARAI/MoEF/DGTA-II/CILP-F31/2012-024 Dated: 3 rd October 2012
Cummins India Ltd.	F33	QSK19-G6-P QSK19-G7-P	531 kW 564 kW	ARAI/MoEF/DGTA-II/CILP-F33/2012-026 Dated: 5 th October 2012
Kirloskar Oil Engines Ltd.	F9	8K15TASRI 10K18TA 8K15TA 10K18TASR1 12K22TA	414 kW 443 kW 363 kW 496 kW 532 kW	ARAI/MOEF/DGTA/KOEL-F9/2004-027 Dated: 2 nd August 2004
Kirloskar Oil Engines Ltd.	F23	DV12 DV10 DV8	559 kW 448 kW 360 kW	ARAI/MOEF/DGTA/KOEL-F23/2007-047 Dated: 24 th August 2007
Kirloskar Oil Engines Ltd.	F23	DV12 DV10 DV8	532 kW 448 kW 360 kW	ARAI/MoEF/DGTA/KOELK-F23/2010-101 Dated: 3 rd February 2011
Kirloskar Oil Engines Ltd.	F23	DV8 DV12 DV10 DV8SR2	360 kW 532 kW 346 kW 448 kW	ARAI/MoEF/DGTA/KOELK-F23/2010-101-E1 Dated: 19 th October 2011

AUTHORISED SIGNATORY



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 SENIOR DEPUTY DIRECTOR & HEAD
 HOMOLOGATION MANAGEMENT REGULATIONS,
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 ARAI, PUNE.
 Place of Issue: Pune



Dr. REJI MATHAI
 DIRECTOR,
 ARAI, PUNE.

ANNEXURE-I

To

RECD Type Approval Certificate No **ARAI/MoEF/RECDTA/PGIPL-R2/2023-02-E2**


Date: 3rd November 2023

RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR371 (E)/ dated 17-May-2002 Phase I Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 463 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
Kirloskar Oil Engines Ltd.	F27	12K22TA-4V	569 kW	ARAI/MOEF/DGTA/KOEL-F27/2008-045 Dated: 25 th August 2008
Kirloskar Oil Engines Ltd.	F36	DV12SR1 DV10SR1	552 kW 460 kW	ARAI/MoEF/DGTA/KOELK-F36/2010-102 Dated: 17 th January 2011
Greaves Cotton Ltd.	F13	TBD3V12 TBD3V12 MK1	333.18 KW 356.7 KW	ARAI/MOEF/DGTA/GCLP-F13/2003-40 Dated: 31 st December 2003
Greaves Cotton Ltd.	F16	TBD4V12 TBD4IV12	444 kW 444 kW	ARAI/MOEF/DGTA/GCLP-F16/2004-065 Dated: 15 th November 2004
Greaves Cotton Ltd.	F18	TBD3V12 MK-I	356.7 kW	ARAI/MOEF/DGTA/GCLP-F18/2005-05 Dated: 31 st March 2005
Greaves Cotton Ltd.	F19	TBD3V12P(P) TBD3V12(V)	379 kW 333.18 kW	ARAI/MOEF/DGTA/GCLP-F19/2005-10 Dated: 17 th June 2005
Greaves Cotton Ltd.	F21	TBD2V12P	320.4 kW	ARAI/MOEF/DGTA/GCLP-F21/2007-019 Dated: 7 th September 2007
Greaves Cotton Ltd.	F22	TBD4V12 TBD4IV12 TBD4IV12P	444 kW 444 kW 488 kW	ARAI/MOEF/DGTA/GCLP-F22/2007-024 Dated 7 th February 2007
Greaves Cotton Ltd.	F22	TBD4V12 TBD4IV12 TBD4 IV12P	444 kW 444 kW 488 kW	ARAI/MOEF/DGTA/GCLP-F22/2007-24 2 nd July 2007
Greaves Cotton Ltd.	F22	TBD4I V12	444 kW	ARAI/MoEF/DGTA/GCLP-F22/2012-011 Dated: 11 th May 2012
Volvo	F2	TAD1242GE(P)	351.9 kW	ARAI/MOEF/DGTA/VOLVO-F2/2005-04 Dated: 03 rd March 2005
Volvo	F6	TWD1643GE	536 kW	ARAI/MOEF/DGTA/VOLVO-F6/2007-056 Dated: 22 nd August 2007
Volvo	F7	TAD1344GE	354 kW	ARAI/MOEF/DGTA/IMP/VOLVO-F7/2010- 073 Dated: 28 th June 2010
Volvo	F8	TAD 1343 GE	325 kW	ARAI/MOEF/DGTA/IMP/VOLVO-F8/2010- 083 Dated: 19 th August 2010
Volvo	F9	TAD1641GE TAD1642GE	430 kW 504 kW	ARAI/MOEF/DGTA/IMP/VOLVO- F9/2011- 016 Dated: 2 nd May 2011
Volvo	F11	TAD1651GE	441 kW 402 kW	ARAI/MOEF/DGTA-II/IMP/VOLVO-F11/2013-065 Dated: 13 th December 2013
Volvo	F12	TWD1653GE TWD1652GE	564 kW 522 kW	ARAI/MOEF/DGTA-II/IMP/VOLVO-F12/2013-066 Dated: 13 th December 2013
Volvo	F13	TAD1355GE TAD1352GE TAD1354GE	369 kW 325 kW 339 kW	ARAI/MOEF/DGTA-II/IMP/VOLVO-F13/2013-067 Dated: 13 th December 2013

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To

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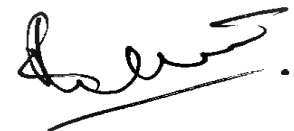
Date: 3rd November 2023

RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR371 (E)/ dated 17-May-2002 Phase I Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 463 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
DEIPL	F1	BF8M1015CP	448 kW	ARAI-RCN/MOEF/DGTA/IMP/DEIPL-F1/2005-09 Dated: 31 th March 2005
F G Wilson	F2	2806CE16TPG1 2806CE16TPG2	444.6 kW 432.6 kW	ARAI/MOEF/DGTA/FGW-F2/2006-006 Dated: 23 rd March 2006
HPL	F4	3412DITA-GP-1 3412DITA-GS-1 3412DITA-GP-2	449 kW 494 kW 553 kW	ARAI/MOEF/DGTA/HPL-F4/2004-032 Dated: 28 th July 2004
HPPL	F3	3406DITA-GS-2 3406DITA-GP-2 3406DITA-GS-1	351 kW 319 kW 322 kW	ARAI/MOEF/DGTA/ HPL-F1/2006-017 Dated: 07 th June 2006
HPL	F4	3412DITA-GS-1 3412DITA-GP-2	449 kW 533 kW	ARAI/MOEF/DGTA/HPL-F4/2006-018 Dated: 18 th August 2006
CPIPL	F3	3406 DITA GS-2 3406 DITA GS-1 3406 DITA GP-2	351 kW 322 kW 319 kW	ARAI/MOEF/DGTA/CPIPL-F3/2007-004 Dated: 2 nd December 2007
CPIPL	F4	3412 DITA GP-1 3412 DITA GS-1 3412 DITA GP-2	449 kW 494 kW 533 kW	ARAI/MOEF/DGTA/CPIPL-F4/2007-005 Dated: 2 nd December 2007
CPIPL	F6	C-18-GP-1 C-18-GS-1 C-18-GP-2 C-18-GS-2 C-18-GP-3	452 kW 509 kW 498 kW 548 kW 527 kW	ARAI/MOEF/DGTA/CPIPL-F6/2007-007 Dated: 2 nd December 2007
CIPL	F3	3406 DITA-GS-1 3406 DITA-GP-2	322 kW 319 kW	ARAI/MOEF/DGTA/CIPL-F3/2008-019 Dated: 21 st May 2008
CIPL	F4	3412 DITA-GP-1 3412 DITA-GS-1 3412 DITA-GP-2	449 kW 494 kW 533 kW	ARAI/MOEF/DGTA/CIPL-F4/2008-020 Dated: 21 st May 2008
CIPL	F6	C-18-GP-1 C-18-GS-1 C-18-GP-2 C-18-GS-2 C-18-GP-3	452 kW 509 kW 498 kW 548 kW 527 kW	ARAI/MOEF/DGTA/CIPL-F6/2008-022 Dated: 21 st May 2008



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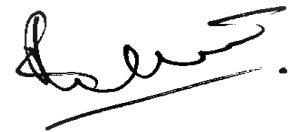
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RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR371 (E)/ dated 17-May-2002 Phase I Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 463 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
CIUSA	F1	C-15GP-1 C-15-GS-2 C-15-GP-2 C15-GS-3 C15-GP-3 C15-GS-4 C15-GP-4 C15-GS-5 C15-GP-5 C-15-GS-1	445 kW 463 kW 409.5 kW 416 kW 369 kW 388 kW 342 kW 375 kW 331 kW 495 kW	ARAI/MOEF/DGTA/IMP/CIUSA/F1/2010-011 Dated: 16 th February 2010
CIUSA	F2	C15-2GP-1	454 kW	ARAI/MoEF/DGTA-II/IMP/CIUSA-F2/2013-40 Dated: 21 st May 2013
CIUSA	F11	C13-2GP-1	367 kW	ARAI/MoEF/DGTA-II/IMP/CIUSA-F11/2013-068 Dated: 1 st November 2013
CIUSA	F12	C18-2GP-1	540 kW	ARAI/MoEF/DGTA-II/IMP/CIUSA-F12/2013-069 Dated: 1 st November 2013
SDEC	F4	12V135AZLD	339 kW	ARAI/MOEF/IMP/DGTA/SDEC/F4/2010-004 Dated: 16 th February 2010
SDEC	F5	12V135BZLD2	459 kW	ARAI/MOEF/IMP/DGTA/SDEC/F5/2010-005 Dated: 16 th February 2010
KECL	F23	12VKK135IAZLD	339 kW	ARAI/MOEF/DGTA/KECL-F23/2010-007 Dated: 16 th February 2010
KECL	F24	12VKK135IBZLD2	475 kW	ARAI/MOEF/DGTA/KECL-F24/2010-008 Dated: 16 th February 2010



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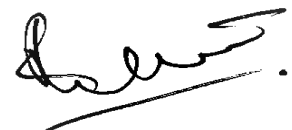
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RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR371 (E)/ dated 17-May-2002 Phase I Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 463 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
Mahindra & Mahindra	F31	12V5105GC	339 kW	ARAI/MOEF/DGTA/IMP/M&M-F31/2010-074 Dated: 5 th July 2010
Mahindra & Mahindra	F30	12V6905GC	459 kW	ARAI/MOEF/DGTA/IMP/M&M-F30/2010-075 Dated: 5 th July 2010
DICL	F2	P158LE IN01 P158LE IN02 P180LE IN01 P180LE IN02 P222LE IN01	363 kW 414 kW 443 kW 496 kW 532 kW	ARAI/MOEF/DGTA/IMP/DICL-F2/2010-079 Dated: 3 rd August 2010
MTU	F1	12V2000G23TD13 B	565 kW	ARAI/MOEF/DGTA/MTU-F1/2006-027 Dated 18 th October 2006
MTU	F1	12V2000G23TD13 B/3B	565 kW	ARAI/MOEF/DGTA/IMP/MTU-F1/2007-066 Dated 18 th October 2007
MTU	F3	8V1600 G10F 8V1600 G20F 8V1600 G70F 10V1600 G10F 10V1600 G20F 10V1600 G70F 10V1600 G80F 12V1600 G10F	325 kW 358 kW 358 kW 407 kW 448 kW 448 kW 493 kW 524 kW	ARAI/MoEF/IMP/DGTA/MTU-F3/2010-098 Dated: 10 th January 2011
MTU	F3	8V1600G10F 8V1600G20F 8V1600G70F 8V1600G80F 10V1600G10F 10V1600G20F 10V1600G70F 10V1600G80F 12V1600G10F	325 kW 358 kW 358 kW 394 kW 407 kW 448 kW 448 kW 493 kW 524 kW	ARAI/MoEF/IMP/DGTA/MTU-F3/2010-098-E2 Dated: 31 st May 2012
MTU	F6	10V1600G10F 10V1600G20F 10V1600G70F 8V1600G10F 8V1600G20F 8V1600G70F 8V1600G80F 10V1600G80F	407 kW 448 kW 448 kW 325 kW 358 kW 358 kW 394 kW 493 kW	ARAI/MoEF/DGTA-II/IMP/MTU-F6/2013-35 Dated: 30 th April 2013



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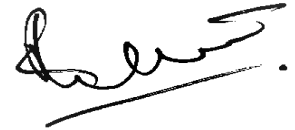
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RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR371 (E)/ dated 17-May-2002 Phase I Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 463 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
DEUTZ AG	F10	BF6M1015CP BF8M1015CP	365 kW 490 kW	ARAI/MoEF/DGTA/IMP/DEU-F10/2011-034, Dated: 27 th July 2011
DEUTZ AG	F11	BF8M1015CP BF8M1015C BF6M1015C	459 kW 418 kW 345 kW	ARAI/MoEF/DGTA/IMP/DEU-F10/2011-035 Dated: 27 th July 2011
DEUTZ AG	F10	BF8M1015C BF6M1015CP BF8M1015C BF6M1015C BF8M1015CP	459 kW 365 kW 418 kW 345 kW 490 kW	ARAI/MoEF/DGTA-II/IMP/DEU-F10/2013-39 Dated: 9 th May 2013
Ashok Leyland Limited	F29	ALV12TA G1	356 kW	ARAI/MoEF/DGTA/ALL-F29/2013-061 Dated: 23 rd October 2013
Ashok Leyland Limited	F30	ALV12TA G2	444 kW	ARAI/MoEF/DGTA/ALL-F30/2013-062 Dated: 23 rd October 2013



A. A. BADUSHA
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Date: 3rd November 2023

RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR771 (E)/ dated 11-December-2013 and its amended wide GSR 232 (E) dated 31-March-2014 Phase II Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 460 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
Caterpillar India Pvt. Ltd.	F2	CAT-C15-2GP-1	454 kW	ARAI/MoEF/DGTA/CIPL -F2/2017 - 04 -E1 Dated: 7 th May 2019
Caterpillar India Pvt. Ltd.	F11	CAT-C13-2GP-1	367 kW	ARAI/MoEF/DGTA/CIPL-F11/2019- 06-E1 Dated: 28 th June 2019
Caterpillar India Pvt. Ltd.	F12	CAT-C18-2GP-1	540 kW	ARAI/MoEF/DGTA/CIPL-F12/2017- 05-E2 Dated: 28 th June 2019
Perkins India Private Limited	F10	Perkins-2506DE15TAG2	454 kW	ARAI/MoEF/DGTA/PIPL-F10/2017- 06-E1 Dated 7 th May 2019
Perkins India Private Limited	F11	Perkins-2206DE13TAG3	367 kW	ARAI/MoEF/DGTA/PIPL-F11/2019- 09-E1 Dated 28 th June 2019
Perkins India Private Limited	F12	Perkins-2806D-E18TAG1A	540 kW	ARAI/MoEF/DGTA/PIPL/- F12/2017-07-E2 Dated: 28 th June 2019
FMTU power system Pvt. Ltd.	F6	10V1600G10F/3B 10V1600G20F/3B 10V1600G70F/3D 10V1600G80F/3D 12V1600G10F/3B	407 kW 448 kW 448 kW 493 kW 524 kW	ARAI/MoEF/DGTA/FMTU-F6/2021-01 Dated: 07 th June 2021
Cummins India Ltd.	F31	QSN14-G3 QSN14-G1 QSN14-G2 QSN14-G4 QSN14-G5	396 kW 334 kW 363 kW 319 kW 346 kW	ARAI/MoEF/DGTA/CILP-F31/2014- 04 Dated: 25 th March 2014
Cummins India Ltd.	F43	KTAA19-G11 KTAA19-G10 KTAA19-RG10	458 kW 438 kW 438 kW	ARAI/MoEF/DGTA/CILP-F43/2014- 06-E2 Dated: 26 th August 2016
Cummins India Ltd.	F57	KTAA19-G13 KTAA19-G12	551 kW 532 kW	ARAI/MoEF/DGTA/CILP-F57/2017- 28-E2 Dated: 7 th October 2019
Greaves Cotton Ltd.	F500	12V14TAG23 12V14TAG22 12V14TAG24	444 kW 356 kW 444 kW	ARAI/MoEF/DGTA/GCLP-F500/2014-01-E4 Dated 18 th August 2021
Kirloskar Oil Engines Ltd.	F115	DV8TA G2 DV8TA G3 DV10TA G1 DV12TA G1 DV12TA G2	345.6 kW 360.3 kW 447.1 kW 531.7 kW 551.6 kW	ARAI/MoEF/DGTA/KOEL - F115/2014 -01 - E1 Dated 11 th September 2019
Scania Commercial Vehicles India Pvt. Ltd.	F1	DC13071A 364 DC16 071A 438 DC13071A 325 DC16 071A 480	364 kW 438 kW 325 kW 480 kW	ARAI/MoEF/DGTA/IMP/SCANIAF1/2015-01-E1 Dated 25 th July 2017

AUTHORISED SIGNATORY



A. A. BADUSHA
SENIOR DEPUTY DIRECTOR & HEAD
HOMOLOGATION MANAGEMENT REGULATIONS,
VEHICLE CUM SAFETY EVALUATION & AUTO PLI CELL,
ARAI, PUNE.
Place of Issue: Pune



Dr. REJI MATHAI
DIRECTOR,
ARAI, PUNE.

ANNEXURE-I

To

RECD Type Approval Certificate No **ARAI/MoEF/RECDTA/PGIPL-R2/2023-02-E2**

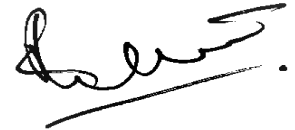
Date: 3rd November 2023

RECD Family	R2	RECD Models	Parent	CCM-F-500
List of applicable engine/engine families as per GSR771 (E)/ dated 11-December-2013 and its amended wide GSR 232 (E) dated 31-March-2014 Phase II Certified In-use DG Sets for Corresponding RECD Models of RECD Family (Rated Power Between 319 kW @ 1500 RPM to 460 kW @ 1500 RPM)				
Manufacturers Name & Address	Engine Family	Engine Models	Rated Gross Mechanical Declared Power	TA Certificate Number
Volvo India Private Limited	F11	TAD1651GE TAD1650GE	441 kW 402 kW	ARAI/MoEF/DGTA/IMP/VOLVO-F11/2014-01-E1 Dated 30 th June 2015
Volvo India Private Limited	F12	TWD1653GE TWD1652GE	564 kW 522 kW	ARAI/MoEF/DGTA/IMP/VOLVO-F12/2014-02-E1 Dated: 30 th June 2015
Volvo India Private Limited	F13	TAD1355GE TAD1354GE TAD1352GE	369 kW 339 kW 325 kW	ARAI/MoEF/DGTA/IMP/VOLVO-F13/2014-03-E1 Dated 30 th June 2015
M/s. Baudouin (Weifang) Power Co. Ltd	6M21G	6M21G500/5e3 6M21G440/5e3	410 kW 365 kW	ICAT/MoEFCC/DGTA/ IMP/BWPCL - 6M21G/P - 1726 Dated: 30 th September 2020
M/s. Baudouin (Weifang) Power Co. Ltd	6M21G5	6M21G6D2/5 6M21G4D2/5 6M21G2D2/5	450 kW 410 kW 365 kW	C O Q G 0652 Dated: 02 nd August 2021
M/s. Baudouin (Weifang) Power Co. Ltd	8M21G	8M21G550/5e3 8M21G688/5e3	460 kW 550 kW	ICAT/MoEFCC/DGTA/ SHIPL - 8M21G/P - 0400 Dated: 28 th February 2020
M/s. Shandong Heavy Industry India Pvt. Ltd.	6M21G	6M21G500/5e3 6M21G440/5e3	410 kW 365 kW	ICAT/MoEFCC/DGTA/ SHIPL - 6M21G/P - 1725 Dated: 30 th November 2020
M/s. Shandong Heavy Industry India Pvt. Ltd.	6M21G5	6M21G6D2/5 6M21G4D2/5 6M21G2D2/5	450 kW 410 kW 365 kW	C O Q G 0651 Dated: 02 nd August 2021
M/s. Shandong Heavy Industry India Pvt. Ltd.	8M21G	8M21G550/5e3 8M21G688/5e3	460 kW 550 kW	ICAT/MoEFCC/DGTA/ SHIPL - 8M21G/P - 0400 Dated: 28 th February 2020



A. A. BADUSHA
 SENIOR DEPUTY DIRECTOR & HEAD
 HOMOLOGATION MANAGEMENT REGULATIONS,
 VEHICLE CUM SAFETY EVALUATION & AUTO PLI CELL,
 ARAI, PUNE.
 Place of Issue: Pune

AUTHORISED SIGNATORY



Dr. REJI MATHAI
 DIRECTOR,
 ARAI, PUNE.

Disclaimer :

- 1. ARAI issues "Type Approval Certificates" (TAC) for RECD suitable for retrofitment of IN-USE Diesel Genset engine(s)/ components/ parts/ assemblies etc. based on the documents produced and /or prototype/s submitted by the applicant and testing thereof.**
- 2. ARAI issues TAC in compliance to "System and Procedure For Emission Compliance Testing of Retro-fit Emission Control Devices (RECD) For Diesel Power Generating Set Engines Up to Gross Mechanical Power 800 kW" published by CPCB (MoEF, Govt. of India) and their provisions as amended from time to time or any other statutory orders under which ARAI is authorised. Other Rules/ Acts are outside the purview/ scope of TAC.**
- 3. Test(s) on prototype(s) is/are carried out on the basis of standard procedures as notified under specific rules. Results of such tests are the property of bearer of TAC. These results cannot be disclosed unless specifically so ordered by Government, Court, etc.**
- 4. The bearer of the TAC is under obligation to ensure production strictly as per the provisions of the specific TAC.**
- 5. ARAI is not responsible for testing each RECD / components/ parts/ assemblies etc. for which TAC is issued. Further, ARAI is not responsible for ensuring manufacturing quality of the type approved RECD / components/ parts/ assemblies etc.**
- 6. ARAI is in no way responsible for any misuse or copying of any design/ type/ system in connection with entire RECD / components/ parts and assemblies covered under the TAC.**
- 7. Breach of any statutory provision of Indian laws or laws of other countries, will be the sole responsibility of the bearer of TAC and ARAI shall not be liable for any claims or damages. The bearer shall alone be liable for the same, and shall undertake to indemnify ARAI in this regard.**
- 8. ARAI has the right, but not under obligation, to initiate cancellation/ withdrawal of the certificate issued, in case of any fraud, misrepresentation, when it surfaces and comes in the knowledge of ARAI.**

The appropriate local courts at Pune shall have the jurisdiction in respect of any dispute, claim or liability arising out of this certificate / Report.