



अंतर्राष्ट्रीय ऑटोमोटिव प्रौद्योगिकी केन्द्र INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

[A Division of NATRiP Implementation Society (NATIS), Govt. of India]

C O R G 0991

Date : 27th September 2022

TYPE APPROVAL CERTIFICATE

Cert	Report	Specs	Drp	Total
02	07	03	11	23 pgs

FOR

Retro-fit Emission Control Devices (RECD) Compliance

1. Based on the verification of documents & trials conducted on RECD model "Chakr Shield 2.0" (Family designation C1-R5) for below mentioned manufacturer and it is certified that the following RECD model complies with the provisions of Type Approval of CPCB System Procedure for Retro-fit Emission Control Devices (RECD) Compliance to Diesel Power Generating Set Engines Up to Gross Mechanical Power 800 kW, as per NGT Order/report "Report filed in O.A. No. 681/2018 dated 6.08.2019".

Documental Reference		RECD Manufacturer		
Current Certificate		M/s.Chakr Innovation Pvt Ltd S.NO 236,Hissa No.7 & S.NO 237, Taluka Mulish, Hinjewadi, Phase 1, Pune - 411 057, Maharashtra Plant : Hinjewadi, Pune		
RECD Family Designation		Engine Manufacturer		RECD Model
C1-R5		M/s. Cummins India Limited		Chakr Shield 2.0
Tested Engine Model		Engine Cubic Capacity	Gross Engine Power	
6BTAA5.9 GI-1		5883 cm ³	112 kW @ 1500 rpm	
Engine Baseline emissions	CPCB Stage -1	Class of RECD	Class II	Engine Manufacturing Date
				November 2007

2. Validity of the Certificate





This Type Approval Certificate is valid for Genset engine CPCB Stage -1 effective from 01-07.2007 to 01.07.2014 , and in addition to	a.	As per System and procedure for Emission Compliance of Retro-fit Emission Control Devices(RECD) for Diesel Power Generating Set Engines up to Gross Mechanical power 800kW as per NGT Order/report "Report filed in O.A. No. 681/2018 dated 06.08.2019 or until further amendment in the MoEFCC rule, whichever is earlier.
	b.	No change in specified RECD technical specification.

3. It is certified that the above RECD Model (Details listed in Annexure-I) comply with the emission limits for Retro-fit Emission Control Devices (RECD) to Diesel Power Generating Set Engines Up to Gross Mechanical Power 112 kW, as prescribed under the following rules, notified by Ministry of Environment, Forest and Climate Change (MoEFCC), Govt. of India:

Rule No.	Description	Date
CPCB-PCLS/12/2021-22	System and procedure for Emission Compliance of Retro-fit Emission Control Devices(RECD) for Diesel Power Generating Set Engines up to Gross Mechanical power 800kW as per NGT Order/report "Report filed in O.A. No. 681/2018 dated 6.08.2019	30.12.2021

4. COP : COP shall be completed by 30.06.2023 as per CPCB Procedure, for details refer COP-Annexure.

Please turn over for Disclaimer

AUTHORISED SIGNATORY			 Page 1 of 2
 VIJAYANTA AHUJA DEPUTY GENERAL MANAGER		 PAMELA TIKKU DIRECTOR (Offg.)	



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COP ANNEXURE





Criteria*	COP Required
RECD Manufacturer/Importer/Retrofitter	RECDs fitted on engines of all ratings shall be subjected to the verification of CoP once for every 500 units per family or once a year, whichever is earlier Wherever applicable, RECDs fitted on engines of all ratings of engines shall be subjected to the verification of PCD once every CoP-year by PCD family (ies) representative RECD(s). Such demonstration is PCD family dependent and irrespective of combined volumes produced and sold under such family (ies)

* As Applicable

ANNEXURE-I

S No	Item Description	Parent RECD Type
		Type 1
1	Manufacturing Plant address	M/s.Chakr Innovation Private Limited,S.NO 236,Hissa No.7 & S.NO 237, Taluka Mulish, Hinjewadi, Phase 1, Pune - 411 057, Maharashtra
2	Manufacturer's trade name or mark	Chakr Innovation Private Limited
3	RECD family designation	C1-R5
4	RECD type/model designation	Chakr Shield 2.0
5	RECD Category (Domestic/Imported)	Domestic
6	Class of RECD	Class II
7	Type Identification of the RECD	Continuous
8	Location of type ID marking	Refer Specification no. CIPL/TA/CICS1800R5 dtd. 25.07.2022 Clause no 1.8
9	Identifying part number(s) of the RECD	C1-CS1800-R5
10	Engine/ Engine Family for which the RECD is intended (application range)	6BTAA5.9 GI-1
11	PM Reduction Efficiency of the RECD	85.40%
12	Designed for fitment to an engine meeting the emissions requirements of (Regulation and Stage):	CPCB Stage -1

*** END OF DOCUMENT ***

ICAT Ref No.	2022-0889; IOCS No: 160016		
Base Engine Type Approval Certificate number	ARAI/MOEF/DGTA/CIL-F18/2004-56		
Test Report Reference	CTOER 0348 dt. 02.09.2022		
AUTHORISED SIGNATORY			
			
VIJAYANTA AHUJA DEPUTY GENERAL MANAGER		PAMELA TIKKU DIRECTOR (Offg.)	Page 2 of 2