



C O S G 0530

Date : 30<sup>th</sup> June 2023

CO S G0530

# TYPE APPROVAL CERTIFICATE

FOR

Retro-fit Emission Control Devices (RECD) Compliance

Cert	Report	Specs	Drg	Total
05	16	199	17	237 pgs



1. Based on the verification of documents & trials conducted on RECD model "Chakr Shield 2.0 C2-CS1800-R10-V2" (Family designation C2-R10) 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		
COSG 0504 V01 dtd. 12.05.2023		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
C2-R10		M/s. Caterpillar Inc.		Chakr Shield 2.0 C2-CS1800-R10-V2
Tested Engine Model		Engine Cubic Capacity		Gross Engine Power
C15-2GP-1		15200 cm <sup>3</sup>		454 kW @ 1500 rpm
Engine Baseline emissions	CPCB Stage -II	Class of RECD	Class II	Engine Manufacturing Date
				September 2017
S. No.	Item Description	Parent RECD Type	RECD types within the RECD family (if applicable)	
			Annexure-II	
			Annexure-III	

## 2. Validity of the Certificate

This Type Approval Certificate is valid for Genset engine CPCB Stage-II effective from 01.07.2014 to 30.06.2023.	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-II) comply with the emission limits for Retro-fit Emission Control Devices (RECD) to Diesel Power Generating Set Engines having Gross Mechanical Power 454 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	01.02.2022

4. COP : COP shall be completed by 30.06.2024 as per CPCB Procedure, for details refer COP Annexure-I.

5. This certificate supercedes the earlier certificate COSG 0504 V01 dt. 12.05.2023.

AUTHORISED SIGNATORY			
SITARAM KASHYAP DEPUTY GENERAL MANAGER			