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Date : 12<sup>th</sup> January 2024

C O S G 0530 E01

**TYPE APPROVAL CERTIFICATE**

FOR

**Retro-fit Emission Control Devices (RECD) Compliance**

Cert	Report	Specs	Drg	Total
05	16	211	25	257 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 0530 dtd. 30.06.2023		M/s Chakr Innovation Pvt Ltd Survey No. 236, HISSA No. 7 and Survey No. 237 Hinjewadi, Taluka Mulshi, Pune, Maharashtra - 411057 Plant : Hinjewadi, Pune		
RECD Family Designation		Engine Manufacturer		Tested Engine Model
C2-R10		M/s. Caterpillar Inc.		C15-2GP-1
RECD Model		Engine Cubic Capacity		Gross Engine Power
Chakr Shield 2.0 C2-CS1800-R10-V2		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)	
			<b>Annexure-II</b>	
			<b>Annexure-III</b>	

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 **294.5 kW to 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 0530 dt. 30.06.2023**.

AUTHORISED SIGNATORY			
SITARAM KASHYAP DEPUTY GENERAL MANAGER			