Decision of Ministry of Environment, Forest and Climate Change with respect to discussion on issues pertaining to clarifications sought on Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, as approved by the Competent Authority on the basis of recommendation of the 78th Meeting of the Technical Review Committee (TRC) held on 17th May, 2023

Agenda 1. Representation from Material Recycling Association of India (MRAI) regarding use of Crumb Rubber Modified Bitumen for building Green Roads.

MRAI has mentioned that the usage of CRMB (Crumb Rubber Modified Bitumen) material in road construction would also ensure safer and superior roads with more cost-effectiveness. It is also stated that major institutes like CRRI, and HRS-Chennai, IIT's have done extensive research which confirms that roads made with CRMB will last longer, reduce noise pollution, help in increasing axle load ability, and in the process create a very safe and efficient use of waste tyres, that would otherwise be used in illegal and polluting applications like pyrolysis.

IRC 37:2018 (relevant pages enclosed) recommends the use of modified bitumen only for highways handling traffic 50 MSA and above while considering the merits of Modified bitumen, it should be used for other types of roads as well. The directions may also be issued by MOEFCC to make a minimum of 30% of roads with CRMB.

The matter was discussed in 75th & 76th Meeting of TRC. The committee was of the opinion that MRAI needs to provide requisite details as mentioned by representative of MoRTH. The committee also felt that interaction with few big contractors who have used CRMB in road building is required to understand the feasibility of using CRMB in building roads. Accordingly, matter was deferred for re-consideration by the TRC after receipt of requisite details.

MRAI vide mail dated 31st march, 2023 has submitted the details. Accordingly, the matter is placed before the TRC for deliberation/decision.

Deliberation: The committee deliberated upon the issue and gone through details submitted by MRAI. The Committee also took note of the Circular Economy Report on Scarp Tyre. As per the report, the technology of Crumb Rubber Modified Bitumen (CRMB) was introduced in India in the year 1996. In 1999, with the Indian Road Congress accepting the research of the Road Research Institutes, CRMB came to be accepted as a viable option in the country. The Indian Road Congress then issued a tentative guideline for the use of modified bitumen in road construction. In 2001, the Crumb Rubber Modifier and CRMB were finally introduced and started being used across the country. The road research institutes have concluded that the roads made with rubberized bitumen or CRMB had a much superior performance as compared to just bitumen-based roads. Moreover, CRMB was observed to nearly double the life expectancy of the road. Although bitumen is the only binder for flexible roads, it has some inherent weaknesses and rubberized bitumen helps in overcoming these weaknesses. Further, Guidelines on usage of CRMB from Indian Road Congress were issued in 1999 and have been further revised in 2002, 2010, 2012 and 2018.

In 2002, Ministry of Road Transport and Highways, Government of India, based on the recommendations of the road research institutes, and due to its significant advantages (in terms of improved pavement performance, riding quality, durability and cost), decided to use CRMB in all the major National and State Highways. Similar directions have been issued by leading road making agencies such as the BRO, AAI, MES, NRRDA, and State PWDs of almost all the state governments of India.

The Committee also noted that in the Circular economy report on Scrap Tyre, it has been recommended that use of CRMB may be encouraged in NHAI and other projects and bitumen roads be recycled and not landfilled.

The committee noted that the though the use of Crumb Rubber Modified Bitumen (CRMB)/ Polymer Modified Bitumen (PMB) is increasing, reliable data on the size of contracts where it has been used is not readily available. While the use of CRMB is environmentally superior and helps in reducing imports of bitumen, the committee could not form a firm opinion that the present situation is conducive to recommending its compulsory use

Recommendation: After detailed deliberation on the issue, the committee recommended that use of CRMB in road construction may help in achieving the goal of Circular Economy and accordingly, MoEFCC may issue an advisory to use CRMB in all types of roads wherever it is feasible, practicable and quality is assured. In the meanwhile, MoRTH may also be requested to further examine the practical issues in consultation with all stakeholders and identify and initiate steps for a wider use of CRMB.

Agenda 2. Representation from Tyre and Rubber Recyclers Association of India (TRRAI) for amendment in grant of permission of import of 50,000 Mt/Annum of used tyre scrap for M/s Finster Black Private for manufacturing of recovered carbon black.

In 76th Meeting of TRC, the committee after detailed deliberation upon the issue recommended that the permission for import of 50000 MT of Used tyre scrap in baled/multicut form for production of Recovered Carbon Black (RCB) which will replace the virgin Carbon Black in manufacturing Industry, may be granted initially for a period of 3 years on pilot basis with following conditions to be levied while granting permission:

i) The process should be result in a yield of RCB comparable to the yields being obtained in other well established plants for manufacture of RCB. 100% of the RCB produced by the units should be sold to manufacturer for replacing the virgin carbon black. The recovered other byproducts during the process should conform to relevant specifications and no part of the recovered carbon should go for energy recovery or any other use or to landfill.
ii) The units should have commensurate electricity consumption.

iii) The sale to the manufacturing units shall be verified through GST paid and other supporting evidence.
iv) The permission will be issued only after verification from CPCB which will be carried out annually.
v) Fresh Investment of minimum Rs. 25 crore from 1.4.2022 onwards.
vi) Minimum land area of 5 acres of the unit.
vii) The process should be completely automated and environment friendly with zero emission of carbon black particle in environment.
viii) The RCB end product should be in the form of granule to check the dispersion in the environment.
ix) Whole process of production of RCB form waste/scrap tyre should be completed in the same premises.

The above recommendation of TRC was approved by the competent authority in the Ministry. Subsequent to the above decision, TRRAI vide letter dated 6th April, 2023 has raised their concerns on the recommendations of TRC and requested Ministry to revisit the decision of TRC w.r.t. to the following points: -

(i) Fresh Investment of minimum Rs. 25 crores from 1.4.2022 onwards.
(ii) Minimum land area of 5 acres of the unit.
(iii) Whole process of production of RCB form waste/scrap tyre should be competed in the same premises.

TRRAI has further requested that no permission for import of waste tyre for production of Recovered Carbon Black (RCB) should be granted till the decision on the above points.

Deliberation: The committee deliberated upon the issue and heard the presentation made by the TRRAI who submitted that the ash content of indigenous tires is at par with imported material. There is ample raw material (carbon char) available in India for manufacturing of Recovered Carbon Black (RCB). TRRAI has further informed that the criteria of fresh investment of minimum Rs. 25 crores, minimum land of 5 acres and the whole process of production of RCBs in same premises are not essential and TRC may relook its decision made in 76th meeting.

Recommendation: **After detailed deliberation on the issue the committee recommended that TRRAI may submit the basis for their representation to revisit the above policy, especially regarding requirement of fresh investment of minimum Rs. 25 crores, minimum land of 5 acres and the whole process of production of RCBs form waste/scrap tyre should be competed in the same premises for further deliberation on the matter. The Committee also recommended that regarding the presence of Silica content in the Indian tyres, Automotive Tyre Manufactures Association (ATMA) may be asked to provide the details. Till then, the matter is deferred. Certain other issues raised by the TRRAI do not pertain to policy and may be referred to the appropriate authorities.**

Agenda 3. Representation from M/s Bharti Rubber Overseas regarding Classification of Unvulcanised materials during tire manufacturing process as waste or by-product.

M/s Bharti Rubber Overseas (BRO) has sought clarification whether Rubberized Nylon Friction, Rubber Compound, Rubberized steel friction, Fabric Carcass and Green Tires, which are unvulcanised in nature are waste or by-product and require permission for import by MoEF&CC or not. Similar representation from DGFT regarding import of Moulded Rubber Articles Scrap/ Conveyor Belt scrap/Rubber Article scraps/ Pairings/ Rubberised Nylon Friction Cord/ Rubberized steel friction cord/Rubber Compound /Lumps (Cut/Shredded/Press/Baled/Sheets/ Chips/Rolls) for manufacture of Crumb rubber/rubber products were discussed in 69th Meeting of TRC held on 19th February, 2020 and the committee noted that waste and scrap of hard rubber, other rubber wastes and waste pairings and scrap of rubber falls under B3040 and B3080 of Part B, Schedule III of HW Rules, 2016. As such all these items need permission from this Ministry.

The matter was last discussed in 71st Meeting of the Technical Review Committee (TRC) held on 4th February, 2022 and the recommendation of the committee is as follows:

"The committee heard the presentation made by the representative of the company and recommended that these goods fall under HOWM Rules, 2016 and requires permission from this ministry as per the earlier decision taken in 69th meeting of TRC held on 19th February, 2020. Further, the committee also recommended that representative of Automotive Tyre Manufactures Association (ATMA) and /or other similar organization may be invited in the next meeting of TRC to understand how Tyre Manufacturers classify these items being generated indigenously for further deliberation/decision in the matter."

Matter was also listed in the Agenda of 72nd meeting held on 30th May, 2022. However, due to paucity of time, the committee decided to discuss the issue in the forthcoming meeting of TRC.

Accordingly, the matter is placed before the TRC for deliberation/decision.

Deliberation: The committee deliberated upon the issue and heard the presentation made by the Automotive Tyre Manufactures Association (ATMA) who explained that these Unvulcanised materials are scraps which generates during tyre manufacturing process and sent to recycler for recycling.

Recommendation: **After detailed deliberation on the issue the committee reiterated its decision taken in its 69th meeting that these items are wastes and falls under B3040 and B3080 of Part B, Schedule III of HOWM Rules, 2016 and requires import permission from the Ministry.**

Agenda 4. Request for categorization of ETP Sludge (i.e. Red/White Gypsum generated from effluent water neutralization process) as co-product - M/s Travancore Titanium Products Limited.

M/s Travancore Titanium Products Limited (TTPL) has informed that they manufacture Titanium Dioxide Pigment. TTPL is operating Effluent Treatment Plant (ETP) continuously for neutralizing the effluent generated during the production process and during the effluent water neutralization

process, White and Red Gypsum is generated. Around 364 MT gypsum per day is generated and is stored in the plant premises as per the protocol. Currently, a portion of white Gypsum produced is sold to Cement companies on trial basis. Also, a small portion of Red Gypsum is used for making B caps and Tetra Pots on trial basis.

TTPL has further informed that M/s Anacon Laboratories Pvt Ltd, Nagpur, has conducted field survey, characterization of ETP by products leachate through TCLP, analysis of all possible hazardous components in all inputs and outputs of production process as per schedule II of HOWM Rules, 2016 and its report shows all parameters are well within the permissible limits.

TTPL has also mentioned that Kerala State Pollution Control Board (KSPCB) has carried out inspection and conducted TCLP study of the ETP sludge and found all parameters including heavy metals are well within the limit. The letter dated 05.02.2022 of KSPCB in this regard is attached in the representation.

In view of the above, TTPL has requested to consider this matter and categorized ETP Sludge (i.e. Red/White Gypsum generated from effluent water neutralization process) as co-product.

Deliberation: The committee deliberated upon the issue and heard the presentation made by the applicant who explained that they have done the analysis of ETP through the MoEF&CC accredited laboratory and all the parameters are under the permissible limit as per schedule II of HOWM Rules, 2016. TTPL has further informed that Kerala State Pollution Control Board (KSPCB) has carried out inspection and conducted TCLP study of the ETP sludge and found all parameters including heavy metals are well within the limit. The committee noted however that the generation of calcium sulphate due to neutralization of spent process acid is widespread and usually, such sludges, being contaminated with process residues, are classified as hazardous, and have to disposed off or used as per SOPs prepared by CPCB. The representatives of the applicant pointed out that they have been able to find buyers for their white gypsum.

Recommendation: **After detailed deliberation on the issue the committee recommended that the applicant may be requested to submit the copy of Consent to Operate and Environmental clearance for further deliberation in the matter in the next meeting. Till then, the matter is deferred.**

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