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FOREWORD

I, on behalf of members in the working group, take great pleasure to submit the Report of the “Working Group regarding Development of Regulated Warehousing Ecosystem for Non-Agriculture Commodities”. The working group was constituted by the Department of Economic Affairs (DEA) on May 31, 2019.

The Working Group has gainfully used the rich experience of its members and industry experts to debate policy issues germane to warehousing ecosystem for non-agriculture commodities and to suggest ways to strengthen the warehousing ecosystem that would eventually facilitate efficient storage and handling of these commodities in the physical markets. The Working Group has also evaluated various policy documents and guidelines/literature publicly available on the subject of warehousing/storage, assaying of non-agricultural commodities and has used them in the Report, wherever necessary.

The Working Group has made recommendations for the development of regulated warehousing ecosystem for non-agricultural commodities in areas like legislative and regulatory changes, capacity enhancement at Warehousing Development and Regulatory Authority (WDRA), storage infrastructure for such commodities, warehousing procedures, adoption of global best practices etc.

Finally, I must place on record the sincere efforts made by Shri A. S. Mithwani, CGM SEBI and Member – Secretary of the Working Group, Shri Vikas Sukhwai, GM, SEBI and Shri Meetesh Patel, AGM, SEBI for organizing the meetings, arranging visits to different warehouses, vaults etc., and providing continuous research assistance to the Working Group.

Santosh Kumar Mohanty

Chairman, Working Group and
Whole-Time Member, SEBI

LETTER OF TRANSMITTAL

October 30, 2019

Mumbai

The Secretary,

Department of Economic Affairs,
Ministry of Finance,
Government of India,
New Delhi-110001

Dear Sir,

We have great pleasure in submitting herewith the Report of the Working Group constituted vide O.M dated May 31, 2019 for the development of regulated warehousing ecosystem for non-agriculture commodities.

With Kind Regards



**Santosh Kumar Mohanty
(Chairman, Working Group and
Whole-Time Member, SEBI)**



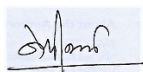
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Member, WDRA**



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(Storage),
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GM, RBI**



**Shri N. Suryanarayana
Head (MTD), BIS**



**Shri Ramprasath R
Deputy Director, NABL**



**Shri B. Nirmal
RM, CWC ***



**Shri A.S. Mithwani
CGM, SEBI & Member Secretary**

** Shri M K Verma was the previous representative of CWC*

LIST OF ABBREVIATIONS AND ACRONYMS

<i>A&F</i>	-	<i>Administration & Finance</i>
<i>AGM</i>	-	<i>Assistant General Manager</i>
<i>ASTM</i>	-	<i>American Society for Testing and Materials</i>
<i>BIS</i>	-	<i>Bureau of Indian Standards</i>
<i>BS</i>	-	<i>British Standards</i>
<i>CBOT</i>	-	<i>Board of Trade of the City of Chicago Inc.</i>
<i>CCRL</i>	-	<i>CDSL Commodity Repository Limited</i>
<i>CCs</i>	-	<i>Recognised Clearing Corporations</i>
<i>CCTV</i>	-	<i>Close Circuit Television</i>
<i>CD</i>	-	<i>Commodity Derivatives</i>
<i>CDSL</i>	-	<i>Central Depository Services Limited,</i>
<i>CEO</i>	-	<i>Chief Executive Officer</i>
<i>CGM</i>	-	<i>Chief General Manager</i>
<i>CME</i>	-	<i>Chicago Mercantile Exchange</i>
<i>CME Group</i>	-	<i>CME Group includes Chicago Mercantile Exchange Inc., Board of Trade of the City of Chicago Inc., Commodity Exchange Inc. and New York Mercantile Exchange Inc.</i>
<i>COMEX</i>	-	<i>Commodity Exchange, Inc.</i>
<i>CWC</i>	-	<i>Central Warehousing Corporation</i>
<i>DEA</i>	-	<i>Department of Economic Affairs</i>
<i>DFPD</i>	-	<i>Department of Food and Public Distribution</i>
<i>DVR</i>	-	<i>Digital Video Recording</i>
<i>eNWR Regulations</i>	-	<i>Warehousing Development and Regulatory Authority (Electronic Negotiable Warehouse Receipts) Regulations, 2017</i>
<i>eNWRs</i>	-	<i>Electronic Negotiable Warehouse Receipts</i>
<i>FSD</i>	-	<i>Financial Security Deposit</i>
<i>FY</i>	-	<i>Financial year</i>
<i>GB</i>	-	<i>Guobiao standards</i>

***Report of the working group on development of regulated
warehousing ecosystem for non-agriculture commodities***

<i>GDP</i>	-	<i>Gross Domestic Product</i>
<i>GM</i>	-	<i>General Manager</i>
<i>GoI</i>	-	<i>Government of India</i>
<i>HSD</i>	-	<i>High Security Door</i>
<i>ICEX</i>	-	<i>Indian Commodity Exchange Limited</i>
<i>IR</i>	-	<i>Infra-Red</i>
<i>IT</i>	-	<i>Information Technology</i>
<i>KYC</i>	-	<i>Know Your Customer</i>
<i>KYD</i>	-	<i>Know Your Depositor</i>
<i>LBMA</i>	-	<i>London Bullion Market Association</i>
<i>LME</i>	-	<i>London Metal Exchange</i>
<i>LPPM</i>	-	<i>London Platinum and Palladium Market</i>
<i>MCCIL</i>	-	<i>Metropolitan Clearing Corporation of India Ltd.</i>
<i>MCX</i>	-	<i>Multi Commodity Exchange of India Limited</i>
<i>MCXCCL</i>	-	<i>Multi Commodity Exchange Clearing Corporation Ltd.</i>
<i>MD</i>	-	<i>Managing Director</i>
<i>MMTA</i>	-	<i>Minor Metal Trade Association</i>
<i>MSME</i>	-	<i>Micro, Small and Medium Enterprises</i>
<i>MTD</i>	-	<i>Metallurgical Engineering Department</i>
<i>NABL</i>	-	<i>National Accreditation Board for Testing and Calibration Laboratories</i>
<i>NALCO</i>	-	<i>National Aluminium Company Limited</i>
<i>NCDEX</i>	-	<i>National Commodity & Derivatives Exchange Limited</i>
<i>NERL</i>	-	<i>National E-Repository Limited</i>
<i>NITI</i>	-	<i>National Institution for Transforming India</i>
<i>NSDL</i>	-	<i>National Securities Depository Limited</i>
<i>NYMEX</i>	-	<i>New York Mercantile Exchange, Inc.</i>
<i>O.M.</i>	-	<i>Office Memorandum</i>
<i>PSARA</i>	-	<i>Private Security Agencies (Regulation) Act, 2005</i>
<i>PV</i>	-	<i>Photovoltaic</i>
<i>RBI</i>	-	<i>Reserve Bank of India</i>

***Report of the working group on development of regulated
warehousing ecosystem for non-agriculture commodities***

<i>RCC</i>	-	<i>Reinforced Cement Concrete</i>
<i>RJC</i>	-	<i>Responsible Jewellery Council</i>
<i>RM</i>	-	<i>Regional Manager</i>
<i>RSEs</i>	-	<i>Recognised Stock Exchanges</i>
<i>SCRA, 1956</i>	-	<i>Securities Contracts (Regulation) Act, 1956</i>
<i>SEBI</i>	-	<i>Securities and Exchange Board of India</i>
<i>SEBI Act</i>	-	<i>Securities and Exchange Board of India Act, 1992</i>
<i>SFSR</i>	-	<i>Steel Fabricated Strong Room</i>
<i>ShFE</i>	-	<i>Shanghai Futures Exchange</i>
<i>SOPs</i>	-	<i>Standard Operating Procedures</i>
<i>TOCOM</i>	-	<i>Tokyo Commodity Exchange, Inc.</i>
<i>ToR</i>	-	<i>Terms of Reference</i>
<i>VSP</i>	-	<i>Vault Service Provider</i>
<i>WDR Act</i>	-	<i>The Warehousing (Development and Regulation) Act, 2007</i>
<i>WDRA</i>	-	<i>Warehousing Development and Regulatory Authority</i>
<i>WG</i>	-	<i>Working Group</i>
<i>WSP</i>	-	<i>Warehouse Service Provider</i>
<i>WTM</i>	-	<i>Whole-Time Member</i>
<i>ZCE</i>	-	<i>Zhengzhou Commodity Exchange</i>

BACKGROUND

1. Commodities markets can be broadly categorized into two segments, namely, the physical or spot market and the derivatives market. In the spot market, the transactions involving purchase and sale of commodities and the settlement of such transactions happen almost simultaneously, while the settlement of transactions in derivatives takes place at a future date, but with certainty. Both the spot and derivatives markets, while distinct from each other in form and functions, are inextricably interlinked. This is more pronounced especially in India, where almost all the derivatives contracts, both in agricultural and non-agricultural commodities, except for the energy goods, are settled by way of physical delivery of the goods on expiry of the contracts. Therefore, a well regulated delivery mechanism backed by a robust network of storage infrastructure supported by credible assaying/ testing facilities is necessary to facilitate hassle-free delivery of commodities throughout the country.
2. Warehousing Development and Regulatory Authority (WDRA), a statutory body established under the Warehousing (Development and Regulation) Act, 2007 (WDR Act) for development and regulation of warehouses and negotiability of warehouse receipts, has so far notified agricultural and horticultural commodities for the purpose of warehouse registration and issue of electronic Negotiable Warehouse Receipts (eNWRs) on such commodities. The regulatory framework so far established by WDRA has been further supplemented and strengthened by the accreditation norms and Standard Operating Procedures (SOPs) prescribed by the Recognised Stock Exchanges (RSEs) having commodity derivatives segment. These exchanges, under SEBI's mandate, have prescribed accreditation of only WDRA registered warehouses for effecting delivery of goods at the expiry of derivative contracts traded on their platforms. These RSEs have also adopted the Electronic Negotiable Warehouse Receipts (eNWRs) issued by the repositories as an accepted instrument for

delivery of goods effected through their derivatives trading platforms. All these regulatory efforts by WDRA, SEBI and the RSEs over the years have led to gradual development of scientific storage, assaying/ testing and logistics infrastructure for the agricultural commodities. As on October 15, 2019, WDRA had a network of 1585 registered warehouses and has two registered repositories, viz., National E-Repository Limited (NERL) and CDSL Commodity Repository Limited (CCRL) for issuing eNWRs to the depositors of agricultural commodities in these warehouses.

3. In the space of non-agricultural commodities, especially for the ferrous and non-ferrous metals as well as alloys and precious metals, India has been a top ranking country either as a consumer or a producer in the world. Consequently, the country boasts of a vibrant physical market for these commodities even though the same is highly disorganized and fragmented. With the expansion of commodity derivatives markets for various non-agricultural commodities, most of which are compulsorily deliverable across the country, the Department of Economic Affairs (DEA) and WDRA have received representations from various stakeholders, for notifying non-agricultural commodities for storage in WDRA-registered warehouses and for extending repository services to them as well. Accordingly, a need is felt to develop a framework for regulated warehouses/storage facilities for various non-agricultural commodities.
4. In order to develop a regulated warehousing ecosystem for non-agriculture commodities, the Government of India set up a Working Group under the Chairmanship of Whole-Time Member (WTM), SEBI, vide O.M. dated 31st May, 2019 (F.No. 8/2/2019-CD). Accordingly, the Working Group was constituted under the chairmanship of Shri Santosh Kumar Mohanty, WTM, SEBI (who is Member in-charge of Regulation of Commodity Derivatives Markets at SEBI).
5. It was envisaged in the said O.M. that the Working Group (WG) would recommend relevant standards for warehousing of non-agricultural commodities taking into account the current

practices followed in the industry and global best practices, for implementation in the warehouses to be registered by WDRA. The Terms of Reference (ToR) for the WG as per the O.M. are as follows:

- *To study the risk management strategies currently used by the stakeholders in the segment of metals and energy space and propose a framework for the same from the perspective of WDRA. (Warehouseman, repository).*
- *To suggest principles for delivery standards for each commodity depending on its properties and related requirement for physical infrastructure for warehousing, insurance, KYC of depositor, stepwise processes from deposit to delivery, storage etc.*
- *Specifying assaying standards and parameters to be adopted and prescribed by WDRA for various commodities, based on study of assaying parameters and agencies concerned dealing in assaying/ grading of specific non-agricultural commodities.*
- *To develop model Standard Operating Procedures (SOPs) for warehouses dealing with base metals/precious metals etc. including collection of SOPs presently followed by stakeholders in the warehousing of each non-agri commodity, defining procedure in relation to physical infrastructure for the warehouse, processes for deposit of stock, inward, weighment, sampling, assaying, storage of stock, security, process for delivery of stock, KYC of depositor, warehouse receipt system, corporate governance requirements of the warehouseman, insurance etc.*
- *Specifying major regulatory aspects to be included in rules/regulations of non- agri warehouse registration, if any.*
- *Identify the capacities required at WDRA for registering non-agri warehouses and strengthening inspection mechanism.*

- *List of commodities to be focused on:*

Table 1: List of identified commodities

<i>I. Precious metals and gems / stones</i>	<i>II. Metals and alloys</i>	<i>III. Others</i>
• <i>Diamond</i> • <i>Gold</i> • <i>Silver</i> • <i>Platinum</i> • <i>Palladium</i>	• <i>Aluminium</i> • <i>Brass</i> • <i>Copper</i> • <i>Lead</i> • <i>Nickel</i> • <i>Zinc</i> • <i>Tin</i> • <i>Steel</i> • <i>Iron Ore</i>	• <i>Coal</i> • <i>Ethanol</i>

6. The members of Working Group comprised representatives from the following organizations with a representative from SEBI as Member Secretary:
 - Department of Economic Affairs, Ministry of Finance
 - Department of Food and Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution
 - Reserve Bank of India (RBI)
 - Warehousing Development and Regulatory Authority (WDRA)
 - Central Warehousing Corporation (CWC)
 - Bureau of Indian Standards (BIS)
 - National Accreditation Board for Testing and Calibration Laboratories (NABL)
7. Based on the aforesaid ToR and keeping in view the above cited non-agricultural commodities, the Working Group was initially required to submit its report to the Government within 60 days of the date of its first meeting, which was held at SEBI Bhavan, Mumbai on 6th August, 2019. However on request of WG, the timeline for submission of the Report was extended till October 31, 2019.

**PROCEEDINGS OF THE WORKING GROUP AND ARRANGEMENT
OF CHAPTERS**

1. In order to gain practical and operational insight and understand the different aspects of warehousing operations and related issues/challenges in warehousing of different commodities as specified in the ToR, visits were made to the following storage facilities:
 - (a) a vault storing precious metals;
 - (b) iron ore mine for iron ore storage;
 - (c) sponge iron plant for storage practices of iron ore as well as coal;
 - (d) coal mine for coal storage;
 - (e) different types of warehouses storing various kinds of base metals;
 - (f) open yard storages for steel ingots and billets; and
 - (g) a sugar factory cum distillery for storage of ethanol.
2. The Group also interacted with some Warehouse Service Providers (WSPs) and Vault Service Providers (VSPs) to understand the storage norms, and also studied the operating procedures for various warehousing activities and risk management practices being followed by them. Discussions were also held with the RSEs and Recognized Clearing Corporations (CCs) dealing in trading of non-agricultural commodity derivatives to ascertain their accreditation process and other safeguards being followed by them while accrediting warehouses for non-agriculture commodities.
3. The WG held four meetings with three meetings at SEBI office in Mumbai and one meeting at SEBI office in New Delhi. The attendance details of the WG meetings are as follows:

Table 2: Meeting Details

Sr.	WG Member	Organization	Meetings Attended
1.	Shri S.K. Mohanty	SEBI	4
2.	Shri P. Srinivas	WDRA	4
3.	Shri Nand Kishore Kashmira	DFPD	3
4.	Ms. Rose Mary K. Abraham	DEA	3
5.	Shri Jyoti Prakash Sharma	RBI	1
6.	Shri B Nirmal *	CWC	2
7.	Shri N. Suryanarayana	BIS	4
8.	Shri Ramprasath R	NABL	2
9.	Shri A. S. Mithwani	SEBI	3
<i>* Shri M K Verma was the previous representative of CWC and attended 1 meeting</i>			

4. The WG also examined some of the legal, technical and operational aspects that are germane to developing a regulated ecosystem for warehousing of the non-agricultural commodities so as to suggest a roadmap and the requisite measures that may have to be taken for implementation of the recommendations of the WG.
5. The report of the WG is organized in the following manner:
 - Chapter 1: This chapter provides a brief overview of the non-agricultural commodities market in India.
 - Chapter 2: This chapter highlights about Indian and global warehousing industry, a comparison of warehousing facilities for agricultural and non-agricultural commodities, role of WDRA etc., and recommendations of the WG in this regard.
 - Chapter 3: This chapter highlights various practices being followed at present in areas such as storage, assaying,

logistics and risk management etc., by the non-agricultural commodities warehousing sector in India and recommendations of the WG in respect of these issues.

- Chapter 4: This chapter highlights the global best practices and explores adoption of the same in Indian markets.
 - Chapter 5: This chapter provides suggestions / recommendations of the WG for development of regulated warehousing ecosystem for non-agriculture commodities.
6. The aforesaid chapters in the report have addressed the subject in compliance with the ToR assigned to the WG at length, under different heads/items. Thus, the recommendations of the WG are in consonance with the ToR assigned to it in the O.M. dated 31st May 2019.
7. The Working Group is of the view that although the report has covered the commodities indicated in the ToR for the Working Group, the recommendations in the report can be extended to non-agricultural commodities in general, with requisite changes, if any, taking into account the specific features and industry practices for specific commodities.

ACKNOWLEDGEMENTS

1. During deliberations, the members of the WG had the benefit of interacting with various external experts engaged in the warehousing sector. The members of the WG would like to place on record the valuable contributions made by the following experts for sharing their expertise on different aspects that are of immense importance to regulated warehousing ecosystem for non-agriculture commodities.

a) Representatives from RSEs/CCs

- Shri P.S. Reddy- MD and CEO, MCX
- Shri Sanjit Prasad – MD and CEO, ICEX
- Shri Narendra Ahlawat - MD and CEO, MCXCCL
- Shri Balu Nair – MD and CEO, MCCIL
- Dr. Venkatachalam Shunmugam – Head (Research), MCX
- Shri Chittaranjan Rege – Head (Base Metals), MCX
- Shri Shivanshu Mehta - Head (Bullion), MCX
- Shri Kamal Priyadarshi - Head (Warehousing), MCXCCL
- Shri Ramesh Iyer - Product Head, ICEX Limited
- Shri Saroj Nanda - Chief Manager, MCCIL

b) Representatives from warehousing industry

- Shri Sharad Jobanputra – Chairman, Sequel Logistics Pvt. Ltd.
- Shri Rajkumar S. – CEO, Sequel Logistics Pvt. Ltd.
- Shri Manish Vaze – Head (Operations), Sequel Logistics Pvt. Ltd.
- Shri Ravi Kashyap – General Manager, Steinweg Sharaf (India) Pvt. Ltd.
- Shri Sandeep Sabharwal – CEO, Sohan Lal Commodity Management Pvt. Ltd.
- Shri Vedpul Hooda – Head (Operations) Sohan Lal Commodity Management Pvt. Ltd.

c) Representatives from market participants

- Shri Sagar Dargar- Director, Metro Ispat Pvt Limited
 - Shri Vinod Dargar – Director, Metro Ispat Pvt Limited
2. The WG also places on record its appreciation of the contributions made by the invitees from some of the RSEs and CCs whose rich experiences have made the deliberations in the meetings very enriching and insightful for the group members.
3. Besides the above, WG is also grateful to the officials from the following entities for their enthusiastic support and assistance during visit by the group to their storage facilities in order to gain onsite knowledge on storage practices being followed by them for various commodities:
- Lykos India Pvt. Ltd.
 - Mahanadi Coalfields Limited
 - Sequel Logistics Pvt. Ltd.
 - Sharayu Agro Industries Limited
 - Sohan Lal Commodity Management Ltd.
 - Steinweg Sharaf (India) Pvt. Ltd.
 - Tata Sponge Iron Limited
 - Thakurani iron ore mines of KAYPEE enterprises
4. The WG expresses its gratitude to SEBI for providing infrastructural support to conduct the meetings and facilitating the warehouse visits in coordination with MCX and NCDEX.

EXECUTIVE SUMMARY

Transforming Indian commodity markets through development of regulated warehousing and ancillary infrastructure ecosystem for non-agricultural commodities

1. Commodities market, whether agricultural or non-agricultural, plays a vital role in the growth of economy. A well regulated and adequate storage infrastructure is sine qua non for the development of commodities market and the economy. A robust and liquid commodity market can thrive only on the foundation of a credible and risk-free network of warehousing, assaying and logistics infrastructure which ensures smooth delivery of commodities across the country.
2. The main recommendations of the WG as articulated in this report under different chapters for creating a healthy storage ecosystem for non-agricultural commodities are summarized as under:
 - a. The WDR Act does not distinguish between agricultural and non-agricultural commodities. Thus, WDRA is also empowered to register non-agricultural warehouses. On the strength of its regulatory expertise with respect to agricultural warehouses for last ten years, WDRA can be a natural choice to regulate warehouses of non-agricultural commodities. However, as per the Government of India (Allocation of Business) Rules, 1961, the mandate of Department of Food and Public Distribution (DFPD) (the nodal administrative Department of WDRA) inter-alia includes *“Hiring and acquisition of godowns for storage of food grains including sugar, taking on lease or acquiring land for construction of food*

grains godowns". Thus, the mandate of DFPD is mainly related to agricultural commodities. The WG also observes that as per the Government of India (Allocation of Business) Rules, 1961, storage of non-agricultural commodities has not been allocated to any specific department. Therefore, the WG is of the view that warehousing, logistics and associated activities across all commodities, whether agricultural or non-agricultural, be allotted to a dedicated or specific department, as deemed fit by the central government. **(Action point: DEA and DFPD).**

- b. India does not have a regulated warehousing infrastructure for non-agricultural commodities. A network of regulated warehouses following standardized and scientific storage norms would instill in greater confidence in value chain participants in using the services of such warehouses. As WDRA has acquired adequate experience of dealing in agricultural as well as horticultural commodities, it would be appropriate that WDRA expands its services towards regulating warehousing for non-agricultural commodities. In order to operationalize the same, some regulatory changes in the short term and legislative changes in the long term may be required. **(Action point: DEA, DFPD and WDRA).**
- c. WDRA needs to be adequately staffed for discharging its current responsibility of regulating warehouses for the agricultural commodities. Further, for effectively taking up the new responsibility of regulating warehouses for non-agricultural commodities, it should augment its present human resources. **(Action point: DFPD and WDRA).**
- d. To ensure discipline in the warehouses and assure integrity of the eNWRs, WDRA should use latest technological tools as well as ensure that the WSPs also adopt latest technological tools in their warehousing operations. **(Action point: WDRA and WSPs).**
- e. Some of the processes such as Know Your Customer (KYC)/Know Your Depositors (KYD) documentation, processes

involved in generation of eNWR, delivery of goods etc., involved in warehousing for the non-agricultural commodities may be commodity neutral. Therefore, it would be appropriate that the existing norms specified by WDRA for agricultural commodities and followed by repositories/ warehousemen are suo moto extended to non-agricultural commodities also.

(Action point: WDRA, Repositories and WSPs)

- f. WDRA may adopt the present industry practices with respect to storage infrastructure, quality assaying, warehousing processes, risk management, etc. (as detailed out in Chapter 3) while framing norms and model SOP for non-agricultural warehouses so that there is minimal disruption in physical markets while migrating to new regulated warehousing regime. For example, imports of non-ferrous metals and precious metals, constitute a major share of the total supply of such commodities in the country. Such goods are produced by manufacturers/refiners accredited by benchmark exchanges like London Metal Exchange (LME)/Chicago Mercantile Exchange (CME) /Shanghai Futures Exchange (ShFE) or organizations such as London Bullion Market Association (LBMA)/London Platinum and Palladium Market (LPPM) and confirm to the quality standards as adopted by them. WDR Act provides for adopting only the Agmark Standards or standards prescribed by any other law in force. Hence, to be able to permit warehouses to store goods of globally accepted quality standards, WDRA should take suitable regulatory measures including issuance of necessary notification by the concerned Ministry/Department. **(Action point: WDRA and WSPs)**
- g. The present system of eNWRs for agri-commodities can be extended to non-agricultural commodities with certain modifications and such eNWRs can have longer validity. **(Action point: WDRA, Repositories and WSPs)**
- h. WDRA may adopt and implement any of the global practices highlighted in the Report for adherence by the warehouses

intending to store non-agricultural commodities. **(Action point: WDRA).**

CHAPTER 1 : AN OVERVIEW OF NON-AGRICULTURAL COMMODITIES

This chapter highlights importance of non-agricultural commodities and a brief overview of the domestic non-agricultural commodities ecosystem.

A. Importance

1. Non-agricultural commodities have an economic and strategic importance for any economy and their abundance has helped nations of the world in their economic growth and prosperity. Non-agricultural commodities are the propellers of mining, manufacturing, engineering, construction sectors and in fact of the entire industrial growth of the country, contributing more than a quarter of its Gross Domestic Product (GDP). With regard to distribution of work force also, industrial sector employs around a quarter of the domestic work force. Thus, importance of non-agricultural commodities for the economic growth of the country as well as for the prosperity of the population cannot be understated.
2. Non-agricultural commodities can be classified into various broad complexes namely, base metals, precious metals, gems and stones, energy products and others. While each complex of commodities holds importance to the economy, base metals are the key intermediate inputs in industrial production, and hence play a crucial role in laying the foundation of an economy. Iron Ore, that produces Steel, is the most important metal which is used for construction, transportation equipment, and machinery. Aluminum is a widely used non-ferrous metal in the aerospace industry as well as in other industries requiring light metal as

transportation, packaging, cookware, electrical applications and electronic appliances. Copper is another diversely used non-ferrous metal, although predominantly used in electrical wiring. The Metals & alloys industry generally incorporates a range of economic activities along various stages of the value chain including mining, smelting, recycling, refinery, processing and fabrication etc.

3. Metals are inherently recyclable. They can be recycled innumerable times without losing any of their properties which enables them to significantly contribute to the sustainable development of any economy. The economic importance of these commodities and their contribution to various sectors of Indian economy can be well appreciated from the following table, which highlights the importance of selected sectors in Indian economy, the metals used as raw material in such sectors and the import dependency of such metals etc.:- ¹

Table 3: Consumption of raw material in various sectors and contribution of such sectors in Indian economy

Economic Sector	% Share in national income	Major Raw material	Import dependency (%)
Automobile sector including electric vehicles	7.7	• Steel • Copper • Zinc • Nickel • Lead • Lithium • Cobalt	• Copper (50-60) • Lithium (100) • Aluminium scrap (90) • Cobalt (100) • Lead (75)
Construction & demolition	9	• Cement • Steel • Aluminium • Copper	• Copper (50-60) • Steel Scrap(20-25) • Aluminium scrap (90)

¹ Economic Survey 2018-19

Economic Sector	% Share in national income	Major Raw material	Import dependency (%)
Electronics including E-waste	1.8	• Gold • Silver • Platinum • Copper	• Copper (50-60) • Gold (90) • Silver (75) • Platinum (95)
Steel	2	• Iron ore • Nickel	• Steel Scrap(20-25) • Nickel(100)
Aluminium	0.8	• Bauxite • Aluminium scrap	• Aluminium scrap (90)
Solar PV	2.1	• Aluminium • Silver • Copper	• Copper (50-60) • Aluminium scrap (90) • Silver (75)

4. Energy sector that comprises coal, oil and natural gas drive the key macroeconomic parameters with its forward and backward linkages.

B. Domestic non-agricultural commodities ecosystem – an overview

1. As stated earlier, the non-agricultural commodities covered under the ToR fall into various broad complexes namely ferrous metals (steel, iron ore), non-ferrous metals and alloys (aluminium, brass, copper, lead, nickel, zinc and tin), precious metals (gold, silver, platinum, and palladium), gems and stones (diamond), energy products (coal) and others (ethanol). Each group of non-agricultural commodities has its unique set of challenges, with respect to their storage practices.

2. The table below highlights the position of India in the global markets with respect to the non-agricultural commodities whose warehousing and assaying practice were examined by the WG.

Table 4: India's position in global markets for select commodities identified by GoI

Sr.	Commodity	Production	Consumption
Ferrous			
1.	Iron Ore	4	3
2.	Steel	2	3
Non Ferrous Metals			
3.	Zinc	5	3
4.	Nickel	No production	7
5.	Aluminum	5	3
6.	Copper	6	9
7.	Lead	2	3
Precious Metals, Gems			
8.	Gold	Negligible production	2
9.	Silver	14	3
10.	Diamond	Negligible production	3
Others			
11.	Coal	3	3

3. In case of ferrous and non-ferrous metals/alloys, the production side is generally concentrated amongst a few players as the sector is highly capital intensive when compared to their agricultural counterparts. The primary productions of most of these commodities are concentrated in large sized public sector undertakings such as NMDC (iron ore), Steel Authority of India Limited (steel), Hindustan Copper Limited (copper), NALCO (aluminium) and in a few private sector companies such as Tata Steel Limited (Steel), JSW Steel (Steel), Vedanta group (Iron ore, Aluminium, Zinc, Copper, Silver, Lead), and Hindalco Industries Limited (Aluminium, Copper) etc. The secondary producers are scattered throughout the country including thousands of MSME

units which usually produce the finished metals or metal intermediates out of metal scraps.

4. In case of coal also, bulk of the production in India is done by the public sector enterprises with Coal India Limited accounting for about 80% of the total coal production of the country. Most of the domestic production of coal is used in thermal power plants for generation of electricity and rest mostly in steel industry.
5. Though India is not a major miner of precious metals or gems/stones as their physical occurrences are not contiguous with our geographical boundaries, it is still a major player in these commodities. For instance, India has an abundant supply of skilled manpower suited for designing and manufacturing high volumes of exquisite jewellery using precious metals and gems/stones at low labour costs. India is the largest diamond cutting and polishing centre in the world as 9 out of 10 diamonds sold worldwide are processed in India. India is the second largest consumer of gold in the world and most of this consumption goes into making of gold jewellery. India ranks third in the world in consumption of silver too.
6. The precious metals, gems and stones sector/ industry is highly fragmented, unorganised and comprises predominantly family owned business which are engaged in sourcing, processing of precious metals and gemstones such as gold, platinum, silver and diamond as well as manufacturing and selling of finished products like jewellery, both in domestic and overseas markets.
7. In case of ethanol, India is amongst the top countries in the world in production as well as consumption of this commodity. Over the last 5 years, India has been amongst the top 10 countries in production of ethanol. Around 166 distilleries primarily situated in Maharashtra and Uttar Pradesh have a combined production capacity of 2.6 billion litres of ethanol for use in fuel blending, industrial chemicals and beverages. Domestic consumption has also been increasing year after year and has traditionally been higher than domestic production. The National Policy on Biofuels

will enable availability of biofuels including ethanol in the market thereby increasing its blending percentage.

8. While there are numerous laws and multiple agencies / authorities dealing with various activities involved at different stages of the production and marketing of these non - agricultural commodities, there are no specific laws either at central or state level, to deal with storage and logistic aspects of most of these non-agricultural commodities in the country. Thus, there seems to be regulatory void, when it comes to handling the issues and challenges pertaining to the functioning of the storage infrastructure for these non-agricultural commodities in the country.

CHAPTER 2 : WAREHOUSING AND ALLIED INFRASTRUCTURE

A robust ecosystem of warehousing, assaying facilities, transport, delivery, customer services, packaging etc., is the hallmark of a globally competitive economy that instills confidence amongst the stakeholders. However, India's warehousing sector is still at a nascent stage as compared to developed economies such as USA or European countries.

A. Importance of warehousing

1. A supply chain system that assures supplies of raw material to industries (or finished goods to distributors/retailers) in the same frequency at which they use the raw materials (or sell out finished goods) would be an ideal supply chain system. In such a scenario, not only the users will have continuous supply of raw material/goods to cater to their needs, but also their scarce capital blocked in the raw material inventory would be minimal.
2. However, sometimes there could be some impediments / constraints which can disrupt an ideal supply chain, such as -
 - seasonality, variation, stoppages etc., at mines / primary production units;
 - rate of production of raw material may be different from the rate of raw material supply required by the consuming industry and both may vary over time;
 - a long lead time required to transport raw material from producer to consumer, blockages in transport network, challenges posed by minimal lot size for transport etc.Therefore, such natural eventualities necessitate storage of buffer stocks by the manufacturing or end user entities, as the case may be, in appropriate warehouses/storage facilities, vaults etc.

3. Thus, warehouses act as a cushion in absorbing the time gap between production and consumption of goods, thereby playing an important role in the supply chain. While playing a significant role in the smooth functioning of supply chain networks, warehouses offer the following advantages:

- Warehouses help in stabilizing prices by matching supply and demand – An optimal stock level in warehouses is required to maintain a reasonable level of price for the goods. If goods are in scarce supply and warehouses do not have adequate stocks, the prices may shoot up. If there are excess stocks of goods, the prices may see steep correction.

One of the major causes of market volatility in commodities is the supply and demand variability. For example, a miner dealing in production of ore of a particular metal or a manufacturing factory would often prefer to go on mining or production, as the case may be, even during the lean demand period since even a temporary shut-down of a mine or factory would be very expensive. As a result, despite reduction in demand, continuous mining would lead to excess supply which may result in price fall for the said metal. During this time, storage plays a key role in supply chain. When supply is outstripping demand, inventories rise while on the other hand when demand exceeds supply, inventories can be drawn upon to meet consumers' requirements.

- Warehousing aids in continuous and large scale production – Factories need to have their raw materials required for a specific period of production, stored so that they can have an assured and continuous supply of raw materials. The storage allows the factories to engage in continuous production, after taking into account the current demands and future demands for their products in the market. At time, bulk production could be more economical. The products are then stored in the warehouses and sold in the market as per the sales strategy of the manufacturer.

- Warehousing helps in quick supply – Industrial and agricultural goods are often produced in specific areas and then delivered throughout the country. These goods need to be stored at strategic locations so that there is minimal delay in delivering them to the consumers.
 - The present day warehousing industry also provides additional value added services and facilities for sorting, packing, blending, grading & processing of the goods stored for sale, so that producers can focus only on production.
 - Scientific warehousing of agricultural goods plays an important role in implementing the agricultural price policy of the Government.
4. While big producers and consumers can afford to build and have their own scientific warehouses, availability of third party commercial warehousing is required to extend the above mentioned benefits to even smaller players in the value chain of commodities so as to place them at a more even pedestal vis-à-vis their larger counterparts.

B. Global and Indian scenario

1. A recent industry report ² covering warehousing and storage market has highlighted that the global warehousing and storage industry is currently exhibiting healthy growth. However, one major challenge for warehousing industry is increasing rents (costs) for industrial lands. The real estate price is a crucial factor for any warehouse operator. In densely populated cities and expensive land spaces, warehousing has moved ahead from single-storey to multi-storey warehouses resulting in better land utilization rate and enhanced operational efficiency.

² ***Warehousing and Storage Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2019-2024***

2. As per an industry report of 2018³, the Indian warehousing industry has grown up by approximately 38% between FY 2013-2017. Further, NITI Aayog in one of its report has highlighted that the industrial and agricultural segments constitute about 86% and 14%, respectively of the total warehousing space in the country.⁴ Most of the agricultural warehousing space is available with the Government agencies.
3. Around 90% of the warehousing space in the country is controlled by unorganized players. Such warehouses are smaller in size (having an area of less than 10,000 sq. ft.) and have very limited mechanization of their operations.⁵ This results in higher average inventory holding, storage & handling losses. Slowly but steadily, the warehousing landscape in India is graduating from godowns to stand alone warehouses and then to integrated logistics parks as well as to multi modal logistics hubs. However, concentration of industrial activity and urban population has led to concentration of modern warehousing to six major clusters around cities like Ahmedabad, Bangalore, Chennai, Delhi, Mumbai and Pune. These clusters together comprise nearly 60% of the modern warehousing capacity in India.
4. Overall, the current Indian warehousing capacity is both insufficient in quantity and quality to cater to the expected growth of the economy as majority of the warehouses are controlled by unorganized players. Some of the key challenges being faced by the Indian warehousing sector, as highlighted in a 2011 report ⁶, which are still relevant, are as under:
 - Lack of availability of land in strategic locations with clear title and approvals;
 - Lack of standardization of warehousing infrastructure;
 - High cost of credit;

³ *Overview of India Warehousing industry by Care ratings (October 2018)*

⁴ *India Three year action agenda- NITI Aayog (2017)*

⁵ *Knight Frank research report - India Warehousing Market Report 2018*

⁶ *PWC report on Building warehousing competitiveness –2011*

- Fragmented market with unorganized players hindering economies of scale;
- High costs due to long transit time;
- Lack of trained manpower and absence of quality training institutes;
- Lack of expertise in warehousing technologies; and
- Lack of IT penetration in warehousing sector etc.

C. State of agri commodities warehousing and need for regulated warehousing and eNWRs in non-agriculture commodities

1. A robust and regulated network of well-resourced warehouses is a pre-condition for a mature and well-functioning commodities market. Adoption of best possible practices for warehousing, assaying and delivery standards is equally vital for both agricultural and non-agricultural commodity markets, although there are certain distinguishing features between the two commodity sectors, warranting differential approach on certain aspects while handling their respective needs for warehousing, assaying and delivery.
2. A general comparison between the agricultural commodities and non-agricultural commodities in terms of storage facilities, assaying facilities, delivery standards and other ancillary infrastructure is presented below:

Table 5: Agricultural commodities vis-a-vis Non-agricultural commodities on warehousing, storage and other related aspects

Sr.	Parameter	Agricultural commodities	Non-agricultural commodities
1.	Regulatory authority for commercial storage	Yes	As per WDR Act, WDRA is the regulator, though it has not commenced regulating non-agri warehouses for eNWRs. Thus, presently there is no Regulatory authority

**Report of the working group on development of regulated
warehousing ecosystem for non-agriculture commodities**

Sr.	Parameter	Agricultural commodities	Non-agricultural commodities
2.	Regulated storage facilities	Yes, for those issuing eNWRs	No
3.	Use of eNWRs and financing of commodities using eNWRs	Yes	No
4.	Prevalent Delivery standards	Generally Agmark	Generally international standards
5.	Prevalence of assaying	Assaying/testing of commodity is carried out prior to accepting for deposit	Testing is usually destructive and hence reliance is placed on the quality certificate issued by the manufacturer
6.	Traceability to manufacturer / producer	Not available, hence assaying done	Normally available
7.	Type of warehouses / storage facilities	• Conventional warehouses • Cold storages • Silos	• Open warehousing for many commodities like coal, iron ore etc.; • Vaults for precious metals. • Conventional warehouses for base metals
8.	Ownership style of warehouses	Owned by the warehouseman or taken on Lease or Revenue sharing arrangement	Mainly producer / manufacturer or value chain participant owned facility
9.	Transportation	Unorganized	Unorganized in general, highly organized for precious

Sr.	Parameter	Agricultural commodities	Non-agricultural commodities
			metals and gems/stones
10.	Producers	Many	Few (except for gems/stones)
11.	Grievance redressal	Under the provisions of WDR Act	Not available

3. A network of regulated warehouses for storing non-agriculture commodities in a standardized manner and issuing eNWRs against deposit of such non-agricultural commodities would not only instill greater confidence in the value chain participants in utilizing the services of such warehouses but would also enable them to get easier financing on the strength of eNWRs issued against such goods.

D. Role of WDRA

1. The Government of India has established a statutory regulatory framework by enacting the Warehousing (Development and Regulation) Act, 2007 (“WDR Act”) as well as Rules and Regulations under the said Act.
2. The main objectives of the WDR Act are as follows:
 - To provide administrative and legal mechanism for development and regulation of warehouses in the country (except for the state of Jammu and Kashmir),
 - To establish electronic Negotiable Warehouse Receipt (eNWR) System,
 - To make warehouse receipts a prime tool of trade,
 - To enhance fiduciary trust of depositors and banks against fraud & mismanagement, and
 - To facilitate finance against eNWRs.

3. WDRA, which is the regulatory authority established under the WDR Act, registers warehouses and regulates their functioning as per the provisions of the Act and Rules framed thereunder.
4. Under the present legislative arrangement, any warehouse(s) which intends to issue eNWRs should mandatorily be registered with WDRA. These warehouses have to meet the norms stipulated by WDRA which inter-alia, relate to construction standards, quality standards, storage norms, insurance, financial and managerial standards. Thus, the WDRA registered warehouses must possess the minimum required standards on various aspects of warehousing and storage of commodities in these registered warehouses is expected to follow scientific storage norms. Therefore, it is expected that WDRA registered warehouses will guarantee quantity and quality of the commodities stored therein as mentioned in the corresponding eNWRs issued for such deposited stock at the time of withdrawal of such goods mentioned in eNWRs.
5. Although India has a vibrant commodity market which is more than a century old, the paper-based warehouse receipts were causing serious problems like bad delivery due to mutilation, forgery, duplication etc. Prior to the enactment of WDR Act, depositories, namely NSDL and CDSL were providing services of electronic records of storage of goods to the exchanges carrying out the business of commodity derivatives contracts under now repealed Forward Contracts (Regulation) Act, 1952. Pursuant to the enactment of the WDR Act and creation of WDRA to perform the functions assigned to it under the Act, in October 2016, WDRA issued Guidelines for Creation and Management of eNWRs, thereby paving the way for establishment of repositories. WDRA has so far issued registration certificate to two repositories viz., NERL and CCRL which are promoted by NCDEX and CDSL respectively.
6. In the Repository system, eNWRs are held in repository accounts, which is more or less similar to holding funds in bank accounts or shares in demat accounts. Transfer of ownership of eNWRs is done through simple repository account transfers. This method

avoids all the risks and hassles normally associated with paperwork and paper based warehouse receipts. Consequently, the cost of transacting in a repository environment is considerably lower as compared to transacting in physical warehouse receipts. However, effective monitoring by the regulatory authorities is required for ensuring that the goods represented in the eNWRs are actually backed by physical goods at the concerned warehouse.

7. As stated in the beginning, WDRA has so far notified only agriculture and horticulture commodities for issuance of eNWRs by WDRA registered warehouses. Thus, repositories should also be enabled to issue eNWRs on non-agriculture commodities as proposed to be notified by WDRA. The eNWRs will provide traders and bankers with an instrument for trading as well as financing the procurement of such commodities with ease and efficiency. Also, CCs clearing and settling commodity derivatives contracts traded on RSEs can adopt eNWRs in non-agriculture commodities too as a mode of effecting commodity settlement of the commodity derivatives trades.

E. WDRA – a natural choice for regulating warehouses/vaults for non-agricultural commodities

1. WDR Act does not distinguish between agricultural and non-agricultural commodities and as such, WDRA is empowered to register non-agricultural warehouses. Hence, WDRA can be a natural choice for regulating warehouses/vaults for non-agricultural commodities. In this regard, members of WG have noted that some of the committees constituted by GoI in past have made such recommendations, which are cited in the following paragraphs.
 - *India does not have a regulated warehouse infrastructure for nonagricultural commodities and they are left to the producers and suppliers who have their own warehousing/delivery points. Such private warehouses may not follow any prescribed standards relating to storage. The vaults providing services for storing precious metals such as gold or silver are also not*

regulated by any agency despite the fact that they have huge amounts of valuable deposit with them. WDRA should actively pursue developing rules for registration of warehouses storing non-agricultural commodities. ⁷

- A regulated storage infrastructure for non-agri commodities is also needed, more so for high value commodities and WDRA has the natural advantage of venturing into the same. Further, the dedicated department and WDRA could work together to set good delivery norms in various metals, for further standardization of trading in the market for these commodities. ⁸*

- There should be a special focus on developing ancillary infrastructure such as transports (which is suitable for transport of such commodities), regulated assaying and refining and testing facilities etc., across the country to facilitate overall growth of these sectors. ⁹*

- WDRA may consider notifying bullion as a commodity for the purposes of warehousing in vaults. ¹⁰*

- 2. It has been further highlighted that registering of warehouses with a centralized authority like WDRA and issuance of eNWRs would generate a host of benefits to the ecosystem of both agricultural and non-agricultural commodities. ¹¹*

⁷ Report of Expert Committee on Integration of Commodity Spot and Derivatives Markets– February 2018

⁸ Report of Expert Committee on Integration of Commodity Spot and Derivatives Markets– February 2018

⁹ Report of Expert Committee on Integration of Commodity Spot and Derivatives Markets– February 2018

¹⁰ Report of the committee on transforming India's Gold market – February 2018

¹¹ Report of Expert Committee on Integration of Commodity Spot and Derivatives Markets– February 2018

3. Over the last ten years, WDRA has acquired adequate experience of dealing in agricultural as well as horticultural commodities. Keeping in view the experience gained by WDRA from warehousing of agricultural commodities, WDRA enjoys a natural advantage to expand its services towards regulating warehousing and related services for the non-agricultural commodities.
4. Thus, it would be appropriate that WDRA expands its services towards regulating warehousing for non-agricultural commodities by notifying the said commodities (as identified in OM dated May 31, 2019), under provisions of WDR Act for issuance of eNWRs.

F. Legal, administrative and operational impediments

1. As per the Government of India (Allocation of Business) Rules, 1961, the mandate of DFPD, the nodal administrative department of WDRA, inter-alia includes *“Hiring and acquisition of godowns for storage of food grains including sugar, taking on lease or acquiring land for construction of food grains godowns”*. Thus, the mandate of DFPD is mainly related to agricultural commodities. The WG also observes that as per the Government of India (Allocation of Business) Rules, 1961, storage of non-agricultural commodities has not been allocated to any specific department. Therefore, the WG is of the view that warehousing, logistics and associated activities across all commodities whether agricultural or non-agricultural, be allotted to a dedicated or specific department, as deemed fit by the central government.
2. In order to assess the human resource requirement at WDRA for taking up the aforesaid additional responsibility, WDRA has indicated to the members of the WG, that at present it has 45 sanctioned posts, against which, only 12 posts are filled up. The present department-wise allocation of the sanctioned posts in WDRA is as under:

Table 6: Current allocation of human resource at WDRA

Posts	Sanctioned posts	Department-wise allocation		
		A&F	Technical	IT
JS/AS	1	1	-	-
Director	3	1	1	1
Dy. Director	9	3	5	1
Under Secretary	2	1	1	-
Assistant Director	8	3	4	1
Section Officer	2	1	1	-
Assistant	11	2	8	1
Assistant / Accountant	2	2	-	-
Others (PPS/ PS/ PA/ Driver/ Field Officer)	7	6	1	-
Total	45	20	21	4

3. As highlighted above, only 12 posts at WDRA are filled up. The table below provides the distribution of the existing human resource in WDRA. Besides this, WDRA has also highlighted that it has engaged 3 consultants for its Technical Section and 3 for its IT Section.

Table 7: Deployment of the existing human resources

Posts	Department-wise deployment of existing human resources		
	A&F	Technical	IT
JS/AS	1	0	0
Director	1	0	0
Dy. Director	1	1	0
Under Secretary	0	1	0
Assistant Director	0	0	0
Section Officer	1	0	0
Assistant	0	0	0

Posts	Department-wise deployment of existing human resources		
	A&F	Technical	IT
Assistant / Accountant	2	0	0
Others (PPS/ PS/ PA/ Driver/ Field Officer)	4	0	0
Total	10	2	0

4. WDRA has apprised the WG that it proposes to allocate its 21 sanctioned human resources (for both agricultural and non-agricultural commodities) in technical stream, for overseeing warehouse regulation activities like policy matters, Warehouse/Warehouseman registration, inspection, monitoring, etc., in the following manner:-

Table 8: Manpower assessment by WDRA for both Agri and Non-agri commodities

Position	Agri	Non-Agri	Common	Total
Director	0	0	1	1
Deputy Director / Under Secretary	2	3	1	6
Assistant Director / Section Officer	2	3	0	5
Assistant	2	4	2	8
Field Officer	1	0	0	1
Total	7	10	4	21

5. From the above human resource assessment made by WDRA, it appears to the members of WG that WDRA needs to be adequately staffed for discharging its current responsibility of regulating warehouses for the agricultural commodities. The WG acknowledges that regulation and development of warehouses of non-agricultural commodities involves regulation of storage facilities ranging from open yard storages to closed modern

mechanized warehouses and also vaults for precious metals. The task would entail huge amount of regulatory burden for WDRA. Hence, for effectively taking up the new responsibility of regulating warehouses for non-agricultural commodities, it should augment its present human resources.

6. The WG has also made an analysis of various regulatory provisions of the WDR Act, Rules and Regulations made there under, which is presented as below:

a. **Applicability of the Act :**

The Chapter 1 of the WDR Act states that “*It extends to the whole of India except the State of Jammu and Kashmir*”. In this regard it may be noted that, eNWRs have been adopted by recognized clearing corporations (CCs) as one of the mode for settlement of goods for commodity derivatives contracts traded at RSEs. The reach of the RSEs extends to the whole of India as the relevant Acts viz., SCR Act, 1956, SEBI Act, 1992 and Depositories Act, 1996 extend to the whole of India. In order to extend the benefit of the commodity derivatives segment to whole of India, Government may like to review the coverage of the WDR Act so as to extend it to the whole of India.

It has been informed by WDRA that it has already initiated necessary steps in this regard.

b. **Grades and Quality:**

During the discussions with the experts and market participants in the meetings of WG, the WG observed that in case of non-ferrous metals and precious metals, imports constitute a major share of the total supply in the country. Such imported goods are produced by manufacturers/refiners accredited by international exchanges of repute, international organizations or associations.

For example: LBMA and LPPM have their own benchmark standards for the precious metals. Similarly, quality standards adopted by LME/CME are globally accepted for most of the non-

ferrous metals. These non-ferrous metals and precious metals which are imported into India, conform to the quality standards as adopted by LBMA/LPPM or LME/CME. In fact, these standards are globally accepted standards in the spot/physical market as well as in the derivatives markets and are invariably relied upon by all value chain participants. For instance, the bullion industry mainly relies upon the standards developed by LBMA/LPPM and the base metal industry mainly relies on the LME/CME registered brands.

The entire Indian physical market also relies on the LBMA/LPPM or LME/CME standards as the case may be. Therefore, apart from goods/products conforming to BIS specifications, the warehouses intending to be registered by WDRA, should be permitted to store imported or domestically manufactured non-agricultural commodities of quality confirming to the above stated global standards.

In this regard, provisions of sections from WDR Act dealing with the grade and warehouse receipts as well as Warehousing Development and Regulatory Authority (Electronic Negotiable Warehouse Receipts) Regulations, 2017, are reproduced as under:

WDR Act:

Section 2(j) : "grade" means the quality standard of any goods as notified as grade designation by the Central Government under the Agricultural Produce (Grading and Marking) Act, 1937 or any other law for the time being in force;

Section 11(1): A warehouse receipt, which may be either in writing or in electronic form, shall be a document of title to goods in writing if it contains all the following particulars, namely:

(a)...

(b)...

(h) description of the goods or of the packages containing them with particulars of quantity and quality or grade;

Section 23(1): No warehouseman shall issue a warehouse receipt without actually receiving the goods of the quantity, quality or grade and other particulars as may be mentioned in the receipt.

eNWR Regulations:

Regulation 5(1): The warehouseman shall be responsible for creating a unique electronic negotiable warehouse receipt after correctly determining the quality and quantity of the deposited goods and entering the same and all other relevant information in the repository system.

Form A

6. Goods of following description

<i>Sr. No.</i>	<i>Commodity</i>	<i>Description of commodity with quality/grade etc.</i>	<i>Number of packages /bags</i>	<i>Net Quantity in Mts /Qtls</i>	<i>Market value at the time of deposit (Rs.)</i>	<i>Godown /stack/ lot Number</i>

On an analysis of the above stated regulatory provisions, it appears that quality is an important aspect which is required for issuance of the eNWRs. The WG has noticed that LME or others have adopted standards such as ASTM, BS and GB etc., specified by national standard setting bodies of countries where they are operating. It is observed that even though BIS lays down the quality parameters of these non-agricultural commodities, at present BIS certification in case of these non-agricultural commodities appears to be voluntary and not mandatory. Further, quality parameters and thresholds specified in BIS quality standards for various non-agriculture commodities, do not exactly match with the aforementioned globally accepted quality standards for such commodities. Thus, such non-agricultural commodities which confirm to globally accepted quality standards but do not conform to BIS specification should

be accepted for deposit by WDRA accredited warehouses, as these imported or domestically manufactured goods constitute bulk of the market for such commodities.

In order to permit WDRA accredited warehouses to store base metal and precious metal goods of globally accepted quality standards, WDRA should take suitable regulatory measures including issuance of necessary notification by the concerned Ministry/department.

c. Commodity:

Reference to the word ‘commodity’ has been made in the WDR Act as well as in subordinate legislations. In this regard, sections from WDR Act as well as eNWR Regulations are reproduced as under:

WDR Act:

Section 11(4): Authority may, with the prior approval of the Central Government, add, delete or modify any particulars as specified in sub-clause (1) for all or any commodity or class of commodities or for any class of warehouses.

eNWR Regulations:

Form A

6. Goods of following description

<i>Sr. No.</i>	<i>Commodity</i>	<i>Description of commodity with quality/grade etc.</i>	<i>Number of packages /bags</i>	<i>Net Quantity in Mts/ Qtls</i>	<i>Market value at the time of deposit (Rs.)</i>	<i>Godown /stack/ lot Number</i>

WDR Act has defined the term “goods”, however for warehouse receipts u/s 11(4) of the Act, reference has been made to the term “commodity”. Similarly, in the Form A under eNWR Regulations, a reference has been made to the term “commodity”. It has been brought to the notice of the members of WG that there is no definition of the term “commodity” in WDR Act. WDRA may revisit the provisions for bringing out more clarity.

d. User:

The definition of “user” in the eNWR Regulations is as under:

3(1)(g) “user” means a depositor, holder, financial institution, commodity exchange, warehouseman or any other person to whom the repository provides services.

In this regard it is noted that there is no definition of commodity exchange under the SCRA, 1956 and all the recognised exchanges under SCRA, 1956 are called RSEs. Therefore it would be desirable that wherever reference to commodity exchange(s) has been made in the WDR Act or regulations thereunder, same may be replaced with recognised stock exchange(s).

e. Provisions of the appeals, offences and penalties:

In course of discussions with the experts and market participants, it was brought to the notice of the members of the WG that the provisions relating to appeals, offences and penalties under WDR Act may be streamlined as it may be time consuming and the parties in dispute might have to unnecessarily go through cumbersome judicial process for resolution.

In this regard, WDRA may review the provisions relating to appeals, offences and penalties under the Act so that the disputes, if any, arising out of warehousing/vaulting of the goods are resolved in a time bound manner without causing undue hardship to the parties involved in such disputes. WDRA may consider extending the arbitration framework in existence for warehouses storing agricultural commodities to warehouses

storing non-agricultural commodities also with due changes, if any, to ensure faster resolution of disputes pertaining to functioning of the registered warehouses.

7. Under the eNWR Regulations, each eNWR has a validity associated with it. Generally, the validity of eNWRs for agricultural commodities is 6 months (can be more or less depending on the commodity) from the date of issue of the eNWRs due to the limited shelf life of agricultural commodities. The eNWRs can be revalidated for a further period upto 6 months depending on the nature of the commodity. However, the total validity of any eNWR including extensions thereof should be less than the prescribed shelf life of the goods. The shelf life of the non-agricultural commodities, however, is very long as compared to agricultural commodities. Therefore, based on the shelf life of non-agricultural commodities, WDRA has to consider a longer validity period for eNWRs for such commodities.

G. Use of Technology in Warehousing sector

1. During the interactions with the management and officials of different Warehouse Service Providers (WSP) especially with those providing vault services for precious metals and modern & mechanized warehousing services for various non-ferrous base metals, the members of WG were impressed with the way some of the warehouses are employing technology in their operations. These vault and warehouse service providers are heavily reliant upon the latest digital technology, tracking software and use data analytics to monitor their entire range of operations starting from KYD/KYC documentation to tracking the stock at every step of its movement from the time of its entry into the warehouse till it is delivered to the end user/ recipient.
2. Adoption of technology has empowered these WSPs to centrally monitor real-time operations and stock inventory in all their warehouses located in different parts of the country. This has enabled these WSPs to buy the trust of their clients and has imparted immense credibility to the delivery receipts issued by their warehouses.

3. Keeping the aforesaid in view, in a scenario where WDRA is expected to register, regulate, and monitor the performance of a large number of warehouses located in different parts of the country dealing in both agricultural and non-agricultural commodities, the essential need for deployment of latest technology, data analytics etc., to carry out real time surveillance of these warehouses need not be over-emphasized. The credibility and widespread acceptance of eNWRs as a safe instrument for transaction, as an instrument for settlement of transaction by way of delivery and as an instrument for negotiating for easy financing by banks, depend on the credibility of the warehouses where the underlying commodities are stored.
4. Such credibility to the eNWR can be assured by the WDRA if the regulator carries out its surveillance, centralized monitoring & enforcement, inspection etc. through adoption of appropriate technology for early warning systems and effective tracking of stock movement etc. Therefore, in the long run, WDRA may have to scale up its capacity in a big way. At the same time, WDRA should also encourage the WSPs to adopt the latest technological tools in their warehousing operations.

Recommendations of WG:

- a) ***The WDR Act does not distinguish between agricultural and non-agricultural commodities. Thus, WDRA is empowered to register non-agricultural warehouses and as a natural choice, given its experience over the last 10 years, WDRA is expected to regulate warehouses for non-agricultural commodities. However, as per the Government of India (Allocation of Business) Rules, 1961, the mandate of DFPD (the nodal administrative department of WDRA) inter-alia includes “Hiring and acquisition of godowns for storage of food grains including sugar, taking on lease or acquiring land for construction of food grains godowns”. Thus, the mandate of DFPD is mainly related to agricultural commodities. The WG also observes that as per the Government of India (Allocation of Business) Rules, 1961, storage of non-agricultural***

commodities has not been allocated to any specific department. Therefore, the WG is of the view that warehousing, logistics and associated activities across all commodities, whether agricultural or non-agricultural, be allotted to a dedicated or specific department, as deemed fit by the central government.

- b) It would be appropriate that WDRA expand its services towards regulating warehousing and related services (such as assaying or logistics) for the non-agricultural commodities as in some cases like that of precious metals logistics is integral to keeping the integrity of the warehousing process.***
- c) It would be appropriate that WDRA notifies the non-agricultural commodities (to begin with, those as identified in OM No 8/2/2019-CD dated May 31, 2019), under provisions of WDR Act for issuance of eNWRs.***
- d) WDRA needs to be adequately staffed for discharging its current responsibility of regulating warehouses for the agricultural commodities. Further, for effectively taking up the new responsibility of regulating warehouses for non-agricultural commodities, it should further sufficiently augment its present human resources.***
- e) In order to enable storage of non-agricultural commodities conforming to globally accepted quality standards in WDRA accredited warehouses, WDRA or Government should take suitable regulatory measures including issuance of necessary notification by the concerned Ministries/departments.***
- f) There is no definition of ‘commodity’ either in WDR Act or SCRA, 1956. WDRA may look into the same for bringing out more clarity.***
- g) Wherever reference to ‘commodity exchange(s)’ has been made in its Regulations, WDRA may replace it with the words ‘recognized stock exchange(s)’.***

- h) WDRA may look into streamlining and strengthening the provisions relating to appeals, offences and penalties so that the disputes, if any, are resolved in a time bound manner. WDRA may consider extending the arbitration framework in existence for warehouses storing agricultural commodities to warehouses storing non-agricultural commodities also with due changes, to ensure faster resolution of disputes pertaining to functioning of the registered warehouses.***
- i) WDRA should consider prescribing longer period of validity of eNWRs for the non-agricultural commodities as these commodities have longer shelf life, as compared to the agricultural commodities.***
- j) To effectively carry out its regulatory surveillance, and monitoring over large number of warehouses dealing in storage of agricultural and non-agricultural commodities and located in different parts of the country, WDRA should adopt latest technological tools so as to ensure discipline in the warehouses and assure integrity of the eNWRs. Further, WDRA should ensure that the WSPs also adopt the latest technological tools in their warehousing operations.***

**CHAPTER 3 : PERSPECTIVE ON WAREHOUSING, ASSAYING AND
RISK MANAGEMENT IN INDIA: ISSUES AND CHALLENGES IN
PHYSICAL MARKETS OF NON-AGRICULTURAL COMMODITIES**

This chapter exclusively outlines the quality parameters for non-agriculture commodities, trade practice regarding storage infrastructure, deposit procedures (including KYC/KYD, sampling, weighing, assaying, stacking), assaying standards, delivery standards, and risk management practices and tools being adopted by warehouses and other stakeholders etc., with respect to precious metals and gems/stones, metals and alloys and others commodities as identified in the O.M. dated May 31, 2019.

1. To study the existing physical infrastructure of storage facilities of the commodities covered by the WG and to understand the procedure being followed at present, by storage facilities w.r.t. various warehousing activities viz., KYC of owner, KYD of depositor, deposit of stock, inward/outward entries, weighment, sampling, assaying, stacking, security, delivery of stock etc., the WG members visited various storage facilities for the commodities covered in the ToR. The list of the various storage facilities visited by the WG members or by officials nominated by WG members is enclosed as **Annexure 1**.
2. While in case of commodities such as steel, diamond, gold, silver, platinum, palladium, aluminium, brass, copper, lead, nickel, zinc and tin, third party commercial storage facilities are in existence and were visited by the WG members, in case of commodities such as iron ore, coal and ethanol, third party commercial storage facilities are generally not in existence. For such commodities, storage is first done at the primary producer end (at coal mines for coal, at iron ore mines for iron ore and at distillery for ethanol),

then at ports or railway sidings in their supply chain, if any, and finally at the consumer end (at power plants or steel plants for coal, at steel plants for iron ore and at Oil Marketing Companies (OMCs)/pharmaceutical factories/liquor makers for ethanol). Given that the storage of iron ore, coal and ethanol is done by the owners of the goods themselves at different stages of their economic cycle, many of the activities involved in commercial warehousing such as KYC, KYD, deposit of stock, delivery of stock etc. may not be carried out / required by the storage facilities.

3. Norms for storage infrastructure including security features especially in the case of vaults for precious metals & gems/stones are generally kept confidential by vault operators due to security concerns. Thus, the various features seen during the visits or as voluntarily made available by the storage facility providers have been incorporated in this section.
4. With regards to the items in the ToR relating to collection of SOPs for various activities of commercial warehousing, some of the storage facilities visited by the WG were not comfortable in sharing their exact SOPs being followed by them while in some other cases, the warehouse did not have any documented SOP. However, the broad procedures/process being followed by warehouse/vault operators were discussed in detail during the meetings of the WG which have been relied upon while making recommendations under relevant sections of this chapter by way of illustration and guidance.

A. Storage infrastructure

1. Storage infrastructure serves as the lifeline for the development of commodities market. Members of WG observed that different categories of commodity complexes require different types of storage infrastructure and adoption of varied storage practices. As an illustration, the storage infrastructure and practices for precious metals such as gold and silver are very different when compared with the storage infrastructure and practices warranted for base metals or industrial metals. Like-wise, the

storage infrastructure and practices for minerals like coal and iron ore are different from those for metals.

Precious metals and gems stones (Gold, Silver, Platinum, Palladium and Diamond)

2. Precious metals and gems/stones are generally stored in vaults. As understood from the vault service providers, there is no codified standard prescribed by any authority or by any vault service providers for adherence by vaults. The vaults are built by service providers as per their own internal specifications, designs and risk management norms. Subsequently the vaults are modified or customized, based on audit/inspection and observations/suggestions by suppliers / customers and insurers.
3. In India, the major VSPs are Brink's India Private Limited, Sequel Logistics Pvt. Ltd and Malca-Amit JK Logistics Pvt. Ltd, who cater to the storage needs of bullion importers, exporters, traders, dealers, banks and also jewelers. Based on the interactions during physical visit to vaults and detailed discussions with the VSPs as well as with the experts in this field, the WG has identified the salient features of storage infrastructure of the VSPs in India as follows-
 - a. Most of the vaults are either owned by the vaulting agencies or are taken on long term lease. Vault essentially comprises a strong room with adequate number of lockers and racks depending upon the required storage capacity of the vault.
 - b. Strong rooms of adequate internal usable size for storage and handling of goods.
 - c. AAA standard lockers for storage of diamonds as per industry practice.
 - d. Racks for storage
 - e. Electronic balance or beam balance for weighing

- f. Equipment required for handling of goods, as pallet handler.
- g. Vaults are generally built so as to be accessible by armoured vehicles.
- h. Arrangements for safekeeping of goods at various vaults comprise features from amongst the following:
 - Building structure of adequate strength for achieving burglary resistance, and protection against possible attack by common handheld /picking /impact /portable electric /hydraulic /concrete cutting /drilling tools, pressure applying devices, power saws etc.; fire resistance against gas cutting torch, fluxing rod etc.; fire hose stream reheat endurance against exposure to major fire and fire-fighting water stream/jet etc. To achieve the above, walls, roof and floor are made up of RCC (Reinforced Cement Concrete) of adequate thickness which are further reinforced with steel bars.
 - Strong room doors of specified strength similar to currency chest doors.
 - Man trap to access vault premises as well as the strong room – interlocking doors to reach premises as well as to reach strong room.
 - Access to doors using access card or biometric reader.
 - CCTV (Close Circuit Tele Vision) monitors
 - Indoor & Outdoor IR (Infra-Red) Cameras
 - Sensors: Vibration, Smoke, Movement etc.,
 - Panic Switches & Alarm Systems
 - Recoding systems such as DVR (Digital Video Recording) System located in a secured place/ area (pre-vault Area/Packing Area) under lock and key – storage of recording to meet international standards, say for a period of minimum 90 days.
 - Interlocking Panel for steel doors
 - Electromagnetic locks for steel doors
 - Control Panel with Auto dialer
 - Video Door Phone/Biometric Sensor
 - Metal Detector

- SFSR (Steel Fabricated Strong Room) or Additional RCC wall
- HSD (High Security Door) with Grill Gate with combination, mechanical & timer locks (Steel Door with 2 mechanical locks may be used in low risk areas) used to Control Access to Vault
- Doors feature with high security locking mechanism & equipped with a spring or hydraulic automatic door closure.
- Security & Surveillance system is checked daily & a record maintained thereof
- Non-functioning items reported to Security & repaired /replaced immediately or as earliest as possible.
- Two separate power supplies, one for main lighting/fans and other for sensors, cameras, etc. All electrical wiring inside the vault are as per the best safety standards. The power for lighting/fans inside vault is controlled by a power cut-off switch provided on vault door so that when the external vault door is closed, the power for lighting/fan inside vault shall get cut-off automatically. The other power supply for sensors and cameras inside vault continue even after the vault door is closed.
- Adequate number of armed and un-armed security guards at the vaulting premise - Private Security Agencies Regulation Act, 2005 (PSARA) Licensed Security agencies are appointed for deployment of security guards.
- Armed security should have an active and a valid gun license. In Mumbai, registration with local police is mandatory.
- Central Control Unit for monitoring of Vaults.

Non-ferrous metals and alloys (Aluminium, Brass, Copper, Lead, Nickel, Zinc, Tin)

4. Non-ferrous metals and alloys are usually stored in dry warehouses having the below mentioned features:

- a. Warehouses are either owned by warehouse service providers or are taken on long term lease.
- b. Warehouse structure:
 - Dry warehouses with flat-bed storage or rack storage are used.
 - Many of the metals can also be stored in open area. However, copper and nickel are not stored in open spaces due to oxidization.
 - Load bearing capacity of warehouse floor is designed commensurate with the intended stacking height.
 - Some warehouses have adjustable ramps at the loading/unloading bay so as to enable cargo vehicles of different heights to load/unload at the entry point of the warehouse.
 - Floors, walls and roof are kept free from cracks, leakage.
 - Warehouses have adequate plinth height to prevent entry of rodents, water inundation.
- c. Warehouses have a boundary wall (either individual or common with other warehouses) all around the warehouse premises with a proper gate for entry and exit of vehicles. Warehouses also have enough space for parking/movement of large cargo vehicles.
- d. Equipment for handling goods – adequate number of fork lifts and hydra cranes (some warehouses follow practice of leasing handling equipment on rent for carrying out loading/unloading operations instead of owning these equipments).
- e. Weighing equipment – availability of weigh-bridge or other suitable weighing equipment for weighing of goods or arrangement with a nearby weigh-bridge.
- f. Arrangement of security personnel, CCTV monitoring, lighting, fire safety equipment, door locks, alarms etc.

Ferrous metals (Steel)

5. Ferrous metals such as steel ingots and billets are usually stored in open yards or yards with sheds having the below mentioned features:
 - a. Warehouses are either owned by warehouse service providers or are taken on long term lease.
 - b. Warehouse structure:
 - Generally, goods are kept in open yard.
 - Yards usually have leveled floor to ensure stability of stack of goods.
 - Yards have big gates and open spaces for entry/exit of large vehicles and for loading/unloading of cargo.
 - c. Boundary wall with a proper gate for entry and exit of vehicles. Yards also have enough space for parking/maneuvering of large cargo vehicles.
 - d. Equipment for loading/unloading – cranes.
 - e. Weighing equipment - availability of weigh-bridge or other suitable weighing equipment for weighing of goods or arrangement with a nearby weigh-bridge.
 - f. Arrangement of security personnel, lighting etc. Fire safety equipment is usually not required as ferrous material does not catch fire easily.

Coal and iron ore

6. Storage of coal and iron ore requires license from government agencies. They are usually stored at facilities within the supply chain flow of the commodity.

7. For example, coal is first stored at coal mines after being mined, then at ports or railway yards during its transportation from one place to another and finally at the facilities which use coal as raw material – steel/sponge iron plants, thermal power plants. During the visits to storage facilities it was informed that each handling of coal leads to around 5% loss of material (part of coal gets broken into fines on being handled and lost to ground), users do not consider shifting coal from ports/railway yards to any other storage facility (before transporting the material to usage facilities) even though port/railway yard charges for coal storage are very high. This might be a reason for lack of commercial storage facilities for bulk storage of coal.
8. In case of iron ore also, ore is first stored at iron ore mines, then at ports or railway yards and finally at the users' premises – steel or sponge iron plants.
9. The storage facilities vary based on the place of storage. In case of mines, the goods are stored in open yards without any shed or cover. In case of captive storage facilities of plants, coal is kept either in open or under shed depending on the type of coal. Coking coal (having high Gross Calorific Value [GCV]) used in production of steel is generally kept in shed and is continuously dried using high power fans. Fire sprinkler systems and high pressure fire lines are also installed for safety against fire. Whereas thermal coal (having high volatile matter) used in power plants is kept under open sky. Water is generally sprinkled on top of heap at regular intervals to prevent dusting, fire and smoke.
10. Further, due to pollution considerations, storage facilities of coal need to be located away from residential areas, ecologically sensitive areas as well as from water bodies and are required to have a minimum specified boundary height and wind breaking wall. They are also required to comply with the norms issued by the Pollution Control Board of the respective State Governments.
11. Loading trucks are used for loading of coal/iron ore onto transport trucks/railway wagons.

12. Weighment of the coal/iron ore dispatched from mines or received at plants is done using lorry weigh-bridge, situated inside or nearby the storage facility.

Ethanol

13. Ethanol has specific storage requirements due to its inherent properties and associated hazards.
14. It is corrosive and can corrode a number of metals such as aluminum, zinc and copper. It can also have adverse effects on polymers, rubber, elastomers, and glues and sealants that use a dissolved alcohol base. Thus, ethanol is stored in steel storage tanks (preferably double walled).
15. Pure ethanol has a flashpoint of 55°F (13°C). It releases vapors into the atmosphere, creating a flammable environment. Thus, storage tanks should either be temperature controlled to prevent excess evaporation or the tanks should have vent with condenser to minimize loss due to evaporation.
16. Ethanol also tends to absorb water from the surrounding environment. Storage is done in dry areas, with low humidity. As ethanol is highly flammable, stringent fire safety precautions need to be maintained in and around ethanol storage tanks – no smoking, no use of mobile phones etc.
17. For the purpose of transfer of ethanol from/to the storage tank, flameproof submerged motor and pump connected to pipes / hoses are used. Measurement of ethanol dispatched / received is done using either or a combination of dip rod/gauge (both in the receiving and dispensing tank) as well as a flow meter in the connecting transfer pipe.

Recommendations of WG:

- a) WDRA may specify infrastructure requirements (structure, fire safety and security arrangements, equipment etc.) for***

commercial storage facilities of various non-agricultural commodities considering the practices followed by the industry as outlined above.

- b) With regards coal, iron ore and ethanol, since third party commercial storage facilities would not be usually available, WDRA may consider permitting those storage facilities owned by the producers or consumers for the purpose of issuance of eNWRs, subject to compliance with the conditions as may be prescribed, such as third party management of the storage facilities for which WDRA may review its extant rules / regulations.***

B. Quality and Assaying

1. The BIS has specified quality standards for all the non-agricultural commodities covered under the ToR of the WG viz., precious metals and gems/stones, non-ferrous metals and alloys, ferrous metals, coal, iron ore and ethanol. The list of the BIS assaying/grading standards for each of these commodities is presented in **Annexure 2**.

Additional grades for non-ferrous metals and precious metals

2. Prevalent Market Practice: - In case of non-ferrous metals and precious metals, imports constitute a major share of the total supply in the country. Such imported goods are produced by manufacturers accredited by benchmark exchanges or international organizations such as LME/CME and LBMA/LPPM. These products conform to the quality standards as adopted by LME/CME (specified by national standard setting bodies of a few jurisdictions) in case of non-ferrous metals and as specified by LBMA/LPPM in case of precious metals.
3. In fact, the standards adopted by these benchmark exchanges or international organizations are globally accepted standards in the spot/physical market as well as in the derivatives markets and are invariably relied upon by all the value chain participants. For example, the precious metals industry follows LBMA quality specifications for bullion and LPPM quality specifications for platinum and palladium while the base metal industry accepts LME/CME registered brands.
4. Therefore, apart from goods/products confirming to BIS specifications, the warehouses intending to be registered by WDRA, should also be permitted to store base metals and precious metals of globally accepted quality standards (conforming to quality standards as adopted by LME/CME/ShFE for base metals and as specified by LBMA/LPPM for precious metals). Globally accepted quality standards for base metals and precious metals are at **Annexure 3**.

Recommendation of WG:

- a. Goods conforming to BIS quality standards may be accepted for deposit by the warehouses.***
- b. Goods conforming to globally accepted quality standards should also be accepted for deposit in warehouses, regardless of whether such goods conform to the quality standards specified by BIS or not. Gold/silver conforming to quality standards specified by LBMA and platinum/palladium conforming to quality standards specified by LPPM and base metals conforming to quality standards adopted by LME/CME/ShFE etc., should be accepted for deposit by WDRA accredited warehouses/vaults, based on certification by the manufacturers of these goods as per industry practice. To enable the same, Government or WDRA should take suitable regulatory measures including issuance of necessary notification by the concerned Ministries/departments.***

C. Deposit

1. As per industry practice, the steps followed for deposit of goods in a warehouse are broadly as follows:

- KYC of owner of goods deposited by repository
- KYD of depositor (if different from owner) of goods by warehouseman
- Documents of goods obtained
- Check that goods (especially the precious metals) are not out of the loop (explained below)
- Weighing of goods
- Assaying
- Stacking
- Issuance of eNWRs

a) KYC, KYD and obtaining documents

2. Since KYC of owners of goods and KYD of depositors (in case different from owners of goods) would be commodity neutral, it would be appropriate that the existing norms specified by WDRA for agricultural commodities and followed by repositories/warehousemen be extended to non-agricultural commodities also.

Recommendation of WG:

a) The present system of KYC by repository and KYD by warehouseman for agri-commodities can be extended by WDRA to non-agricultural commodities also.

b) Check that goods are not out of the loop

3. In case of precious metals, given that there are constraints in quality testing and weighing (destructive testing, precision weighing) prior to accepting for deposit, integrity of the supply chain is paramount. Thus, the market practice is to accept only

those goods which have traceability to their refiners and which have not gone out of the supply loop (starting with refiner to registered vaults through logistics service providers engaged by the vault/refiner) to maintain integrity of the supply chain and to ensure that the goods are genuine and conforming to quality/quantity as per the accompanying documents (quality certificate issued by refiner, packing list issued by depositor). In case of vault to vault transfer, transferring vault also issues a letter to accepting vault that the goods have not gone out of the loop.

Recommendations of WG:

a) In case of precious metals, vaults should accept only those goods which can be traced back to their refiners and which have not gone out of the loop (originating from the refiner to registered vaults through logistics service providers engaged by the refiner/vault)

c) Weighing

Precious metals and gems/stones

4. In case of precious metals, some vaults carry out weighing while some do not. However, in case of LBMA approved bullion bars, it is not an industry practice to weigh the bars before acceptance as LBMA approved gold bars compulsorily have weight embossed on them. Similarly, weight is embossed on almost all silver bars except for a few, in which case, the vaults take deposit of the bars based on declaration by depositor. Weight of precious metals is also indicated on the manufacturer's certificate as well as in the packing list provided by the depositor as part of deposit document. In case of bullion bars of small denomination, they usually come in tamper proof packing and weight is indicated either on packing or in the accompanying manufacturer's certificate.

5. In case of diamond, weighing is done by assayer along with assaying and then diamonds are packed in tamper proof packing. Weight is also indicated on the quality certificate.

Ferrous metals and coal

6. Weighing of bulk goods (iron ore, coal and steel) is carried out using lorry weigh bridges.

Non-ferrous metals and alloys

7. In case of non-ferrous metals and alloys, weight is indicated on manufacturer's certificate. Some warehouses weigh the goods before deposit while some do not.

Ethanol

8. Quantity of ethanol transferred for delivery/deposit is measured using dip rods/gauges and/or flow meter.

Recommendation of WG:

- a) Except for precious metals and non-ferrous metals where weighing is not possible due to tamper-proof packing or where weighing is not the industry practice, all other goods should be 100% weighed before accepting them for deposit by a warehouseman.***
- b) In case of precious metals and non-ferrous metals, where goods can be traced back to the refiner/manufacturer and its weight can be ascertained by way of verification of the goods against refiner's/manufacturer's certificate, goods need not be weighed. In case of such certificate based deposits, the depositing owner of goods shall be responsible as to the weight of the goods deposited in case of any future dispute arising w.r.t. weight.***

- c) *In case of certificate based deposit of precious metals and non-ferrous metals goods, if traceability of the goods back to refiner/manufacturer is lost after deposit in vault/warehouse due to any reason (as loss of refiner/manufacture's certificate, breakage of manufacturer's seal, worn out identification numbers on the goods, etc.), warehouseman shall be responsible as to the weight of the goods deposited, in case of any future dispute arising w.r.t. weight of the goods.*
- d) *In case certain precious metals and non-ferrous metals goods cannot be traced back to the refiner/manufacture for any reason (as non-availability of manufacturer's certificate, broken manufacturer's seal, worn out identification numbers on the goods etc.), at the time of accepting goods for deposit itself, 100% weighment of such goods should be carried out by the warehouseman prior to deposit. In case of such deposits, the warehouseman shall be responsible as to the weight of the goods so deposited after weighing in case of any future dispute arising w.r.t. weight.*

d) Assaying standards and assaying

All commodities

9. BIS has specified assaying standards for all the commodities that have been referred to by the working group. The list of the BIS assaying/grading standards with assaying codes for each of these commodities is enclosed at **Annexure 2**.
10. NABL has accredited various labs for testing of non-agricultural commodities, covered under the terms of reference of the working group.
11. Industry practice is to carry out assaying prior to acceptance of goods for deposit in case of steel, coal, iron ore, ethanol and diamond. Before accepting goods for deposit, warehouses should get the goods tested by NABL accredited laboratories using BIS specified assaying standards.

Special dispensation for precious metals and non-ferrous metals and alloys

12. As per the industry practice, in case of precious metals and non-ferrous metals, the storage service providers (vaults and warehouses respectively) do not provide for assaying facilities or carry out quality assaying/testing before accepting goods. In case of precious metals, testing is not done due to same being destructive in nature.
13. In case of precious metals, the prevailing industry practice is that the vault keeper, before accepting goods for deposit, matches the manufacturer's name/logo, fineness of the metal, year of manufacture and unique identity number engraved on the precious metal bars with the same details given in the manufacturer's certificate and goods are accepted for deposit after such verification (there may be a single manufacturer's certificate per production lot, hence there can be a single certificate of manufacturer for multiple bars deposited by the depositor).
14. In case of non-ferrous base metals, same is done by way of checking that the manufacturer's seal on the bundle of goods is intact and the details on the label (whether inscribed or pasted on each bundle) has a unique lot number, weight, year of manufacture etc. which are matched with those given in the manufacturer's certificate.

Recommendations of WG:

- a) In case of precious metals and non-ferrous metals, where goods can be traced back to the refiner/manufacturer and its quality can be ascertained by way of verification of the goods against refiner's/manufacturer's certificate, assaying of the goods before accepting for deposit need not be made mandatory. In case of such certificate based deposits, the depositing owner of goods shall be responsible as to the quality of the goods deposited in case of any future dispute arising w.r.t. quality of***

the precious metals or non-ferrous metals, as warehouseman has no wherewithal to test the quality of such goods.

- b) In case of certificate based deposit of goods where goods could be traced back to refiner/manufacturer at the time of deposit), if traceability of the goods back to refiner / manufacturer is lost after deposit in vault / warehouse due to any reason (as loss of refiner / manufacturer's certificate, breakage of manufacturer's seal, worn out identification numbers on the goods, etc., warehouseman shall be responsible with respect to the quality of the goods deposited in case of any future dispute arising w.r.t. quality of the goods.***
- c) In case certain goods cannot be traced back to the refiner/manufacturer for any reason (as non-availability of manufacturer's certificate, broken manufacturer's seal, worn out identification numbers on the goods etc.) at the time of accepting goods for deposit itself, assaying of such goods should be carried out through NABL accredited labs as per the BIS assaying standards by the warehouseman at the cost of the depositor. Thereafter, goods can carry the accredited lab's certificate for further trade. In case of such deposits, the warehouseman shall be responsible for the quality of the goods so deposited after assaying in case of any future dispute arising w.r.t. quality of the precious metals or non-ferrous metals.***
- d) In case of all other goods, they should be accepted for deposit only after having been assayed by NABL accredited labs using assaying standards as specified by BIS.***
- e) Stacking of goods

- 15. Warehouses generally maintain and follow a 'stack plan' for storage of goods in the warehouse. This involves division of the floor space into convenient blocks of specified dimensions with minimum specified space between the adjacent stacks to serve as alleyways to facilitate inspection and to provide space for cargo

movement operations. Further, stack space is also determined so as to ensure that each bar in case of precious metals and each lot in case of ferrous and non-ferrous metals, is accessible and retrievable. Another aspect of stack plan is deciding maximum stack height. Stack height is decided taking into account the following –

- Load bearing capacity of the warehouse floor
 - Crushing weight bearing capacity of material at the bottom
 - Stability of the stack
 - Density of material
16. In case of ferrous metals, stack height is decided based on the height limitations of the material handling equipment (crane) and stability of stack.
17. Precious metals are kept in racks/pallets and precious stones/gems are stored in lockers. Sometimes base metals are also kept in racks.
18. In case of iron ore and coal, heap height is restricted based on pollution considerations. Stacking plan and gaps are decided based on access requirements between the heaps.

Recommendations of WG:

a) WDRA may stipulate commodity-specific guidelines for storage including stacking of such commodities taking into account the afore-stated industry based practices.

f) Issuance of eNWRs

19. The issuance of warehouse receipt should be in terms of the eNWR Regulations framed by WDRA. Since issuance of eNWR would be generally commodity neutral it would be appropriate that the existing norms specified by WDRA for agricultural commodities and followed by repositories/ warehousemen can be extended to non-agricultural commodities also.

20. However, looking at the industry practice in case of precious metals and non-ferrous metals, the storage service providers (vaults and warehouses respectively) do not carry out quality assaying or provide for assaying facilities before accepting goods and generally rely upon the brands and certifications by the manufacturers. Therefore, for the eNWRs to be issued for non-agricultural commodities, following additional aspects need to be considered:
- It would be appropriate to include few additional parameters in eNWRs such as brand, purity, the manufacturer's serial number (wherever available in case of non-ferrous metals) etc.
 - The country / region of origin may be stipulated in the eNWR.
 - the shape;
 - the date(s) and reference number(s) of the certificate(s) of analysis lodged with the Warehouse
 - Besides the above, appropriate warning may be given on the eNWRs by stating that the buyer is advised that this metal may contain crevices and hidden recesses holding entrapped moisture. The metal should be handled and processed with this possibility in mind. Entrapped moisture may cause an explosion if the metal is introduced into a melting furnace without proper drying.

Recommendations of WG:

- a) The present norms for issuance of eNWRs for agri-commodities can be extended by WDRA to non-agricultural commodities also.***
- b) For the eNWRs to be issued for non-agricultural commodities, following additional aspects need to be considered:***
- ***It would be appropriate to include few additional parameters in eNWRs such as***
 - ***brand,***
 - ***purity,***
 - ***the manufacturer's serial number (wherever available in case of non-ferrous metals)***
 - ***the country / region of origin;***

- ***the shape;***
 - ***the date(s) and reference number(s) of the certificate(s) of analysis lodged with the Warehouse***
 - ***Besides above, appropriate warning may be given on the eNWRs specifying that the buyer is advised that the metal may contain crevices and hidden recesses holding entrapped moisture. The metal should be handled and processed with this possibility in mind. Entrapped moisture may cause an explosion if the metal is introduced into a melting furnace without proper drying.***
- c) The above changes would require suitable changes in the eNWR Regulations, framed under the WDR Act.***

D. Delivery of Goods

1. WDRA has specified the steps to be followed by warehouseman before delivering goods against surrender of warehouse receipt/eNWR in case of agri commodities; such as :-
 - Extinguishing of eNWR on full delivery
 - No lien on the e NWR
 - Checking the Quality and Quantity
 - Quality –
 - Inspection of the quality of the stocks
 - Re-assaying of the quality of the stocks if so desired by the endorsee
 - Quantity
 - Weighment of stock - same mode of weighment is resorted both during deposit and delivery of goods.
2. The same steps may be resorted to in case of delivery of non-agri commodities as discussed above.

Recommendations of WG:

- a) The present procedure / norms for the delivery of agri-commodities specified by WDRA may be extended to non-agricultural commodities also, as may be applicable for them.***

E. Risk management Aspects

Precious metals and gems/stones

1. Various risk management practices followed by the vault service providers as per the current industry practices, as noted by the WG are as under-
 - No storage or movement of precious metal without insurance. Various kinds of insurance policies like vaulting insurance, transit insurance, fidelity insurance, etc., are taken to cover loss of metal.
 - Regular audit of the vaults by suppliers and insurers.
 - Traceability of goods back to producer is a must.
 - Metal not to be out of the supply loop at any point of time.
 - Vault service providers also resort to internal audit to identify current & potential risks, and escalate the same to the respective operations & security teams and the management, for corrective measures.
 - Infrastructure for physical security (strong room structure, guards, locks etc.,) (already covered in detail under section on “storage infrastructure”) and protection against fire.
 - With regard to operation personnel, induction & regular training to them on SOP and security procedures is provided.
 - A Multi-level escalation matrix on reporting critical incidents is laid out.
 - A daily reporting of activities, stock inventory, escalations on exceptions & deviations, if any, is done.

Metals and alloys

2. The various risk management practices followed by the warehouse service providers as per the current industry practices are as under-
 - For physical security, both active and passive security arrangements are provided to restrict access to cargo by unauthorized individuals, security arrangements take many

forms (cameras, guards, motion sensors, fences, electronic locks).

- Background verification of the security and administrative personnel is carried out.
 - For administrative security, processes and procedures are put in place that prevent both accidental / opportunistic or intentional cargo appropriation by non-cargo owners (such as 4-eye principle i.e. maker-checker concept, separation of duties, limitations in access), screening of personnel (own and temporary), awareness training, etc.
 - KYC and KYD policy to ascertain the identity of the owners / depositors.
 - Audits are carried on by both the internal audit team and also by third party audit team.
 - From delivery point of view, proper checks and balances such as identity proof, delivery note & gate pass, proper instruction from the buyer party etc. are critical to prevent any liability, if delivery becomes invalid.
 - From operations point of view, resource planning, allocation of stock for maximum usage of space etc. are monitored
3. A comparison between the WDRA guidelines issued for agricultural warehouses and the draft guidelines issued by SEBI for public consultation on norms for non-agricultural warehouses is presented at **Annexure 4**. Based on the comparative analysis, some of the risk management norms prescribed by SEBI and WDRA for agricultural warehouses are found suitable by the WG for prescribing for the non-agricultural warehouses as well. They are as under-
- Permitting entities with credentials and expertise:
 - Entities to be 'fit and proper'
 - Should have 3 years of relevant experience/domain expertise.
 - Must have valid requisite licenses/registrations
 - Financial soundness: Meeting minimum net worth criteria as may be prescribed. Financial Security Deposit (FSD) to cover non-insurable risk; and FSD to be linked to the aggregate value of stored commodity.

- Appointment of Compliance officer responsible for monitoring the compliance.
- Review of SOPs of warehouses by WDRA prior to granting registration. The SOPs may cover the following but not restricted to:
 - Procedures for acceptance of goods to be deposited
 - Weigh bridge empanelment in case of base metals/industrial metals while specifying digital electronic weighing scales for the precious metals, gems and stones.
 - Procedure for the calibration of the weighing scales.
 - Procedures for weighing, sampling of goods to be deposited as per industry standards,
 - Procedure for verification of commodity and communication to depositors,
 - Procedure for depositing and identifying the Exchange related goods,
 - Procedure for maintaining the quality of the goods stored as per the exchange contract specification,
 - Procedure for Know your depositor requirements,
 - Security policy for ensuring the safety of the goods from theft, burglary etc.,
 - Procedure and guidelines for scientific storage of commodities including stacking,
 - Procedure for losses caused due to theft, fire, burglary, fraud, negligence and force majeure events,
 - Procedure for internal verification of commodities
 - Selection of Location,
 - Grievance redressal procedures,
 - Role and responsibilities of employees (including outsourced staff)
 - Model warehouse/vault agreement format,
 - Maintenance of surroundings, infrastructure etc.
- WSPs may be required to intimate / notify in writing to WDRA, if there is any material change in its SOP and its internal systems and control, prior to making such change.

Recommendations of WG:

Based on the above, following broad principles for risk management may be adopted while framing guidelines for the warehousing of non-agricultural commodities, such as:-

- a) Appropriateness with reference to experience of warehousing business, financial soundness, fit and proper status of the service provider.***
- b) To develop non-agricultural warehousing ecosystem in the country, WDRA may consider taking into cognizance the experience of WSPs in agri warehousing too, for accrediting their warehouses for base metals and alloys.***
- c) Infrastructure for safekeeping – prevention against theft, fire, quality deterioration etc.***
- d) Warehouseman to have Standard Operating Procedures (SOP) for various processes such as:***
 - Deposit and delivery***
 - Weighing, sampling, assaying of quality and its reporting. The weighbridges in case of base metals/industrial metals may need to be empanelled along with registration of the warehouses. Digital weighing facilities will have to be made available with respect to precious metals, gems and stones.***
 - Designating authorized persons to issue eNWRs.***
 - Ensuring safety of goods from fire, theft, burglary and other types of deterioration in storage***
 - Scientific storage including stacking. This will also include maintenance of surrounding, infrastructure etc.***
 - Identification and traceability of goods warehoused***
 - Determining losses caused due to fire, flood, burglary, misappropriation, fraud, negligence and force majeure events.***
 - Internal verification of goods in the warehouse.***
 - Grievance redressal system***

- ***Defining requirements, roles and responsibilities of manpower employed in the warehouse.***
 - ***Material check before deposit - traceability, integrity of loop, assaying and weighing etc.***
- e) Audits, inspections, regular inventory reporting, surveillance and monitoring of warehouses/vaults.***
- f) Appropriate Insurance for insurable risk (theft, fire, burglary, fraud, negligence and force majeure events) and Security deposit for non-insurable risk. Since majority of the non-agricultural commodities covered in the report are non-perishable in nature and do not suffer loss in quantity or quality, the related risks are not witnessed in standard storage and handling scenario, unlike in case of agricultural commodities. These advantageous features should be taken into consideration while determining the quantum/rate of security deposit from the applicant warehouses with respect to non-agricultural commodities.***

CHAPTER 4 : GLOBAL BEST PRACTICES

This chapter highlights some of the global best practices adopted by leading associations or exchanges in warehousing and related aspects of the non-agricultural commodities

1. The third party commercial warehousing plays an important role in the global economy. It is observed that warehouses storing agricultural commodities are generally regulated by a government authority while those for non-agricultural commodities are mostly unregulated. Nevertheless the global best practices adopted by the warehousing industry could be customized to Indian conditions. In course of its deliberations, the WG members came across certain documents/literature as available in public domain on various global practices being observed on warehousing of non-agricultural goods.
2. The WG has noted that many of the new modern warehousing facilities/clusters which have been developed in India for the non-agricultural commodities, are offshoots of the global warehousing giants or are in the warehousing business for a long time. Such facilities appear to have been adopting global best practices.
3. Vaults of precious metals appear to have been following the global best practices flowing from LBMA. This is due to the fact that the precious metals move from vault to vault, and the secured logistics and vault owner/service providers have to rely on one another to maintain the integrity of supply chain of such metals. Thus, it eventually results in adopting the global best practices in vaulting service. Similarly, on the warehousing front of base metals, most of the global warehousing companies are recognized

by the global exchanges like LME, CME Group or ShFE. They follow the standards set by these global exchanges. Some of the global best practices followed by different international exchanges or association based on the literature available in public domain are highlighted below:

- a) **Minor Metal Trade Association**: MMTA is the world's largest association involved with minor metals. Some of the major guidelines for compliance by the companies who wish to become a member of MMTA are observed to be the following:
- The company shall be neutral, not owned or associated with any Trading Company.
 - The Company must be financially sound with a minimum net worth.
 - The Company must have strict working procedures in place, ISO standard or equivalent.
 - The warehouse must have a fully fenced perimeter. If any side(s) of the warehouse borders a public road, then it should not have any operational doors bordering the road and any such doors must always be locked and alarmed.
 - Loading and unloading must always take place within the perimeter of the warehouse i.e. not in a public area.
 - A CCTV surveillance system is required.
 - The storage of precious or high value material such as indium, cobalt etc., must be in a special vault or a high security area within the warehouse.
 - When the warehouse is open, operational staff directly employed by the Warehouse Company must be on site at all times.
- b) **CME Group**: CME group accredit depositories for the storage of gold, silver, platinum and/or palladium, and warehouses for the storage of aluminum, copper, lead and/or zinc. Some of the important guidelines issued by it to its delivery facilities are as follows:

- The warehouse regular¹² for delivery of copper, lead and zinc shall provide a fully secured indoor facility for the storage of copper, lead and zinc.
 - The warehouse regular for delivery of aluminum, lead and zinc must also qualify and be designated a weighmaster¹³.
 - The depository shall provide a fully secured indoor facility for the storage of precious metals.
 - The depository for gold, platinum and palladium must be accessible by armored car.
 - The Exchange shall designate and approve an armored car company as a carrier whose function is to provide for the secure transportation of gold, platinum and palladium and shall maintain a chain of integrity for each such metal.
 - Regular inventory reporting to the exchange.
 - Annual audit of inventory and inventory reporting to the Exchange by an independent auditor.
 - Compulsory all-risk insurance against loss of the metal
 - Open to inspection by any regulatory or government body
 - Prompt intimation to the Exchange of any damage to metal held in store, whenever such damage shall occur to an extent that will render the metal undeliverable
 - Commitment of employees to information confidentiality
 - Disciplinary procedures in case of non-compliance
- c) **LME**: LME has prescribed an elaborate set of rules for warehousing, the highlights of which are as under:
- A Warehouse shall have staff with sufficient experience in metal storage, logistics and systems to ensure that the Warehouse is able to comply with all applicable requirements on an ongoing basis.
 - From time to time, and at least every 12 months, the warehouse must carry out a visual inspection of all metal under warrant in its warehouses and of all supporting documentation;

¹² A facility declared approved and regular by the exchange.

¹³ Weighmaster - whose function is to verify the weights

- All weighing equipment used for weighing metal under warrant must be checked for accuracy at least quarterly by an accredited and responsible institution which is not affiliated to the warehouse.
- An Authorized Warehouse may be used by only one LME authorized warehouse operator and to the extent that it is used for the storage of any metals which are permitted to be the subject of a Contract, may not also be used to store such metals which are deliverable on any other exchanges.
- The Warehouse may not deal directly or indirectly in Contracts.
- When receiving metal for placing on Warrant, a Warehouse need not undertake an assay of the metal itself but must carefully undertake a visual inspection of the metal and all supporting documentation and, if the metal or the supporting documentation is in any way patently sub-standard or anomalous, the Warehouse must not issue a Warrant until any such shortcoming has been remedied. Without limitation to the foregoing, metal will be deemed to be patently sub-standard if:
 - there is broken or visibly corroded strapping which could make the bundle of metal unsafe to handle;
 - there is visible contamination of metal;
 - there is inconsistent branding of metal (for instance, where all of the metal or some of the metal is patently not an LME brand or where different LME brands have been visibly mixed within a bundle); and
 - the supporting documentation and paperwork does not accord with the Rules.

For the avoidance of doubt, a Warehouse is not required to break bundles or inspect metal ingots hidden from view within bundles, unless there are visible signs indicating or suggesting a defect in quality within a bundle or the Warehouse is in any way aware that there is a defect within a bundle not apparent from a visual inspection.

- Straps replaced by a Warehouse must be of corrosion resistant material and in compliance with LME strapping standards.
 - Generally, each warrant shall state the following:
 - the name of the brand;
 - the country / region of origin;
 - the shape;
 - the date(s) and reference number(s) of the certificate(s) of analysis lodged with the Warehouse;
 - the weight;
 - the number of bundles of ingots or the number of T-bars or sows making up each lot.
 - **WARNING:** the buyer is advised that this metal may contain crevices and hidden recesses holding entrapped moisture. The metal should be handled and processed with this possibility in mind. Entrapped moisture may cause an explosion if the metal is introduced into a melting furnace without proper drying.
 - The LME Warrant shall be and remain valid until the original is presented for cancellation.
 - Each warehouse company must report stocks to the LME on a daily basis.
- d) **ShFE:** ShFE has also laid down its procedures for warehouse operations, some of which are noted as under:
- The certified warehouse/depository, pursuant to these Certified Delivery Warehouse/depository Rules, the Delivery Rules of the Shanghai Futures Exchange, the Standard Warrant Rules of the Shanghai Futures Exchange and in its sole discretion, shall conduct an audit every month of compliance with one or more regulatory requirements and record its conclusions
 - When it secures the Exchange's certification, a certified delivery warehouse/depository shall designate its executives to take the Exchange's delivery business training program.

- e) **TOCOM:** While perusing the TOCOM rules on “Precious Metals Delivery Detailed Rules” following is observed with respect to the warehouse receipt:
- The warehouse receipt shall include the following information and meet all requirements necessary for transfer. A warehouse receipt shall be created for each delivery unit of the same brand.
 - Type (product);
 - Number of bars;
 - Brand;
 - The amount of the delivery goods (Total weight if its consist of several bars);
 - Purity;
 - The manufacturer’s serial number;
 - Company providing fire insurance and term and amount of coverage;
 - A statement to the effect that storage costs (each storage cost if the delivery goods are consist of several bars) through the period containing the delivery day have been paid; and
 - A statement to the effect that property-casualty insurance has been purchased to cover any loss arising from theft (including robbery) and destruction of all, or part of the delivery goods.
- f) **LBMA:** As per the guidelines issued by LBMA under “An Introduction to the Global Precious Metals OTC Market” issued in October 2017, it was highlighted that to ensure the integrity of this key role, the LBMA is in the process of developing the Vault Operators Accreditation Scheme. LBMA has developed some Best Practice Guidelines for opening a new vault for the storage of precious metals as well as for safe packing, transportation and storage of gold and silver bars. LBMA has highlighted that one of the most important aspects of opening and running a vault is the leadership of an effective vault manager. It would be difficult to set up a vault without a manager who has practical experience of working in the precious metals industry.

In addition to providing custodian services, the clearing members with vaulting facilities also physically check and weigh all of the bars that are new to the London market, ensuring they meet the LBMA's strict Good Delivery standards.

g) **Regulations of Futures trading in China** : The State Council of People's Republic of China has promulgated “Regulation on the Administration of Futures Trading” which states the following:

- Article 50 (Chapter VI Surveillance and Administration) indicates that when implementing the surveillance and administration on the futures market, The Futures Regulatory Authority of the State Council (Futures Regulatory Authority or FRA) shall supervise and manage the futures market business activities implemented by the futures exchanges, futures companies and other futures institutions, clearing members of non-futures companies, institution monitoring the safe custody of futures margin, custodian bank of the futures margin, delivery warehouses and other market participants;
- Article 51 The FRA may perform on-the-spot inspections on the futures exchanges, futures companies and other futures operation institutions, clearing members of non-futures companies, institution monitoring the safe custody of futures margin, custodian bank of the futures margin and delivery warehouses

h) **ZCE**: ZCE has specified the following measures for the comprehensive management of risks including storage risk management as specified in the “*Zhengzhou Commodity Exchange CPSS-IOSCO Principles for Financial Market Infrastructures-based Disclosure*”

- Establishment of a video monitoring system: ZCE is improving the development of the remote video monitoring system for delivery warehouses through which ZCE can conduct real time monitoring of the commodities for delivery.

4. As noted earlier, the WG could get access to only certain summary guidelines issued by different exchanges and associations that provide a glimpse into the global practices being followed around the world on different aspects of warehousing/vault service etc. On the whole, all the important global practices, that are relevant to Indian context have been discussed, enumerated and recommended under different heads/items in Chapter - 3 of this report. Analysis and adoption of global best practices will be an on-going process hence, WDRA may adopt and implement best of the global practices highlighted in this chapter for adherence by the warehouses intending to store non-agricultural commodities.

Recommendations of WG:

- a) The above global best practices can be considered by WDRA, wherever applicable, and may be prescribed for inclusion in the SOP by the warehouse operators/vault operators.***
- b) It is also observed that some of the above global best practices emerged mainly from the exchanges dealing in derivatives contracts on commodities. It would also be advisable that SEBI may adopt the global best practices while framing its own norms for the warehousing for non-agricultural commodities.***

**CHAPTER 5 : RECOMMENDATIONS FOR DEVELOPMENT OF
REGULATED WAREHOUSING ECOSYSTEM FOR NON-
AGRICULTURAL COMMODITIES**

1. The WG has studied and discussed at length in Chapter 3, the prevalent industrial practices on various aspects of warehousing of different non-agricultural commodity complexes. These industry practices have been spelt out under different heads such as storage infrastructure, quality assaying, KYC/KYD documentation, delivery standards, issuance of eNWRs and risk management etc., some of the global best practices as highlighted in Chapter -4 which can be adopted by WDRA in prescribing warehousing norms and a model SOP for adherence by the warehouses.
2. The WG is of the view that WDRA can be empowered to take up the responsibility of providing regulatory oversight over the warehouses storing non-agricultural commodities for which WG has made certain recommendations for overcoming various legal, administrative and operational challenges as have been highlighted in Chapter-2 of the Report. Therefore, in the short run, priority may be given for strengthening the legal, administrative and operational capacity of WDRA after which, the regulation of warehouses for storage of various non-agricultural commodities can be undertaken by WDRA with a concerted approach. In their effort, WDRA may also seek inputs and expert support from the RSEs and SEBI while framing the regulations, guidelines or model SOP for different non-agricultural commodities so that the warehouses registered by WDRA can provide services to both the physical/ spot market as well as to the derivatives market, based on uniform practices, standards and SOPs.

3. In view of the aforesaid, the recommendations made by the WG for **development of a regulated warehousing ecosystem for non-agricultural commodities** would be highly beneficial to various stakeholders of the non-agricultural commodity markets, if the same are effectively implemented.
4. All the recommendations made by the WG in this report are presented in a consolidated manner under different heads for ease of appreciation and implementation, as follows:-

A. Legislative aspects

- i. *The WDR Act does not distinguish between agricultural and non-agricultural commodities. Thus, WDRA is empowered to register non-agricultural warehouses and as a natural choice WDRA is expected to regulate warehouses for non-agricultural commodities. However, as per the Government of India (Allocation of Business) Rules, 1961, the mandate of DFPD (the nodal administrative department of WDRA) inter-alia includes “Hiring and acquisition of godowns for storage of food grains including sugar, taking on lease or acquiring land for construction of food grains godowns”. Thus, the mandate of DFPD is mainly related to agricultural commodities. The WG also observes that as per the Government of India (Allocation of Business) Rules, 1961, storage of non-agricultural commodities has not been allocated to any specific department. Therefore, the WG is of the view that warehousing, logistics and associated activities across all commodities, whether agricultural or non-agricultural, be allotted to a dedicated or specific department, as deemed fit by the central government.*
- ii. *It would be appropriate that WDRA expand its services towards regulating warehousing and related services (such as assaying or logistics) for the non-agricultural commodities as in some cases like that of precious metals logistics is integral to keeping the integrity of the warehousing process.*

- iii. It would be appropriate that WDRA notifies the non-agricultural commodities to begin with, those as identified in OM No 8/2/2019-CD dated May 31, 2019), under provisions of WDR Act for issuance of eNWRs.***
- iv. There is no definition of ‘commodity’ either in WDR Act or SCRA, 1956. WDRA may look into the same for bringing out more clarity.***
- v. Wherever reference to ‘commodity exchange(s)’ has been made in its Regulations, WDRA may replace it with the words ‘recognized stock exchange(s)’.***
- vi. WDRA may look into streamlining and strengthening the provisions relating to appeals, offences and penalties so that the disputes if any are resolved in a time bound manner. WDRA may consider extending the arbitration framework in existence for warehouses storing agricultural commodities to warehouses storing non-agricultural commodities also with due changes, to ensure faster resolution of disputes pertaining to functioning of the registered warehouses.***

B. Capacity enhancement at WDRA – human resource and technological

- i. To effectively carry out its regulatory, surveillance and monitoring over large number of warehouses dealing in storage of agricultural and non-agricultural commodities and located in different parts of the country, WDRA should adopt latest technological tools so as to ensure discipline in the warehouses and assure integrity of the eNWRs. Further, WDRA should ensure that the WSPs also adopt the latest technological tools in their warehousing operations.***
- ii. WDRA needs to be adequately staffed for discharging its current responsibility of regulating warehouses for the***

agricultural commodities. Further, for effectively taking up the new responsibility of regulating warehouses for non-agricultural commodities, it should sufficiently augment its present human resources.

C. Storage infrastructure

- i. WDRA may specify infrastructure requirements (structure, fire safety and security arrangements, equipment etc.) for commercial storage facilities of various non-agricultural commodities considering the practices followed by the industry as outlined in part A of Chapter 3.***
- ii. With regards coal, iron ore and ethanol, since third party commercial storage facilities would not be usually available, WDRA may consider permitting those storage facilities owned by the producers or consumers for the purpose of issuance of eNWRs, subject to compliance with the conditions as may be prescribed. These can include conditions, such as third party management of the storage facilities for which WDRA may review its extant legislations.***

D. Quality standards

- i. Goods conforming to BIS quality standards may be accepted for deposit by the warehouses.***
- ii. Goods conforming to globally accepted quality standards should also be accepted for deposit in warehouses, regardless of whether such goods conform to the quality standards specified by BIS or not. Gold/silver conforming to quality standards specified by LBMA and platinum/palladium conforming to quality standards specified by LPPM and base metals conforming to quality standards adopted by LME/CME/ShFE etc., should be accepted for deposit by WDRA accredited warehouses/vaults, based on certification by the***

manufacturers of these goods as per industry practice. To enable the same, WDRA should take suitable regulatory measures including issuance of necessary notification by the concerned Ministries / departments.

E. eNWRs

- i. The present norms for issuance of eNWRs for agri-commodities can be extended by WDRA to non-agricultural commodities also.***
- ii. WDRA should consider prescribing longer period of validity of eNWRs for the non-agricultural commodities as these commodities have longer shelf life, as compared to the agricultural commodities.***
- iii. For the eNWRs to be issued for non-agricultural commodities, following additional aspects need to be considered:***
 - It would be appropriate to include few additional parameters in eNWRs such as***
 - brand,***
 - purity,***
 - the manufacturer's serial number (wherever available in case of non-ferrous metals)***
 - the country / region of origin;***
 - the shape;***
 - the date(s) and reference number(s) of the certificate(s) of analysis lodged with the Warehouse***
 - Besides above, appropriate warning may be given on the eNWRs specifying that the buyer is advised that the metal may contain crevices and hidden recesses holding entrapped moisture. The metal should be handled and processed with this possibility in mind. Entrapped moisture may cause an explosion if the metal is introduced into a melting furnace without proper drying.***
- iv. The above changes would require suitable changes in the eNWR Regulations, framed under the WDR Act.***

F. Warehousing procedures – KYC and KYD, deposit checks, weighing, assaying, stacking, eNWR issuance, delivery checks

- i. The present system of KYC by repository and KYD by warehouseman for agri-commodities can be extended by WDRA to non-agricultural commodities also.***
- ii. In case of precious metals and precious gems/stones, vaults should accept only those goods which can be traced back to their refiners and which have not gone out of the loop (originating from the refiner to registered vaults through logistics service providers engaged by the refiner/vault)***
- iii. Except for precious metals and non-ferrous metals where weighing is not possible due to tamper-proof packing or where weighing is not the industry practice, all other goods should be 100% weighed before accepting them for deposit by a warehouseman.***
- iv. In case of precious metals and non-ferrous metals, where goods can be traced back to the refiner/manufacturer and its weight can be ascertained by way of verification of the goods against refiner's/manufacturer's certificate, goods need not be weighed. In case of such certificate based deposits, the depositing owner of goods shall be responsible as to the weight of the goods deposited in case of any future dispute arising w.r.t. weight.***
- v. In case of certificate based deposit of precious metals and non-ferrous metals goods, if traceability of the goods back to refiner/manufacturer is lost after deposit in vault/warehouse due to any reason (as loss of refiner/manufacturer's certificate, breakage of manufacturer's seal, worn out identification numbers on the goods, etc.), warehouseman shall be responsible as to the weight of the goods deposited in case of any future dispute arising w.r.t. weight of the goods.***

- vi. In case certain precious metals and non-ferrous metals goods cannot be traced back to the refiner/manufacturer for any reason (as non-availability of manufacturer's certificate, broken manufacturer's seal, worn out identification numbers on the goods etc.), at the time of accepting goods for deposit itself, 100% weighment of such goods should be carried out by the warehouseman prior to deposit. In case of such deposits, the warehouseman shall be responsible as to the weight of the goods so deposited after weighing in case of any future dispute arising w.r.t. weight.***
- vii. In case of precious metals and non-ferrous metals, where goods can be traced back to the refiner/manufacturer and its quality can be ascertained by way of verification of the goods against refiner's/manufacturer's certificate, assaying of the goods before accepting for deposit need not be made mandatory. In case of such certificate based deposits, the depositing owner of goods shall be responsible as to the quality of the goods deposited in case of any future dispute arising w.r.t. quality of the precious metals or non-ferrous metals, as warehouseman has no wherewithal to test the quality of such goods.***
- viii. In case of certificate based deposit of goods where goods could be traced back to refiner/manufacturer at the time of deposit, if traceability of the goods back to refiner/manufacturer is lost after deposit in vault/warehouse due to any reason (as loss of refiner/manufacturer's certificate, breakage of manufacturer's seal, worn out identification numbers on the goods, etc.), warehouseman shall be responsible with respect to the quality of the goods deposited in case of any future dispute arising w.r.t. quality of the goods.***
- ix. In case certain goods cannot be traced back to the refiner/manufacturer for any reason (as non-availability***

of manufacturer's certificate, broken manufacturer's seal, worn out identification numbers on the goods etc.), at the time of accepting goods for deposit itself, assaying of such goods should be carried out through NABL accredited labs as per the BIS assaying standards by the warehouseman at the cost of the depositor. Thereafter, goods can carry the accredited lab's certificate for further trade. In case of such deposits, the warehouseman shall be responsible for the quality of the goods so deposited after assaying in case of any future dispute arising w.r.t. quality of the precious metals or non-ferrous metals.

- x. In case of all other goods, they should be accepted for deposit only after having been assayed by NABL accredited labs using assaying standards as specified by BIS.*
- xi. WDRA may stipulate commodity-specific guidelines for storage including stacking of such commodities taking into account the afore-stated industry based practices.*
- xii. The present procedure for the delivery of agri-commodities specified by WDRA may be extended to non-agricultural commodities also, as may be applicable for them.*

G. Risk Management

- i. Following broad principles for risk management may be adopted while framing guidelines for the warehousing of non-agricultural commodities –*
 - a. Appropriateness with reference to experience of warehousing business, financial soundness, fit and proper status of the service provider.*
 - b. To develop non-agricultural warehousing ecosystem in the country, WDRA may consider taking into*

cognizance the experience of WSPs in agri warehousing too, for accrediting their warehouses for base metals and alloys.

c. Infrastructure for safekeeping – prevention against theft, fire, quality deterioration etc.

d. Warehouseman to have Standard Operating Procedures (SOP) for various processes such as:

- Deposit and delivery***
- Weighing, sampling, assaying of quality and its reporting. The weighbridges in case of base metals/industrial metals may need to be empanelled along with registration of the warehouses. Digital weighing facilities will have to be made available with respect to precious metals, gems and stones.***
- Designating authorized persons to issue eNWRs.***
- Ensuring safety of goods from fire, theft, burglary and other types of deterioration in storage***
- Scientific storage including stacking including maintenance of surrounding, infrastructure etc.***
- Identification and traceability of goods warehoused***
- Determining losses caused due to fire, flood, burglary, misappropriation, fraud, negligence and force majeure events.***
- Internal verification of goods in the warehouse.***
- Grievance redressal system***
- Defining requirements, roles and responsibilities of manpower employed in the warehouse.***
- Material check before deposit - traceability, integrity of loop, assaying and weighing etc.***

e. Audits, inspections, regular inventory reporting, surveillance and monitoring of warehouses/vaults.

f. Appropriate insurance for insurable risk (theft, fire, burglary, fraud, negligence and force majeure events) and Security deposit for non-insurable risk. Since majority of the non- agricultural commodities covered in the report are non-perishable in nature and do not suffer loss in quantity or quality, the related risks are not witnessed in standard storage and handling scenario, unlike in case of agricultural commodities. These advantageous features should be taken into consideration while determining the quantum/rate of security deposit from the applicant warehouses with respect to non-agricultural commodities.

H. Global best practices

- i. The global best practices as mentioned in Chapter 4 can be considered by WDRA, wherever applicable, and may be prescribed for inclusion in the SOP by the warehouse operators/vault operators.***
- ii. It is also observed that some of global best practices as mentioned in Chapter 4 are mainly arising from the exchanges dealing in derivatives contracts on commodities. It would be also advisable that SEBI may adopt the global best practices while framing its own norms for the warehousing for non-agricultural commodities.***

I. Timelines for Implementation

The Working Group is of the view that as a short term measure, its recommendations with respect to capacity enhancement of WDRA may be implemented within a short span of time. This will pave the way for WDRA to implement all the other recommendations of the WG with respect to laying out the regulatory framework for a warehousing ecosystem in respect of non-agricultural commodities in a year or two. The recommendations with respect to the legislative aspects may also be taken up by

***the government and WDRA at the earliest so as to provide
necessary statutory framework for effective regulation of
warehousing activities in India.***

Annexure 1: Visit to warehouses and vaults

A. Storage facilities visited by members of WG

1. A visit to the warehouse of M/s. Steinweg Sharaf (India) Pvt, Ltd, at Bhiwandi was arranged on August 06, 2019 which is used to store various base metals such as Zinc, Aluminium, Nickel and Copper. Some members of the WG made a visit to the warehouse and officials from SEBI, MCX, and MCXCCL accompanied the WG members.
2. A visit to the warehouse of M/s. Lykos India Pvt. Ltd., at Bhiwandi was arranged on August 16, 2019 which is used to store various base metals such as Zinc, Aluminium, Nickel and Copper. Some members of the WG made a visit to the warehouse and officials from SEBI and MCX accompanied the WG members.
3. A visit to the Thakurani iron ore mines, Mahanadi Coalfields Limited and Tata Sponge Iron Limited was arranged during August 22-23, 2019 to understand the storage infrastructure & procedure followed for iron ore and coal. Some members of WG made a visit and officials from SEBI, MCX, and WDRA accompanied the WG member.
4. A visit to the bullion vault of M/s Sequel Logistics Pvt Ltd., was arranged on August 26, 2019 to understand the storage infrastructure & procedures for precious metals. Some members of the WG made a visit to the vault and officials from SEBI and MCX accompanied the WG members.

B. Storage facilities visited by officials nominated by WG members

5. A visit to steel billets and steel ingots storage yard of M/s. Sohan Lal Commodity Management Ltd. at Ghaziabad, was carried out by SEBI official nominated by WG members.

6. Visits to warehouses accredited by MCXCCL at Bhiwandi for its base metal deliveries were carried out by SEBI officials nominated by WG members to understand the storage practices adopted for base metals.
7. Visits to vaults of major service providers at Ahmedabad were carried out by SEBI officials nominated by WG members to understand the storage practices adopted for precious metals.
8. A visit to M/s. Sharayu Agro Industries Limited at Phaltan, Maharashtra was carried out by SEBI officials nominated by WG member to understand the storage practices followed for the Ethanol.

**Annexure 2: Relevant Indian standards for non-agriculture
commodities**

Commodity / Item	Product Standards		Assaying/Testing Standards	
	Code	Particulars	Code	Particulars
Precious Metals and Gems/Stones				
Gold (including bullion bars)	IS 1417	Gold and Gold Alloys Jewellery Artefacts - Fineness and Marking	IS 1418	Determination of Gold in Gold Bullion Gold Alloys and Gold Jewellery Artefacts - Cupellation Fire Assay Method
			IS 16901	Jewellery Determination of Precious Metals in 999 Gold Platinum and Palladium Jewellery Alloys Difference Method Using ICP-OES
Silver (including bullion bars)	IS 2112	Silver and Silver Alloys Jewellery Artefacts - Fineness and Marking - Specification Third Revision	IS 2113	Assaying Silver in Silver and Silver Alloys Methods
			IS 8858	Methods for spectrographic analysis of fine silver ingot grades 9999 and 999
Diamond	IS 15766	Grading of polished	IS 15766	Grading of polished diamonds

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Commodity / Item	Product Standards		Assaying/Testing Standards	
	Code	Particulars	Code	Particulars
	(Part 1)	diamonds Part 1 Classifications	(Part 2)	Part 2 Test Methods
Platinum	IS 2275	Grades of platinum	IS 2270	Method for assaying of platinum and platinum alloys
			IS 2271	Recommended method for spectrographic analysis of platinum
	IS 15329	Platinum and Platinum Alloys Jewellery Artefacts - Fineness and Marking	IS 15940	Jewellery Determination of Platinum in Platinum Jewellery Alloys Inductively Coupled Plasma ICP Solution Spectrometric Method Using Yttrium as Internal Standard Element
			IS 16901	Jewellery Determination of Precious Metals in 999 Gold Platinum and Palladium Jewellery Alloys Difference Method Using ICP-OES
Palladium	IS 3096	Fine grade palladium	IS 3088	Method for assaying of fine grade palladium

Commodity / Item	Product Standards		Assaying/Testing Standards	
	Code	Particulars	Code	Particulars
			IS 15941	Jewellery Determination of Palladium in Palladium Jewellery Alloys Inductively Coupled Plasma ICP Solution Spectrometric Method Using Yttrium as Internal Standard Element
			IS 16901	Jewellery Determination of Precious Metals in 999 Gold Platinum and Palladium Jewellery Alloys Difference Method Using ICP-OES
Metals and Alloys				
Aluminium	IS 21	Wrought Aluminium and Aluminium Alloys for Manufacture of Utensils	IS 504	Methods of Chemical Analysis of Aluminium and its Alloys (Standard is in Several Parts)
	IS 617	Aluminium and aluminium alloy ingots and castings for general engineering purposes		

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Commodity / Item	Product Standards		Assaying/Testing Standards	
	Code	Particulars	Code	Particulars
	IS 733	Wrought Aluminium and Aluminium Alloy Bars Rods and Sections for General Engineering Purposes		
	IS 737	Wrought aluminium and aluminium alloy sheet and strip for general engineering purposes		
	IS 2590	Primary aluminium ingots for remelting for general engineering purposes		
Brass	IS 292	Leaded Brass Ingots and Castings	IS 3685	Methods of chemical analysis of brasses
	IS 304	High Tensile Brass Ingots and Castings		
Copper	IS 191	Copper	IS 440	Methods Of Chemical Analysis Of Copper
Lead	IS 27	Pig Lead	IS 403	Methods of chemical analysis of lead and antimonial lead

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Commodity / Item	Product Standards		Assaying/Testing Standards	
	Code	Particulars	Code	Particulars
Nickel	IS 2782	Primary nickel	IS 2766	Methods of Chemical Analysis of Primary Nickel
Zinc	IS 209	Zinc Ingot	IS 2600	Methods of chemical analysis of zinc and zinc base alloys for die castings
	IS 4699	Refined Secondary Zinc	IS 2599	Methods for spectrographic analysis of high purity zinc and zinc base alloys for die casting
	IS 13229	Zinc for Galvanizing	IS 406	Methods of chemical analysis of slab zinc spelter
Tin	IS 26	Tin Ingot	IS 1940	Methods of chemical analysis of tin ingot
	IS 4280	Refined Secondary Tin Ingot	IS 6516	Methods for chemical analysis of tin and lead in secondary tin
Iron Ore	IS 5442	Haematite Iron ore-Classification	IS 1493	Methods of Chemical Analysis of Iron Ores
	IS 11894	Magnetite Iron ore-Classification		
Steel	IS 2830	Carbon steel cast billet ingots billets blooms and slabs for re-rolling into steel		

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Commodity / Item	Product Standards		Assaying/Testing Standards	
	Code	Particulars	Code	Particulars
		for general structural purposes	IS 228	Methods for Chemical Analysis of Steels
	IS 1786	High strength deformed steel bars and wires for concrete reinforcement		
	IS 2062	Hot Rolled Medium and High Tensile Structural Steel		
	IS 2831	Carbon Steel Cast Billet Ingots, Billets, Blooms And Slabs For Re-Rolling Into Structural Steel (Ordinary Quality)		
Other Commodities:				
Coal	IS 770	Classification and Codification of Indian Coals Lignites and Semi- anthracites	IS 1350 (Part-1 to 5)	Methods of Test for Coal and Coke
Ethanol	IS 15464	Anhydrous Ethanol for Use in Automotive Fuel	IS 15464	Anhydrous Ethanol for Use in Automotive Fuel
	IS 16629	Hydrous Ethanol for Use in ED 95 Automotive Fuel	IS 16629	Hydrous Ethanol for Use in ED 95 Automotive Fuel

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Commodity / Item	Product Standards		Assaying/Testing Standards	
	Code	Particulars	Code	Particulars
	IS 16634	E85 Fuel Blend of Anhydrous Ethanol and Gasoline	IS 16634	E85 Fuel Blend of Anhydrous Ethanol and Gasoline

Annexure 3: Globally accepted quality standards for base metals and precious metals

Globally accepted quality standards of base metals and precious metals adopted, as on date, by various exchanges or associations is as under:

Commodity	LBMA	LPPM	LME	CME	SHFE
Gold	<u>Fineness:</u> the minimum acceptable fineness is 995.0 parts per thousand fine gold.	NA	Loco London Fine Gold held in London and complying with standards and fineness acceptable to the Precious Metal Clearer of the Clearing House, as such standards are in effect from time to time.	Gold delivered shall assay to a minimum of 995 fineness.	Gold bullion with a fineness of no lower than 99.95% <u>Foreign product:</u> Standard bullions of the suppliers and refiners of the gold list of LBMA good delivery that are certified by the SHFE for physical delivery.
Silver	<u>Fineness:</u> the minimum	NA	Loco London Fine Silver held in London and	Silver delivered under this contract	<u>Standard Product:</u> Prescribed in the

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Commodity	LBMA	LPPM	LME	CME	SHFE
	acceptable fineness is 999.0 parts per thousand silver. More details on		complying with standards and fineness acceptable to the Precious Metal Clearer of the Clearing House, as such standards are in effect from time to time.	shall assay to a minimum of 999 fineness.	National Standard of GB/T 4135-2002 IC-Ag99.99, with a fineness of no less than 99.99%.
Platinum	<u>Purity-</u> At least 99.95% Platinum	<u>Purity-</u> At least 99.95% Platinum	NA. Only publishes the daily prices of LBMA on its website.	Platinum delivered under this contract shall be a minimum of 99.95% pure.	NA
Palladium	<u>Purity-</u> At least 99.95% Palladium	<u>Purity-</u> At least 99.95% Palladium	NA. Only publishes the daily prices of LBMA on its website.	Palladium delivered under this contract shall be a minimum of 99.95% pure.	NA
Aluminium	NA	NA	Primary aluminium with impurities no greater than the chemical composition of one of the registered designations: P1020A in the North	Eligible aluminum must consist of primary aluminum meeting all of the requirements of the P1020A in the	<u>Standard products:</u> aluminum ingot as prescribed in the National Standard of GB/T1196-2008 AL99.70, with

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Commodity	LBMA	LPPM	LME	CME	SHFE
			American and International Registration Record entitled “International Designations and Chemical Composition Limits for Unalloyed Aluminum” (revised March 2007) Al99.70 in the GB/T 1196-2008 Standard entitled “Unalloyed aluminium ingots for remelting” For warrants created up to and including 31 December 2009 primary aluminium of minimum 99.70% purity with maximum permissible iron content 0.20% and maximum permissible silicon content 0.10%.	North American and International Registration Record entitled “International Designation and Chemical Composition Limits for Unalloyed Aluminum” (revised March 2007), or its latest revision. Aluminum must conform to one of the following shapes: a. Sows weighing up to 787.5 kgs.; b. T-bars weighing up to 787.5 kgs.; or c. Ingots weighing	aluminum content of no less than 99.7%. <u>Substitutions:</u> 1. Aluminum ingot as prescribed in the national standard of GB/T1196-2008 AL99.85, AL99.90. 2. Aluminum ingot as prescribed in P1020A standard.

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Commodity	LBMA	LPPM	LME	CME	SHFE
			Shape- Ingots, T- Bars, Sows.	from 9 kgs. to 26 kgs. Ingots are to be secured in bundles suitable for stacking not to exceed 2 metric tons (2 MT) per bundle.	
Copper		NA	Grade A copper must conform to the chemical composition of one of the following standards: • BS EN 1978:1998 - Cu-CATH-1 • GB/T 467-2010 - Cu-CATH-1 • ASTM B115-10 - cathode Grade 1. Shape- Cathodes.	The contract (basis) grade for the Grade 1 copper contract shall be Grade 1 Electrolytic Copper Cathodes (full plate or cut) and shall conform to the specifications (as to chemical and physical requirements) for Grade 1 Electrolytic	<u>Standard products:</u> 1# Standard Copper Cathode (Cu-CATH-2) as prescribed in the National Standard of GB/T467-2010, with Copper+Silver≥99.95%. <u>Substitutions:</u> Grade-A Copper (Cu-CATH-1) as prescribed in the National Standard of GB/T467-2010; or Grade-A Copper (Cu-

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Commodity	LBMA	LPPM	LME	CME	SHFE
				Copper Cathode as adopted by the American Society for Testing and Materials (B115-00), or its latest revision.	CATH-1) as prescribed in BS EN 1978:1998.
Lead	NA	NA	Lead of 99.97% purity (minimum) must conform to the chemical composition one of the following standards: • BS EN 12659:1999 - Permitted grades: material numbers PB970R, PB985R and PB990R • GB/T 469/2005 - Permitted grades: 99.970%, 99.985%, 99.990% and 99.994% ASTM B29-03 (2009) -	Eligible lead must be refined lead (minimum 99.970% purity) and meeting the chemical composition of either ASTM B29-03 (2009 Standard entitled "Standard Specification for Refined Lead (permitted grades: 99.97% and 99.995%), BS EN	<u>Standard products:</u> Lead ingot as prescribed in the National Standard of GB/T 469-2005 Pb99.994, with lead content of no less than 99.994%.

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Commodity	LBMA	LPPM	LME	CME	SHFE
			Permitted grades: 99.97% and 99.995%. Shape- Ingots.	12659:1999 Standard entitled “Lead and Lead Alloys-Lead (permitted grades: Material numbers PB970R, PB985R and PB990R), or GB/T 469-2005 Standard entitled “Lead Ingots” (permitted grades: 99.970%, 99.985%, 99.990% and 99.994%).	
Nickel	NA	NA	Nickel of 99.80% purity (minimum) conforming to B39-79 (2008).	NA	<u>Standard products:</u> nickel cathode as prescribed in the National Standard of GB/T 6516-2010 Ni9996, with the total content of nickel and

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Commodity	LBMA	LPPM	LME	CME	SHFE
					cobalt > 99.96%. <u>Substitutions:</u> nickel cathode as prescribed in the National Standard of GB/T 6516-2010 Ni9996, with the total content of nickel and cobalt > 99.99%, or as prescribed in ASTM B39-79(2013), with the content of nickel > 99.8%.
Zinc	NA	NA	Special high-grade zinc of 99.995% purity (minimum) must conform to the chemical composition of one of the following standards: • BS EN 1179:2003 - 99.995% grade ISO 752:2004 - ZN-1 grade	Special High Grade zinc of 99.995% purity and meeting the chemical composition of either ASTM B6-12 (Standard Specification for Zinc), BS EN 1179:2003 (Zinc	Zinc ingot as prescribed in the National Standard of GB/T470-2008 ZN99.995, with zinc content of no less than 99.995%. <u>Substitutions:</u> Zinc ingot as prescribed in the BS EN 1179:2003

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Commodity	LBMA	LPPM	LME	CME	SHFE
			• ASTM B6-12 - LME grade • GB/T 470-2008 - Zn99.995 grade. Shape-Ingots.	and Zinc Alloys), ISO 752:2004 (Zinc ingots), or GB/T 470-2008 (Zinc ingots). Zinc being placed on warrant must be accompanied by a Certificate of Analysis.	Z1, with zinc content of no less than 99.995%.
Tin	NA	NA	Tin of 99.85% purity (minimum) conforming to BS EN 610:1996.	NA	<u>Standard Product:</u> Tin Ingot as prescribed in the National Standard of GB/T 728-2010 Sn99.90A, with the content of Tin > 99.90%. <u>Substitutions:</u> Tin Ingots as prescribed in the National Standard of GB/T 728-2010 Sn99.90AA, with the

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Commodity	LBMA	LPPM	LME	CME	SHFE
					content of Tin > 99.90%, or as prescribed in the Sn99.95A or Sn99.95AA, with the content of Tin > 99.95%, or as prescribed in Sn99.99A, with the content of Tin > 99.99%.

Web link to the above specifications is as under:

- http://www.lbma.org.uk/assets/market/gdl/GD_Rules_16_July_FINAL_20190722.pdf
- <https://www.lppm.com/good-delivery/>
- <https://www.lme.com/Metals/Precious-metals/LME-Gold#tabIndex=4>
- https://www.cmegroup.com/trading/metals/precious/gold_contractSpecs_futures.html
- <http://www.shfe.com.cn/en/products/Gold/contract/8073281.html>
- <https://www.lme.com/Metals/Precious-metals/LME-Silver#tabIndex=4>
- https://www.cmegroup.com/trading/metals/precious/silver_contractSpecs_futures.html
- <http://www.shfe.com.cn/en/products/Silver/contract/2482542.html>
- https://www.cmegroup.com/trading/metals/precious/platinum_contractSpecs_futures.html
- https://www.cmegroup.com/trading/metals/precious/palladium_contractSpecs_futures.html
- <https://www.lme.com/Metals/Non-ferrous/Aluminium/Physical>

- <https://www.cmegroup.com/content/dam/cmegroup/rulebook/COMEX/1a/107.pdf>
- <http://www.shfe.com.cn/en/products/Aluminum/contract/211231034.html>
- <https://www.lme.com/Metals/Non-ferrous/Copper/Physical>
- https://www.cmegroup.com/trading/metals/base/copper_contractSpecs_futures.html
- <http://www.shfe.com.cn/en/products/Copper/contract/211238434.html>
- <https://www.lme.com/en-GB/Metals/Non-ferrous/Lead/Physical>
- <https://www.cmegroup.com/content/dam/cmegroup/rulebook/COMEX/1a/187.pdf>
- <http://www.shfe.com.cn/en/products/Lead/contract/12227013.html>
- <https://www.lme.com/en-GB/Metals/Non-ferrous/Nickel/Futures>
- <http://www.shfe.com.cn/en/products/Nickel/contract/911322439.html>
- <https://www.lme.com/en-GB/Metals/Non-ferrous/Zinc/Physical>
- <https://www.cmegroup.com/content/dam/cmegroup/rulebook/COMEX/1a/186.pdf>
- <http://www.shfe.com.cn/en/products/Zinc/contract/72232708.html>
- <https://www.lme.com/en-GB/Metals/Non-ferrous/Tin/Futures>
- <http://www.shfe.com.cn/en/products/Tin/contract/911322443.html>

**Annexure 4: Comparison of various norms for agricultural
warehousing and its applicability for non-agricultural commodity
warehouses**

The table lists out various WDRA norms applicable in the agricultural sector and compares it with the draft warehousing norms issued by SEBI for non-agricultural commodity warehouses and applicability for non-agricultural commodity warehouses.

Sr.	Norm	Norms for Agricultural warehouses laid down by WDRA	SEBI consultation paper	Whether can applied to warehouses of non- agricultural commodity
1.	Prior experience (3 years) prescribed for promoters of WSPs	No	Yes	Yes
2.	Minimum net worth requirement of INR 25 crore (INR 10 crore for single metal)	No	Yes	Since these are high value goods, some minimum net worth requirement may be specified
3.	Value of goods stored not to exceed 33 times net worth	No	Yes	Not required
4.	Dynamic Security Deposit linked to cumulative deposits	Yes	Yes	Yes
5.	'Fit and Proper Criteria'	Yes	Yes	Yes

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Sr.	Norm	Norms for Agricultural warehouses laid down by WDRA	SEBI consultation paper	Whether can applied to warehouses of non- agricultural commodity
6.	Accreditation of laboratories	Yes	Yes	Yes
7.	Mandatory insurance of the goods stored	Yes	Yes	Yes
8.	Periodic inspection / audit of WSP	Yes	Yes	Yes
9.	MIS system	Yes	Yes	Yes
10.	Framework for action against WSPs	Yes	Yes	Yes
11.	Procedures for acceptance of goods to be deposited	Yes	Yes	Yes
12.	Weighing and Weigh bridge empanelment	Yes	Yes	Yes (except for packed goods).
13.	Procedures for weighing, sampling of goods to be deposited as per industry standards	Yes	Yes	Yes
14.	Procedure for verification of commodity and communication to depositors,	Yes	Yes	Yes

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Sr.	Norm	Norms for Agricultural warehouses laid down by WDRA	SEBI consultation paper	Whether can applied to warehouses of non- agricultural commodity
15.	Procedure for depositing and identifying the Exchange related goods	No	Yes	Yes, if warehouse is accredited for exchange business
16.	Procedure for maintaining the quality of the goods stored as per the exchange contract specification	No	Yes	Yes, if warehouse is accredited for exchange business
17.	Procedure for Know your depositor requirements	Yes	Yes	Yes
18.	Security policy for ensuring the safety of the goods from theft, burglary etc.,	Yes	Yes	Yes
19.	Procedure and guidelines for scientific storage of commodities including stacking	Yes	Yes	Yes
20.	Procedure for losses caused due to theft,	Yes	Yes	Yes

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Sr.	Norm	Norms for Agricultural warehouses laid down by WDRA	SEBI consultation paper	Whether can applied to warehouses of non- agricultural commodity
	fire, burglary, fraud, negligence and force majeure events,			
21.	Procedure for internal verification of commodities	Yes	Yes	Yes
22.	Selection of Location	Not required	Yes	Yes, if warehouse is accredited for exchange business
23.	Grievance redressal procedures	Yes	Yes	Yes
24.	Role and responsibilities of employees (including outsourced staff)	Yes	Yes	Yes
25.	Maintenance of surroundings, infrastructure etc.	Yes	Yes	Yes
26.	Load bearing strength of floor	No	No	Yes

REFERENCES

1. Statistics sourced from -

- *Bloomberg*
- *Gems and Jewellery Export Promotion Council*
- *Metals Focus*
- *Ministry of Commerce, Government of India*
- *Ministry of Mines, Government of India*
- *USGS Mineral Commodity Summaries*
- *World Bureau of Metal Statistics*
- *World Gold Council*
- *World Silver Survey*
- *World Steel Association*
- *Indian Sugar Mills Association*

2. Websites of following organizations -

- *SEBI*
- *WDRA*
- *CSRC*
- *LME*
- *CME Group*
- *ShFE*
- *TOCOM*
- *LBMA*
- *MMTA*
- *ZCE*
- *ISMA*

3. Following reports and consultation papers -

- *Economic Survey 2018-19*
- *Report by IMARC group on Warehousing and Storage Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2019-2024*
- *Report of Expert Committee on Integration of Commodity Spot and Derivatives Markets – February 2018*

- *Report of the committee on transforming India's Gold market – February 2018*
- *National Policy on Biofuels - 2018*
- *SEBI consultation paper on framework for Warehouse Service Providers (WSP), warehouses, assayers and other allied service providers engaged in respect of non- agricultural goods such as precious metals, gems & stones, metals, minerals and alloys but excluding crude oil, electricity and natural gas – November 2018*
- *Overview of India Warehousing industry by Care ratings -October 2018*
- *Knight Frank research report - India Warehousing Market Report 2018*
- *India Three year action agenda- NITI Aayog (2017)*
- *PWC report on Building warehousing competitiveness –2011*