CIRCULAR

SEBI/HO/CDMRD/DRMP/CIR/P/2020/176 **September 21, 2020**

To
The Managing Directors / Chief Executive Officers
All Clearing Corporations having Commodity Derivatives Segment

Sir / Madam,

Sub: Alternate Risk Management Framework Applicable in case of Near Zero and Negative Prices

1. SEBI, vide Circulars CIR/CDMRD/DRMP/01/2015 dated October 01, 2015 and SEBI/HO/CDMRD/DRMP/CIR/P/2016/77 dated September 01, 2016, has, *inter alia,* prescribed the Risk Management Framework for the Commodity Derivatives Segment (CDS). In addition to circulars issued in the interregnum, the framework was further strengthened vide circular no. SEBI/HO/CDMRD/ DRMP/CIR/P /2020/15 dated January 27, 2020.

2. In recent times, extreme volatility has been observed in commodity prices globally, particularly in the case of Crude Oil, wherein the prices had unprecedentedly gone down to zero and subsequently, even negative. In such a scenario, margins equivalent to even 100% of the futures price would not have been sufficient to cover the steep upward or downward price variations in the futures market.

3. In order to enable risk management framework to handle such a scenario of 'near zero' and negative prices, SEBI constituted a Task Force of Clearing Corporations (CCs) and market participants to review the risk management framework in such cases. The following has been decided based upon the recommendations of the said Task Force: -

3.1. Alternate Risk Management Framework (ARMF) shall be applicable in such cases of near zero and negative prices for any underlying commodities/futures. Details of the ARMF are given at **Annexure-I** to this circular.

3.2. To begin with, the commodities having the following characteristics may be in principle treated as susceptible to the possibility of near zero and negative prices: -

3.2.1. Commodities that need specialized storage space in physical markets, which, if not followed, may cause environmental hazards or have other external implications AND

3.2.2. Commodities that can't be disposed of/ destroyed with ease i.e. disposal/destruction of such commodities may cause an environmental hazard or may incur significant cost.

3.3. The CCs shall ensure the readiness of their systems to implement the prescribed ARMF within 60 days of the date of this circular.

3.4. However, CCs who do not presently provide for the clearing and settlement services of any such susceptible commodity, are not required to update their systems for the prescribed ARMF. This is subject to certification by their Risk Management Committee that none of the products being presently cleared by the CC are susceptible to near zero and negative prices as per Clause 3.2 above. However, before the launch of any such susceptible commodities in future, they shall ensure that their systems are updated for the ARMF.

4. The exchanges are also advised to:

4.1. take steps to make necessary amendments, if any, to the relevant bye-laws, rules and regulations for the implementation of the same.

4.2. bring the provisions of this circular to the notice of their members and also to disseminate the same on their website.

4.3. communicate to SEBI, the status of implementation of the provisions of this circular.

5. This circular is issued in exercise of the powers conferred under Section 11 (1) of the Securities and Exchange Board of India Act, 1992, to protect the interests of investors in securities and to promote the development of, and to regulate the securities market.

6. This circular is available on SEBI website at www.sebi.gov.in.

Yours faithfully

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Annexure - I

Alternate Risk Management Framework in the event of Near Zero and Negative Prices

A. Activation of Alternate Risk Management Framework (ARMF)

1. In case the Clearing Corporation (CC) foresees the possibility of negative/near zero prices in any commodity, then for such commodity derivatives, it shall activate an ARMF. This framework will be capable of estimating the risk in the event of negative/near zero prices of the underlying/futures.

2. The shift to the ARMF shall be conditional, based on triggers indicating the likelihood of near zero/ negative prices. Some of the conditions/circumstances which are indicative in nature and may warrant the activation of the ARMF are illustrated below: -

2.1. There is a fall in the commodity prices by more than 50% within 20 trading days, while comparing the intra-day highest and lowest prices.

2.2. In case of internationally referenced contracts, the international exchange/ clearing corporation having the benchmark contract decides to introduce such measures for negative prices.

2.3. Options contracts having strike price values of near zero/negative are introduced by the stock exchange for trading.

2.4. Price of the underlying commodity/futures contract comes down to the level equal to or lower than the maximum price movement observed over the MPOR (Margin Period of Risk) in past 12 months.

2.5. Any other conditions as per the discretion of the CC, which might indicate the likelihood of negative prices.

3. In case one or more of the above mentioned conditions or any other additional conditions that may be identified by the CC becomes applicable, the CC in consultation with their respective stock Exchange will conduct a review and take a formal decision on whether there is a need to activate the ARMF. The CC shall subsequently also communicate its decision to the market and other stock Exchanges/CCs. If the Lead CC, as defined in SEBI circular no.

SEBI/HO/CDMRD/DRMP/CIR/P/2020/15 dated January 27, 2020, has activated the ARMF, then the other CCs shall also follow the same.

4. The CC shall strive to intimate to the market, well in advance, the threshold price level, below which the ARMF shall be activated.

B. Characteristics of the ARMF: The ARMF shall have the following characteristics: -

5. **Normal Distribution:** In the regular risk management framework, prices are assumed to be log normally distributed and volatility is calculated based on the difference in log prices. This assumption is valid only for positive prices, as logarithm of zero or negative prices is not defined.

   In a scenario wherein the ARMF gets triggered, the prices shall be assumed to follow normal distribution. Therefore, in such scenario, volatility shall be based on the absolute differences in prices. This volatility shall be determined based on EWMA (Exponentially Weighted Moving Average) as per the parameters of the regular framework.

6. **Minimum Margin in Absolute terms**: In the regular framework, a floor value for initial margin is prescribed in percentage terms. In case the prices turn negative, floor value in percentage terms shall be applied on the absolute value of price levels. Further, floor value shall also be prescribed in absolute INR terms. The higher of the two values shall be the applicable floor for the initial margin. The CC shall determine and notify such floor value based on past price movements and past margin amounts observed in respect of such commodities.

7. **Spread margin benefit:** The correlation between different contracts on the same underlying may not hold in the event of near zero/negative prices. Therefore, margin benefit on spread positions shall be completely withdrawn upon the activation of the ARMF.

8. **Option Pricing Model:** The theoretical price determination of options shall be done using appropriate models like the Bachelier model, or any other model which can be applied on negative underlying prices.

9. **Pre-expiry margins**: The appropriate pre-expiry margins shall also be levied by CCs on cash settled contracts, in respect of those commodities in which the ARMF is triggered.

10. **Extreme Loss Margin (ELM):** In case the price of any futures contract goes below a threshold, ELM shall be levied on such threshold price or absolute price of the contract, whichever is higher. The CC shall decide threshold price in respect of each commodity on which ELM under the ARMF shall be made applicable.

11. **Other margins**: CCs may levy other margins such as additional margins, special margins, concentration margins etc. as per their own discretion.

C. Deactivation of ARMF

12. The following principles shall be taken into account by CCs for deactivation of the ARMF i.e. switching from alternate to regular risk management framework: -

12.1. The de-activation of the ARMF shall be done when the conditions that triggered the activation of the ARMF no longer prevail. The exit from the ARMF shall be done after a reasonable time lag so as to avoid frequent switching between alternate and regular frameworks.

12.2. In case the entry and exit of the ARMF is defined in terms of specific price points, the exit point shall be kept sufficiently above the entry point to avoid frequent switching between alternate and regular frameworks.

12.3. The de-activation of the ARMF and re-activation of regular framework will be done when the margin requirement under the two frameworks sufficiently converges.

13. The observation of a zero or negative prices shall have to be excluded from model under regular margin framework since log return involving zero or negative price is not defined.

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