

Benchmark Design Statement

Guidelines to SMM benchmark assessment methodology

To ensure that the Shanghai Metals Markets Benchmarks (the “SMM Indices” or “SMM Prices”) are constructed, maintained and operated to the highest standards, the administrator of the SMM Benchmarks, Shanghai Metals Markets (“SMM” or “the administrator”) employ a robust governance framework to manage the Benchmarks, approve new benchmarks and approve changes to the methodologies of existing benchmarks.

The SMM Benchmark Management Committee (“the Committee”) is responsible for the oversight of all aspects relating to the provision of benchmarks administered by SMM. It acts as the “Oversight Function” as defined in the IOSCO Principles for Financial Benchmarks (the “ISOCO Principles”) and undertakes all the duties and responsibilities as laid out in the IOSCO Principles. Its members are drawn from SMM management and staff.

Day-to-day management of the SMM Benchmarks is undertaken by the SMM.

This benchmark design statement is owned by the SMM Benchmark Management Committee, and will be reviewed and updated whenever any regulatory or business changes require so, and in any case reviewed no less than on an annual basis.

The design of the Benchmark is subject to review as required and at least on an annual basis by the SMM Benchmark Management Committee, as laid out in the *SMM Benchmark Management Committee Terms of Reference*.

This document should be read in conjunction with the suite of documents maintained by SMM to ensure ongoing compliance with the IOSCO Principles. In particular, this document should be read with the *Hierarchy of Data Inputs policy and Submitter Exclusion or Inclusion policy*.

The benchmark assessments of spot transactions in China’s market reported by SMM on a daily basis are called SMM assessments. SMM assessments are generated in strict compliance with a set of methodology. SMM has defined methodologies to all metal benchmarks reported by SMM.

Shanghai Metals Market is an independent benchmark and information provider that does not participate in transactions. We are an observer of the market that communicate with all sides of the market constantly.

The SMM benchmark assessment methodology is the basis of all benchmarks published by Shanghai Metals Market. We will update our methodologies to reflect a constantly changing metals trading market. All revisions and updates will be published on our website at least 28 days ahead of the changes, unless there are unavoidable and unpreventable circumstances such as natural disasters, war or bankruptcy of the exchange, which will shorten the period, or it is not practical due to market conditions.

SMM benchmark assessments are based on data collected from market participants, including spot transactions, spot offers and bids, prices of relevant commodities and the transportation costs. SMM do not adjust or change its assessments on data collected after the assessments are published or post the deadline prescribed in the methodology documents. SMM pays equal attention to transactions that meet the standards set up in the methodology. SMM adopts an exclusive model to assess benchmarks, ensuring all data are standardised to the specifications including volumes and dates. SMM strives to check all the data collected and excludes transactions with suspicious information, unrepeatable transactions, or apparently abnormal transactions from the benchmark assessments.

SMM benchmarks are price ranges that suggest the most possible trading range where transactions are done in a full working day. SMM assessments reflect confirmed trading situations and standardised special transactions. List or posted benchmarks will be published daily for some markets, as suggested selling prices. In many cases, these benchmarks are reduced after negotiations with manufacturers and buyers. Benchmark changes are sometimes used as important references for negotiations in thinly traded markets.

If no transactions were done during the assessing period, SMM reserves the right to assess the most possible trading range with reference to offers and bids in the market, taking into accounts production, relevant products, transportation, and forward markets. Some SMM benchmarks are the product of calculation alone, for example in markets where insufficient market activity takes place to permit price assessment, or where a market itself habitually sets prices according to a formula. Such calculated assessments are noted as such in their detailed methodology specifications.

SMM benchmarks normally cover products on a regional basis to ensure the main drivers impacting the market in any given area are adequately covered. Reports are currently issued covering China market.

In China market, the most common quotations comprise:

East China- Jiangsu, Shanghai, Zhejiang, Shandong, Fujian, Jiangxi, Anhui, Taiwan

South China- Guangdong, Guangxi, Hainan, Hong Kong, Macao

North China- Beijing, Tianjin, Hebei, Shanxi, Inner Mongolia

Middle China- Hubei, Hunan, Henan

Southwest China- Sichuan, Chongqing, Guizhou, Yunnan, Tibet

Northeast China- Heilongjiang, Jilin, Liaoning

Northwest China- Gansu, Ningxia, Qinghai, Shaanxi, Xinjiang

Prices are quoted with reference to the terms and location of delivery. The period of delivery is also quoted for contract prices. Assessment windows vary from product to product for spot sales. See specific product entries in the Methodology for further details.

Assessments include Value Added Tax (VAT).

Benchmark s are quoted in the currency and unit measure relevant to the particular market. Domestic metals are quoted in Chinese Yuan (CNY) per metric tonne (CNY/MT), Chinese Yuan (CNY) per metric kilogram (CNY/KG) or Chinese Yuan (CNY) per metric gram (CNY/g).

Introduction to SMM benchmark assessment methodology guidelines

1. Quality control

1.1

Methodologies that SMM adopts are formalised, recorded and available to the public. The market activity related to the metal benchmarks reported by SMM are not exactly the same. So each SMM benchmark's design may has its own specificity. Detailed design statement will be detailed and made public in the methodology of each benchmark on the website www.smm.cn.

1.2

The SMM benchmark assessment methodology aims to assess spot prices and be a credible benchmark for the metals market without distortion.

1.3

SMM established all standards for benchmark assessment, including the use of market data of completed or submitted transactions, bids, offers and any other market information; the collection of market data during assessment; and how to train benchmark assessors to make judgments. This ensures that all assessors remain consistent when making their assessment.

In the situation where transaction data is unavailable or incomplete, SMM adopt other assessment criteria. This explains the process when data is unavailable or incomplete, the standard for and process of submitting data on time as well as requirements for excluding transaction data from benchmark assessments.

1.4

SMM internally inspect the procedures of a certain methodology and check its examination frequency. A third party will also be regularly invited to inspect the procedures of a certain methodology, such as the establishment of market-accepted procedures by negotiating with stakeholders on the significant changes of the procedures of the benchmark assessment.

1.5

SMM declare to the stakeholders the procedures and reason for any change in the methodology. Notice of the procedures will be given well in advance for stakeholders to have sufficient time to analyse and evaluate the impact from the change. All suggestions from stakeholders and responses from SMM are required to be available to all market participants.

1.6

SMM routinely inspect its methodologies to ensure that all methodologies credibly reflect the assessed physical market. This includes the procedure of taking stakeholders' suggestions into account.

2. Integrity

2.1

SMM takes measures that aim to guarantee the quality and integrity of benchmark assessment.

SMM verifies the accuracy and reliability of market data that are submitted and adopted in benchmark assessments. Market data is generated by market participants who have completed, or who are about to complete, transactions. More attention will be paid to transactions between affiliated parties.

SMM build and adopt procedures to identify outliers, in terms of SMM benchmark assessment methodology or unverified data, and exclude such data from benchmark assessment. Exclusions will be recorded.

SMM encourages all market participants to submit data that fall in the standard range of SMM benchmark assessment.

SMM ensure that those who submit data comply with SMM's standards for quality and integrity.

2.2

SMM established specific criteria for who can submit market data to SMM. SMM have a quality control procedure to assess the qualifications of market participants who submit data. At the end of the procedure, SMM will authorise these market participants to submit data.

SMM implements internal controls and procedures to ensure that there are no conflicts of interest between participants who submit data and benchmark assessors. Such procedures include SMM's inspections of the submitter's company as well as the cross-check of market information to verify the submitted information.

2.3

SMM clearly defined internal rules and guidelines for benchmark assessors, including their required training, experiences, ability and self-evaluation mechanisms.

2.4

SMM maintain the continuity and succession of the assessors to ensure that benchmark assessments are conducted by employees with updated knowledge and information.

2.5

In establishing an internal control procedure to reinforce the integrity and credibility of assessments, the director of appraisal is required to constantly supervise individual benchmark assessors to ensure that the methodology is implemented accordingly. Internal approval by the supervisor is required before benchmarks are published.

2.6

SMM established rules and procedures to record relevant information such as:

- a) All market data
- b) Assessor's judgment when making every benchmark assessment
- c) If some specific transaction is excluded from the assessment, the reasons why the transaction does not meet the requirements of the methodology
- d) Identity of every assessor and of those who submit or generate the information mentioned above and/or in other ways.

2.7

SMM established procedures to maintain audit records of the relevant information for at least five years.

2.8

SMM implement comprehensive rules and procedures to ascertain, disclose, manage and avoid conflicts of interest and maintain the integrity and independence of the assessments. The rules and procedures are kept up-to-date and at least include:

- a) Maintaining assessments that are independent of existing or potential relationships of interest among SMM or its affiliated companies, its staff, customers, any market participants or affiliated parties
- b) Ensure that SMM personnel remains independent from their personal or business relations including external hiring, travelling and accepting gifts and entertainment provided by SMM's customers or other market participants
- c) Disallow benchmark assessments from managers, benchmark assessors, and other employees in SMM who may be involved in offering, bidding and trading on behalf of market participants
- d) Resolve potential conflicts of interest between the benchmark assessment business unit and other business units in SMM

2.9

SMM established procedures to receive, investigate and record complaints and feedback on the SMM assessment procedure.

2.10

SMM established a feedback mechanism that ensures SMM will investigate and address any concerns in a timely manner. SMM will inform the claimant and other relevant parties of the result of the investigation in written form within reasonable time. All relevant files including those from the claimant and those on SMM's own records will be maintained for at least five years.

2.11

Dispute of daily benchmark assessments is not an official complaint and will be resolved by SMM through the standard and appropriate procedures. The market will be informed of any changes in assessments due to a complaint.

2.12

SMM always appoint an experienced and independent external auditor to evaluate how SMM abides by the requirements of the methodology.