

Shanghai Metals Market Price Assessment Methodology

Imported Zinc concentrate treatment charge (TC)

Product: SMM imported zinc concentrate TC

Date of expiry: March 1, 2024

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1. General Principles of SMM Price Methodology

Shanghai Metals Market (“SMM”) is an independent service provider that does not participate in trades. SMM is a market observer that engages buyers and sellers in the commodities market. SMM continuously develops, reviews and revises its methodology by communicating with industry insiders, using the most common product specifications, terms of trade in the industry. SMM attaches equal importance to normal transactions that meet the specifications and standards. SMM reserves the right to exclude from its price assessment any price data information deemed to be less reliable or unrepresentative.

SMM publishes spot metals prices (or indices, etc., including markets in China or outside of China) on a daily basis, commonly referred to as SMM prices (indexes). SMM has formulated corresponding methodologies for the published SMM prices (indexes), which have been published on SMM's official website www.smm.cn for reference. The methods and procedures for the formation and release of SMM prices (indexes) are specified in these methodologies, and SMM prices are formed and released in strict accordance with the regulations of these methodologies.

In order to conform to the actual situation of the spot market, SMM will make necessary revisions to the SMM index methodology, and will announce it on the SMM official website www.smm.cn 3 days prior to the official implementation, unless there are special circumstances, especially force majeure (natural disasters, wars, bankruptcy of exchanges, etc.) that lead to shorter notice periods. If you have any questions or suggestions about the SMM index and its methodology, please contact the SMM customer service staff (please check the contact information on the SMM official website www.smm.cn). **Please read this paragraph in conjunction with the SMM Methodology Review and Change Policy, and the SMM Complaint Policy.**

This document specifies the standards and management methods for SMM imported zinc concentrate TC. The purpose of this standard is to establish a transparent and verifiable SMM

price setting mechanism and provide market participants with an important pricing indicator.

SMM Benchmark Administration Committee will review the methodology as well as the assessment and publication process. The Committee maintains oversight of the SMM Benchmark methodology and its compilation process, ensuring that SMM prices and indexes reflect as closely as possible the objective conditions of physical markets of relevant commodities. The Committee will immediately point out any problem it finds, and propose external consultations and modifications to the existing methodologies or processes, in order to improve the quality of prices or indices published by SMM. The Committee can only propose changes to the methodologies and processes used in future Benchmark assessments, rather than modifying the already published prices or indexes.

2. Guidelines to SMM imported zinc concentrate TC

2.1 Definition

SMM imported zinc concentrate TC is assessed and reported based on the methodology defined in this document. As a benchmark, it can be referred to by both parties of imported zinc concentrate spot transaction as indicative settlement price. The prices reflect the price range of imported zinc concentrate TC that is actually traded or most likely to be traded in the week in which the SMM Imported Zinc Concentrate TC is published.

Imported Zinc Concentrate TC (weekly): Except for border ore, TCs of zinc concentrate imported into China is benchmarked against LME zinc settlement prices.

2.2 Introduction of price assessment

SMM collects data information used to evaluate Imported Zinc Concentrate TC by means of standard acquisition (that is, the collection of raw data information that complies with the SMM Data Standards Policy), from including the bid and offer of the buyer and seller that were not traded on the same day, and the actually traded price of spot transaction provided by the price submitters. The amount of each transaction or quotations that can be deemed as the standard Imported Zinc Concentrate TC will be no less than 1,000 dmt. Data collection, assessment (calculation) and daily management of SMM Import zinc concentrate TC are conducted by the SMM imported zinc concentrate mines business team, which consists of 2 price analysts (A and B) and a price manager.

The index published by SMM is intended to reflect the real transactable value of a commodity in a time point or period during the day. As such, where a confirmed deal is done for the same specification and loading range as confirmed bids and offers, and when all are declared to the market simultaneously, the deal will take precedence over the bids and offers. During the assessment process, we may consider other information. However, actual transactions, bids and offers will always take precedence. **Please read this paragraph with the**

SMM Benchmark Guidelines on Hierarchy of Data Inputs.

2.3 Source of raw price data

2.3.1 Collecting from price data submitters

Please note that the following standards and procedures need to be read together with

Submitter Exclusion or Inclusion policy

2.3.1.1 Criteria for price data submitters

SMM will select representative market participants from the industry chain as targeted price submitters for SMM SMM Imported Zinc Concentrate TC assessment (data providers, including traders and smelters).

SMM will take reasonable care to determine and verify the authenticity and reliability of price provider. The procedure SMM adopts is designed to minimise the risk of using any abnormal price data and oppose any manipulation of the Benchmark.

The SMM policy includes, but is not limited to, steps to take as follows:

- Collect relevant public domain documents (such as business licenses) for each price submitter and verify the authenticity of the documents.
- Ensure that each price submitter engages in the transaction, procurement, sales or production of zinc concentrate industry chain.
- Ensure that each employee designated as the contact person of the price submitter can have direct access to relevant data in the company, and have the necessary authority and ability to submit the data to the price analyst of SMM in a timely manner and in accordance with the SMM Benchmark Submitter Code of Conduct.
- Invite other reputable market participants to help verify the credibility of price submitters.

2.3.1.1.1 Criteria for traders

- a. • Traders should have over two years of experience in imported zinc concentrate spot trading with an annual purchasing or sales volume of above 1,000 dmt; conduct standardised transactions smoothly across channels with stable purchasing and sales performance; possess operation integrity, influence and good reputation in the market.
- b. • They should provide objective and honest feedback on their zinc concentrate procurement and sales, including quality of the product, sales price, sales volume, source of purchase, buyer and inventory, and be able to engage with SMM price analysts.
- c. • They should have a sound understanding of and insight of the macro economy, keeping up with the latest updates of current status of imported zinc concentrate industry and trades of the imported zinc concentrate market, and be able to engage with SMM index analysts in accordance with the SMM Benchmark Submitter Code of Conduct.

2.3.1.1.2 Criteria for smelters

- a. • Smelters should have imported zinc concentrate purchasing volume of above 1,000 dmt on an annualised basis; conduct standardised transactions smoothly across channels with stable sales performance; possess operational integrity, and enjoy good reputation in the market, in the view of SMM.
- b. • They should provide an objective and honest feedback on their imported zinc concentrate procurement, including quality of the product, purchase prices and volumes, procurement sources, and inventory, and be able to engage well with SMM index analysts in accordance with the SMM Benchmark Submitter Code of Conduct.
- c. • They should have a sound understanding of and insight of the macro economy, keeping up with the latest updates of current status of imported zinc concentrate industry and trades of the imported zinc concentrate market, and be able to engage with SMM index analysts in accordance with the SMM Benchmark Submitter Code of Conduct.

2.3.1.2 Formation and adjustment of the price submitter list

SMM selects price contributing companies based on the above criteria to produce a stable list. SMM signs a formal agreement with each price contributing company to ensure the accuracy and timeliness of the data provided as well as protect confidential information of the price submitter. SMM delegates specific price analysts to collect transaction data and data related market information from price submitters. SMM will continue to evaluate every price submitter based on criteria above and make amendments to the lists for price contributing companies based on the results of evaluations. When a company fails to meet the criteria, it would be required to rectify within a limited period. If it refuses to rectify or fails to meet the criteria after within 30 days from the date of issue of the rectification notice, SMM will revoke its qualification for price contributing companies.

The updated list of price submitters is as follows:

Company type	Company name
Traders	Trafigura Investment (China) Co., Ltd.
Traders	Glencore (Beijing) Commercial Co., Ltd.
Traders	Xiamen C&D Co., Ltd.
Traders	Shanghai Maoyuan Industrial Co., Ltd.

Smelter	Chengtun Mining Group Co., Ltd.
Smelter	Huludao Zinc Industry Co., Ltd.
Smelter	Anhui Tongguan Nonferrous Metals (Chizhou) Co., Ltd.
Smelter	Shenzhen Zhongjin Lingnan Nonferrous Metals Co., Ltd.
Smelter	Dongling Group
Smelter	Baiyin Nonferrous Group Holdings Co., Ltd.
Smelter	Guangxi Nandan Nanfang Metal Co., Ltd.
Smelter	Zhuzhou Smelter Group Co., Ltd.

Notes: These companies are in no particular order. SMM will amend the list based on the selection criteria in this document.

Data providers will not receive incentives, rewards or benefits from SMM for providing data.

2.3.1.3 Process of price data collection

SMM's index analyst will collect imported zinc concentrate price data from price submitters by means of phone, fax, email, QQ, WeChat and other forms of communication before 17:00 China Standard Time ("CST") on each Friday. (Price data that are submitted after 17:00 CST will not be included in price assessment on the day, while data that does not contain the required minimum information details will not be included either, even if the data are submitted before the deadline) The data will include traded prices within the day, and the most likely traded prices, bids and offers. The frequency of price collection is determined according to the trade volume and trade frequency of different price submitters. Prices are not collected from all contracted price submitters every day, but the contact frequency will be maintained at least once a week. All communication content on instant messengers, WeChat messaging and emails as well as face-to-face communication will be recorded, while phone communication via phone calls will also be recorded in summary and input into the database. Price data must be a typical, repeatable transaction between unaffiliated market participants (completely financially and legally independent).

SMM analysts are subject to a code of business ethics when reporting to their supervisors the content of any coerced or threatened communication from market participants, or any kind of induced offer that seeks to influence the outcome of an assessment.

Price data provided by price submitters to SMM should include at least the following kinds of information. analysts should encourage the price submitter to report as much detailed information as possible, not just the minimum requirements specified:

Import zinc concentrate specifications

Imported zinc concentrate:

Index name	SMM Imported Zinc Concentrate TC			
benchmark	Imported zinc concentrate spot purchase prices by Chinese smelters			
Unit	\$/dmt			
Volume	Minimum volume of 1,000 dmt			
Delivery date	Within three months			
Payment terms	L/C at sight			
Notes		benchmark	maximum value	minimum value
	Zn(%)	50	48	52
	Ag(g/dmt)	93	200	50
	AU(g/dmt)	0	1.5	0
	S(%)	26	40	13
	Fe(%)	9.97	20	0
	Pb(%)	0.09	10	0
	CU (%)	1	3	0
	AS (%)	0.008	0.5	0
	CD(%)	0.086	0.1	0

Imported zinc concentrate brands

Main brands of imported zinc concentrates in circulation, see 2.4.2 below for details

Transaction price/counter offer/offer, etc.

Quotation refers to the actual transaction, counter offer or offer price data of the price submitters, or the transaction, counter offer or offer price data of other market participants or

the market price range. The unit is \$/mt, and the minimum unit of change is \$1/mt.

Volume

The quantity of a single transaction should be more than 1,000 dmt.

Payment terms

The terms of payment under the negotiated transaction agreement, such as bank remittance, acceptance draft, etc.

2.3.2 Collecting price data from other submitters

SMM's policy on collecting market information and data is that SMM welcomes all information from various sources or organisations, as long as the data submitter provides them for good faith and authentic purposes. However, the data submitter is required to accept the SMM code of conduct on data submitters. SMM does not accept instant messaging requests from unidentified individuals. SMM price analysts are required to confirm the identity of market participants at least in accordance with the procedures specified in 2.3.1.1 before conducting instant messaging communication with the data submitter.

2.4 Detailed formation process and related regulations

2.4.1 Data collection

SMM price analysts will collect price data and information based on the standards mentioned above. And a preliminary raw dataset is finally generated after taking into account major factors, such as offer levels, trading situations in the spot and futures markets, macroeconomics, market transactions, supply and demand, inventory levels, and other major political, economic, and natural factors. If market transactions are scarce in the week, a valuation mechanism will be introduced and a certain weight will be given to the valuation.

2.4.2 Data normalisation

SMM index analysts will normalise the preliminary data results based on imported zinc concentrate brand or quality, QP and the nature of the transaction, and the final TCs will be benchmarked against LME zinc prices.

The price data will be recorded both electronically and in writing. All electronic and written records are archived by analysts and kept at least five years in a secure network environment and physical environment. **For more details, please refer to the SMM Recordkeeping Policy.**

2.4.3 Information data analysis, verification and screening

SMM will always endeavor to confirm bids, offers and deals information with related parties. SMM will endeavour to verify all the market data obtained by the buyer/seller with the counterparty of the buyer/seller. SMM will perform multi-party verification on information provided by the buyers/sellers with their counterparties, and will cross-validate with other

relevant participants if the buyers and sellers are unable or unwilling to provide the information.

When judging the collected data, SMM will integrate the situation of each transaction, including the relationship between the two parties, the brand of the transaction product, specification quality and payment terms, etc., to determine the price range. SMM will exclude any questionable, irreproducible or apparently abnormal quote and transaction in the price evaluation process, and note the reason for removal in the original data set, which will also be kept at least five years. SMM Imported Zinc Concentrate TC is not a weighted average price based on transaction volume. However, SMM will determine the price according to the unified standard considering the quantity of each transaction.

SMM price analysts will compare and analyse data submitted by SMM price submitters, verifying whether the prices show trends that run counter to the wider market. The cases include but are not limited to:

- Traded prices are significantly higher due to the inclusion of special circumstances or special services
- A company's quotes are intentionally higher due to a special sales plan or policy of the company
- A company's bids reflect its prospects for the market price and is intentionally made public in advance

If any unusual submissions are found, SMM Index analysts need to investigate them. The SMM index analysts will re-contact the price submitter to verify the accuracy, applicability and completeness of the submitted data. If it is confirmed that it is due to an error in the submission process, such as an input error, etc., SMM will correct the error and re-validate and screen. If there is no error in the submission process, it can be concluded that the data submitted by the price submitter is not a qualified data and needs to be removed from the original data set.

Minimal subjective judgment from analysts is required in the SMM price evaluation process. The established standards and procedures will be applied to manage the actions taken by SMM index analysts in screening the collected data, and to evaluate the data included in the price assessment is valid or if the abnormal data has been excluded. The experience of SMM index analysts in the imported zinc concentrate trading market is to ensure that only data that meets clear methodological requirements can be included in the price evaluation process. After screening the original data set and removing disqualified data, SMM price analysts will not have any subjective judgment about the normalised data or the price assessments. The SMM Benchmark Management Committee regularly reviews the implementation of these procedures to ensure compliance with its published standards. To

attain the highest possible standards, SMM price analysts are trained and regularly appraised in their respective markets in which they are responsible for assessing prices. This ensures that SMM analysts follow the requirements of the methodology in a consistent manner.

2.4.4 Calculation of published TCs

After standardising and adjusting each transaction based on the brand or quality, QP and the nature of transaction of imported zinc concentrate, the weekly index is obtained after weighted average according to the transaction volume.

2.4.5 Special circumstances

SMM reserves the right to exercise judgments when trading liquidity is thin. We will make the assessments based on the economy, relationships between products, transportation and forward market if there is a lack of credible or verifiable market information, so as to make sure that the data samples used to evaluate the spot prices are sufficient and accurate. **For more details, please refer to the SMM Illiquid Market Management Policy and SMM Expert Judgment Policy.**

In addition, SMM will also make a price assessment when there is only one offer or bid, or when the price difference between offers and bids is too big to assess a tradable price. In these two cases, information of spread trade and mainstream market relationships will also be taken into consideration. SMM will set the assessed price between the highest bid and the lowest offer if information on the offers and bids manage to meet all other requirements set in this assessment methodology.

2.4.6 Publication of TCs

SMM will establish the Imported Zinc Concentrate TCs with reference to the following standards and regulations, and publish it on the SMM official website.

The publication time is CST 16:30 every Friday (except for weekends and public holidays). In case of public holidays, the publication will be one or two days ahead of the public holidays, which will be announced on the SMM websites.

The time of the price publication may also be affected by emergencies and force majeure factors, such as power outages and natural disasters. In such cases, SMM will make every effort to inform the market of the delayed publication schedule as soon as possible. **For more details, please refer to the SMM Disaster Recovery Procedures.**

2.4.7 Modification of published prices

If there are any errors (mistake in calculation or errors caused by incorrect operations) after the price is published, SMM will immediately issue a correction statement to reflect the correct price. **For more details, please refer to the SMM Error Correction Policy.**

2.5 Review of key points

2.5.1 Price (product) standard

Imported zinc concentrate: the content of each element is within the range announced in the above table

2.5.2 Main zinc concentrate brands in circulation and producers

DUGAID RIVER; Mount Isa; Cannington; Bisha; Antamina; Gamsberg

Note: These names are in no particular order. SMM Imported Zinc Concentrate includes but are not limited to the above brands.

2.5.3 Reference volume

SMM sets the typical transaction size that reflects market circulation at above 1,000 dmt.

2.5.4 Delivery method

CIF and self pick-up

2.5.5 Payment terms

L/C at sight

2.5.6 Delivery location

Pick up from port

2.5.7 Unit of pricing

\$/dmt

2.5.8 Format of publishing

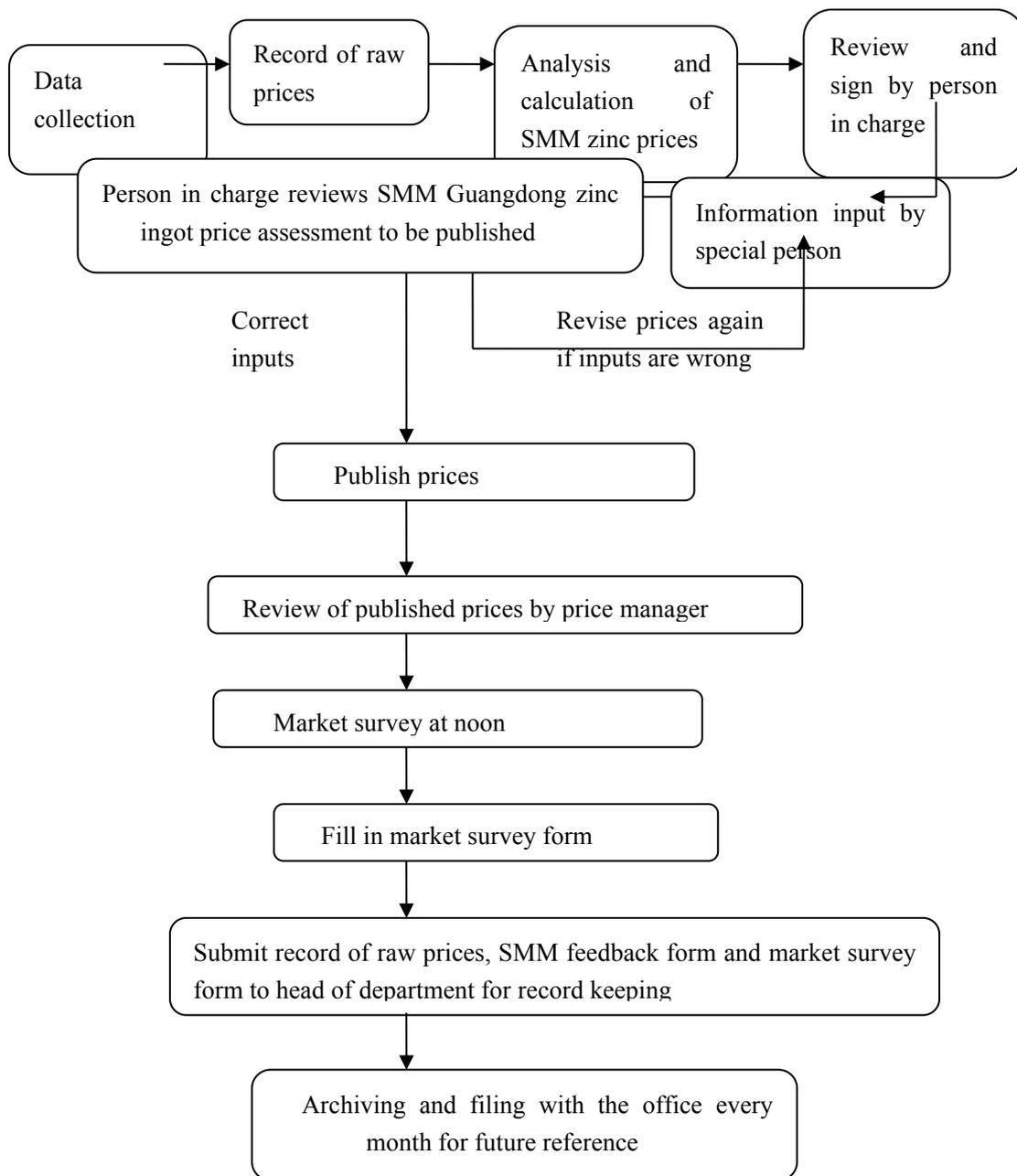
Presented in a specific figure

2.5.9 Publication time

17:00 CST on every Friday (except for weekends and public holidays).

2.6 Price assessment process

SMM undertakes the Imported Zinc Concentrate TC assessments on every working day. The detailed process is as follows:



2.7 Adjustment to the price assessment methodology

SMM updates our methodologies on a regular basis to reflect a constantly changing metals trading market. Amendments will be made based on feedback by market participants, and an internal check will be also made regularly. We will follow the external consultation workflow to amend discrepancies in the methodology that may be less time-sensitive. Major revisions and updates will be published 28 days ahead of the changes, to seek opinions from market participants, unless there are unavoidable and unpreventable circumstances such as natural disasters, war or bankruptcy of the exchange, which will shorten the period. SMM promises to carefully look into any feedback to the adjustment of the price methodologies,

and will amend the methodologies under certain circumstances even if some market participants do not approve of the changes. In addition, SMM has a formal methodology consultation process. SMM promises to arrange an official consultation of the Imported Zinc Concentrate TC assessment at least once a year. Dates of the most recent and the next session are at the start of this document. **For more details, please refer to the SMM Methodology Review and changes Policy.**

3. Historical data

(insert Recordkeeping)

This paragraph should be read in conjunction with the SMM Record Retention Policy.

Subscribers of Shanghai Metals Market are able to access historical data of the price assessments of Imported Zinc Concentrate TC since January 1, 2010.

For information on subscribing to historical price data, Please visit www.smm.cn.

4. Compliance with SMM Policies

All SMM employees must comply with the methodologies published by SMM, as well as follow SMM's internal standards and policies. They include the SMM Conflict of Interest Policy, SMM Whistleblowing Policy, SMM Error Correction Policy, SMM Methodology Review, Consultation and Modification Policy, and SMM Complaint Policy.