Iron Ore Methodology Document

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About Metals Market Index

Metals Market Index "MMi" is a price reporting agency "PRA", based in Singapore, specializing in compiling and publishing spot price benchmarks for commodity markets around the world.

It is an impartial organization, with no involvement in the production or trading of commodities.

MMi applies a rigorous, data-driven methodology to compile indices that reflect average spot market prices. All data and process steps used in each index calculation can be readily verified. Its methodology is aligned with IOSCO principles, ensuring its published indices are suitable for use not only by physical market participants but also by financial institutions as price benchmarks in the settlement of contracts.

Introduction

This methodology document describes the procedures and standards used by MMi in collecting data and calculating its iron ore price indices, together with the full specifications of these indices. It is designed to enable readers to understand how MMi compiles indices which are representative of average spot market prices. This document is freely available on www.mmiprices.com for public review.

MMi strives at all times to maintain best possible practices in compiling its price indices. As commodity markets evolve, therefore, so do MMi's indices. A record of amendments made to this methodology over time is provided at the end of this document.

MMi's index publication calendar and times are available on its website (www.mmiprices.com). Whilst MMi will endeavor to the best of its abilities to publish all its indices on the dates and times stated, these dates and times are subject to change, for example in situations such as power failure or terrorism, or other events that could affect MMi's ability to operate normally. MMi will, to the extent possible, do its best to communicate in advance any delay in index publication or changes to its publication schedules.

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methodology, issuing any corrections needed, handling enquiries and complaints, training and reviewing staff. This section describes the processes followed for ensuring that the compilation of MMi price indices and issuing any corrections comply with MMi standards.

Section 4: lays out how to get in contact with the MMi team for enquiries or to raise a complaint. It also describes MMi's policies for handling complaints.

Section 5: contains the full specifications for the indices covered and the permissible ranges for data submissions.

Section 6: lists the history of amendments made to this methodology document.

Section 1: Data

Section 1.1 - Data collection and units

As data is core to the compilation of its indices, MMi aims to collect as much relevant trading data as possible each day and ensure that this data is representative of arms' length spot market transaction prices.

Parties providing data to MMi are known as "Data Providers". Data Providers can be:

- physical market participants directly involved in the buying or selling of relevant products on a spot price basis, or
- electronic trading platforms on which trades of relevant physical products by market participants take place transparently and according to the defined procedures of the platforms.

Relevant products are defined as those with specifications and trading terms within the ranges defined as permissible for an MMi index, as listed in Section 5. Negotiated term-contract prices are not relevant.

On-Boarding Data Providers

MMi follows a rigorous process for selecting and on-boarding its Data Providers.

In line with its know-your-client (KYC) policies, MMi will take all reasonable care to identify and verify the authenticity of every Data Provider before including their data submissions in any index compilation process. MMi's procedures are designed to minimize the risk of any anomalous price data being used in its index calculations and counter any efforts to manipulate an index.

MMi's KYC policies include, but are not limited to, taking steps to:

- collect relevant documentation in the public domain for each Data Provider and verify its authenticity
- ensure every Data Provider is involved in the trading, buying, selling or producing chain of one or more relevant products
- ensure every employee designated as a Data Provider holds a position in their company giving them direct access to relevant data and with the necessary authorisation and ability to submit it to MMi in a timely fashion

- verify the reputation of each Data Provider by canvassing other reputable market participants.

Employees submitting data to MMi typically hold positions in the commercial sales or purchasing departments in their companies, though it is not a requirement. They can also be part of the senior management or administrative staff.

As part of the 'on-boarding' process with MMi, Data Providers commit to submitting accurate data in a timely fashion. MMi commits to ensuring their trading data and identity remain confidential should they request this.

Data Providers receive no incentives, rewards or benefits for submitting data to MMi, other than a complimentary subscription to the relevant MMi service.

Submission of Data

Data Providers can submit data to MMi via various channels of communication, including chat applications, platforms, voice communications and email. The time, date, provider and content of each submission is recorded and stored by MMi.

Data submitted must include all the attributes specified as compulsory in Section 1.3 below. MMi encourages companies to submit as much information as possible about each trade, however, not just the minimum necessary attributes specified.

In order to compile a representative index, MMi aims to achieve a balance of data collected from sellers and buyers.

Data can be submitted to MMi 24 hours a day, 7-days a week via one or more of the channels mentioned above. Data Providers are required to provide MMi with their email and telephone numbers so they can be contacted promptly should MMi analysts have any questions about their data submissions. MMi analysts will also seek to contact Data Providers which they learn may have been involved in spot transactions that have not yet been submitted to clarify if a submission will be forthcoming or if no such transaction has taken place.

MMi's seaborne and port stock indices are designed to reflect the average, volume-weighted spot market transaction prices over a 24-hour period prior to the cut-off time for submissions each day, which is 30 minutes before the publication time. Details on publication times and policies can be found in Section 3.

Data submitted up to 30 minutes prior to the publication of either IOPI or IOSI indices will be considered for inclusion of the calculation of that day's indices. The 30-minute period is the time used to calculate and verify the index value prior to publication. Data submitted after the cut-off time is included in the data set used to compile the following day's index.

Section 1.2 – Types of data collected

MMi's objective is always to collect data reflecting arm's length spot market activity. Types of data collected can include:

1. Concluded transactions
2. Firm bids that are available to the whole marketplace, with market accepted terms
3. Firm offers that are available to the whole marketplace, with market accepted terms
4. Expressions of interest to trade, with market accepted terms
5. Third party reports of transactions
6. Any other data that may be relevant to MMi indices

MMi's indices are calculated based on concluded transaction data for the current day, unless there is insufficient liquidity in these to provide a robust data sample. If this is the case, fallback procedures are employed which utilize the previous day's submissions and potentially the other types of data listed above to ensure the data sample used for the index calculation is sufficiently robust. These other types of data carry reduced weightings in the index calculation compared to concluded transactions on the current day.

The procedures followed for calculating MMi's price indices and, if necessary, employing fallback procedures are described in Section 2.3.

Section 1.3 – Data collected

Data Providers are required to submit the following information in each data submission (* indicates optional items):

- **Material Specifications**

Specification	Decimal Places	unit
Fe content (basis)	to two ('.00)	%
Fe content (minimum/guaranteed) *	to two ('.00)	%
Moisture content	to two ('.00)	%
Alumina content	to two ('.00)	%
Silica content	to two ('.00)	%
Phosphorus content	to three ('.000)	%
Sulphur content *	to two ('.00)	%
Loss on Ignition (LOI) – Minimum *	to two ('.00)	%
Loss on Ignition (LOI) – Maximum *	to two ('.00)	%

- **Transaction/Bid/Offer Date:** Date when the transaction was concluded, or the bid/offer was tabled and active

- **Transaction/Bid/Offer Price:**
  - For IOSI, price to two ('.00) decimal places, in US$/dry metric tonne
  - For IOPI, price rounded to the nearest whole RMB/wet tonne

- **Volume:** Volume of each transaction/bid/offer, to the nearest metric tonne

- **Loading Window or 'On Ship'** (applicable only for IOSI)**:** Earliest date and latest date intended for loading the cargo for shipping. If the cargo has already been loaded, then Data Providers record the cargo as 'On Ship'.

- **Delivery Location/Port:**
    - For IOSI, the agreed delivery port in China for the cargo
    - For IOPI, the location of the port stock trade

- **Freight Rate *** (applicable only for IOSI): Data providers are encouraged to provide freight rate information for seaborne cargoes where this is known.

- **Payment Terms:** The payment terms agreed for the transaction. This is listed as "Number of Days" with "0 days" representing "L/C or Payment at Sight". All transactions are normalized to "L/C or Payment at Sight".

Section 1.4 - How data is collected

MMi collects transaction, bid and offer price information from Data Providers via various different channels which include, but are not limited to, email, instant messaging systems such as WeChat and WhatsApp, and telephone.

MMi analysts also collect price information for transactions, bids and offers conducted and reported on physical trading platforms.

All the data submitted and collected is documented and stored by MMi, with a record of the time, date, source and content of each submission.

Submissions must be made at least 30 minutes prior to the publication of an index to guarantee its inclusion in the calculation process. Incomplete submissions that do not contain the minimum required information prior to this cut-off, will not be used in the current day's index calculation process.

Data Providers are encouraged not to wait until the last possible moment before submitting their data. This is to ensure that MMi analysts have time to verify the data and then enter it into the current day's calculation process.

Section 2: Index calculation

Section 2.1 - Index calculation approach and MMi Standards

This following section describes how MMi uses the data it has collected, according to the processes described in Section 1, to calculate its price indices.

Integrity and impartiality are the foundation stones upon which MMi's business is built. MMi, its shareholders and employees have no financial interest in the price of the products or commodities it covers. MMi's objective is to compile and publish price indices representing as accurately as possible the current day's average spot market prices for transactions of the specified products concluded on an arms' length basis.

MMi aims to ensure that only transactions executed between two financially, legally independent parties are included in the index calculation process.

MMi's processes for the compilation of all indices seek to minimize the use of subjective judgment by its analysts. Standards and procedures are in place to govern the steps to be taken by MMi analysts in screening the data collected and assessing whether it is valid for inclusion in the index calculation or to be excluded as anomalous. In this process step the iron ore market experience of MMi's analysts adds considerable value in ensuring only data that meets the clearly defined methodology requirements is accepted. After screening and 'cleaning' the data submissions, no judgment is used in normalizing the data or calculating the index. Implementation of these procedures is regularly reviewed by MMi management to ensure adherence to its published standards.

In order to ensure the highest possible standards, MMi staff are trained and regularly assessed in their own and each other's markets. This is possible through clearly established managerial and compliance oversight, put in place to ensure employees follow the methodology in a consistent manner.

Section 2.2 - Index specifications and publication

MMi compiles iron ore price indices for both the seaborne spot market into China and the China port spot market. The abbreviation used for MMi's seaborne indices is 'IOSI' and the abbreviation used for MMi's China port indices is 'IOPI'.

Product Specifications

Details of each index specification are provided in Section 5.

Pricing Points

- **IOSI –** The pricing point for all seaborne indices is CFR Qingdao port
- **IOPI –** The pricing point for all port indices is FOT Qingdao port. The pricing point for all CFR equivalents to IOPI is CFR Qingdao

CFR and FOT are terms provided and defined by the International Chamber of Commerce which publishes the INCOTERMS.

The definition of CFR:

- Cost and Freight (named port of destination)
- Carriage of goods to be arranged by the seller
- Risk transfers from the seller to the buyer once the goods pass the ships rail.

- Cost transfer at port of destination, buyer paying such costs as are not for the seller's account under the contract of carriage

The definition of FOT

- Free on Truck (or train)
- Carriage of goods to be arranged by buyer
- Risk transfers from the seller to the buyer once the goods pass the trucks rail

Further definitions can be found at https://iccwbo.org/publication/incoterms-rules-2010/

Price Fluctuations

- **IOSI –** All seaborne indices are rounded to the nearest US$0.05/dmt and fluctuations are limited to a minimum movement of US$0.05/dmt
- **IOPI –** All port stock indices are rounded to the nearest whole Yuan/t and fluctuations are limited to a minimum movement of RMB 1/t.

Where US$/RMB currency conversions are applied to indices (e.g. to express China port stock indices or the CFR equivalent of the China port stock indices in US$, or to express seaborne indices in RMB), the current day's average RMB/US$ exchange rate is applied, as reported by the China State Administration of Foreign Exchange.

Price indices converted from RMB to US$ are expressed to two decimal places and price indices converted from US$ to RMB are expressed to the nearest whole RMB.

Volumes/Lot Sizes

- **IOSI** – all seaborne indices reflect the spot price for a minimum lot size of 20,000 metric tonnes. Only submissions for volumes of at least 20,000 tonnes are included in the index compilation process
- **IOPI** – all port stock indices reflect the spot price for a minimum lot size of 5,000 metric tonnes. Only submissions for volumes of at least 5,000 tonnes are included in the index compilation process.

Publication Time

MMi's Iron Ore indices are published daily, on working days every Monday-Friday at 17:30 Singapore (09:30 UK GMT and 04:30 US EST) with the following exceptions:

- **IOSI –** No publication on Singapore public holidays
- **IOPI (and its derived equivalents) –** No publication on Chinese public holidays
- Earlier publication times of 14:00 Singapore (06:00 UK GMT and 01:00 US EST) apply for all indices on the last working day before Easter Sunday, Christmas Day (December 25th) and the Lunar New Year

During the summer time (British Summer Time in the UK and Daylight Savings Time in the US) the publication times does not change in GMT terms. Therefore:

- In the UK publication is at 09:30 local time, except between the last Sunday in March and the last Sunday in October when publication time is 10:30 local time (i.e. British Summer Time)
- In Singapore and Shanghai at 17:30 local time throughout the year
- In the US publication is at 04:30 East Coast local time, except between the second Sunday in March and the first Sunday in November when publication time is 05:30 EST local time (Daylight Savings Time)

Distribution

MMI's price indices are available to any party that subscribes to the relevant MMi service.

MMi's price indices are protected by copyright and may not be distributed or used for commercial gain by any third party without an explicit agreement with MMi.

Section 2.3 - Index calculation procedure

MMi employs the same approach and process steps to calculate all its indices. This ensures consistency across all indices and allows direct comparisons to be made.

Index calculation involves five main steps:

1. Separation of submissions between seaborne transactions/bids/offers and port stock transactions/bids/offers and further segmentation of submissions within each category between high grade and low-grade ores into discrete data sets applicable to each index
2. Verification/screening of the submissions to identify and remove anomalous data within each data set
3. Normalization of the permissible submissions in each data set
4. Analysis of the normalized data sets and removal of outliers to determine the final core data sets for compiling each index
5. Volume-weighted calculation of each index using the normalized final core data sets.

1. Separation and segmentation

Data submissions are separated into either the data set for compiling the seaborne index (IOSI) or the data set for compiling the port stock index (IOPI).

Seaborne transactions/bids/offers to be used in compiling the seaborne index (IOSI) are priced CFR China port in USD/dry tonne. Port stock transactions/bids/offers to be used in compiling the port stock index (IOSI) are priced FOT China port in RMB/wet tonne including tax.

Each submission is used for compiling either only the seaborne index or only the port stock index. In other words, transactions/bids/offers in the seaborne market will never be used to compile the port stock index and vice-versa.

Within each index type, the data submitted is then segmented into two groups:

- The first group contains the data submissions for material with an iron content of 60% Fe or higher
- The second group contains the data submissions for material with an iron content of up to 60% Fe

These four data sets are then processed separately according to the MMi methodology described below to compile each of the indices indicated in the table below:

	Seaborne Transactions	**Port Stock Transactions**
60% Fe content or higher	IOSI62, IOSI65	IOPI62, IOPI65
Up to 60% Fe content	IOSI58	IOPI58

For the IOSI65 and IOPI65 indices, if there are sufficient submissions with an iron content of over 63% Fe to create a robust data set for index calculation purposes, submissions with iron content in the range 60-63% Fe are excluded from the data set. However, if there are insufficient submissions with an iron content of over 63% Fe to create a robust data set, all permissible submissions in this data set are included. Further information on the inclusion and prioritization of data submissions to ensure there is a robust data set for calculating each index is included in the description of fallback procedures below.

2. Verification/Screening

The second step involves screening and analyzing all the data collected to determine if any submissions are not permissible or appear anomalous.

Only submissions of transactions for iron ore sinter fines are permissible, and the material sizing must fall within the limits specified in Section 5. Submissions of iron ore lump, pellet or concentrate transactions are excluded from the data sample.

All submissions of sinter fines are then screened against all the other criteria and ranges specified as permissible inputs to IOPI and IOSI indices. These can be found in Section 5. Any data submissions which do not meet all permissibility criteria are excluded from the data sets.

Further screening is then conducted, in which individual data submissions are compared and analysed within the context of the other submissions collected in each data set to identify any inconsistencies or trends contrary to the broader market. This is in order to monitor individual data submissions not only for any which may not be representative of the spot market that day, but also for any attempts to influence/manipulate the iron ore index.

If any anomalous data submissions are identified, these are investigated. The Data Provider is contacted by an MMi analyst to verify the accuracy, applicability and integrity of the submission. If an error in the submission is identified, this is corrected and the submission re-screened. If no error has been made in the submission and it is concluded that the submission is not representative of spot market prices for repeatable arms' length transactions, or the integrity of the submission is not confirmed to the MMi analyst's satisfaction, it is excluded from the data set.

If the same Data Provider repeatedly submits anomalous data for which the integrity cannot be satisfactorily confirmed, no further data is collected from that company.

3. Normalization

All permissible submissions in each data set are then normalized to the relevant index specification (i.e. the index for which that submission forms an input).

This involves first identifying any differences between the product specification of each submission and the relevant index product specification. Iron content, alumina, silica, sulphur and phosphorous content are all analysed. The price of each submission is then adjusted ('normalized') for any differences.

The amount of the price adjustment for any differences is determined by the average spot market value ('value-in-use' or VIU) of iron content and each deleterious impurity each day within each index group (i.e. seaborne and port stock indices, high Fe content and low Fe content indices). These values, referred to as differentials, for each 1% of Fe, alumina, silica, sulphur and phosphorus, are published by MMi each day alongside its indices. The value of each differential within each index group is determined by combining regression analysis of the data submissions with intelligence gathered from market participants.

For all port stock indices (IOPI), as prices are expressed in wet tonnes, each data submission is also normalized for any difference between the moisture content of the submission and the moisture content of the relevant port stock index. This adjustment is not required for the compilation of seaborne indices (IOSI) as prices in the seaborne market are expressed in dry tonnes and therefore not dependent on the moisture content of the submission.

For seaborne indices (IOSI), if the delivery port for any submissions is different to the port specified in the index specification, the price is adjusted for the freight differential between shipping to the nominated port and to the index specification port. The list of permissible delivery ports include, but are not limited to: Bayuquan, Beilun, Caofeidian, Dalian, Fangcheng, Jiangyin, Jingtang, Lanshan, Lanqiao, Lianyungang, Majishan, Nanton, Qingdao, Rizhao, Shekou, Tianjin, Xingang and Zhanjiang.

The values of the freight differentials between each port and the index specification port each day are determined by combining analyses of freight rates with intelligence gathered from market participants. The freight differentials applied in the normalization process for the IOSI indices each day are published by MMi in its daily iron ore index report.

For port stock indices (IOPI), if the transaction takes place at a port other than the port in the index specification, the price is adjusted for any difference between the average transaction prices at that port and the average transaction prices at the index specification port that day. The list of permissible ports at which transactions can take place and be included in the port stock index data set include, but are not limited to: Bayuquan, Beilun, Caofeidian, Dalian, Fangcheng, Jiangyin, Jingtang, Lanshan, Lanqiao, Lianyungang, Majishan, Nanton, Qingdao, Rizhao, Shekou, Tianjin, Xingang and Zhanjiang.

The values of the port differentials for each product each day are determined by combining data on the price differentials for each product transacted each day at different ports with intelligence gathered

from market participants. The port differentials applied in the normalization process for the IOPI indices each day are published by MMi in its daily iron ore index report.

The final step in the normalization process involves adjusting the price of any permissible submission with payment terms which differ from the payment terms in the relevant index specification (as specified in Section 5). In normalizing for payment terms the same approach is applied for all indices, with any adjustments needed based on international lending rates.

4. Analysis and removal of outliers

The purpose of this step is to verify the statistical robustness of each normalized data set for calculating each index and to remove any outliers which may unduly influence an index calculation.

The process is applied separately to each of the IOSI and IOPI normalized data sets and follows statistical best practice in calculating averages within data samples.

Firstly, the standard deviation of the normalized prices in each data set is calculated and the submissions with the highest and lowest prices are excluded if their prices are unique within the data set.

Secondly, any remaining submissions with normalized prices more than +/- the standard deviation from the arithmetic average (mean) of the data set are also excluded.

The remaining normalized submissions now form the final core data sets.

Within the final core data sets, the concluded transactions are separated from any other submissions and counted. The spread of the normalized prices for these concluded transactions is also analysed. These steps are to determine whether the concluded transactions within each final core data set form a sufficiently robust sample on which to base the calculation of each index, or whether fallback procedures need to be applied to introduce additional submissions on a prioritized basis before undertaking each index calculation.

5. Index calculation

The same procedure is applied to calculate all IOSI and IOPI indices.

Providing the final core data set of concluded transactions is confirmed as sufficiently robust in the analysis step above, each index is calculated as the volume-weighted average of the concluded transaction prices in the normalized final core data set.

Only one further condition is applied - no individual Data Provider is permitted to contribute more than 40% of the volume-weighting to the final index calculation. This is to ensure that no single Data Provider dominates the basis of any index calculation.

If this condition is not met, and the volume of submissions from any single data provider exceeds 40% of the total volume of submissions in the final core data set, the combined weighting of all submissions by that Data Provider used in the index calculation is reduced to 40% of the total. The volume weighting of each individual submission by that Data Provider in the index calculation is reduced on a pro-rata basis in line with the reduction made to the combined volume for that Data Provider.

If analysis of the final core data set shows that the concluded transactions for the current day alone do not provide a sufficiently statistically robust sample to calculate the index, fallback procedures are employed. This ensures all indices can be compiled on every occasion.

Fallback Procedures

Fallback procedures are deployed when needed to increase the number of submissions in a final core data set, by including more than purely the current day's concluded transactions. Other categories of submissions are included in sequence according to a defined prioritized hierarchy, until the final core data set is sufficiently statistically robust for the index calculation to proceed.

The prioritized hierarchy for adding other submissions to a final core data set is as follows:

1. For seaborne indices, inclusion of firm bids and offers for the current day:
    - The final core data set for each index calculation is supplemented by normalized submissions of firm bids and offers
    - The volume weighting applied to firm bids and offers in the index calculation is 10% of the volume submitted
    - Providing that this fallback step creates a sufficiently robust final core data set for a seaborne index, the index calculation procedure described above is employed and no further fallback steps are used. If not, the next fallback step is also applied.

    For port stock indices, inclusion of firm bids and offers does not form part of the fallback procedures.

2. For all indices, inclusion of submissions used to calculate the previous day's index:
    - All submissions used in the calculation of the previous day's index are "rolled forward" into the final core data set, except for any submissions superseded by a submission of the same product by the same Data Provider on the current day
    - The rolled-forward prices carry a reduced volume-weighting, ensuring that the current day's submissions carry a larger weighting in the index calculation process than older submissions. The volume-weighting applied for rolled-forward submissions is 90% of the volume weighting applied in the previous day's calculation
    - Provided that this fallback step creates a sufficiently robust final core data set, the index calculation procedure described above is employed and no further fallback steps are applied. If not, the next fallback step is also applied.

3. For seaborne indices, inclusion of floating price (index-linked) transactions:
    - The final core data set is supplemented by inclusion of floating-price (index linked) submissions
    - Prices for these are normalized back to the loading month using the swaps forward curve of the SGX iron ore contract
    - The volume weighting applied to floating price submissions in the index calculation is 10% of the volume submitted
    - Providing that this fallback step creates a sufficiently robust final core data set for a seaborne index, the index calculation procedure described above is employed and no further fallback steps are used. If not, the next fallback step is also applied.

4. For all indices, inclusion of transactions/bids/offers reported by third parties:
    - The final core data set is supplemented by transactions/bids/offers reported by third-parties. These are transactions that were not concluded by the data provider themselves, but that they had seen in the market
    - The volume weighting applied to reported transactions/bids/offers in the index calculation is 5% of the volume submitted.

Section 3: MMi policies

All MMi employees are required to adhere to the MMi Code of Business Conduct (COBC) and sign their commitment to this annually. The COBC demonstrates MMi's commitment to acting with integrity, openness and trustworthiness at all times.

MMi also requires that all staff submit any potential personal or financial interests that may influence, or be perceived as at risk of influencing or interfering with, their ability to perform their jobs in an impartial and effective manner. MMi senior management review all submissions and address any potential issues that no-one invloved in index compilation activities has any conflicts of interest.

MMi employees are required to adhere not only to MMi's published methodologies but also to all of MMi's internal standards and policies.

There is a MMi advisory committee consisting of senior management of Metals Market Index with a long history of experience in the ferrous sector which reviews product specifications, the methodology and calculation processes. This committee maintains oversight of MMi's index methodology and compilation processes with the objective of ensuring that the indices are as representative as possible of the physical spot market transaction prices for relevant products.

If the committee perceives any issues to have arisen, it will raise these and propose modifications to the methodology or processes moving forward to improve the quality of the indices. This advisory committee can only propose changes to the methodology and procedures to be used for future index calculations. It cannot change the value of a published index. This ensures that the indices are not subject to the risk of subjective input at any time.

Corrections

MMi understands that, despite its commitment to provide accurate information of the highest standard at all times, errors do sometimes occur.

If an error is ever identified in the value of a published index, MMi will issue a correction as soon as it is possible to do so. Please note that corrections will only be issued if an error is identified on the basis of the data that was available at the time the index was compiled. The value of an index will not be modified retrospectively based on new data that comes to MMi's attention after publication.

Section 4: Queries and complaints

MMi aims to work in partnership with the industry. It strives to operate with openness at all times and values interactions with market participants. MMi positively encourages market participants to raise questions and provide feedback by telephone, email or any other convenient channel. MMi will endeavour to respond to all enquiries received as quickly as possible.

If any market participant considers MMi has not provided a satisfactory response or service at any time and wishes to register a formal complaint, they should email complaints@mmiprices.com.

Section 5: Index specifications

MMi Iron Ore Port Index "IOPI" FOT Qingdao (incl. Tax) RMB/Wet Tonne

	Iron Content	Alumina	Silica	Phosphorous	Sulphur	Moisture
IOPI62	62% Fe	2.25%	4.00%	0.09%	0.02%	8.00%
IOPI58	58% Fe	2.25%	5.50%	0.05%	0.02%	9.00%
IOPI65	65% Fe	1.40%	1.50%	0.06%	0.01%	8.00%

Product form: fines with a granular size below 10mm for at least 90% of the cargo, with maximum of 40% below 150 micron

Minimum lot size: 5,000 metric tonnes

Pricing point: FOT Qingdao

Timing: Loading within 2 weeks

Payment terms: L/C or payment at sight

Currency and units: RMB per wet metric tonne

Permissible ranges for IOPI data submissions

	Iron Content	Alumina	Silica	Phosphorous	Sulphur	Moisture
IOPI62	60.00% Fe – 66.50% Fe	4.00% Max	9.00% Max	0.15% Max	0.07% Max	10.00% Max
IOPI58	56.00% Fe – 60.00% Fe	4.00% Max	8.00% Max	0.10% Max	0.05% Max	10.00% Max
IOPI65	60.00% Fe – 66.50% Fe	4.00% Max	9.00% Max	0.15% Max	0.07% Max	10.00% Max

MMi Iron Ore Seaborne Index "IOSI" CFR Qingdao USD$/Dry Tonne

	Iron Content	Alumina	Silica	Phosphorous	Sulphur	Moisture
IOSI62	62% Fe	2.25%	4.00%	0.09%	0.02%	8.00%
IOSI58	58% Fe	2.25%	5.50%	0.05%	0.02%	9.00%
IOSI65	65% Fe	1.40%	1.50%	0.06%	0.01%	8.00%

Product form: fines with a granular size below 10mm for at least 90% of the cargo, with maximum of 40% below 150 micron

Minimum lot size: 20,000 metric tonnes

Pricing point: CFR Qingdao

Timing: Loading within 4 weeks and delivery within 8 weeks

Payment terms: L/C or payment at sight

Currency and units: USD per dry metric tonne

Permissible ranges for IOSI data submissions

	Iron Content	Alumina	Silica	Phosphorous	Sulphur	Moisture
IOSI62	60.00% Fe – 66.50% Fe	4.00% Max	9.00% Max	0.15% Max	0.07% Max	10.00% Max
IOSI58	56.00% Fe – 60.00% Fe	4.00% Max	8.00% Max	0.10% Max	0.05% Max	10.00% Max
IOSI65	60.00% Fe – 66.50% Fe	4.00% Max	9.00% Max	0.15% Max	0.07% Max	10.00% Max

Section 6: History of amendments

May 2018: First edition