

McCLOSKEY

BY OPIS, A DOW JONES COMPANY

# Iron Ore, Scrap and Steel Methodology

Effective January 2023

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## Introduction

This statement of methodology for McCloskey by OPIS, a Dow Jones company's ["McCloskey"] price assessments reflect fundamental principles that form the foundation for McCloskey's price reporting service. This statement of methodology also includes detailed information on the formation of McCloskey's price assessments and the specifications for the various products assessed.

As ferrous scrap, metal and iron ore markets change, McCloskey's methodology for assessing prices will continue to evolve.

The McCloskey price assessment services team is comprised of specialist reporters and analysts in London, Singapore, Melbourne, New Delhi, China, and the United States. The McCloskey team undertakes price discovery of the physical markets on a daily basis according to the specifications outlined in this statement of methodology.

For questions regarding price assessments, please contact Prasenjit Bhattacharya at PBhattacharya@opisnet.com or Marian Hookham at MHookham@opisnet.com. OPIS also has compliance staff independent of the editorial group. For more information, please contact OPIS Risk Management and Compliance Director at OPIS\_Compliance\_Team@opisnet.com.

## McCloskey Publications

McCloskey publishes daily and weekly iron ore, ferrous scrap and steel price assessments, market commentary, news, and analysis online through its business intelligence platform and in the following publications.

### Inside Coal and Steel Raw Materials

Daily intelligence and price updates focusing on the global metallurgical coal and steel raw materials markets.

## Methodology Overview

McCloskey produces physical price assessments, termed "markers," for the major traded global hubs. These assessments are published daily and weekly. Weekly assessments are published on Fridays in Inside Coal & Steel Raw Materials and its business intelligence platform.

All McCloskey markers share the following features and standards:

## Basis of McCloskey Methodology

McCloskey assesses the ferrous scrap, steel and iron ore markets using a methodology that has been designed to reflect the way markets trade. The principal purpose of the methodology is to produce price markers that are fair, consistent, and reliable indicators of standard market values in the markets being assessed. As a result, the assessment locations, standard traded units, and other particulars of a marker are determined by industry conventions.

McCloskey uses the trading period deemed by McCloskey, in consultation with the industry, to be the most appropriate to capture market liquidity. In order to be included in the assessment process, deals must meet the minimum volume, delivery, timing and specification requirements as set forth in this Iron Ore, Steel and Ferrous Scrap Marker Price Methodology and Specifications guide (the “Methodology”).

McCloskey markers are informed by data received from active market participants including physical brokers. Market reporters engage with the industry by proactively polling participants for market data. McCloskey will accept market data from all credible market sources, including electronic trading platforms. McCloskey will accept market data by telephone, instant messenger, email or other means.

McCloskey encourages parties that submit market data to submit all their market data that falls within the stated methodological criteria for the relevant marker. McCloskey encourages all sources of market data to submit transaction data from back-office functions. McCloskey will seek to ensure, so far as is able and is reasonable, that transaction data submitted are representative of all the submitter’s actual physical concluded fixed priced transactions.

Throughout all markets, McCloskey is constantly seeking to increase the number of companies willing to provide market data. Market reporters are mentored and encouraged to expand their pool of contacts. The number of entities providing market data can vary significantly from day to day based on market conditions.

## Judgment Guidelines

As part of the price reporting process, market reporters are required to use their professional judgment, to ensure the reliability of the data and marker compilation process. McCloskey has set forth guidelines throughout this Methodology to ensure that the use of judgment is consistent and fair. These guidelines can be found in the following sections of this Methodology:

- Anomalous or suspicious transactions
- Additional checks and analysis

- Comparative markets
- Transactions and survey weightings

McCloskey has developed a Price Reporting Manual that details the process for compiling each specific marker. In addition, McCloskey has developed a programme of training and oversight of market reporters that helps ensure uniformity in the application of judgment. The key elements of this programme include:

1. An initial course of training that explains and defines the parameters for the exercise of judgment
2. Suitably sourced staffing to ensure proper backup for sick days, vacations, etc.
3. Oversight of reporting teams by experienced market editors that are involved in daily mentoring and assisting in the application of judgment
4. A requirement that market editors sign-off on all markers

## Market Data Application and Thresholds

The specifications defined in the methodology and data used to compile each marker is deemed to be the most representative for that market. McCloskey will utilize various types of market data in compiling its markers, including:

- Transactions
- Bids and offers
- Other market information

Transaction information is the preferred source of data for the markers. However, depending on the liquidity of the markets being assessed, other information can be and is used, such as bids and offers and other market information. This can be in combination with transactions, or can substitute transactions, depending on the market liquidity and specific market circumstances.

Consequently, in most markets there will be a relatively higher rank given to transactions over bids and offers and other market information in the compilation process.

McCloskey does not establish strict thresholds based on a count of completed transactions. McCloskey does, however, use transaction levels to determine the weighting between weighted average of price transactions and other market information (see “Transactions and Survey Weightings” below). A strict adherence to a transaction-based threshold could lead to unreliable and non-representative markers because of the varying logistics found in the ferrous scrap, steel and iron ore markets, which determine the typical size of the transaction.

## Verification of Transaction Data

Market reporters carefully evaluate all data gathered before it is used in the price compilation process. These data inputs include transactions, bids, offers, volumes, counterparties, specifications and any other information that contributes materially to the determination of a marker. Specific to transactions and bids and offers, market reporters seek to verify and validate the price, volume, specifications, and location basis, and with regard just to transactions, the counterparties. Market reporters examine all the reported transactions to avoid duplication.

In order to promote transparency in the ferrous scrap, steel and iron ore markets, McCloskey seeks to inform the market of any deals it identifies and significant movements of bids and offers through Inside Coal and Steel Raw Materials.

## Scrutiny of Transactions

McCloskey has created guidelines that control the exercise of judgment by its market reporters. Market reporters are trained to identify anomalous or suspicious transactional data that merit further investigation to verify if they are bona fide data for inclusion in the index compilation process. If a transaction has been identified by a market reporter as anomalous or suspicious, it will be escalated to the markets editor. Further checks and analysis will be conducted by the markets editor when an anomalous or suspicious transaction is identified for further examination.

## Anomalous or Suspicious Market Data

The following types of market data have been identified by McCloskey as potentially anomalous or suspicious:

- Transactions not transacted at arm's length, including deals between related parties or affiliates.
- Transaction prices that fall outside of the generally observed bids and offers that operated throughout the trading period.
- In the absence of observed bids and offers, transaction prices that deviate significantly from transactions seen for that trading period.
- Assessments of fair value that fall outside the reasonable parameters set by transactional information.
- Transactions that are suspected to be a leg of another transaction or in some way contingent on an unknown transaction (excluding Exchange of Futures for Physical (EFP)<sup>1</sup> and sleeve trades<sup>2</sup>)
- Transactions, bids and offers that deviate from the typical transaction volumes seen in that market.

<sup>1</sup>An EFP deal is initially executed at a fixed price and is then broken down into two parts: one part being a physical deal done on an index basis, while a paper position of equivalent size is taken in the same direction as the physical deal. This is done in a way that adds up to the same as the strike price and all elements of the EFP deal are executed at the same time.

- Any other transaction details that appear to stray from the usual trading behaviour seen in that market, including, but not limited to:
  - repeated trading activity in periods or pools of potentially low liquidity, such as the margins of the defined trading window (such as very early or very late deals)
  - counterparties not typically seen, – divergent specifications and – unusual delivery locations
  - or specific delivery location in a port range that may have time specific issues affecting price
- this will include transactions that are identified by other market participants as being, for any reason, potentially anomalous
- discrepancy in transaction details reported by counterparties

## Additional Checks and Analysis

The markets editor and market reporter(s) will undertake the following transactional and source analysis when a potentially anomalous or suspicious transaction is identified for further examination. They will assess the following transaction-based factors:

- The nature of the linkage of the perceived anomalous or suspicious transaction to other possible transactions
- The differences between counterparties on transactional details
- The impact of other factors on price and/or volume, including scheduling and logistic issues, demurrage issues and credit issues

The markets editor will also assess the following source-based factors:

- Whether the explanation provided by the source for the outlying nature of the transaction is plausible
- The credibility of the sources<sup>3</sup>
- Whether the timing of the provision of information impacts the verification and validation process

Should this process determine that a transaction be excluded from the price assessment process, the markets editor will approve the exclusion and document the rationale. For markers used to settle derivatives, McCloskey has established internal procedures that involve escalating review within McCloskey management and, if necessary, notification and escalation of inquiry within the source's company.

<sup>2</sup>Sleeve deals are deals executed using a third-party credit sleeve because the buyer and seller are unable to transact directly because of credit issues. The third-party credit sleeve is not exploiting an arbitrage opportunity.

<sup>3</sup>Sources will be deemed more credible if they (i) adhere to the reporting standards outlined in this Methodology; (ii) quickly respond to queries from market reporters; and (iii) have staff designated to respond to such queries.

## Comparative Markets

There exist tight price correlations between certain markets and the premiums and discounts between these markets, which are constantly assessed and compared by market participants.

By polling and entering in dialogue with the market, market reporters are able to quantify these relative values. Accordingly, in certain assessments when no relevant or insufficient market data exists, market reporters will assess market value using some or all of the following comparative metrics.

- Comparison to another market hub for the same quality of commodity
- Comparison to a more actively traded but slightly different specification or quality in the same market hub
- Other metrics, such as demand and supply data

## Corrections to Markers

If warranted by the circumstances, McCloskey may publish corrections to markers after the publication date. McCloskey will typically correct material errors that arise from the improper entry of information, the erroneous calculation of market data, misreported information, or the incorrect application of the stated methodology. However, McCloskey will not retroactively assess markets based solely on new information learned after the publication date of the relevant marker. Corrections to markers will be conducted in accordance with the Price Assessments Correction policy.

## Compliance and Ethics

McCloskey has implemented extensive compliance policies and procedures in accordance with the best practices of the price reporting industry. These include a comprehensive ethics policy that applies to all the McCloskey Price Reporting staff. The OPIS & McCloskey Compliance Manual acts as the Price Reporting Agency (PRA) editorial code of ethics and is an expression of OPIS' intent to set out ideals for the ethical conduct of PRA personnel in the performance of their price assessment activities.

## Review of Methodology

To ensure that they are representative of the market being assessed, McCloskey conducts reviews of its methodologies on both an internal and external basis. McCloskey conducts a formal review of its methodologies and attendant documents on at least an annual basis. Externally, McCloskey is in regular contact with market participants as such market participants are not only well situated to know the particulars of the market but have a vested interest in the implementation of accurate and relevant methodologies. When conducting its reviews, McCloskey will consider a myriad of factors, including, but not limited to, activity

in the market, visibility of market data and current and anticipated industry usage of the marker.

If the review process recommends a material change to the methodology, or termination of an existing benchmark, the markets editor will submit a proposal to McCloskey Editorial management for review.

## Changes to Methodology

If either an internal or external review of a methodology results in a potential material change to the methodology or cessation of a benchmark, McCloskey will begin formal procedures for external consultation. Materiality is subject to professional judgment and considers the impact of the proposed change on the decision making of stakeholders.

## The Market

McCloskey markers assess physical business for delivery or loading largely over a prompt two calendar month period. To merit inclusion in the McCloskey assessment process, transactional data and survey responses must meet standard specification guidelines. All international traded prices are assessed in US dollars and US cents per metric tonne.

## Transactional Data

### Daily Iron Ore Markers

Fixed price physical trades which meet McCloskey marker specification ranges and are within the trade window will be normalized to the marker's standard specification.

Floating price physical trades which meet McCloskey marker specifications will be converted to fixed price trades, based on the forward price curve, then normalized to the marker's standard specification.

The prices of fixed and floating physical deals for inclusion in the daily McCloskey iron ore marker are averaged over the course of the day on a tonnage weighted basis.

Bid-offer pairs, either heard from market participants or reported on electronic platforms, which meet McCloskey marker specifications will be normalized to the marker's standard specification.

In addition to tracking physical business throughout the day, the McCloskey price reporting team surveys market participants at the end of each trading day on where they see fair value based on trading activity in the two-month window that day.

## Weekly Markers

The McCloskey price reporting team assesses certain iron ore, scrap and steel markers on a weekly basis. The prices for physical trades for the weekly markers over the week of investigation are arithmetically averaged. Where available, bids and offers are tracked over the week and the best bids and offers for each active trading month over the week are averaged on a volume weighted basis.

In addition to tracking physical business, the McCloskey price reporting team also undertakes a weekly survey of the market. Entering a dialogue with most of the survey participants using the information it has built up in terms of deals done and bid and offer values over the week. Market participants are asked where they see the market in terms of deals done and bid/ offer levels through the week and where they would assess fair value over the week.

## Transaction and Survey Weightings

### Daily Iron Ore Marker

Under normal circumstances if there is at least one verified physical trade in the relevant trading window, then the volume weighted average of the trades will comprise 70% of the marker, bids and offers will comprise 20% and market survey comprise 10% of the marker.

If there are no bid-offer pairs then the trades will comprise 80% and market survey 20% of the marker.

If there are no trades, then bid/offer pairs will comprise 60% and survey 40% of the marker

If there are no trades and bids/offers pairs, the survey will comprise 100% of the marker.

### Weekly Markers

Due to typically low liquidity in the scrap, steel and some iron ore markets, deals and survey comprise 50% each of the weekly marker. If there are no trades, the survey will comprise 100% of the marker. Mid-points of indicative bids and offers, if any, will be treated as market survey inputs. Bid-offer pairs are atypical of the steel and scrap markets.

### Normalization Procedure

McCloskey will use an in-house mathematical model to evaluate price differentials between the McCloskey daily iron ore marker and its standard or typical specification and different known brands of medium-grade fines based on traded fixed and floating prices and market participants' assessments.

All price input data collected by price reporters is submitted

to the markets editor for evaluation. Data deemed in line with McCloskey's methodology is then normalized using brand differentials to reflect the relevant marker qualitatively. Currently, the weekly markers do not employ a normalization approach.

Material specifications such as alumina, phosphorus, moisture and silica are considered in cases where there are very significant variance in the specifications of an iron ore cargo from the base specification of that brand. Fe adjustment for iron ore cargoes are pro rated arithmetically. For example, if a cargo of 61% Fe basis fines deal is done at \$100/t, the Fe content will have to be converted to the 62% Fe fines equivalent McCloskey specification using this formula:  $100/61=1.64$  which is then multiplied by 62 to yield the 62% Fe equivalent price of \$101.68/t.

## Marker Timing

### Daily Markers

Trades and bids/offers must be executed between 08:00 and 18:00 Singapore time. Daily markers will not be published on Singapore holidays.

### Weekly Markers

The cut off point for trades and survey numbers being accepted for inclusion in the formation of the iron ore and steel markers is 18:00, Singapore time, on Friday.

The cut off point for trades and survey numbers being accepted for inclusion in the calculation of the ferrous scrap markers is 17:30 UK time on Friday.

Trades done after this time will not be included in the weekly markers compilation.

On days before major holidays the marker trade and survey deadlines may be brought forward in line with market participants working schedules. These days are usually over the Christmas/ New Year period and other Singaporean holidays. Market participants will be informed of any such changes to assessment times.

### Trade Window and Monthly Rollovers

For fixed-price iron ore and steel markets, the active trade window is a rolling period covering delivery in the next 14-62 days.

For scrap markets the active trade window is a rolling period covering delivery/loading in the next 3-8 weeks.

Floating iron ore deals will be considered for the two nearest contract months ahead of the current month. For example, in November 2022, if there is a deal for fines at a premium of \$2/t

to the December 62% Fe futures prices, this will be considered in calculation. But a deal done at a premium of \$2/t to the February 62% Fe future prices that will not be considered for calculation.

## Daily Iron Ore Marker

### 62% Fines CFR North China

The 62% Fines CFR North China marker is a daily marker assessing the price of 62% Fe content Iron Ore fines basis Qingdao Port, North China. Prices are assessed in US dollar per dry metric tonne (dmt).

This marker reflects the following typical quality parameters:

Fe content: 62%

Silica: 4%

Alumina: 2.25%

Phosphorus: 0.09%

Sulphur: 0.02%

Moisture: 8%

The minimum cargo size is 40,000t

## Weekly Iron Ore Markers

### China Fines (India 57%) CFR

The China Fines (India 57%) CFR marker is a weekly marker assessing the price of 57% Fe content Iron Ore fines shipped from the east coast of India to North China (basis Qingdao Port). Prices are assessed in US dollar per dry metric tonne (dmt).

This marker reflects the following typical quality parameters:

Fe content: 57% (56%-57%)

Silica: 5% (Max 6%)

Alumina: 4.5% (Max 6%)

Phosphorus: 0.07% (Max 0.1%)

Sulphur: 0.04% (Max 0.06%)

Moisture: 11% (Max 12%)

The minimum cargo size is 40,000 t.

### 64% Pellet CFR North China

The 64% Pellets CFR North China marker is a weekly marker assessing the price of 64% Fe content Iron Ore Pellets basis Qingdao Port, North China. Prices are assessed in US dollar per dry metric tonne (dmt).

This marker reflects the following quality parameters:

Fe content: 64% (63.5%-65%)

Silica: 4% (Max 5%)

Alumina: 2.25% (Max 3.5%)

Phosphorus: 0.07% (Max 0.09%)

Sulphur: 0.01% (Max 0.03%)

Cold Crushing Strength: 240 daN Size: Max 5% < 5mm

The minimum cargo size is 40,000 t.

## 62% Lump Premium CFR North China

The 62% Lump premium marker is a weekly marker assessing the Lump premium on the 62% Fe fines marker. Prices are assessed in US cent per dry metric tonne unit (¢/dmtu) and on CFR North China basis.

This marker reflects the following quality parameters:

Fe content: 62% (60%-63.5%)

Silica: 3.5% (Max 7%)

Alumina: 1.5% (Max 4%)

Phosphorus: 0.08% (Max 0.1%)

Sulphur: 0.02% (Max 0.08%)

Moisture: 4%

Size: Max 15% < 6.3mm, max 20% > 31.5mm

The minimum cargo size is 40,000 t

## Steel markers

### Indian Sponge Iron

The sponge iron price ex-works Durgapur (India) is a weekly marker assessing the price of sponge iron lump produced by using iron ore and thermal coal as inputs and sold to domestic consumers. The price does not include any local taxes. The minimum cargo size is 100 t. Prices are assessed in Indian rupees per tonne (t). The prices are converted to US dollar equivalent by referring to the official exchange rate published by the Reserve Bank of India.

This marker reflects the following quality parameters:

Fe content (metallic): 80% (78%-82%)

Fe content (total): 90% (88%-92%)

Phosphorus: 0.05%-0.10%

Sulphur: 0.03%-0.05%

Carbon: 0.1%-0.25%

Non-magnetics: 1% max

### Vietnam HRC CFR

The hot-rolled coil (HRC) CFR Vietnam marker is a weekly marker assessing the delivered price of HRC steel product into Vietnam. Prices are assessed in US dollars per metric tonne (t).

This marker reflects the widely accepted SAE1006 quality parameter which sets the quality of cold rolling grade steel used for making automobile, equipment, and white good panels.

Specifications are as follows:

Width: up to 20mm

Thickness: 2-3mm

Minimum cargo size: 5,000t

## Ferrous Scrap Markers

### HMS 80:20 CFR Turkey

The Heavy Melt Scrap (HMS) 80:20 CFR Turkey marker assesses the price of Northern European HMS delivered to Turkey. Prices are assessed on a CFR basis. The minimum cargo size is 5,000 tonnes. The marker will be assessed in US dollars per metric tonne.

The marker assesses scrap with the following quality parameters:

- No.1 heavy melting scrap
- Wrought iron or steel scrap ¼ inch and over in thickness
- Individual pieces not more than 36x18 inches.
- Delivery basis Iskenderun

### Shredded Scrap CFR Turkey

The Shredded Scrap CFR Turkey marker assesses the price of Northern European and USA shredded scrap delivered to Turkey. Prices are assessed on a CFR basis. The minimum cargo size is 5,000 tonnes. The marker will be assessed in US dollars per metric tonne.

The marker assesses scrap with the following quality parameters:

- Shredded iron and steel scrap, magnetically separated
- Unprepared No.1 and No.2 steel
- Average density 50-70 pounds per cubic feet
- Delivery basis Iskenderun

### No.1 Busheling Scrap CFR Turkey

The No.1 Busheling Scrap CFR Turkey marker assesses the price of Northern European and USA scrap delivered to Turkey. Prices are assessed on a CFR basis. The minimum cargo size is 5,000 tonnes. The marker will be assessed in US dollars per metric tonne.

The marker assesses scrap with the following quality parameters:

- Clean steel scrap, max size 2 X 5 feet
- Free from metal coated, limed, vitreous enamelled and electrical sheet containing over 0.50% silicon
- Delivery basis Iskenderun

### Shredded Scrap FOB Rotterdam

The Shredded Scrap FOB Turkey marker assesses the price of shredded scrap loaded at Rotterdam. Prices are assessed on a FOB basis. The minimum cargo size is 5,000 tonnes. The marker will be assessed in US dollars per metric tonne.

The marker assesses scrap with the following quality parameters:

- Shredded iron and steel scrap, magnetically separated
- Unprepared No.1 and No.2 steel
- Average density 50-70 pounds per cubic feet.
- Delivery basis Rotterdam

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