

To: All Members, warehouse companies and their London agents and other interested parties

Ref: 20/194

Classification: General updates

Date: 13 August 2020

Subject: **DISCUSSION PAPER ON LMEPASSPORT**

Summary

1. This Notice announces the publication of the attached Discussion Paper on LMEpassport (the “**Discussion Paper**”). The Discussion Paper proposes a digital document register to be administered by the London Metal Exchange (“**LME**” or “**the Exchange**”). This platform will store and maintain essential provenance documents for traded metal; incorporating both certificates of analysis (“**CoA**”) and emerging certifications, standards and disclosures. It will act as a centralised repository available to all metal owners and their agents.

Background

2. Inefficiencies resulting from outdated, paper-based processes in the global commodities market are widely understood. In the physical metals market, the burden of paper-based processes has been most keenly felt around one particular type of document: certificates of analysis.
3. Certificates of analysis are key quality assurance documents. They describe the size, shape, purity and characteristics of a parcel of metal. CoAs provide transparency to all parties handling or trading in the physical market and are a universal requirement across the industry. This is reflected at the LME; CoAs are a warranting requirement for the majority of physically settled contracts at the Exchange.
4. Pain points related to CoAs have been highlighted to the LME through a variety of forums in recent years. Growing ground swell on this topic prompted the LME’s Warehouse Committee to propose the mandating of electronic CoAs (“**eCoA**”) in last year’s Warehouse Reform Consultation. The responses to this question indicated broad industry support for eCoAs.



5. In parallel, a growing demand for provenance information from consumers across industries is increasingly evident. The ascent of environmental, social and governance standards has been well documented across the metals industry and financial services. Provenance information and disclosures made by producers could similarly be centralised and distributed to market participants in electronic form, greatly promoting user choice and transparency.
6. In response to these needs the LME proposes the development of a new service to register and widely share metals documentation. The Discussion Paper outlines the core features of the LME's proposals, as well as highlighting key questions on which the LME is soliciting feedback.
7. The LME is seeking the views of both existing and prospective market participants to inform the potential development and implementation of LMEpassport into the LME ecosystem.

Market engagement process

8. All interested stakeholders are invited to respond to the questions within the Discussion Paper. The feedback period will run from **13 August 2020 to 24 September 2020**. Following a period of analysis of the feedback, the LME intends to publish further information outlining how it believes it is best to proceed given the feedback (including consulting on any proposed rule changes).
9. Full details of the market engagement process are set out in the Discussion Paper. Any questions should be directed to market.engagement@lme.com.

Robin Martin
Head of Market Development, LME Group

cc: Board directors
All Metals Committees
Physical Market Committee
Ring Dealers Committee
Traded Options Committee
User Committee
Warehousing Committee

Discussion Paper: LMEpassport

August 2020

 **LME**
An HKE**X** Company

SETTING THE GLOBAL STANDARD



Discussion Paper on LMEpassport

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1 INTRODUCTION

The London Metal Exchange (“LME” or “the Exchange”) occupies an important position in the global metals market. A core pillar of this position is a responsibility to maintain a well-functioning market for the benefit of all participants and the wider LME ecosystem. Part of this role includes embracing changes and championing best practices where they arise. Today, the LME is carefully considering how new services at the Exchange might enhance the LME proposition and add value to the LME’s many participants.

1.1 Purpose of this document

This document (the “Discussion Paper”) considers a digital document register named LMEpassport. This platform will store and maintain essential provenance documents for traded metal; incorporating both certificates of analysis (“CoA”) and emerging certifications, standards and disclosures. The latter are to be registered in the system on a voluntary basis. LMEpassport will act as a centralised repository available to all metal owners and their agents.

1.1.1 Process for responding and next steps

The LME would be grateful for as many responses to this Discussion Paper as possible as they will be important in shaping subsequent actions. The Exchange welcomes comments from all interested parties.

Responses to this Discussion Paper should be submitted in writing to market.engagement@lme.com, and may be submitted at any time prior to close of business on **24 September 2020**. Responses made after this date may not be taken into consideration.

Although the LME will consider responses submitted in any format, it would be helpful if respondents could reply to the numbered questions set out below.

Any market participant wishing to ask questions or to seek clarification on any aspect of the Discussion Paper, or to arrange a meeting to discuss it, is asked to contact market.engagement@lme.com.

The LME may, at its discretion and having taken account of feedback, ultimately implement all, some or none of the proposals set out in this Discussion Paper. Where the LME seeks to implement a proposal, it may do so in the form set out in this Discussion Paper, or in a revised form. Further, in any subsequent consultation on changes to rules, the LME may include proposals which are not covered in this Discussion Paper (for example, to reflect suggestions from the market engagement process or the LME’s own findings or otherwise). Responses received will be treated in confidence, except that (a) the LME may need to share responses received with regulatory authorities, members of its group including LME Clear, its legal or other professional advisers, or as required by law; and (b) anonymised responses may (i) be included in any notice stating the outcome of this market engagement (although the LME shall be under no obligation to produce such a notice), and (ii) be shared with any LME Committee or other relevant advisory committees, as part of its process for defining next steps, unless (in the case of (i) and (ii)) respondents specifically identify any aspect of their response which they believe requires confidentiality.

1.2 Summary

Inefficiencies resulting from outdated, paper-based processes in the global commodities market are widely understood. In the physical metals market, the burden of paper-based processes has been most keenly felt around one particular type of document: certificates of analysis.

Pain points related to CoAs have been highlighted to the LME through a variety of forums in recent years. Growing ground swell on this topic prompted the LME's Warehousing Committee to propose the mandating of electronic CoAs ("**eCoAs**") in last year's Warehouse Reform Consultation. The responses to this topic indicated broad industry support for eCoAs.

In parallel, a growing demand for provenance information from consumers across industries is increasingly evident. The ascent of environmental, social and governance standards is well documented across the metals industry and financial services; the LME's recent Responsible Sourcing initiative being just one such example. Provenance information and disclosures made by producers could similarly be centralised and distributed to market participants in electronic form; greatly promoting user choice and transparency.

In response to these needs the LME is proposing the development of this new service to register and widely share essential documentation. The Discussion Paper outlines the core features of the LME's proposals, as well as highlighting key questions on which the LME is soliciting feedback.

2 RATIONALE FOR CHANGE

2.1 Why are we doing it?

LMEpassport is a response by the LME to emerging demands in the global metals market. First, a need for efficient and cost-effective processes around quality assurance documentation; in particular CoAs. Second, an increasing appetite for transparency of provenance information. Both of these demands are undermined by the market’s current bilateral transfer of essential documentation. This model permits a single actor to degrade the quality of a document to the detriment of all downstream stakeholders. *Figure 1* outlines the chain of dependency in bilateral document transfer.

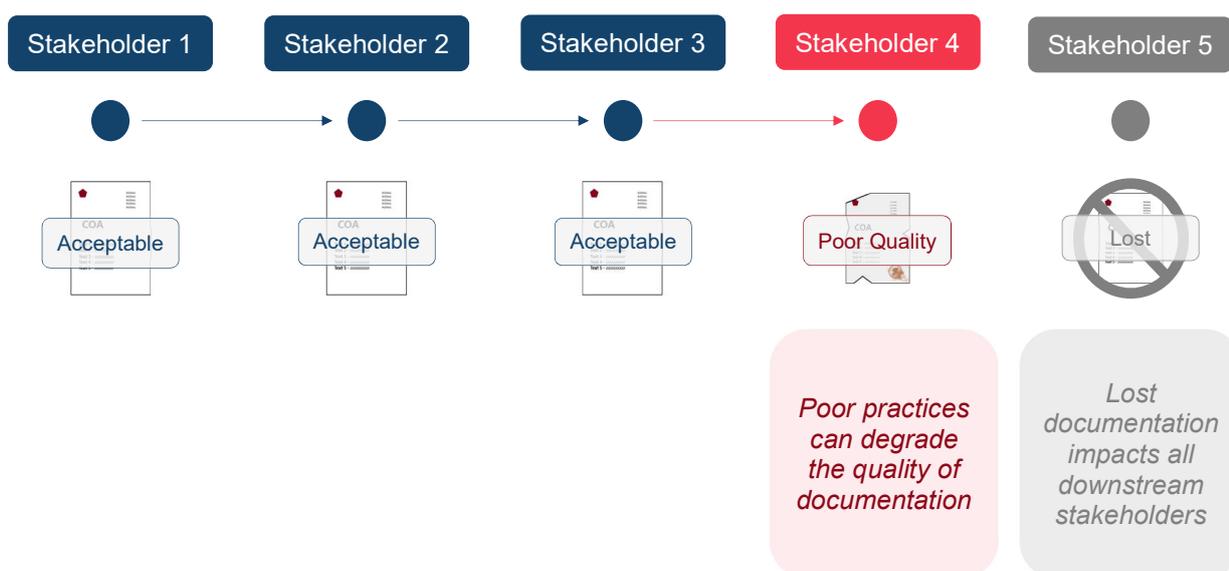


Figure 1: Bilateral document transfer

2.1.1 Operational efficiency

Certificates of analysis are quality assurance documents. In this role it is essential these documents travel with the underlying parcels of metal to which they relate. This need places a great burden upon those stakeholders who manage metal and its associated documents on a daily basis. The many demands placed on documentation gives rise to document degradation, unnecessary duplication and the potential to be lost throughout the supply chain. These challenges add costs, impede quality assurance practices, and undermine auditability. This longstanding pain-point is familiar to many stakeholder groups across the LME. Despite this, a credible solution has yet to emerge or find consensus in the market.

Certificates of analysis are an essential tool within the LME and the wider metals market. They communicate purity, size and shape of a batch of metal. As such, CoAs are common practice in the physical market and are a warranting requirement for the majority of physically-settled contracts at the LME.

Action by the LME to address the operational challenges around CoAs will directly benefit not just the participants of the LME ecosystem but also their associates, trading partners and clients.

2.1.2 Growing appetite for transparency

The metals market is experiencing a growing demand for transparency, which extends to provenance information detailing how, where and under what conditions metal has been produced. Examples such as environmental and social factors are increasingly important to consumers.

The response by the metals market has been tangible. Of note, producers have responded by investing in a broad array of certifications and disclosures, demonstrating compliance to set standards and principles. To understand the extent of investment by producers, the LME conducted a desk-based study of the 2018 primary aluminium market. Over 85% of global aluminium production was cast under a sustainability disclosure or certification of some form.

Certifications and disclosures are often available directly from producers or industry associations. However, they are not commonly made available alongside physical parcels of metal to which they relate. Downstream stakeholders must make a deliberate effort to seek out production certifications and disclosures (assuming they are aware of their existence).

The LME believes the effective distribution of certifications and disclosures with physical parcels of metal would benefit all market participants. Current practices reflect neither the investment from producers nor the value placed on certifications and disclosures by end users. Sharing comprehensive provenance information in LMEpassport will promote greater user choice and transparency for all stakeholder types.

2.2 Objectives of LMEpassport

The LME has set out three core objectives in developing the LMEpassport proposal. The LME believes the platform must provide:

- **A utility service aligned to industry.** The proposed solution should be aligned to current industry practices. This means enhancing those industry practices rather than replacing them. In turn, this helps ensure a low impact on the business models of stakeholders at all stages.
- **A safeguarded library of provenance information.** The proposed solution must maintain robust, immutable data safeguarded for all downstream users and their agents.
- **Detail on-demand.** Centralised data must be provided in real time, at the points it is needed, and in the form that is most convenient.

2.3 Advisory Group

The LME proposes the creation of an Advisory Group of market participants to feedback on the ongoing development of the service. The Exchange would like to hear from any market participant interested in joining. The governance of the Advisory Group is yet to be finalised but a minimum commitment of time would be requisite. The Advisory Group would provide feedback on performance and contribute to the ongoing direction and prioritisation of functional build. Interested parties are kindly asked to respond to this Discussion Paper as outlined in section *1.1.1 Process for responding and next steps* indicating their interest to be involved.

Questions:

- 1) Do you believe a central digital document register will be a valuable utility to the metals market?
- 2) Would your organisation like to be involved with the LME's proposed Advisory Group? If so, please detail how your organisation can best help direct the project.

3 THE PROPOSAL

3.1 Digital document register

LMEpassport will act as a digital document register for essential documentation detailing the characteristics and provenance of traded metal. Given its role in the market, the LME believes it is a natural steward and operator of this service. The proposed central digital register model is depicted in Figure 2.

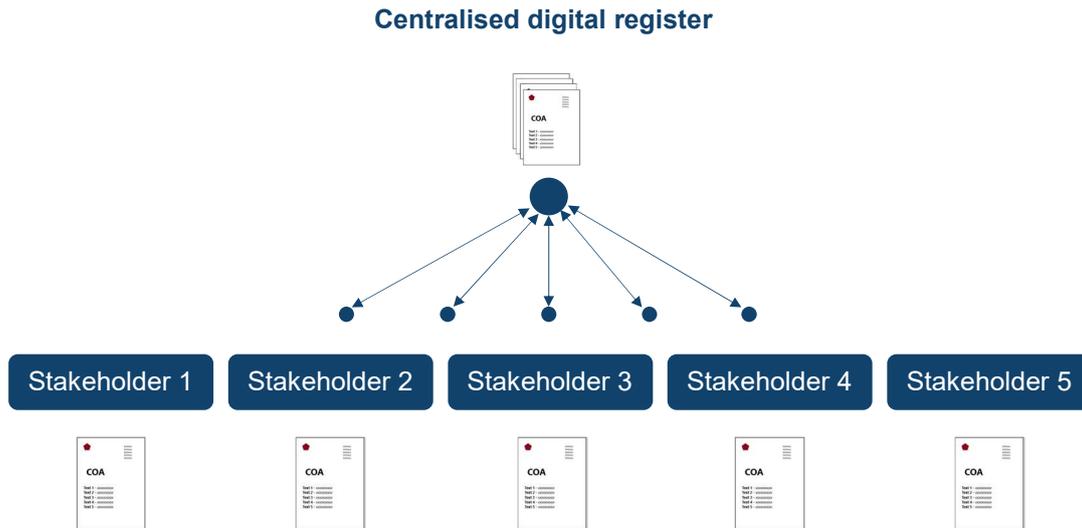


Figure 2: Centralised digital register

This centralised model allows all stakeholders in the metals market to quickly and easily access essential documentation. Users of LMEpassport will sidestep the need for another party to send on a CoA or other provenance information.

LMEpassport will support the creation of electronic CoAs in a readily distributable form. The information captured from the document headings and each detailed production cast reference (“PCR”) will form the framework on which LMEpassport operates. Discrete records will be created for each unique PCR and at this same granular level value-add certifications and disclosures may be attached. For this reason, CoAs are the focus of rule and contractual changes under this Discussion Paper. The registration of CoA information in LMEpassport will become mandatory under specified circumstances. The appending of value-add certifications and disclosures to LMEpassport records will be voluntary.

For the avoidance of doubt the LME will retain the right to revise the mandatory scope of LMEpassport from time to time. This may include the mandating of certain value-add certifications and disclosures or, any other certification or document deemed essential by the LME.

3.1.1 Evolving digital landscape

LMEpassport will sit as one piece of a digital transformation taking place across the metals market. It is clear that a variety of drivers and technical advances will continue to evolve and adapt the operational practices of market participants. It is essential, therefore, that LMEpassport is designed to interact with a range of current and future third-party services.

LMEpassport will be developed as a web application, using a dynamic architecture and comprising application programming interfaces (“**APIs**”). This function will enable permitted third-party systems to access information held in LMEpassport in a controlled fashion.

Question:

- 3) Which other platforms, services and initiatives would you like LMEpassport to integrate with?

3.2 Stakeholder interactions and benefits

Different stakeholder types will be able to interact with LMEpassport in different ways. This flexibility in function is designed to meet the very different needs of each group and maximise the benefit they receive from the service.

3.2.1 Producers

Producers of metal products will principally act as contributors to LMEpassport. Capturing the characteristics and provenance information surrounding individual units of metal is naturally done at the point of production.

Producers will be able to register CoA information, and voluntarily append value-add certifications and disclosures on a batch basis. LMEpassport will support a number of registration methods to provide user choice and minimise the operational burden in registering detail. See section 3.3.4 *Registering CoA information in LMEpassport* for more detail.

LMEpassport will enable producers to preserve relevant product information and ensure all downstream owners of their metal can benefit from it. Robust and distributed product information will ensure market participants trading in metal can confidently make informed decisions on its provenance. Increasing transparency in this way may aid the identification and pricing of desired characteristics.

3.2.2 Warehouse companies and LME members

LME approved warehouse companies and LME members will act as both contributors to and consumers of information held in LMEpassport.

These stakeholder types will be permitted to create CoA records where a producer has not already done so and append value-add certifications and disclosures on a voluntary basis. Warehouse companies will have certain obligations to engage with LMEpassport and register CoA records of warranted metal with the service. For more detail on these obligations see section 4.4 *Rule changes and obligations*.

Where additional work is done by warehouse companies or LME members in registering CoA information additional fees may be considered appropriate. See section 4.5 *Fees* for more details.

Warehouse companies will be permitted and encouraged to use the CoA detail recorded in LMEpassport as part of their on-going obligations when warranting metal on the Exchange. Warehouse treatment of CoA detail registered in LMEpassport will be determined by the quality and origin of the registered record. For further details see section 5.4 *Rule changes and obligations*.

LMEpassport will support trading decisions of LME members through readily available quality and provenance information. Warehouse companies will benefit from improved efficiency at key stages in the LME warehousing lifecycle. When loading-in metal for warranting, warehouse companies will have immediate access to essential CoA information required to validate a given parcel's compliance with LME rules.

3.2.3 Metal owners

Metal owners are individuals or corporates holding title over metal and not otherwise categorised as a producer, warehouse company or LME member. Metal owners will principally be consumers of the information held in LMEpassport. Where a metal owner elects to have information registered this must be done via an LME member or warehouse company as their agent.

Metal owners will be able to access information held in LMEpassport and export in a variety of formats to suit individual needs. Metal owners will benefit from a greater level of transparency and user choice in the metal they consume.

3.3 Registering, accessing and consuming information

3.3.1 Autonomous access

The information held in LMEpassport, with strict controls, will be open access for registered users. This feature is a requirement of the service's distribution model; negating any reliance on an upstream user to share CoA or provenance information. Two principles underpin this approach:

- **LMEpassport will hold limited commercially sensitive information.** The service will not hold any ownership or location information relating to physical metal. Value-add certifications and disclosures will be required to be public documents or derived from publicly available information. CoAs contain limited commercially sensitive information unless greatly aggregated. The potential to export and aggregate CoA information from LMEpassport will be strictly controlled.

Where CoA documents containing client or consignee details are registered in LMEpassport a redact function will be employed to permanently obscure this information. See section 3.3.4 *Registering CoA information in LMEpassport for further details.*

- **LMEpassport will employ a robust set of controls.** LMEpassport will implement a number of controls to safeguard held information and to prevent bad actors from abusing the service.

Access to LMEpassport will be controlled by an account taxonomy. Corporate accounts will be subject to due diligence checks by the LME and all users will be legally bound by the service's terms and conditions.

Users must always request detail by inputting a known unique identifier. Accounts inputting a high number of erroneous unique identifiers in a day will be subject to suspension and may be terminated.

Questions:

- 4) Do you believe a robust set of controls can be achieved through the LME's proposed approach?

- 5) If not, what additional controls would your organisation like to see in place?
- 6) Is there anything else that you think the LME should consider regarding LMEpassport open-access controls?

3.3.2 Multi-channel platform

As a utility service to the market it is essential that LMEpassport is accessible to those that need it, when and where they need it. The service will be developed as a web-based application compatible with browsers on a personal computer or through a smart phone or tablet device.

Access to the web-based portal will require a corporate account to manage settings, permissions and the users under it. Individual users will set up personal accounts with a number of configurable settings. The web-based portal will provide an intuitive interface and support users in registering or consuming information.

Smart phone compatibility is designed to benefit stakeholders working closely with the physical parcels of metal and who regularly are required to reconcile paperwork to individual units. The ability to scan the production cast references visible on parcels of metal, search LMEpassport records and return the relevant information is being explored. This function is enabled by a technology entitled Optical Character Recognition (“OCR”).

3.3.3 CoA record types

Each CoA record will represent a single PCR held within a CoA document. Records will be identifiable in the service through a unique identifier entitled the LMEpassport ID. Two distinct CoA record types will be supported by LMEpassport. The type of record created will be determined by the permissions of the registering user and the quality of the underlying information.

- **Enhanced CoA Records.** Enhanced CoA Records will comprise of structured CoA data registered in LMEpassport. Information held in this CoA record type will be fully searchable by any individual field. The right to create Enhanced CoA Records in LMEpassport will be limited to producers of metal. These record types will require a high degree of quality assurance and, as such, are most appropriately limited to this stakeholder group.
- **Basic CoA Records.** Basic CoA Records will comprise of a few validated data fields and a digital version of the original document. The data fields populated will allow these record types to be searchable by key details. This will include producer name, CoA reference, CoA date, LME brand, the metal (ie zinc, lead, aluminium) and the individual production cast references listed. Digital versions of the original CoA document will provide the PCR specific detail and batch level information such as net and gross weight, or industry standards met (eg primary aluminium P1020A).

For the purposes of warranting metal at the Exchange both Basic and Enhanced CoA Records may be used in lieu of the original paper CoA. The treatment and dependency placed on CoA Records in LMEpassport will be determined by the type of record. For further detail see section 5.4 Rule changes and obligations.

3.3.4 Registering CoA information in LMEpassport

Registering information in LMEpassport will be supported through multiple mechanisms in the web-based portal. The option to select a preferred mechanism will provide user choice and aid adoption of the service with minimum impact to current business models.

CoA information can be registered, subject to permissions, through any of three supported routes:

- **Electronic document files and scanned images of documents.** Electronic documents and images of the original documents can be uploaded and registered on LMEpassport. On initial upload users will be asked to redact any client or consignee specific information that may be contained in the document. This will involve dragging a cursor over the details to be obscured creating a black box which will prevent human or machine reading.

Once prepared, these documents will be subject to OCR software, interpreting and parsing the information into structured data. Where the OCR function is applied, users will be required to validate the parsed information prior to submission. This channel will support the creation of both Basic and Enhanced CoA Records.

- **Supported data files.** LMEpassport will support commonly used data files such as Microsoft Excel and .csv text formats. These files will be uploaded via the LMEpassport web-based portal by permitted users of the service. The submission of supported data files to register CoA detail will create Enhanced CoA Records.
- **API connectivity.** Application programming interface connectivity will be provided in commonly used programming syntax. API connectivity will allow users to create an automated workflow from their own enterprise resource planning software or in-house stock management software. The API will communicate structured data and, as such, will create Enhanced CoA Records.

A breakdown of the CoA data fields to be captured in LMEpassport can be found at *7.1 Appendix 1: CoA record requirements*. Additional fields may be added at the discretion of the LME.

Questions:

- 7) Which channel of registration will be most convenient for your organisation and why?
- 8) Are there any other methods of creating LMEpassport records your organisation would see as beneficial?
- 9) Is there anything else that you think the LME should consider regarding the registration of CoA information in LMEpassport?

3.3.5 Appending value-add certifications and disclosures in LMEpassport

Value-add certifications and disclosures can be voluntarily appended to CoA records once created. Users will be required to search for and select a desired sub-set of CoA records to which the value-add detail should be attached. In order to manage and standardise the array of certifications and disclosures LMEpassport will require appended value-add information to be summarised under four steps:

- **Certification or disclosure theme.** Value-add certifications and disclosures must be made under a recognised theme. For example; Carbon profile.
- **Framework details.** Users must detail the framework adopted in meeting the certification or calculating the disclosed statistic. For example; International Aluminium Institute (“IAI”) Level 2 Emissions framework.
- **Certificate achieved or disclosure statistic.** Users must select and state the certification met or the statistic to disclose. For example; 16 metric tons of CO2 or equivalent per metric ton of produced metal.
- **Proof point.** Users will be required to provide proof point(s) to support the certification or the disclosed statistic. This will include the upload of supporting documentation or links to appropriate websites. For example; Aluminium Stewardship Initiative (“ASI”) Performance Certification Standard and supporting audit report.

An initial view of recognised value-add certification and disclosure themes can be found at 7.2 *Appendix 2: Value-add recognised certifications and disclosures*. This list is by no means exhaustive. The LME is open to the addition of further disclosure themes, certifications or other recognised information being registered with LMEpassport provided the data can be shown to be meaningful.

Questions:

- 10) How valuable are value-add certifications and disclosures to your organisation? Please explain your answer.
- 11) Which ESG certifications and disclosures would your organisation like to see supported by LMEpassport?
- 12) Do you believe the LME’s four step process is an appropriate framework to register value-add certifications and disclosures?
- 13) Is there anything else that you think the LME should consider regarding the appending of value-add certifications and disclosures in LMEpassport?

3.3.6 Consuming information in LMEpassport

Subject to permissions, LMEpassport will allow information to be exported in a number of supported formats:

- **Original documents.** Where the original CoA has been registered, either as a Basic or Enhanced Record, users will be permitted to export the digital version held of the original document. Where supporting documents have been registered as part of an appended value-add certification or disclosure users will be permitted to export these also.
- **LMEpassport Record Report.** Users will be permitted to select a sub-set of CoA Records and create an LMEpassport Record Report. This PDF document will contain all CoA and value-add

information registered under the CoA Records selected. The Record Report will be presented in a standardised format and contain links back to the LMEpassport web-based portal.

- **Supported data files.** LMEpassport will allow registered users to export CoA and value-add information in supported data formats. As for LMEpassport Record Reports, users will be required to select a sub-set of the LMEpassport records which to export. Supported formats will include commonly used file types such as Microsoft Excel (.xlsx), Extended Mark-up Language (.xml) or text files (.csv).
- **API connectivity.** LMEpassport will allow registered users to export structured data relating to a selected sub-set of CoA Records via API. The API will support the communication of both CoA detail and value-add certifications and disclosures.

Questions:

- 14) Which export format will be most convenient for your organisation and why?
- 15) Are there any other export formats your organisation would see as beneficial?
- 16) Is there anything else that you think the LME should consider regarding the consumption of information held in LMEpassport?

4 LMEPASSPORT GOVERNANCE

4.1 Phased approach

LMEpassport will be implemented in a phased approach. From the LMEpassport go-live date, planned in H1 2021, until **31 December 2023**, the LME will exercise an Introductory Phase. The Introductory Phase will mandate warehouse companies to interact with the service and register metal under specific circumstances across an increasing scope of LME contracts. Producers will be permitted to interact with the service voluntarily throughout the Introductory period. For further details see section 4.4 *Rule changes and obligations*. The Introductory Phase will allow all users of the service to revise workflows and business processes ahead of a second phase, Full Implementation, of LMEpassport from **01 January 2024**.

From **01 January 2024**, all proposed rule changes will come into effect and LMEpassport will be mandated to support all physically-settled contracts requiring a certificate of analysis as part of the LME's Special Contract Rules. LME Copper currently does not require a CoA and, therefore, will not be included in this scope. The LME retains the right to add LME Copper and any other LME contract to this mandatory scope to best reflect the needs of the market. This may include the registration of provenance documents other than certificates of analysis where the LME believes it is beneficial to do so.

4.2 LMEpassport scope

In time, LMEpassport will cater for a progressive suite of industrial metals whether traded on-Exchange or not. This broad scope will allow LMEpassport to become a market-wide utility service and benefit the broadest range of stakeholders.

During the Introductory Phase of LMEpassport the service's scope will be limited to warranted metal. LME contracts will be integrated with LMEpassport in a staggered fashion. The progressive expansion of LMEpassport's scope can be seen in *Table 1*.

Go Live	01 June 2022	01 January 2023	01 January 2024
Aluminium	Aluminium	Aluminium	Aluminium
	Zinc	Zinc	Zinc
	Lead	Lead	Lead
		Tin	Tin
		Nickel	Nickel
		NASAAC	NASAAC
		Aluminium Alloy	Aluminium Alloy
		Cobalt	Cobalt

Table 1: Incremental scope for warranted metal

From Full Implementation of LMEpassport on **01 January 2024** all LME physically-settled contracts requiring a CoA under the LME's Special Contract Rules must be recorded on the service.

Questions:

- 17) Do you believe a phased introduction of LMEpassport will be beneficial to market participants?
- 18) Do you believe the Introductory Period is an appropriate length of time? If not, what would be an appropriate length of time?
- 19) Do you believe a staggered scope of LME contracts will be beneficial to adoption of the service?

4.3 Permissions

LMEpassport will use a comprehensive permissions structure to exercise control over the quality of information registered and marshal the consumption of held data. *Table 2* defines the permissions supported by LMEpassport.

Permission definitions	
READ	Permission to access and view data held in the LMEpassport platform via the web portal, smartphone application or API connectivity. This applies to both CoA information and value-add certifications and disclosures.
EXPORT	Permission to export CoA or value-add data held within LMEpassport. The format of exported detail will be limited by the underlying record types.
WRITE	Permission to register CoA detail and documentation to create new records in LMEpassport. Write permission can be limited to Basic Records only, or may permit Enhanced and Basic Records.
OVERWRITE	Permission to register structured CoA detail for a PCR already registered as a Basic Record. The product of this action is to update a Basic Record to an Enhanced Record type.
APPEND	Permission to append value-add certifications and disclosures to CoA record types. This includes Basic and Enhanced records.

Table 2: Permission definitions

A permissions matrix by stakeholder type can be found at *Table 3*.

Stakeholder Type	READ	EXPORT	WRITE	OVERWRITE	APPEND
Producer <i>Producer brand only</i>	✓ <i>Producer created records only</i>		✓	✓	✓
Warehouse company	✓	✓	✓ <i>Basic records only</i>		✓
LME member	✓	✓	✓ <i>Basic records only</i>		✓
Metal owner	✓	✓			
LME Administration	✓	✓			

Table 3: Permission matrix

Questions:

- 20) Do you believe the proposed permission structure of LMEpassport is appropriate?
- 21) Do you believe any additional permissions will be needed?

4.4 Rule changes and obligations

Rule changes and obligations to engage with LMEpassport will come into effect across both phases of implementation.

- **Brand producers.** Producers will have no obligations during the introductory phase of the service. Producers will be permitted and encouraged to register CoA and value-add certifications and disclosures with LMEpassport.

At full implementation of LMEpassport, producers will be required to register all LME branded metal produced on or after **01 January 2024**. CoA detailed must be registered as Enhanced CoA

Records before leaving the site of production. Producers will be permitted and encouraged to append value-add certifications and disclosures with LMEpassport.

- **LME members.** LME members will have no obligations during the introductory phase or at full implementation. Members will be permitted and encouraged to register and consume information from LMEpassport. This will apply to both CoA detail and value-add certifications and disclosures.
- **Metal owners.** Metal owners will have no obligations during the introductory phase or at full implementation of LMEpassport. Metal owners will be permitted and encouraged to consume information held in LMEpassport. This will apply to both CoA detail and value-add certifications and disclosures.
- **Warehouse companies.** Subject to the LMEpassport scope (see section 4.2 *LMEpassport scope*), warehouse companies will be required to register CoA records under specific conditions. Warehouse companies will be required to check LMEpassport for CoA records of all metal being placed on warrant. Any PCR comprising the lot not registered on LMEpassport must be registered prior to warranting. Where the metal is produced on or before **31 December 2023** warehouse companies will be required to register each PCR not otherwise registered as a Basic Record.

LME branded metal produced on or after **01 January 2024** must be registered by the producer before it leaves the site of production. Any LME branded metal produced on or after this date and not registered in LMEpassport will be unwarrantable.

Warehouse companies may use either a Basic CoA Record or an Enhanced CoA Record for the purposes of warranting and in meeting the obligations set out by the LME upon approved warehouses.

Enhanced CoA Records will comprise of structured data provided by the producer. LMEpassport will assess key fields contained within the Record. The service will provide an indication of compliance with CoA requirements detailed under the appropriate section of the LME Special Contract Rules. This will include an automated comparison of the listed chemical impurities against tolerable levels determined by the LME Special Contract Rules. For the avoidance of doubt, all other obligations to inspect and validate the features and characteristics of metal to be warranted remain unaffected.

Basic CoA Records will comprise of a digital copy of the CoA document. As per current LME rules CoA documents may be provided by the producer or an LME Listed Sampler or Assayer (“**LSA**”) only. The digital CoA may be used in lieu of the original document provided via any other means. All incumbent obligations to inspect and validate the features and characteristics of metal to be warranted at the LME remain unaffected. This will include scrutiny of the chemical composition of metal detailed in the CoA against the LME’s Special Contract Rules.

Questions:

- 22) Do you believe the proposed rule changes and obligations of LMEpassport are appropriate?
- 23) Do you believe any additional rule changes or obligations will be needed?

4.5 Fees

The LME proposes an additional fee for LMEpassport. This additional fee will come into effect on the LMEpassport go-live date planned in H1 2021. The LME would retain the right to vary fees from time to time.

4.5.1 LME Maintenance Fee

Metal owners cancelling and withdrawing warranted metal will be subject to a Maintenance Fee levied by the LME. The Maintenance Fee is intended to cover the ongoing data-storage costs of maintaining LMEpassport. The Maintenance Fee is proposed at **\$5 per warrant** for all LME warrants requiring a CoA and registered on LMEpassport.

LME members will act as an agent of the LME in collecting Maintenance Fees from metal owners. This fee will be levied at the point of cancellation on the withdrawing party via LMEsword invoicing. The Maintenance Fee will be payable by the metal owner at the point of warrant cancellation each and every time a parcel of metal may pass through the warranting lifecycle.

4.5.2 Fees for registering material

Where a CoA record has been registered by a warehouse company or LME member on behalf of a metal owner an additional fee may be appropriate to compensate the additional work done. Warehouse companies will be obliged to register material in certain circumstances under the LMEpassport proposal. As such, registration fees levied by a warehouse company on metal owners will be subject to a Registration Fee Cap.

The Registration Fee Cap imposed will be a flat **\$10 fee per warrant**. This cap will apply regardless of how many new records must be created or how many documents are required to be uploaded to LMEpassport. The registration fees must be charged at the point of warrant cancellation and to the withdrawing metal owner. No fee will be charged to the metal owner at the point of warranting or any subsequent owner of the warranted metal unless cancelling the warrant and taking receipt of the lot.

The registration fee is to be invoiced directly by the warehouse company or LME member to the metal owner through their normal processes.

Questions:

- 24) Do you believe the proposed LME fee and fee cap relating to LMEpassport are appropriate?
- 25) Do you believe any additional fees will be needed to ensure adoption of the service to a meaningful level?

4.6 LME powers

The LME desires to create a utility model which market participants elect to use. This requires a model that meets consensus and drives value for all user types. Consensus is the LME's first and preferred route to introducing the changes outlined in this Discussion Paper.

The LME's first course of action to remedy parties failing to meet obligations surrounding LMEpassport will be open dialogue. The Exchange is committed to working with users to ensure adoption is practical and impacts current practices as little as possible.

4.6.1 LME brand producers

Ultimately, if a consensual approach has proved ineffective, the LME's core power is to suspend or delist brands. In either case, the effect would be that no further material of the specific brand could be warranted (or re-warranted) in the LME network.

The mechanism by which the LME would effect a suspension or delisting would, necessarily, depend on the circumstances. In general, the LME aims to give advance notice of a delisting in order to allow the market a period of time (generally three months) to place residual off-warrant stock into the warehouse. However, in the event that this might create a disorderly market – for example, the inflow of significant quantities of lower-quality material into warehouse during the notice period – the LME does have the right to suspend or delist without notice.

While the LME accepts that a greater degree of certainty in respect of timelines for these processes would provide greater clarity to the market, the LME does believe that in order to act in a fair manner and to mitigate the risks of creating a disorderly market, it does need to reserve the right to make decisions on a case by case basis.

4.6.2 LME approved warehouses

Warehouse companies failing to meet obligations under LMEpassport will be subject to recourse outlined in the LME Warehouse Agreement, the LME Policy on Approval and Operation of Warehouses, and the LMEsword Regulations.

Recourse pursued against LME approved warehouses will include, but is not limited to, the imposition of penalty charges against warehouses that fail to meet the rule changes laid out as part of the governance of LMEpassport.

4.6.3 LME members

LME members failing to meet obligations under LMEpassport will be subject to recourse outlined in the LME Rules.

Recourse pursued against LME members will include, but is not limited to, the imposition of penalty charges where the member fails to meet the rule changes laid out as part of the governance of LMEpassport.

Questions:

26) Do you believe the proposed LME powers relating to LMEpassport are appropriate?

27) Do you believe any additional LME powers will be needed to ensure adoption??

5 CONCLUSION

The LME believes that the proposals defined above represent a fair and practical route forward to improve upon paper-based processes. Universally bringing essential provenance documentation into digital form will benefit stakeholders across the LME ecosystem and will set a new standard in the global metals market. The LME would like to thank its stakeholders and other market participants who have contributed towards the LME's process in defining these proposals so far and looks forward to receiving further views in respect of this Discussion Paper.

6 GLOSSARY

Glossary	
LMEpassport	The LME's proposed digital document register.
Go-live date	The planned go-live date for LMEpassport. The exact date is yet to be determined but is scheduled for the first half of 2021 ("H1 2021").
Certificate of analysis ("CoA")	A quality assurance document detailing the size, shape, purity and packing for of metal. These documents may be stored and transferred as physical paper documents, or scanned images or PDFs of the original document.
Production Cast Reference ("PCR")	An alpha-numeric reference term used to identify single parcels of metal. Typically many PCRs are listed on a single CoA document
Value-add certification and disclosures	Environmental Social and Governance (ESG) and provenance disclosures or awarded certifications that demonstrate production characteristics about metal.
LMEpassport Advisory Group	A collective of nominated market participants to provide ongoing feedback at various stages of the LMEpassport platform build.
Stakeholder Type	LME Administration, Producer, Warehouse company, LME member, Metal owner.
CoA Record	A discrete item held in the service under an LMEpassport ID. Each Record in LMEpassport relates to one PCR.
Basic CoA Record	CoA record type comprising of digital version of the record and a few basic details at the record level: CoA reference, CoA date, Producer name, LME brand, smelter location.
Enhanced CoA Record	CoA record type comprising of structured data and containing all record types required as specified in the CoA data field tab.
LMEpassport ID	Unique reference term created for the LMEpassport to identify either Enhanced or Basic CoA record types. The reference term is created by the concatenation of the LME brand and the production cast reference.
LMEpassport Record Report	A bespoke PDF document created by LMEpassport. It will contain all CoA and value-add information registered under the CoA Records selected.

7 APPENDICES

7.1 Appendix 1: CoA record requirements

1. Global CoA data [Document level]					
Field	Format	Nominal	Applicable record types	Requirement - LME Branded Metal	Requirement - Non Branded Metal
Producer name	Text	Validated Text	Basic and Enhanced	Required	Required
Country of production	Text	Validated Text	Enhanced only	Elective	Elective
Date of production	Date	YYYY-MM-DD	Enhanced only	Elective	Elective
CoA date	Date	YYYY-MM-DD	Basic and Enhanced	Required	Required
CoA reference number	Text	Alpha-numeric reference	Basic and Enhanced	Required	Required
LME Brand	Text	Alpha-numeric reference	Basic and Enhanced	Required	na
Packing form	Text	Validated Text	Enhanced only	Elective	Elective
Product shape	Text	Validated Text	Enhanced only	Elective	Elective
Metal	Text	Validated Text	Basic and Enhanced	Required	Required
Nominal purity/Product Spec	Text	Validated Text	Enhanced only	Elective	Elective
Industry standards met ₁	Text	Alpha-numeric reference	Enhanced only	Elective	Elective
Total gross weight	Number	Metric ton (MT)	Enhanced only	Elective	Elective
Total net weight	Number	Metric ton (MT)	Enhanced only	Elective	Elective

1 – determined for each LME contract by the relevant Special Contract Rules as detailed in Part 6 of the LME Rules
eg for LME Primary Aluminium: P1020A in the North American and International Registration Record, GB/T 1196-2008 registered designation A199.70



2. Table of analysis [Production cast reference level]

Field	Format	Nominal	Applicable record types	Requirement - LME Branded Metal	Requirement - Non Branded Metal
Production cast reference	Text	Alpha-numeric reference	Basic and Enhanced	Required	Required
Number of pieces	Number	Integer	Enhanced only	Elective	Elective
Gross weight	Number	Metric ton (MT)	Enhanced only	Elective	Elective
Net weight	Number	Metric ton (MT)	Enhanced only	Elective	Elective
Ag [silver]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Al [aluminium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
As [arsenic]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
B [boron]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Bi [bismuth]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Cd [cadmium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Co [cobalt]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Cr [chromium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Cu [copper]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Fe [iron]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Ga [gallium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Li [lithium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Mg [magnesium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Mn [manganese]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Na [sodium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Ni [nickel]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
P [phosphorus]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Pb [lead]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
S [sulphur]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Sb [antimony]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Se [selenium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Si [silicon]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Sn [tin]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Te [tellurium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective



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Ti [titanium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
V [vanadium]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Zn [zinc]	Number	Percentage	Enhanced only	Required - Relevant SCR ₁	Elective
Meets warranting requirements	Text	Validated text	Enhanced only	AUTOMATED	Elective

1 – determined for each LME contract by the relevant Special Contract Rules as detailed in Part 6 of the LME Rules



7.2 Appendix 2: Value-add recognised certifications and disclosures

LMEpassport value-add data fields				
Theme	Component of value-add disclosure	Field	Format	Nominal
Carbon profile	1. Standard met	GHG protocol emissions	Number	Metric ton of CO2
Carbon profile	2. Framework	GHG protocol Scope	Text	Free text field
Carbon profile	3. Proof point	GHG protocol supporting documentation	Attachment	.pdf documentation or web link
Carbon profile	1. Standard met	IAI ₁ emissions	Number	Metric ton of CO2
Carbon profile	2. Framework	IAI emission Level	Text	Free text field
Carbon profile	3. Proof point	IAI supporting documentation	Attachment	.pdf documentation or web link
ESG Certification	1. Standard met	ASI ₂ Performance Standard Certification	Text	Validated text
ESG Certification	2. Framework	ASI certification summary	Text	Free text field
ESG Certification	3. Proof point	ASI certification documentation	Attachment	.pdf documentation or web link
Renewable energy	1. Standard met	tbc	Text	Validated text
Renewable energy	2. Framework	Certification summary	Text	Free text field
Renewable energy	3. Proof point	Certification documentation	Attachment	.pdf documentation or web link
Recycled content	1. Standard met	tbc	Text	Validated text
Recycled content	2. Framework	Certification summary	Text	Free text field
Recycled content	3. Proof point	Certification documentation	Attachment	.pdf documentation or web link
Assayer CoA	1. Standard met	LME Special Contract Rule compliance	Text	Validated text
Assayer CoA	2. Framework	Certification summary	Text	Free text field
Assayer CoA	3. Proof point	Certification documentation	Attachment	.pdf documentation or web link

1 – International Aluminium Institute (“IAI”)

2 – Aluminium Stewardship Initiative (“ASI”)



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