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Q CONSTITUTION

PREAMBLE

- (A) Q is an open-source system that is independent of any country, company or organization.
- (B) Q has been developed and shall be further developed for the benefit of humanity.
- (C) We, the Q Token Holders, Validator Nodes, Validator Node Candidates, Root Nodes, Q Nodes and Q ID Holders (together, the "Q Stakeholders") who freely participate in, use, interact with or contribute to Q hereby adopt the following constitution (this "Q Constitution").

Q CONSTITUTION

Article 1. SUPREMACY OF THE Q CONSTITUTION

- 1.1 This Q Constitution sets out the basic rules of Q, including the rules for participating in, using, interacting with or contributing to Q.
- 1.2 This Q Constitution shall only be amended at the proposal of one or more Q Token Holders if such proposal is put to a vote and accepted in accordance with Appendix 5. Otherwise, any purported amendment to this Q Constitution shall be null and void.
- 1.3 By operating a full node that supports the Q peer-to-peer network, each Validator Node, each Root Node and each node on Q which is neither a Validator Node, nor a Root Node (such node, a "Q Node") agrees to and accepts this Q Constitution, as amended from time to time in accordance with the terms of this Q Constitution. By holding at least one Q Token, each Q Token Holder agrees to and accepts this Q Constitution, as amended from time to time in accordance with the terms of this Q Constitution. By holding a Q Personal ID, each Q ID Holder agrees to and accepts this Q Constitution, as amended from time to time in accordance with the terms of this Q Constitution.
- 1.4 Notwithstanding each Q Stakeholder's agreement to and acceptance of this Q Constitution in accordance with Article 1.3, the Q Stakeholders shall not at any time constitute, participate or act in a partnership with one another under this Q Constitution.
- 1.5 A Q Stakeholder shall only access Q and use the Q Blockchain using a client software which offers a mechanism independent of the Q Blockchain for collecting cryptographic proof of each removal of the public key of a Validator Node from the Validator Node List and each addition of the public key of such Validator Node to the Validator Node Exclusion List in accordance with Article 9.
- 1.6 Capitalised terms used, but not otherwise defined in this Q Constitution (including in the Preamble and Appendices to this Q Constitution) shall have the meanings given in Appendix 1. Certain technical parameters used in the definitions included in Appendix 1 are specified in Part B of Appendix 6.
- 1.7 The parameters in square brackets are included in this Q Constitution for information purposes only and each of them reflects an aspect of the current (March 2022) technical implementation of this Q Constitution. Such parameters do not form part of this Q Constitution and amendments to any such parameter do not constitute Fundamental Changes, Basic Changes, Detailed Changes or Non-Constitutional Changes and, accordingly, do not require the consent of any Q Stakeholder in accordance with this Q Constitution at any time.

Article 2. THE Q BLOCKCHAIN AND TRANSACTIONS ON Q

- 2.1 Q shall operate on a public, distributed blockchain (the "Q Blockchain").
- 2.2 The Q Blockchain shall be maintained by a permissionless peer-to-peer network of nodes.
- 2.3 The state of Q at any time shall be validated on a delegated proof of stake (DPoS) basis by the Validator Nodes.
- 2.4 The Q Blockchain shall be the definitive record of the state of Q at any time and of all transactions carried out on Q up to such time. The Q Blockchain shall not be modified retrospectively. After a transaction has been recorded on the Q Blockchain, it shall only be modified by way of a subsequent transaction.

Article 3. Q TOKENS AND Q TOKEN HOLDERS

- 3.1 The native assets of Q shall be tokens in bearer form which are fully fungible with each other (each, a "Q Token"). Each Q Token shall be subdivided into and shall be freely transferable in fractions of $1/10^{18}$ or any integral multiple thereof. Unless the context requires otherwise, all references to Q Tokens in this Q Constitution shall be construed to include freely transferable fractions of Q Tokens.

- 3.2 Initially, 1,000,000,000 Q Tokens shall be generated. Thereafter, a number of additional Q Tokens equal to the Block Subsidy shall be generated with every new block on the Q Blockchain and allocated between the Q Stakeholders (other than the Q Nodes) in accordance with Part A of Appendix 6.
- 3.3 Each holder of a Q Token (the "**Q Token Holder**") may delegate some or all of its rights (including, without limitation, voting rights) in respect of any Q Token held by it to any other Q Token Holder.
- 3.4 Each Q Token Holder may propose changes to and amendments of Q, including, without limitation, this Q Constitution and vote on any such proposal in accordance with Appendix 5.

Article 4. VALIDATOR NODES

- 4.1 The Operator of a node on Q may Self Stake some or all of the Q Tokens owned by such Operator. At any time, a number of nodes on Q (i) up to the Maximum Number of Validator Nodes with the highest Total Accountable Stake of Q Tokens at such time and (ii) whose public keys are included on the Validator Node List at such time shall act as validator nodes (each such node, together with the Operator of such node, a "**Validator Node**"). Each Validator Node expressly accepts and signs electronically a hash of this Q Constitution each time it co-signs a block on the Q Blockchain which directly or indirectly embeds a hash of this Q Constitution.
- 4.2 At any time, a number of nodes on Q up to the Maximum Number of Validator Node Candidates which are not Validator Nodes, but which have the next highest Total Accountable Stake of Q Tokens at such time, and whose public keys are not included on the Validator Node Exclusion List, shall be candidates to become Validator Nodes (each such node, together with the Operator of such node, a "**Validator Node Candidate**").
- 4.3 In addition to any Self Stake of Q Tokens to a node on Q by the Operator of such node, any Q Token Holder may Delegate Stake some or all of the Q Tokens owned by such Q Token Holder to a node on Q which is already a Validator Node or a Validator Node Candidate.
- 4.4 Each Validator Node shall be responsible for maintaining the state of Q in compliance with this Q Constitution, with the care of a diligent Validator Node and in good faith. In particular, but without limitation, each Validator Node is obliged to:
 - 4.4.1 operate a full node that supports the Q peer-to-peer network by running a Q client software that reflects the rules of Q as laid down in this Q Constitution;
 - 4.4.2 where applicable, verify each Voting Proposal in accordance with Appendix 5 for technical correctness;
 - 4.4.3 as a strict obligation which the Q Token Holders consider essential to enforce the rules of this Q Constitution and to protect the value of the Q Blockchain, formulate block candidates which contain one or more Valid Transactions on a first-come-first-served basis and sign those block candidates or co-sign block candidates formulated by other Validator Nodes which contain one or more Valid Transactions. Such Valid Transactions shall include, without limitation:
 - (a) any transaction technically required under Article 6, Article 7 or Article 8;
 - (b) if an Enforceable Arbitral Award has been rendered, a corresponding transaction recording the terms of such Enforceable Arbitral Award and, if applicable, one or more further transactions implementing the terms of such Enforceable Arbitral Award;
 - (c) if a Slashing Appeal is withdrawn or considered as withdrawn after the expiry of the Slashing Appeal Verification Period, but before an Enforceable Arbitral Award has been rendered, a corresponding transaction recording the withdrawal of such Slashing Appeal;
 - (d) if any Voting Proposal is rejected in accordance with Paragraph (f) of Appendix 5, a corresponding transaction recording the rejection of such Voting Proposal; and
 - (e) if any Voting Proposal which is an Emergency Proposal and is accepted in accordance with Paragraph (e)(ii) of Appendix 5, a corresponding transaction recording the acceptance of such Voting Proposal and, if applicable, one or more further transactions implementing the terms of such Voting Proposal.
- 4.5 For validating transactions on Q and recording them on the Q Blockchain on a first-come-first-served basis, the Validator Nodes shall be entitled to receive certain fees in accordance with Appendix 3.
- 4.6 Each Validator Node agrees and irrevocably accepts that, in case of a breach of its obligations under this Q Constitution, it will be sanctioned by the Slashing of Q Tokens Self Staked to it in accordance with Article 6. The severity of the sanctions depends on the gravity of the breach, as assessed by the Root Nodes on a case-by-case basis, where applicable having regard for Appendix 8 and the maximum percentage of Self Staked Q Tokens to be Slashed in the context of specific breaches. Such sanctions are to be applied with rigour as a central means pursuant to this Q Constitution to incentivize good conduct by Validator Nodes generally, to compensate and incentivize those Q Token Holders who exercise supervisory and policing functions, to compensate all Q Token Holders for the general risk assumed and general losses incurred by their entirety due to the conduct of non-compliant Validator Nodes, and to limit the risk of future harm occurring.
- 4.7 Further and in addition, each Validator Node agrees to and irrevocably accepts that, if, at any time, it breaches any of its obligations under Article 4.4.3, its public key shall be removed from the Validator Node List and shall be included on the Validator Node Exclusion List in accordance with Article 9. If the public key of a Validator Node is included on the Validator Node Exclusion List at any time, the relevant node shall immediately be removed from consensus and cease being a Validator Node and, in particular, it shall not validate any transactions on Q.

Article 5. ROOT NODES

- 5.1** At any time, a number of nodes on Q up to the Maximum Number of Root Nodes (i) to which Q Tokens have been Self Staked and (ii) which are included on the Root Node List shall act as root nodes (each such node, together with the Operator of such node, a "**Root Node**").
- 5.2** If a Q Token Holder satisfies the requirements for inclusion on the Root Node List as set out in Part A of Appendix 2, such Q Token Holder may propose its appointment as a Root Node in accordance with Appendix 5. If the relevant Voting Proposal is accepted, such Q Token Holder shall become a Root Node and shall be included on the Root Node List. Further, each Q Token Holder may, at any time, propose the removal of any one or more existing Root Nodes at such time and vote on any such proposal in accordance with Appendix 5. If such Voting Proposal is accepted, such Root Node shall cease being a Root Node and shall be removed from the Root Node List.
- 5.3** Each Root Node shall be responsible for monitoring the functioning of the Q Blockchain in line with this Q Constitution, with the care of a diligent Root Node and in good faith. In particular, but without limitation, each Root Node is obliged to:
- 5.3.1** provide such evidence as may reasonably be required by Q Token Holders from time to time that such Root Node satisfies the requirements for inclusion on the Root Node List as set out in Part A of Appendix 2 and publicly disclose and provide without undue delay evidence of any changes to such information;
 - 5.3.2** operate a full node that supports the Q peer-to-peer network by running a Q client software that reflects the rules of Q as laid down in this Q Constitution;
 - 5.3.3** monitor whether Validator Nodes and Root Nodes act in compliance with their obligations under this Q Constitution and identify any relevant breaches;
 - 5.3.4** subject to Article 5.4, as a strict obligation which the Q Token Holders consider essential to enforce the rules of this Q Constitution and to protect the value of the Q Blockchain, if, at any time, a Validator Node or a Root Node acts in breach of its obligations under this Q Constitution, make a Slashing Proposal in respect of some or all of the Q Tokens Self Staked to the relevant Validator Node or the relevant Root Node;
 - 5.3.5** subject to Article 5.4, as a strict obligation which the Q Token Holders consider essential to enforce the rules of this Q Constitution and to protect the value of the Q Blockchain:
 - (a)** if a Slashing Proposal has been accepted in accordance with Appendix 5, execute a corresponding Slashing Transaction;
 - (b)** if an Enforceable Arbitral Award has been rendered, execute a corresponding transaction recording the terms of such Enforceable Arbitral Award and, if applicable, one or more further transactions implementing the terms of such Enforceable Arbitral Award; and
 - (c)** if a Slashing Appeal is withdrawn or considered as withdrawn after the expiry of the Slashing Appeal Verification Period, but before an Enforceable Arbitral Award has been rendered, execute a corresponding transaction recording the withdrawal of such Slashing Appeal;
 - 5.3.6** subject to Article 5.4, as a strict obligation which the Q Token Holders consider essential to enforce the rules of this Q Constitution and to protect the value of the Q Blockchain, following the occurrence of a Slashing Objection and the expiry of the related Slashing Appeal Period, if such Root Node determines, in its reasonable view, that the relevant Slashed Node has not commenced a Slashing Appeal in accordance with Article 6.3.2 or the Slashing Node has commenced such Slashing Appeal, but such Slashing Appeal has been withdrawn or is considered as withdrawn prior to the expiry of such Slashing Appeal Period, propose a Slashing Confirmation during the Slashing Appeal Verification Period;
 - 5.3.7** as a strict obligation which the Q Token Holders consider essential to enforce the rules of this Q Constitution and to protect the value of the Q Blockchain, if it is the respondent to any Slashing Appeal and if a co-respondent Root Node is appointed in accordance with Article 6.8, make an application that the co-respondent Root Node be joined as co-respondent to the relevant proceedings in accordance with Article 6.9;
 - 5.3.8** vote on each Voting Proposal in respect of which it is an Eligible Voter during the applicable Voting Period, unless such Voting Proposal is accepted in accordance with Paragraph (e)(ii) of Appendix 5 prior to the expiry of the applicable Voting Period;
 - 5.3.9** co-sign each block between Validation Cycles which includes the Validator Node List for the next Validation Cycle, if:
 - (a)** the Validator Node List comprises the Validator Nodes with the highest Total Accountable Stake of Q Tokens at such time; and
 - (b)** such Validator Node List does not contain the public key of any Validator Node whose public key has been included on the Validator Node Exclusion List in the circumstances described in Article 9.1.2;

5.3.10 subject to Article 5.4, as a strict obligation which the Q Token Holders consider essential to enforce the rules of this Q Constitution and to protect the value of the Q Blockchain, each time a Validator Node does not implement or otherwise give effect to:

- (a) any transaction technically required under Article 6, Article 7 or Article 8;
- (b) any transaction recording or implementing the terms of any Enforceable Arbitral Award;
- (c) any transaction recording any withdrawal of a Slashing Appeal after the expiry of the relevant Slashing Appeal Verification Period;
- (d) any transaction recording the rejection of a Voting Proposal in accordance with Paragraph (f) of Appendix 5; or
- (e) any transaction recording and implementing the terms of any Voting Proposal which is an Emergency Proposal and which is accepted in accordance with Paragraph (e)(ii) of Appendix 5,

determine whether, in its reasonable discretion, it should remove the public key of such Validator Node from the Validator Node List and add the public key of such Validator Node to the Validator Node Exclusion List in accordance with Article 9. Each Root Node shall be required to do so in all circumstances where, in connection with the relevant breach by such Validator Node, a Slashing Transaction is executed for 100% of such Validator Node's Self Staked Q Tokens. In all other cases, each Root Node shall be required to do so only if such Root Node determines that removing the public key of such Validator Node from the Validator Node List and adding the public key of such Validator Node to the Validator Node Exclusion List is necessary or desirable to protect the integrity of Q (including, without limitation, to prevent one or more persons from circumventing or unduly delaying any Slashing in accordance with this Q Constitution);

5.3.11 following any changes to the composition of the group of Root Nodes, update the Root Node List, propagate such updated Root Node List via the Q peer-to-peer network and maintain an offchain record of the then current Root Node List;

5.3.12 where applicable, review and verify a Voting Proposal which has been accepted for compliance with this Q Constitution and if, in its reasonable view, the Voting Proposal is not in compliance with this Q Constitution, exercise its veto right in respect of such Voting Proposal by making a declaration to that effect, in each case, in accordance with Appendix 5; and

5.3.13 in connection with any arbitration proceedings arising under or in connection with this Q Constitution:

- (a) pay all fees it is required to pay in connection with such arbitration proceedings in accordance with this Q Constitution, with the rules applicable to such arbitration proceedings or following an award given at such arbitration proceedings;
- (b) conduct such arbitration proceedings properly and independently and, in case of arbitration proceedings arising under or in connection with a Slashing Appeal, act free of conflicting interests and have due regard for the collective interests of the community of Q Stakeholders in the outcome of such arbitration proceedings; and
- (c) support to the fullest extent possible any Enforceable Arbitral Award rendered in such arbitration proceedings.

5.4 In the circumstances described in Articles 5.3.4, 5.3.5, 5.3.6 and 5.3.10, if any Root Node makes the relevant Slashing Proposal, executes a transaction, proposes a Slashing Confirmation or proposes the removal of the public key of a Validator Node from the Validator Node List and the addition of the public key of such Validator Node to the Validator Node Exclusion List, each other Root Node's obligation shall instead be to vote on such Slashing Proposal, Slashing Confirmation or, as the case may be such addition or removal of such public key in accordance with Appendix 5 and to support such transaction.

5.5 Each Root Node agrees and irrevocably accepts that, in case of a breach of its obligations under this Q Constitution, it will be sanctioned by the Slashing of Q Tokens Self Staked to it in accordance with Article 6. In particular, in the event of such breach, any (other) Root Node may make a Slashing Proposal in respect of some or all of the Q Tokens Self Staked to the relevant Root Node which has breached its obligations and each Eligible Voter may vote on such Slashing Proposal in accordance with Appendix 5. The severity of the sanctions depends on the gravity of the breach, as assessed by the Root Nodes. They are to be applied with rigour as a central means pursuant to this Q Constitution to incentivize good conduct by Root Nodes generally, to compensate and incentivize those Q Token Holders who exercise supervisory and policing functions, to compensate all Q Token Holders for the general risk assumed and general losses incurred by their entirety due to the conduct of non-compliant Root Nodes, and to limit the risk of future harm occurring. Each Root Node shall assess the gravity of a breach on a case-by-case basis, where applicable having regard for Appendix 8 and the maximum percentage of Self Staked Q Tokens to be Slashed in the context of specific breaches.

5.6 Further and in addition, each Root Node agrees to and irrevocably accepts that it shall be removed from the Root Node List in the circumstances described in Article 9.2. If a Root Node is removed from the Root Node List at any time, the relevant node shall immediately cease being a Root Node and, in particular, shall no longer have any voting rights in its capacity as Root Node.

Article 6. SLASHING

6.1 In case of a Slashing Proposal made by an Eligible Proposer, each Eligible Voter in respect of such Slashing Proposal shall accept such Slashing Proposal if it is of the view that the relevant Validator Node or Root Node has acted in breach of its obligations under this Q Constitution and the percentage of Q Tokens Self Staked to the relevant node to be Slashed is proportionate to the severity of the breach, having regard for the Slashing Considerations. For the avoidance of doubt, only Q Tokens Self Staked to a relevant node (and not any Delegated Stake) may be subject to a Slashing Proposal.

6.2 In connection with each Slashing Proposal, each Validator Node shall implement and otherwise give effect to a corresponding Slashing Transaction in the circumstances described in Article 4.4.3.

- 6.3 In respect of each Slashing Transaction, the affected Validator Node or Root Node (the "**Slashed Node**") may:
- 6.3.1 notify the panel of Root Nodes during the Slashing Objection Period that it intends to request a review of the Slashing (the giving of such notice, a "**Slashing Objection**"); and
 - 6.3.2 only if a Slashing Objection occurs in accordance with Article 6.3.1, commence a review of the Slashing by way of arbitration in accordance with Article 13 by submitting a request for arbitration and paying the relevant filing fee to the Secretariat of the ICC International Court of Arbitration, in each case, during the Slashing Appeal Period (a review requested by a Validator Node, a "**VN Appeal**", and a review requested by a Root Node, an "**RN Appeal**", and each VN Appeal or RN Appeal, a "**Slashing Appeal**").
- 6.4 A Slashing Appeal shall be the only recourse of the Slashed Node against a Slashing and the Slashed Node shall not initiate other proceedings against a Slashing.
- 6.5 The respondent Root Node to each Slashing Appeal and, thus, a substitute for the community of Q Stakeholders in the Slashing Appeal, shall be the Eligible Proposer who made the relevant Slashing Proposal. The Eligible Proposer shall be fully autonomous in handling the proceedings and shall not be bound to follow any instructions by any other Q Stakeholder.
- 6.6 As soon as reasonably practicable after commencing a Slashing Appeal during the Slashing Appeal Period, the Slashed Node shall notify the panel of Root Nodes of the commencement of such Slashing Appeal and shall provide them with reasonable evidence that the request for arbitration has been received by the Secretariat of the ICC International Court of Arbitration and that the Slashed Node has paid the relevant filing fee. As soon as reasonably practicable after receipt of the relevant request for arbitration from the Secretariat of the ICC International Court of Arbitration, the (initial) respondent to the relevant Slashing Appeal shall notify the panel of Root Nodes of such receipt. If, at any time, a Slashing Appeal is withdrawn or considered as withdrawn, as soon as reasonably practicable after such withdrawal or deemed withdrawal, each of the Slashed Node and the each (co-)respondent to the relevant Slashing Appeal shall notify the panel of Root Nodes of such withdrawal or deemed withdrawal and shall provide them with reasonable evidence thereof.
- 6.7 In respect of each Slashing Objection which occurs, following the expiry of each Slashing Appeal Period, during the Slashing Appeal Verification Period, if any Root Node determines that, in its reasonable view, the Slashed Node has not commenced a Slashing Appeal in accordance with Article 6.3.2 or the Slashing Node has commenced such Slashing Appeal, but such Slashing Appeal has been withdrawn or is considered as withdrawn prior to the expiry of such Slashing Appeal Period, such Root Node shall make a Voting Proposal during the Slashing Appeal Verification Period that the Root Nodes declare that no Slashing Appeal has been commenced and ongoing (such declaration, a "**Slashing Confirmation**") and the other Root Nodes shall vote on such Voting Proposal in accordance with Appendix 5. A Slashing Confirmation shall occur if the relevant Voting Proposal is accepted.
- 6.8 In respect of each Slashing Objection which occurs, if no Slashing Confirmation occurs during the relevant Slashing Appeal Verification Period and if, upon the expiry of the Slashing Appeal Period, the percentage of Q Tokens Self Staked to the relevant node which are the subject of the relevant Slashing Transaction is higher than the Co-Respondent Threshold, then the panel of Root Nodes shall appoint a co-respondent Root Node for the purposes of such Slashing Appeal. Any Root Node shall be entitled to propose that it or another Root Node be appointed as the co-respondent Root Node and such Root Node shall be so appointed if such proposal is accepted in accordance with Appendix 5 by no later than the end of the Co-Respondent Appointment Period. If, upon the expiry of the Co-Respondent Appointment Period, no proposal is accepted in accordance with the preceding sentence, the Root Node whose time stamp is next in order on the Root Node List shall be automatically appointed as the co-respondent Root Node (starting with the Root Node with earliest time stamp on the Root Node List for the purposes of the first Slashing Appeal to which this Article 6.8 applies, then following the chronological order of the time stamps of the Root Nodes on the Root Node List until the Root Node with latest time stamp on the then current Root Node List is appointed and then (re-)starting with the Root Node with earliest time stamp on the then current Root Node List).
- 6.9 After a co-respondent Root Node is appointed in accordance with Article 6.8, the (initial) respondent Root Node shall make an application to the Arbitral Tribunal that the co-respondent Root Node be joined as co-respondent to the proceedings and, to the extent necessary, each of the relevant Slashed Node and the co-respondent Root Node shall be deemed to support such application. The co-respondent Root Node to each Slashing Appeal and, thus, also a substitute for the community of Q Stakeholders in the Slashing Appeal, shall be fully autonomous in handling the proceedings and shall not be bound to follow any instructions by any other Q Stakeholder.
- 6.10 In connection with each Slashing Transaction if (i) a Slashing Objection occurs and (ii) a corresponding Slashing Confirmation does not occur, neither the (initial) respondent Root Node, nor the co-respondent Root Node shall make a settlement proposal which would become legally binding upon acceptance, nor accept a legally binding settlement proposal in respect of such Slashing Appeal unless the (initial) respondent Root Node or, as the case may be, the co-respondent Root Node has put such settlement proposal to a vote and such settlement proposal has been accepted in accordance with Appendix 5.

6.11 In connection with each Slashing Appeal:

- 6.11.1** in connection with any application by the parties that any settlement reached between the parties be recorded in the form of an award made by consent of the parties, the Arbitral Tribunal shall verify whether the parties have complied with their obligations under Article 6.10 (and, if the Arbitral Tribunal is not satisfied that the parties have complied with their obligations under Article 6.10, the Arbitral Tribunal shall not record such settlement in the form of an award);
- 6.11.2** the Arbitral Tribunal shall determine whether the appropriate percentage of Q Tokens Self Staked to the relevant node should have been equal to or lower than the actual percentage of Q Tokens subject of the relevant Slashing Transaction (but may not determine that the appropriate percentage of Q Tokens Self Staked to the relevant node to be Slashed should have been higher than the actual percentage of Q Tokens subject to the relevant Slashing Transaction);
- 6.11.3** the Arbitral Tribunal shall not order the Slashed Node to make any payment or delivery (including, without limitation, it shall not order the payment of any compensation or damages) to any Q Token Holder (including, without limitation, to the Eligible Proposer who initiated the Slashing);
- 6.11.4** the Arbitral Tribunal may order that the Slashed Node or the (initial) respondent Root Node (but not the co-respondent Root Node) compensate any costs incurred by any other party to the proceedings in connection with the Slashing Appeal (including, without limitation, any reasonable legal costs).

6.12 Slashing (and, in the case of Validator Nodes only, removal of the public key of a relevant Validator Node from the Validator Node List and addition of the public key of such Validator Node to the Validator Node Exclusion List) shall be the primary remedy against a Validator Node or a Rood Node which breaches its obligations under this Q Constitution, but other remedies shall also be available. In particular, any Q Stakeholder may request specific performance or cease and desist from the Validator Node or the Root Node breaching its obligations under this Q Constitution.

Article 7. WITHDRAWAL OF STAKE

- 7.1** If a Q Stakeholder (other than the Operator of a node on Q) has requested the withdrawal of any Q Tokens which constitute Stake Delegated to a node on Q, such Q Tokens shall be released upon the expiry of a Q Token Time Lock Period following such request in all circumstances.
- 7.2** If the Operator of a node on Q has requested the withdrawal of any Q Tokens Self Staked to such node, such Q Tokens shall be released upon the expiry of a Q Token Time Lock Period following such request. Notwithstanding the preceding sentence, if, during the Q Token Time Lock Period, a Slashing Proposal is made in respect of some or all of the Q Tokens Self Staked to such node, such Self Staked Q Tokens shall only be released to the extent such Self Staked Q Tokens are not Slashed, as described in Appendix 9.

Article 8. RIGHTS DURING AND FOLLOWING SLASHING

8.1 In connection with each Slashing Proposal:

- 8.1.1** the Operator of the relevant node on Q shall retain all its rights (other than withdrawal rights) arising out of or in connection with all Self Staked Q Tokens until such time (if any) that a number of Self Staked Q Tokens specified in the relevant Slashing Proposal (the result rounded down to the nearest $1/10^{18}$ of a Q Token) are Slashed by way of a corresponding Slashing Transaction; and
- 8.1.2** the withdrawal rights arising out of or in connection with any Q Tokens Staked to the relevant node on Q shall be determined in accordance with Article 7.

8.2 In connection with each Slashing Transaction, all Self Staked Q Tokens which are Slashed pursuant to such Slashing Transaction shall be held in escrow effected by way of smart contract during the Escrow Period.

For these purposes, "**Escrow Period**" means the period commencing when a Slashing Transaction is effected and:

- 8.2.1** if a Slashing Objection does not occur, the expiry of the Slashing Objection Period; or
- 8.2.2** if a Slashing Objection occurs, either:
 - (a)** the occurrence of a relevant Slashing Confirmation; or
 - (b)** if a relevant Slashing Confirmation does not occur and:
 - (i)** if the relevant Slashing Appeal is not withdrawn or considered as withdrawn and an Enforceable Arbitral Award is rendered in respect of such Slashing Appeal, the execution of a corresponding transaction recording the terms of such Enforceable Arbitral Award; or
 - (ii)** if the relevant Slashing Appeal is withdrawn or considered as withdrawn, the execution of a corresponding transaction recording the terms of such withdrawal.

- 8.3 All Q Tokens held in escrow in accordance with Article 8.2 shall be disregarded for all purposes (including, without limitation, for the purposes of determining the Total Accountable Stake of such node in connection with any allocations and redistributions in accordance with Part A of Appendix 6 and for the purposes of determining the number of votes cast by any relevant Q Token Holder for the purposes of any vote conducted in accordance with Appendix 5).
- 8.4 Upon the expiry of the Escrow Period:
- 8.4.1 if either:
- (a) a Slashing Objection does not occur; or
 - (b) a Slashing Confirmation occurs; or
 - (c) a Slashing Confirmation does not occur, but the relevant Slashing Appeal is withdrawn or considered as withdrawn,
- the Q Tokens shall be released from escrow and shall be allocated and redistributed in accordance with Part A of Appendix 6; or
- 8.4.2 if a Slashing Objection occurs, a Slashing Confirmation does not occur and the relevant Slashing Appeal is not withdrawn or considered as withdrawn, the Q Tokens shall be released from escrow and each Validator Node and each Root Node shall implement and otherwise give effect to any Enforceable Arbitral Award rendered in respect of such Slashing Appeal in accordance with Article 4.4.3 or Article 5.3.5.

Article 9. VALIDATOR NODE LIST, VALIDATOR NODE EXCLUSION LIST AND ROOT NODE LIST

- 9.1 As a strict obligation which the Q Token Holders consider essential to enforce the rules of this Q Constitution and to protect the value of the Q Blockchain, if, at any time, a Validator Node breaches any of its obligations under Article 4.4.3, each Root Node shall determine whether, in its reasonable discretion, it should remove such Validator Node from consensus. Each Root Node shall make such determination in accordance with Article 5.3.10. If a Root Node determines that such Validator Node should be removed from consensus, such Root Node shall make a Voting Proposal (or, if another Root Node has already made such Voting Proposal, shall vote on such Voting Proposal):
- 9.1.1 to remove the public key of such Validator Node from the Validator Node List, thereby triggering a removal of such Validator Node from the Validator Node List; and
- 9.1.2 to add the public key of such Validator Node to the Validator Node Exclusion List.
- If such Voting Proposal is accepted by the Required Majority of votes cast by Eligible Voters in accordance with Appendix 5, the public key of such Validator Node shall be removed from the Validator Node List and added to the Validator Node Exclusion List and each Root Node shall propagate via the Q peer-to-peer network an updated Validator Node List setting out the updated membership of the panel of Validator Nodes and an updated Validator Node Exclusion List.
- 9.2. Each time a Q Token Holder makes a Voting Proposal to change the membership of the panel of Root Nodes and such Voting Proposal is accepted by the Required Majority of votes cast by Eligible Voters in accordance with Appendix 5, the membership of the panel of Root Nodes shall change accordingly and each Root Node shall propagate via the Q peer-to-peer network an updated Root Node List setting out the updated membership of the panel of Root Nodes. For the avoidance of doubt, each Q Token Holder shall be entitled to propose a change to the membership of the panel of Root Nodes in accordance with the preceding sentence at any time in its sole and absolute discretion.

Article 10. EXPERT PANELS

- 10.1 Without prejudice to the Q Token Holders' rights under this Q Constitution, the Q Token Holders hereby delegate their decision-making rights with respect to certain technical and operational aspects of the Q Blockchain to expert panels (the "**Expert Panels**").
- 10.2 The current Expert Panels are set out in Appendix 7. Expert Panels may be established or dissolved from time to time if a sufficient number of Q Token Holders amend Appendix 7 accordingly. Any proposal for such amendment shall constitute a proposal for amendment to the Appendices to this Q Constitution and shall be decided by way of vote in accordance with Appendix 5.
- 10.3 The maximum number of members of each Expert Panel and its decision-making powers are set out in Appendix 7. An Expert Panel shall determine its own rules and procedures of working from time to time, *provided that* such rules and procedures are in compliance with this Q Constitution. All members of an Expert Panel shall be Q Token Holders.
- 10.4 Each Expert Panel shall make determinations and take decisions by way of vote in accordance with Appendix 5.
- 10.5 Each Q Token Holder may propose amendments to the membership of any Expert Panel and vote on any such proposal in accordance with Appendix 5.

Article 11. Q ID

- 11.1 Q ID is an application on the Q Blockchain which legal or natural persons can use to certify their identity.
- 11.2 Following a successful verification of a person as a natural person, such natural person shall be issued with a non-transferable natural person flag on their Q ID certificate (such Q ID certificate with a natural person flag, a "**Q Personal ID**"). At any point in time, the Q Token Holders may amend this Article 11.2 such that, following such amendment, 1 Q Token shall be generated upon the issuance of each Q Personal ID.

11.3 The holders of a Q Personal ID (each, a "**Q ID Holder**") shall have certain veto rights in connection with any proposed changes to this Q Constitution, the membership of the panel of Root Nodes or any Expert Panel as set out in Appendix 5. However, the Q ID Holder's veto rights shall initially be in abeyance and shall only become effective from such point in time that a sufficient number of Q Token Holders (i) determine that Q has become sufficiently decentralised to prevent an abuse of such veto rights by the Q ID Holders and (ii) amend this Article 11.3 accordingly.

11.4 Any proposal for amendment to Article 11.2 or Article 11.3 shall be decided by way of vote in accordance with Appendix 5.

Article 12. INTEGRATED APPLICATIONS

12.1 Q Token Holders may designate any application which:

12.1.1 is integrated on the Q Blockchain such that, (i) by participating in decisions related to the governance and operation of Q in general, each Q Token Holder directly or indirectly contributes to or impacts the governance and operation of such application and, (ii) in exchange for such participation, each Q Token Holder is entitled to receive a certain number of Q Tokens in accordance with Part A of Appendix 6; and

12.1.2 which operates as described in Appendix 4,

as an integrated application of Q (each, an "**Integrated Application**").

12.2 Notwithstanding the above, there shall be no restrictions on who may access Q and the applications which may be developed on the Q Blockchain by any legal or natural person. In particular, the Q Blockchain shall also support any applications which are not Integrated Applications.

Article 13. Applicable Law and Dispute Resolution

13.1 Unless the parties to such contracts expressly agree otherwise, all contracts arising under and/or in connection with this Q Constitution shall be governed by the UNIDROIT Principles of International Commercial Contracts (2016).

13.2 Each Q Stakeholder agrees to be bound by the Dispute Rules. By acquiring and holding Q Tokens or a Q Personal ID, each Q Stakeholder irrevocably agrees to be bound by the Dispute Rules Undertaking. If any person does not accept the Dispute Rules or does not agree to be bound by the Dispute Rules Undertaking, such person must not acquire or hold Q Tokens or a Q Personal ID.

13.3 If any Q Stakeholder breaches the Dispute Rules Undertaking, such Q Stakeholder shall indemnify and hold harmless or compensate (at the creditor's choice) each other Q Stakeholder against any financial disadvantage suffered in connection with such breach and shall release such other Q Stakeholder to the fullest extent possible from any obligation arising under any judgment or ruling by a state court or an arbitral tribunal if such judgment or ruling has been obtained in breach of the Dispute Rules or the Dispute Rules Undertaking.

13.4 All Q Stakeholders are bound by the following arbitration clause:

13.4.1 All Q Stakeholders agree and irrevocably accept that all disputes arising out of or in connection with this Q Constitution shall be resolved by way of arbitration before an arbitration tribunal (the "**Arbitral Tribunal**") under the Rules of Arbitration of the International Chamber of Commerce (the "**ICC Rules**") and without recourse to the ordinary courts of law. This arbitration agreement shall include, without limitation:

- (a) the holding of and transacting with Q Tokens or Q Personal IDs and any corresponding records on the Q Blockchain;
- (b) disputes about Slashing (in particular, each Slashing Appeal);
- (c) each challenge by a Validator Node of the removal of such Validator Node's public key from the Validator Node List and the addition of such Validator Node's public key to the Validator Node Exclusion List in accordance with Article 9 made by such Validator Node against the relevant Eligible Proposer (as substitute for the community of Q Stakeholders); and
- (d) any Q Stakeholder's request for specific performance or cease and desist from a Validator Node or from a Root Node which breaches its obligations under this Q Constitution, including, without limitation, its obligations with respect to any Slashing Transaction or any Enforceable Arbitral Award.

13.4.2 Pursuant to Article 30(2)(b) of the current ICC Rules (2021), the Expedited Procedure Rules shall apply irrespective of the amount in dispute.

13.4.3 If the parties reach a settlement after the file has been transmitted to the Arbitral Tribunal in accordance with the current ICC Rules, the parties shall make a joint request to the Arbitral Tribunal in accordance with Article 33 of the current ICC Rules that the settlement be recorded in the form of an award made by consent of the parties.

13.4.4 In deviation from Articles 37(2), (3) and (4) of the current ICC Rules (2021), any advances on costs in respect of a claim or a counterclaim shall be payable in full by the party making such claim or counterclaim.

13.4.5 In accordance with Articles 38(4) and (5) of the current ICC Rules (2021):

- (a)** the final award shall fix the costs of the arbitration and decide which of the parties shall bear them or in what proportion they shall be borne by the parties; and
- (b)** in making decisions as to costs, the Arbitral Tribunal may take into account such circumstances as it considers relevant, including the extent to which each party has conducted the arbitration in an expeditious and cost-effective manner. For the avoidance of doubt, the Arbitral Tribunal may give an award on the merits of the dispute in favour of one of the parties and still decide that such party shall bear some or all of the costs of the proceedings.

Further, in making decisions as to costs in the context of a Slashing Appeal, the Arbitral Tribunal shall have regard for Article 6.11.4.

13.4.6 The seat of the arbitration shall be Zurich, Switzerland. The Arbitral Tribunal may, after consulting with the parties, conduct hearings and meetings at any location it considers appropriate, unless otherwise agreed by the parties.

13.4.7 Unless the Arbitral Tribunal determines otherwise, all filings may be done electronically per e-mail and all hearings may be held virtually.

13.4.8 The language of the arbitration shall be English.

13.4.9 Swiss law shall apply to this arbitration clause.

13.4.10 In its decision, the Arbitral Tribunal shall in particular:

- (a)** make a ruling on its jurisdiction, if the latter is contested;
- (b)** enforce the rules for Slashing and decide on each Slashing Appeal, having regard for the Slashing Considerations;
- (c)** in connection with each Slashing Appeal, rule on or otherwise make a determination in respect of the matters set out in Article 6.11 (if applicable); and
- (d)** in each Slashing Appeal in which the Slashed Node pleads that the vote on the relevant Slashing Proposal or the outcome of such vote has not been in compliance with the provisions in Appendix 5, give a declaratory award which declares whether the vote is valid or not and what the outcome of the vote is, in each case, in compliance with the provisions in Appendix 5.

For the avoidance of doubt, if an Arbitral Tribunal renders an award requiring a Root Node to make a payment or delivery, the relevant Root Node can satisfy such award by, at its choice, either (1) delivering or surrendering an appropriate number of Q Tokens or (2) paying the monetary equivalent to the relevant number of Q Tokens, in each case, in accordance with the terms of such award (including, in the case of limb (2) above, as to the currency in which such monetary equivalent should be paid and any applicable exchange rate).

13.4.11 Arbitral awards issued pursuant to this Q Constitution may be enforced in any court of competent jurisdiction.

13.4.12 Notwithstanding Article 13.4.1, Q Stakeholders may:

- (a)** apply to any competent judicial authority for interim or conservatory measures; and
- (b)** commence court proceedings supporting arbitral proceedings or relating to arbitral awards including, without limitation, setting aside-, exequatur- or enforcement proceedings.

The application by a Q Stakeholder to a judicial authority for such measures or the commencement by a Q Stakeholder of such court proceedings shall not be deemed to be an infringement or a waiver of the arbitration agreement and shall not affect the relevant powers reserved to the Arbitral Tribunal.

13.5 A link to a publicly available source where any Enforceable Arbitral Award can be accessed shall be published on the Q Blockchain for the purpose of improving the governance and legal certainty of Q for the community of Q Stakeholders.

APPENDIX 1

DEFINITIONS

PART A- FIRST-LEVEL DEFINITIONS

- (a) "**Arbitral Tribunal**" has the meaning given in Article 13.4.1.
- (b) "**Basic Changes**" means any changes to Article 4 through to Article 13 of this Q Constitution, to any definitions contained in Part A of Appendix 1 or to any technical parameters contained in Part B of Appendix 6 to this Q Constitution, in each case, to the extent such changes do not constitute Fundamental Changes.
- (c) "**Block Subsidy**" [*blockSubsidy*] means the number of Q Tokens specified in Part B of Appendix 6.
- (d) "**CliqueEpochLength**" [*cliqueEpochLength*] means the number of blocks specified in Part B of Appendix 6 which are produced within one consensus cycle by the Validator Nodes participating in such consensus cycle.
- (e) "**Co-Respondent Appointment Period**" means, in respect of each Slashing Transaction, a period starting upon the expiry of the relevant Slashing Appeal Verification Period and ending a number of hours specified in Part B of Appendix 6 after the expiry of the relevant Slashing Appeal Verification Period.
- (f) "**Co-Respondent Threshold**" means, in respect of each Slashing Objection which occurs, if no Slashing Confirmation occurs during the relevant Slashing Appeal Verification Period, the percentage of the aggregate number of Q Tokens specified in Part B of Appendix 6 which are Self Staked to such node on Q at such time determined as of the expiry of the Slashing Appeal Period.
- (g) "**Delegated Stake**" means, in respect of a node on Q which is a current Validator Node or a Validator Node Candidate, the number of Q Tokens Staked to such node on Q in respect of which the relevant transaction(s) effecting such Stake are not signed using the private key corresponding to the public key of such node on Q. To "**Delegate Stake**" shall be construed accordingly. For the avoidance of doubt, no Stake may be Delegated to a node on Q other than a current Validator Node or a Validator Node Candidate.
- (h) "**Detailed Changes**" means any changes to this Q Constitution other than Fundamental Changes or Basic Changes.
- (i) "**Dispute Rules**" means the dispute resolution rules set out in this Q Constitution and its Appendices from time to time.
- (j) "**Dispute Rules Undertaking**" means the unilateral commitment and undertaking by each Q Token Holder (the "**consenting Q Token Holder**") for the benefit of each other Q Token Holder to accept and observe the Dispute Rules at all times and to ensure that the Dispute Rules are binding on the consenting Q Token Holder at all times.
- (k) "**Enforceable Arbitral Award**" means any final arbitral award in respect of which the statutory deadline for set aside proceedings has lapsed or the competent state courts have rejected, wholly or in part, with *res judicata effect* an application for set aside.
- (l) "**Escrow Period**" has the meaning given in Article 8.2.
- (m) "**Expert Panel**" has the meaning given in Article 10.1.
- (n) "**Fundamental Changes**" means any changes to the fundamental principles of Q set out in the Preamble to this Q Constitution or to Article 1 through to Article 3 of this Q Constitution or to any related definitions contained in Part A of Appendix 1 or to any technical parameters contained in Part B of Appendix 6 to this Q Constitution which are either used in or are otherwise necessary to construe the Preamble or such Articles or any definitions or technical parameters used in them.
- (o) "**Geographical Region**" means each of the following geographical regions: (i) the USA; (ii) the rest of the Americas; (iii) Far East (China, Japan, Korea); (iv) the rest of Asia; (v) Western Europe; (vi) Eastern Europe; (vii) Middle East and Africa; and (viii) Australia and Oceania.
- (p) "**ICC Rules**" has the meaning given in Article 13.4.1.
- (q) "**Industry Group**" means, at any time, each industry group identified in Part C of Appendix 2 at such time.
- (r) "**Integrated Application**" has the meaning given in Article 12.1.
- (s) "**Maximum Number of Experts**" [*maxNExperts*] means, at any time, in respect of each Expert Panel, the number of experts for the relevant Expert Panel specified in Part B of Appendix 6.
- (t) "**Maximum Number of Root Nodes**" [*maxNRootNodes*] means, at any time, the number of nodes on Q specified in Part B of Appendix 6.
- (u) "**Maximum Number of Validator Node Candidates**" [*maxNStandbyValidators*] means, at any time: (i) if, at such time, the number of nodes on Q acting as Validator Nodes are fewer than the Maximum Number of Validator Nodes, nil (0); and (ii) if, at such time, the number of nodes on Q acting as Validator Nodes is equal to the Maximum Number of Validator Nodes, the lower of the number of nodes on Q specified for such purposes in Part B of Appendix 6 and the number of nodes on Q which are not Validator Nodes, but which have the next highest Total Accountable Stake of Q Tokens at such time and whose public keys are not included on the Validator Node Exclusion List.
- (v) "**Maximum Number of Validator Nodes**" [*maxNValidators*] means, at any time, the number of nodes on Q specified in Part B of Appendix 6.
- (w) "**Non-Constitutional Changes**" means any changes to Q which do not amount to Fundamental Changes, Basic Changes or Detailed Changes.

- (x) **"Operator"** of a node on Q means the legal or natural person who owns the private key associated with the public key of such node.
- (y) **"Proposing Root Node"** means, in respect of a Slashing Proposal in respect of any Slashing of Q Tokens which have been Self Staked to a Validator Node or to a Root Node, the Root Node which makes such Slashing Proposal.
- (z) **"Q Constitution"** has the meaning given in Preamble ©.
- (aa) **"Q ID Holder"** has the meaning given in Article 11.3.
- (bb) **"Q Node"** has the meaning given in Article 1.3.
- (cc) **"Q Personal ID"** has the meaning given in Article 11.2.
- (dd) **"Q Stakeholder"** has the meaning given in Preamble ©.
- (ee) **"Q Token"** has the meaning given in Article 3.1.
- (ff) **"Q Token Holder"** has the meaning given in Article 3.3.
- (gg) **"Q Token Time Lock Period"** means, in connection with a request by any party for the release of Q Tokens owned and Staked by such party from the relevant Stake, the period of time specified in Part B of Appendix 6 after such request is made.
- (hh) **"RN Appeal"** has the meaning given in Article 6.3.2.
- (ii) **"Root Node"** has the meaning given in Article 5.1.
- (jj) **"Root Node Candidate"** means, at any time, each node on Q which wishes to become a Root Node at such time.
- (kk) **"Root Node List"** means the current panel of Root Nodes which satisfy the requirements for inclusion on the Root Node List as set out in Part A of Appendix 2 and whose appointment has been approved by the Required Majority of votes cast by Eligible Voters in accordance with Appendix 5.
- (ll) **"Self Stake"** means, in respect of a node on Q, the number of Q Tokens Staked to such node on Q by the Operator of such node on Q, in respect of which the relevant transaction(s) effecting such Stake are signed using the private key corresponding to the public key of such node on Q. To **"Self Stake"** shall be construed accordingly.
- (mm) To **"Slash"** any Q Tokens and a **"Slashing"** of any Q Tokens which have been Self Staked to a Validator Node or a Root Node means the confiscation and redistribution of such Self Staked Q Tokens in accordance with this Q Constitution after such Validator Node or such Root Node has acted in breach of its obligations under this Q Constitution.
- (nn) **"Slashed Node"** has the meaning given in Article 6.3.
- (oo) **"Slashing Appeal"** has the meaning given in Article 6.3.2.
- (pp) **"Slashing Appeal Period"** means, in respect of each Slashing Transaction, a period starting upon the occurrence of a Slashing Objection during the Slashing Objection Period and ending a number of hours specified in Part B of Appendix 6 after the occurrence of such Slashing Objection.
- (qq) **"Slashing Appeal Verification Period"** means, in respect of each Slashing Transaction, a period starting upon the expiry of the relevant Slashing Appeal Period and ending a number of hours specified in Part B of Appendix 6 after the expiry of the relevant Slashing Appeal Period.
- (rr) **"Slashing Confirmation"** has the meaning given in Article 6.7.
- (ss) **"Slashing Considerations"** means, in connection with any Slashing Proposal, each of:
- (i) whether the relevant Validator Node or Root Node whose Self Staked Q Tokens are the subject of such Slashing Proposal has acted in breach of its obligations this Q Constitution;
 - (ii) the adequate percentage of Self Staked Q Tokens to be Slashed in connection with the relevant breach;
 - (iii) in considering the adequate percentage of Self Staked Q Tokens (if any) to be Slashed:
 - (A) whether the relevant breach happened with intent, negligence, or accidentally;
 - (B) whether the relevant breach was isolated or repeated;
 - (C) whether the relevant breach caused economic harm to some or all of the Q Stakeholders, considering also the materiality of such harm;
 - (D) if applicable, the severity of the breach having regard for Appendix 8 and the maximum percentage of Self Staked Q Tokens to be Slashed in the context of specific breaches; and
 - (E) whether a similar or analogous fact patterns has been considered and whether any applicable guidance has been given in connection with any previous Slashing Transactions or awards of Arbitral Tribunals constituted in accordance with this Q Constitution (to the extent known or otherwise available).

- (tt) **"Slashing Objection"** has the meaning given in Article 6.3.1.
- (uu) **"Slashing Objection Period"** means, in respect of each Slashing Transaction, a period starting upon the relevant Slashing Transaction being published on the Q Blockchain and ending a number of hours specified in Part B of Appendix 6 after the relevant Slashing Transaction being published on the Q Blockchain or, if a Slashing Objection occurs before such period has expired, ending upon the occurrence of such Slashing Objection.
- (vv) **"Slashing Proposal"** means, in respect of any Slashing of Q Tokens which have been Self Staked to a Validator Node or a Root Node, the proposal by an Eligible Proposer that such Slashing is effected, including the percentage of Self Staked Q Tokens to be Slashed, which shall also specify the public key of the Eligible Proposer and any other information necessary to establish the full name and address of the Eligible Proposer which can be used by the relevant Validator Node or, as the case may be, Root Node for the purposes of identifying the Eligible Proposer in connection with any arbitration proceedings.
- (ww) **"Slashing Reward Share"** means, in connection with the Slashing of any Q Tokens which have been Self Staked to a Validator Node or to a Root Node, the lower of (1) the percentage of the Self Staked Q Tokens specified for such purposes in Part B of Appendix 6 which are Slashed pursuant to the relevant Slashing Transaction and (2) the percentage of the Q Tokens specified for such purposes in Part B of Appendix 6 which are Staked to the relevant Proposing Root Node at the time the relevant Slashing Proposal is made.
- (xx) **"Slashing Transaction"** means, in respect of each Slashing Proposal which is accepted by the Required Majority of votes cast by Eligible Voters in accordance with Appendix 5, a corresponding transaction on the Q Blockchain, pursuant to which the percentage of Q Tokens Self Staked to the relevant node specified in such Slashing Proposal, rounded down to the nearest $1/10^{18}$ of a Q Token, are confiscated from the relevant Slashed Node and placed in escrow effected by way of smart contract, to be released from escrow and allocated and redistributed in accordance with Article 8.4 upon the expiry of the relevant Escrow Period.
- (yy) To **"Stake"** or to **"Stake to a node on Q"** any Q Tokens and a **"Stake"** of any Q Tokens by a Q Token Holder means the delivery of such Q Tokens to a smart contract linked to the public key of a particular node on Q for the purposes of securing the Q Blockchain by means of a proof of stake consensus and, as a result, the immobilization of such Q Tokens on the Q Blockchain. Each Stake shall be effected by way of either Self Stake or Delegated Stake. If a Q Token Holder has Staked to a node on Q any Q Tokens, such Q Tokens shall remain Staked to such node on Q until such time that (1) the Q Token Holder withdraws such Q Tokens from such Stake or (2) such Q Tokens are Slashed.
- (zz) **"Total Accountable Stake"** means, in respect of any node on Q, the lower of (i) the aggregate number of Q Tokens Staked to such node (taking into account both any Self Stake and any Stake Delegated to such node) and (ii) the number of Q Tokens Self Staked to such node multiplied by the Stake Delegation Factor specified for such purposes in Part B of Appendix 6. As long as any relevant Q Tokens are held in escrow in accordance with Article 8.2, for the purposes of this definition, such Q Tokens shall be deemed not to be Self Staked to such node and number of Q Tokens determined in accordance with the preceding sentence shall be reduced accordingly.
- (aaa) **"Valid Transaction"** means any transaction on the Q Blockchain which has been validly signed with the private key of the legal or natural person initiating such transaction, which does not constitute double spending, which is not inconsistent or otherwise constitutes a breach of this Q Constitution in any other way and in respect of which any applicable transaction fees have been fully paid.
- (bbb) **"Validation Cycle"** means the initiation, co-signing and publication on the Q Blockchain of all blocks with Valid Transactions within a `CliqueEpochLength`.
- (ccc) **"Validator Node"** has the meaning given in Article 4.1.
- (ddd) **"Validator Node Candidate"** has the meaning given in Article 4.2.
- (eee) **"Validator Node Exclusion List"** means, at any time, the most recent time-stamped list of the public keys of all (former) Validator Nodes which have been removed from the Validator Node List in the circumstances described in Article 9.1 and which has been cryptographically signed by at least 75% of the panel of Root Nodes at the relevant time.
- (fff) **"Validator Node List"** means the list of the (current) panel of Validator Nodes with the highest Total Accountable Stake of Q Tokens at such time and whose public keys are not included on the Validator Node Exclusion List.
- (ggg) **"VN Appeal"** has the meaning given in Article 6.3.2.

PART B- SECOND-LEVEL DEFINITIONS

- (a) **"Borrowing Fee"** has the meaning given in Paragraph 1(a)(iii) of Appendix 4.
- (b) **"Collateralization Ratio"** has the meaning given in Paragraph 1(a)(i) of Appendix 4.
- (c) **"Eligible Collateral"** has the meaning given in Paragraph 1(a)(i) of Appendix 4.
- (d) **"Eligible Proposer"** means, in respect of a Voting Proposal, any person specified in respect of the relevant type of Voting Proposal in the column "Eligible Proposer" in the table set out in Paragraph 3 of Appendix 5.
- (e) **"Eligible Q Stakeholder"** means a Q Stakeholder other than a Q Node.
- (f) **"Eligible Voter"** means, in respect of a Voting Proposal, any person specified in respect of the relevant type of Voting Proposal in the column "Eligible Voter" in the table set out in Paragraph 3 of Appendix 5.

- (g) "**Emergency Proposal**" means any determination by one or more Root Nodes that Q needs to be upgraded without delay and that a failure to do so carries a high likelihood of causing material damage to the interests of the Q Stakeholders (including, without limitation, to remedy any critical security vulnerabilities and remove any exploit opportunities) and associated proposal by one or more Root Nodes of an appropriate upgrade, as determined by such Root Node(s) acting reasonably.
- (h) "**Liquidation Fee**" has the meaning given in Paragraph 1(a)(vii) of Appendix 4.
- (i) "**Liquidation Ratio**" has the meaning given in Paragraph 1(a)(vii) of Appendix 4.
- (j) "**Oracle**" means, in respect of any level, value or other information, the external price source used for the purposes of obtaining such level, value or other information.
- (k) "**Q DeFi**" has the meaning given in Paragraph 1 of Appendix 4.
- (l) "**Q ID Veto Quorum**" means in respect of a Voting Proposal which is subject to approval by the Q ID Holders, the quorum of Q ID Holders specified in respect of the approval of the relevant type of Voting Proposal in the column "Q ID Veto Quorum" in the table set out in Paragraph 3 of Appendix 5.
- (m) "**Q Lending & Borrowing Platform**" has the meaning given in Paragraph 1 of Appendix 4.
- (n) "**Q L&B Immobilized Amount**" has the meaning given in Paragraph 1(b) of Appendix 4.
- (o) "**Q L&B Loan**" has the meaning given in Paragraph 1(a)(i) of Appendix 4.
- (p) "**Q L&B User**" has the meaning given in Paragraph 1(a) of Appendix 4.
- (q) "**Q Reserve Share**" means, in connection with any Q Tokens to be allocated or redistributed to the Q Token Holders in accordance with Paragraphs 2, 3 or 4 of Part A of Appendix 6, a proportion of such Q Tokens as determined by the Q Fees & Incentives Expert Panel from time to time which shall not be allocated or redistributed, but which shall be retained within Q as reserve and used for technical and/or operational purposes to ensure the overall system stability of Q.
- (r) "**Quorum**" means, in respect of a Voting Proposal, the quorum of Eligible Voters specified in respect of the relevant type of Voting Proposal in the column "Quorum" in the table set out in Paragraph 3 of Appendix 5. If the Eligible Voters are Q Token Holders, the Quorum shall be determined as a percentage of the aggregate number of votes associated with all Q Tokens in existence at the time of the relevant Voting Proposal.
- (s) "**Quorum Required for Supermajority**" means, in respect of a Voting Proposal, the quorum of Eligible Voters specified in respect of the relevant type of Voting Proposal in the column "Quorum Required for Supermajority" in the table set out in Paragraph 3 of Appendix 5. If the Eligible Voters are Q Token Holders, the Quorum Required for Supermajority shall be determined as a percentage of the aggregate number of votes associated with all Q Tokens in existence at the time of the relevant Voting Proposal.
- (t) "**QUSD**" has the meaning given in Paragraph 1 of Appendix 4.
- (u) "**QUSD Surplus Threshold**" has the meaning given in Paragraph 2 of Appendix 4.
- (v) "**Required Majority**" means, in respect of a Voting Proposal, the number of votes cast by Eligible Voters in favour of such Voting Proposal, expressed as a percentage of the overall number of votes cast by Eligible Voters in connection with such Voting Proposal, necessary for the relevant type of Voting Proposal to be accepted as specified in the column "Required Majority" in the table set out in Paragraph 3 of Appendix 5. If the Eligible Voters are Q Token Holders, the Required Majority shall be determined as a percentage of the aggregate number of votes associated with the Q Tokens held by the Q Token Holders who cast their votes, where each Q Token Holder shall have one (1) vote in respect of each $1/10^{18}$ of a Q Token held by it. If the Eligible Voters are Root Nodes or members of an Expert Panel, the Required Majority shall be determined as a percentage of the aggregate number of votes which can be cast by the panel of Root Nodes or the relevant Expert Panel, where each Root Node or member of the relevant Expert Panel shall have one (1) vote.
- (w) "**Required Supermajority**" means, in respect of a Voting Proposal, the number of votes cast by Eligible Voters in favour of such Voting Proposal, expressed as a percentage of the overall number of votes cast by Eligible Voters in connection with such Voting Proposal, necessary for the relevant type of Voting Proposal to be accepted as specified in the column "Required Supermajority" in the table set out in Paragraph 3 of Appendix 5. If the Eligible Voters are Q Token Holders, the Required Supermajority shall be determined as a percentage of the aggregate number of votes associated with the Q Tokens held by the Q Token Holders who cast their votes, where each Q Token Holder shall have one (1) vote in respect of each $1/10^{18}$ of a Q Token held by it. If the Eligible Voters are Root Nodes or members of an Expert Panel, the Required Supermajority shall be determined as a percentage of the aggregate number of votes which can be cast by the panel of Root Nodes or the relevant Expert Panel, where each Root Node or member of the relevant Expert Panel shall have one (1) vote.
- (x) "**Stabilization Reward**" has the meaning given in Paragraph 1(b) of Appendix 4.
- (y) "**Undercollateralized Q L&B User**" has the meaning given in Paragraph 1(a)(vii) of Appendix 4.
- (z) "**Voting Period**" means, in respect of a Voting Proposal, the period during which Eligible Voters are entitled to vote in respect of the relevant type of Voting Proposal as specified in the column "Voting Period" in the table set out in Paragraph 3 of Appendix 5. For the avoidance of doubt, where the Eligible Voters are Root Nodes, a Voting Proposal may be accepted in accordance with Paragraph (e)(ii) of Appendix 5 prior to the expiry of the applicable Voting Period.
- (aa) "**Voting Proposal**" means any proposal affecting Q made by a Q Stakeholder in accordance with this Q Constitution which is put to a vote by some or all Q Stakeholders in accordance with Appendix 5.

APPENDIX 2

ROOT NODE SELECTION

PART A- MANDATORY REQUIREMENTS

1. Each Root Node shall:
 - (i) confirm its identity, ownership and control structure;
 - (ii) confirm its residence or, in the case of legal persons, address of incorporation and, if different, address at which it may be served in connection with any arbitration proceedings;
 - (iii) provide an overview of its motivation for becoming and acting as a Root Node;
 - (iv) expressly accept, sign and make available for inspection by any Q Stakeholder a signed copy of this Q Constitution. For the purposes of this subparagraph (iv), a Root Node may sign this Q Constitution by signing electronically a hash of this Q Constitution;
 - (v) be resident or, in the case of legal persons, incorporated in one or more jurisdictions, in each of which foreign arbitral awards are regularly enforced without undue delay in accordance with the terms of the Convention on the Recognition and Enforcement of Foreign Arbitral Awards of 1958 (the so-called New York Convention). In case the Root Node is a branch of a legal person, this requirement shall also apply to such legal person. In case the Root Node is a subsidiary of another legal person, this requirement shall also apply to each natural and legal person who directly or indirectly holds more than 25% of the equity of such Root Node or who is able to exercise more than 25% of the decision-making powers of such Root Node (including because it is able to appoint more than 25% of such Root Node's board of directors or managers).

PART B- ELIGIBILITY CRITERIA

1. Each Root Node Candidate shall contact the Root Node Selection Expert Panel and provide such information as may be requested by any member of the Root Node Selection Expert Panel to assess whether and to what extent such Root Node Candidate satisfies the criteria set out in Part A and Part B of this Appendix 2.
2. The Root Node Selection Expert Panel shall make an assessment in connection with each such application and shall promptly issue a statement of the outcome of such assessment. Each assessment statement shall be made available to each Q Token Holder upon request. In particular, the Root Node Selection Expert Panel shall assess (i) whether the Root Node satisfies each requirement set out in Part A of this Appendix 2, (ii) the number of Q Tokens which are Self Staked to such Root Node Candidate in accordance with Paragraph 4, (iii) the industry classification of such Root Node Candidate in accordance with Paragraph 5, (iv) the geographical classification of such Root Node Candidate in accordance with Paragraph 6 and (v) such Root Node Candidate's reputation score in accordance with Paragraph 7.
3. Following such assessment, the Root Node Selection Expert Panel shall assign to each Root Node Candidate and to each member of the then current panel of Root Nodes a score as described in each of those Paragraphs. For the purposes of assigning a score to a Root Node Candidate or any member of the then current panel of Root Nodes, the Root Node Selection Expert Panel shall not take into account the impact to such score or any other Root Node Candidate(s) at the same time.
4. *Number of Q Tokens Staked.* The Root Node Selection Expert Panel shall rank the Root Node Candidate and the members of the then current panel of Root Nodes in terms of the number of Q Tokens which are Self Staked to such Root Node Candidate. The node with most Self Staked Q Tokens shall be assigned a score of 100 and the remaining nodes shall be assigned scores corresponding to their rank in decreasing integrals of one (1), floored at zero (0). If two or more nodes have the same number of Self Staked Q Tokens, they shall be assigned equal score. The score assigned to the node with the next lower number of Self Staked Q Tokens shall not be the next lower integral number, but shall take into account the number of immediately preceding two or more nodes assigned equal score.
5. *Industry Classification.* The Root Node Selection Expert Panel shall assign the Root Node Candidate and each member of the then current panel of Root Nodes to an Industry Group. The Root Node Selection Expert Panel shall then assign a score to each node, equal to 50 *divided by* the number of nodes who are assigned to the same Industry Group.
6. *Geographical Classification.* The Root Node Selection Expert Panel shall assign the Root Node Candidate and each member of the then current panel of Root Nodes to a Geographical Region. The Root Node Selection Expert Panel shall then assign a score to each node, equal to 50 *divided by* the number of nodes who are assigned to the same Geographical Region.
7. *Reputation Score.* The Root Node Selection Expert Panel shall assign a reputation score to each of the Root Node Candidate and each member of the then current panel of Root Nodes. Each node shall be assigned a reputation score of 10 for every consecutive 182 days and 12 hours it has spent as a member of the panel of Root Nodes (whether or not such node is a member of the panel of Root Nodes at the time of such assessment). The reputation score of each node shall be reduced by five (5) for every 5% of Self Staked Q Tokens which have been Slashed during any period of consecutive 182 days and 12 hours, determined as a percentage of the Q Tokens which are Self Staked to such node at the beginning of the relevant period and without double-counting any Slashed Q Tokens.

PART C- INDUSTRY GROUPS

1. The Root Node Selection Expert Panel shall assign each Root Node and each Root Node Candidate to one of the following industry groups:
 - (i) corporates;
 - (ii) financial institutions;
 - (iii) funds/investors;
 - (iv) blockchain infrastructure operators;
 - (v) not-for-profit organizations;
 - (vi) academic institutions;
 - (vii) governments, governmental agencies or regulatory bodies;
 - (viii) law firms or other legal personnel;
 - (ix) consulting or professional services;
 - (x) decentralized protocols and DAOs; and
 - (xi) other.

APPENDIX 3

TRANSACTION FEES

1. Transaction fees shall be calculated and charged in Q Tokens.
2. Transaction fees charged by Validator Nodes shall be allocated between the Q Stakeholders (other than the Q Nodes) in accordance with Part A of Appendix 6.
3. The transaction fees charged by the Validator Nodes in respect of each transaction on the Q Blockchain shall take into account the computational, storage and other costs incurred by the Validator Nodes in validating the state of the Q Blockchain and recording the relevant transaction on the Q Blockchain.
4. The fees which the Validator Nodes shall charge per transaction shall be determined by the Q Fees & Incentives Expert Panel from time to time and shall be such that, after the applicable transaction fees incurred in connection with a transaction on the Q Blockchain are allocated between the groups of existing Q Stakeholders (other than the Q Nodes) in accordance with Part A of Appendix 6, the amount so allocated to the Validator Nodes is at least equal to the relevant computational, storage and other costs incurred by the Validator Nodes in validating the state of the Q Blockchain and recording the relevant transaction on the Q Blockchain.

APPENDIX 4

INTEGRATED APPLICATIONS

1. The Q Decentralized Finance System ("Q DeFi") is an Integrated Application on the Q Blockchain, comprising a lending and borrowing platform ("Q Lending & Borrowing Platform") and a Q stablecoin ("QUSD").
 - (a) The Q Lending & Borrowing Platform allows users (each, a "Q L&B User") to draw loans in QUSD against delivery of collateral. The key features of the Q Lending & Borrowing Platform with respect to loans in QUSD shall be as follows:
 - (i) Each Q L&B User may deliver tokenized assets as determined by the Q DeFi Expert Panel from time to time ("Eligible Collateral") as collateral to the Q Lending & Borrowing Platform by way of smart contract. Following delivery of such Eligible Collateral, the relevant Q L&B User may draw one or more loans (each, a "Q L&B Loan") in QUSD in an amount up to the quotient of the value of the Eligible Collateral delivered divided by the relevant collateralization ratio in respect of such type of Eligible Collateral as determined by the Q DeFi Expert Panel from time to time (the "Collateralization Ratio").
 - (ii) The relevant Q L&B User may (but shall not be required to) deliver further Eligible Collateral from time to time.
 - (iii) The relevant Q L&B User shall be entitled to the return of any Eligible Collateral previously delivered in an amount equal to the excess between (I) the aggregate of the then current value of each type of Eligible Collateral previously delivered and (II) the aggregate principal amount of all Q L&B Loans they have drawn and which are outstanding multiplied with the relevant Collateralization Ratio plus the aggregate of all accrued borrowing fees as determined by the Q DeFi Expert Panel from time to time (each, a "Borrowing Fee") multiplied by the relevant Collateralization Ratio.
 - (iv) Each Q L&B Loan shall not have a fixed maturity date, but shall be repayable at the option of the relevant Q L&B User.
 - (v) Each Q L&B User shall pay a Borrowing Fee in QUSD determined by reference to the principal amount of each Q L&B Loan they have drawn and which is outstanding. The Borrowing Fee shall be due upon repayment of the relevant Q L&B Loan.
 - (vi) No payments or deliveries shall be due from a Q L&B User in respect of any Q L&B Loan other than (I) the initial delivery of Eligible Collateral, (II) the payment of a Borrowing Fee in respect of such Q L&B Loan and (III) the repayment of such Q L&B Loan.
 - (vii) Should the aggregate value of all Eligible Collateral delivered by a Q L&B User (the "Undercollateralized Q L&B User") fall below a pre-defined threshold as determined by the Q DeFi Expert Panel from time to time (the "Liquidation Ratio"), the Q Lending & Borrowing Platform shall auction such Eligible Collateral. Such auction of collateral shall be open to all Q Token Holders and all bids shall be denominated in QUSD. Upon the conclusion of the auction, (I) the relevant Eligible Collateral shall be transferred to the highest bidder, (II) any excess of the amount paid by the highest bidder over the sum of (x) the aggregate principal amount outstanding of the Q L&B Loans drawn by the Undercollateralized Q L&B User, (y) the aggregate of all accrued Borrowing Fees in respect of such Q L&B Loans and (z) a fee covering the cost of auctioning or selling the relevant Eligible Collateral as determined by the Q DeFi Expert Panel from time to time (the "Liquidation Fee") shall be transferred to the Undercollateralized Q L&B User and (III) the Undercollateralized Q L&B User shall not be required to repay the outstanding Q L&B Loans or to pay the accrued Borrowing Fees and shall no longer be entitled to the return of the Eligible Collateral originally delivered.
 - (viii) The value of any Eligible Collateral delivered shall be determined from time to time by Oracles in respect of the relevant type of collateral as determined by the Q DeFi Expert Panel from time to time.
 - (b) The Q Lending & Borrowing Platform also allows Q L&B Users to immobilize a number of QUSD (the "Q L&B Immobilized Amount") in the Q Lending & Borrowing Platform by way of smart contract against receipt of a stabilization reward (the "Stabilization Reward") in QUSD determined by reference to the number of QUSD comprising the Q L&B Immobilized Amount. Any Q L&B Immobilized Amount shall be immediately released from the relevant smart contract upon request by the relevant Q L&B User. The accrued Stabilization Reward in respect of any Q L&B Immobilized Amount shall be paid to the relevant Q L&B User upon release of such Q L&B Immobilized Amount.
 - (c) QUSD is the first stablecoin to be issued on Q DeFi. The key features of QUSD shall be as follows:
 - (i) QUSD shall be issued when Q L&B Users draw Q L&B Loans. QUSD shall be burned when Q L&B Users repay Q L&B Loans or when the Eligible Collateral in respect of Q L&B Loans has been auctioned.
 - (ii) The value of QUSD shall be pegged against the value of the US-Dollar.
2. All Borrowing Fees paid by Q L&B Users (including an amount corresponding to any Borrowing Fees economically retained within the Q Lending & Borrowing Platform as part of the auction or sale of Eligible Collateral in accordance with Paragraph 1(a)(vii) above) shall be paid in QUSD and shall be used to build up a reserve on the Q Lending & Borrowing Platform. The amount of QUSD standing to the credit of such reserve shall be used to pay any relevant Stabilization Rewards which have accrued and are due in accordance with Paragraph 1(b) above. If, at any time, the amount of QUSD standing to the credit of such reserve exceeds the surplus threshold determined by the Q DeFi Expert Panel and applicable at such time (the "QUSD Surplus Threshold"), the Q Lending & Borrowing Platform shall auction an amount of QUSD equal to such excess. Such auction of collateral shall be open to all Q Token Holders and all bids shall be denominated in Q Tokens. Upon the conclusion of the auction, (I) the relevant amount of QUSD shall be transferred to the highest bidder in exchange for the relevant number of Q Tokens which have been bid and (II) such Q Tokens shall be redistributed between the groups of existing Q Stakeholders in accordance with Part A of Appendix 6.

APPENDIX 5

VOTING

1. In connection with each Voting Proposal, if the Eligible Voters are:
 - (a) Q Token Holders, each Q Token Holder shall have one (1) vote in respect of each $1/10^{18}$ of a Q Token held by the Q Token Holder;
 - (b) Root Nodes, each Root Node shall have one (1) vote; and
 - (c) the members of an Expert Panel, each member of such Expert Panel shall have one (1) vote.

2. Subject to Paragraph 3, in connection with each Voting Proposal:
 - (a) such Voting Proposal shall be made by an Eligible Proposer and propagated on the Q peer-to-peer network;
 - (b) each Validator Node shall validate a corresponding transaction recording the terms of the Voting Proposal on the Q Blockchain without undue delay;
 - (c) all Eligible Voters may (and, in case of Root Nodes, shall) vote on the Voting Proposal within the Voting Period. In respect of each Voting Proposal, the Eligible Voters may either accept or reject such Voting Proposal;
 - (d) if there is no Quorum of Eligible Voters voting in respect of a Voting Proposal within the Voting Period, the Voting Proposal shall be rejected;
 - (e) if there is Quorum of Eligible Voters voting in respect of a Voting Proposal within the Voting Period:
 - (i) if there is not a Required Majority of votes cast by Eligible Voters, the Voting Proposal shall be rejected. For all purposes under this Q Constitution, a Voting Proposal shall be rejected in accordance with this Paragraph (e)(i): (i) in case the Eligible Voters are Root Nodes, at the point in time when sufficiently many Root Nodes have voted against the Voting Proposal that it is no longer mathematically possible that the Required Majority of Eligible Voters comprising the Quorum can cast their vote in favour of such Voting Proposal, regardless of whether the applicable Voting Period has expired; and (ii) in all other cases, upon the expiry of the applicable Voting Period;
 - (ii) if there is a Required Majority of votes cast by Eligible Voters, the Voting Proposal shall be accepted, subject to Paragraphs (f) and (g). For all purposes under this Q Constitution, a Voting Proposal shall be accepted in accordance with this Paragraph (e)(ii): (i) in case the Eligible Voters are Root Nodes, at the point in time when the Required Majority of Eligible Voters comprising the Quorum have cast their vote in favour of such Voting Proposal, regardless of whether the applicable Voting Period has expired; and (ii) in all other cases, upon the expiry of the applicable Voting Period; and
 - (iii) if there is a Quorum Required for Supermajority and if there is a Required Supermajority of votes cast by Eligible Voters, the Voting Proposal shall be accepted. For all purposes under this Q Constitution, a Voting Proposal shall be accepted in accordance with this Paragraph (iii) upon the expiry of the applicable Voting Period;
 - (f) if the Voting Proposal is accepted in accordance with Paragraph (e)(ii) and is subject to approval by each Root Node as indicated in the column "Root Node Validation Period" in the table set out in Paragraph 3, each Root Node shall verify whether, in its reasonable discretion, such Voting Proposal is in compliance with this Q Constitution. In such circumstances, such Voting Proposal shall nonetheless be rejected if, within the Root Node Validation Period indicated in the column "Root Node Validation Period" in the table set out in Paragraph 3, more than 50% of the Root Nodes exercise their veto right in respect of such Voting Proposal by declaring that, in their reasonable view, such Voting Proposal is not in compliance with this Q Constitution. For the avoidance of doubt, if the Voting Proposal is accepted in accordance with Paragraph (e)(iii), this Paragraph (f) shall not apply;
 - (g) if the Voting Proposal is accepted in accordance with Paragraph (e)(ii) and, if applicable, is not rejected in accordance with Paragraph (f) and, further, is subject to approval by the Q ID Holders as indicated in the column "Q ID Veto Period" in the table set out in Paragraph 3 and if the veto rights of Q ID Holders have become effective in accordance with Article 11.3 (Q ID), each Q ID Holder may exercise its veto right. In such circumstances, such Voting Proposal shall nonetheless be rejected if, within the relevant period indicated in the column "Q ID Veto Period" in the table set out in Paragraph 3, more than 50% of the Q ID Veto Quorum of Q ID Holders exercise their veto right in respect of such Voting Proposal. For the avoidance of doubt, if the Voting Proposal is accepted in accordance with Paragraph (e)(iii), this Paragraph (g) shall not apply;
 - (h) if the Voting Proposal is accepted in accordance with Paragraphs (e)(ii) or (e)(iii) and, if applicable, is not rejected in accordance with either Paragraph (f) or Paragraph (g) above, each Validator Node shall validate a transaction on the Q Blockchain recording such Voting Proposal and such Voting Proposal shall be implemented without undue delay.

3. For the purposes of Paragraph 2 above:

Subject of Voting Proposal:	Eligible Proposer: [EP]	Eligible Voters: [EV]	Voting Period: [VP]	Quorum: [QRM]	Required Majority: [RMAJ]	Quorum Required for Supermajority: [SQRM]	Required Supermajority: [SMAJ]	Root Node Validation Period: [RNVALP]	Q ID Veto Period [QIDVTP]	Q ID Veto Quorum: [QIDVTQRM]
Fundamental Changes [fundQSection]	Any Q Token Holder	Q Token Holders	672 hours	50%	More than 75% of the votes cast	N/A	N/A	336 hours	168 hours	10%
Basic Changes [basicQSection]	Any Q Token Holder	Q Token Holders	672 hours	25%	More than 50% of the votes cast	N/A	N/A	336 hours	168 hours	10%
Detailed Changes [detailedQSection]	Any Q Token Holder	Q Token Holders	672 hours	5%	More than 50% of the votes cast	N/A	N/A	336 hours	168 hours	10%
Non-Constitutional Changes [changeQnotConst]	Any Q Token Holder	Q Token Holders	672 hours	1%	More than 50% of the votes cast	N/A	N/A	336 hours	168 hours	10%
Emergency Proposal [emgQUpdate]	Any Root Node	Root Nodes	24 hours	50%	More than 50% of the Eligible Voters (regardless of how many Eligible Voters cast their vote)	N/A	N/A	N/A	N/A	N/A
Any appointment of a Root Node Candidate to the panel of Root Nodes or any removal of a Root Node from the panel of Root Nodes [addOrRemRoot]	Any Q Token Holder who satisfies the requirements for inclusion on the Root Node List as set out in Part A of Appendix 2	Q Token Holders	336 hours	5%	More than 50% of the votes cast	25%	75%	168 hours	168 hours	10%

Subject of Voting Proposal:	Eligible Proposer: [EP]	Eligible Voters: [EV]	Voting Period: [VP]	Quorum: [QRM]	Required Majority: [RMA]	Quorum Required for Supermajority: [SQRM]	Required Supermajority: [SMA]	Root Node Validation Period: [RNVALP]	Q ID Veto Period [QIDVTP]	Q ID Veto Quorum: [QIDVTQRM]
Any removal of the public key of a Validator Node from the Validator Node List and any corresponding addition of the public key of a Validator Node on the Validator Node Exclusion List	Any Root Node	Root Nodes	336 hours	50%	More than 50% of the Eligible Voters (regardless of how many Eligible Voters cast their vote)	N/A	N/A	N/A	N/A	N/A
Any removal of the public key of a (former) Validator Node from the Validator Node Exclusion List	Any Root Node	Root Nodes	336 hours	50%	More than 50% of the Eligible Voters (regardless of how many Eligible Voters cast their vote)	N/A	N/A	N/A	N/A	N/A
Slashing Proposal in respect of Q Tokens which are Self Staked to a Validator Node [valSlashing]	Any Root Node	Root Nodes	336 hours	50%	More than 50% of the Eligible Voters (regardless of how many Eligible Voters cast their vote)	N/A	N/A	N/A	N/A	N/A
Slashing Proposal in respect of Q Tokens which are Self Staked to a Root Node [rootSlashing]	Any Root Node	Q Token Holders	336 hours	1%	More than 50% of the votes cast (regardless of how many Eligible Voters cast their vote)	25%	75%	168 hours	N/A	N/A
Slashing Confirmation	Any Root Node	Root Nodes	336 hours	0%	More than 50% of the Eligible Voters (regardless of how many Eligible Voters cast their vote)	N/A	N/A	N/A	N/A	N/A

Subject of Voting Proposal:	Eligible Proposer: [EP]	Eligible Voters: [EV]	Voting Period: [VP]	Quorum: [QRM]	Required Majority: [RMA]	Quorum Required for Supermajority: [SQRM]	Required Supermajority: [SMA]	Root Node Validation Period: [RNVALP]	Q ID Veto Period [QIDVTP]	Q ID Veto Quorum: [QIDVTQRM]
Settlement proposal received or to be made by respondent Root Node or co-respondent Root Node in a Slashing Appeal	Any respondent Root Node or co-respondent Root Node in such Slashing Appeal	Root Nodes	336 hours	0%	More than 50% of the Eligible Voters (regardless of how many Eligible Voters cast their vote)	N/A	N/A	N/A	N/A	N/A
Proposal that a Root Node be appointed as the co-respondent Root Node in a Slashing Appeal	Any Root Node	Root Nodes	336 hours	0%	More than 50% of the Eligible Voters (regardless of how many Eligible Voters cast their vote)	N/A	N/A	N/A	N/A	N/A
Any amendment to membership of the Fees & Incentives Expert Panel [EPQFL.addOrRemExpert]	Any Q Token Holder	Q Token Holders	336 hours	0%	More than 50% of the votes cast	N/A	N/A	336 hours	168 hours	10%
Any amendment to membership of the DeFi Expert Panel [EPDR.addOrRemExpert]	Any Q Token Holder	Q Token Holders	336 hours	0%	More than 50% of the votes cast	N/A	N/A	336 hours	168 hours	10%
Any amendment to membership of the Root Node Selection Expert Panel [EPRS.addOrRemExpert]	Any Q Token Holder	Q Token Holders	336 hours	0%	More than 50% of the votes cast	N/A	N/A	336 hours	168 hours	10%
Any decision by the Fees & Incentives Expert Panel [EPQFL.changeParam]	Any member of such Expert Panel	Members of relevant Expert Panel	168 hours	0%	More than 50% of the votes cast	N/A	N/A	336 hours	N/A	N/A
Any decision by the DeFi Expert Panel [EPDR.changeParam]	Any member of such Expert Panel	Members of relevant Expert Panel	168 hours	0%	More than 50% of the votes cast	N/A	N/A	336 hours	N/A	N/A

Subject of Voting Proposal:	Eligible Proposer: [EP]	Eligible Voters: [EV]	Voting Period: [VP]	Quorum: [QRM]	Required Majority: [RMAJ]	Quorum Required for Supermajority: [SQRM]	Required Supermajority: [SMAJ]	Root Node Validation Period: [RNVALP]	Q ID Veto Period [QIDVTP]	Q ID Veto Quorum: [QIDVTQRM]
Any decision by the Root Node Selection Expert Panel [EPRS.change Param]	Any member of such Expert Panel	Members of relevant Expert Panel	168 hours	0%	More than 50% of the votes cast	N/A	N/A	336 hours	N/A	N/A

APPENDIX 6

CONSTITUTIONAL PARAMETERS

PART A- ALLOCATION OF Q TOKENS

1. Each time additional Q Tokens are generated by way of inflation subsidy in accordance with Article 3.2, such Q Tokens shall be allocated between the groups of existing Q Stakeholders (other than Q Nodes) as follows:

Q Stakeholders:	Target percentage of Q Tokens allocated to such Q Stakeholders:
Q Token Holders [rewardShareQTokenHolders]	40%
Q ID Holders [rewardShareQIDHolders]	N/A until veto rights of Q ID Holders become effective following an amendment to Article 11.3 are activated.
Validator Nodes and Validator Node Candidates [rewardShareValidatorNodes]	40%
Root Nodes [rewardShareRootNodes]	20%

provided that the actual percentage in respect of each allocation may be higher or lower than the target percentage and shall be as determined by the Q Fees & Incentives Expert Panel from time to time, having regard for the integrity, efficiency and robustness of Q overall.

2. In connection with any Q Tokens charged by Validator Nodes by way of transaction fees in accordance with Appendix 3, such Q Tokens shall be allocated between the groups of existing Q Stakeholders (other than Q Nodes) as follows:

Q Stakeholders:	Target percentage of Q Tokens allocated to such Q Stakeholders:
Q Token Holders	40% less the applicable Q Reserve Share of such Q Tokens
Q ID Holders	N/A until veto rights of Q ID Holders become effective following an amendment to Article 11.3 are activated.
Validator Nodes and Validator Node Candidates	40%
Root Nodes	20%

provided that the actual percentage in respect of each allocation may be higher or lower than the target percentage and shall be as determined by the Q Fees & Incentives Expert Panel from time to time, having regard for the overall system stability of Q.

3. In connection with each Slashing Transaction which takes place in accordance with Article 6, (i) a number of Slashed Q Tokens equal to the relevant Slashing Reward Share shall be allocated to the relevant Proposing Root Node and (ii) the remaining Slashed Q Tokens shall be redistributed between the groups of existing Q Stakeholders (other than Q Nodes) as follows:

Q Stakeholders:	Target percentage of Q Tokens redistributed to such Q Stakeholders:
Q Token Holders	40% less the applicable Q Reserve Share of such Q Tokens
Q ID Holders	N/A until veto rights of Q ID Holders become effective following an amendment to Article 11.3 are activated.
Validator Nodes and Validator Node Candidates	40%
Root Nodes	20%

provided that the actual percentage in respect of each redistribution may be higher or lower than the target percentage and shall be as determined by the Q Fees & Incentives Expert Panel from time to time, having regard for the overall system stability of Q.

4. In connection with any Borrowing Fees converted into Q Tokens in accordance with Appendix 4, a relevant number of Q Tokens shall be used to pay any relevant Stabilization Rewards (if applicable) and the remainder shall be allocated between the groups of existing Q Stakeholders (other than Q Nodes) as follows:

Q Stakeholders:	Target percentage of Q Tokens allocated to such Q Stakeholders:
Q Token Holders	40% less the applicable Q Reserve Share of such Q Tokens
Q ID Holders	N/A until veto rights of Q ID Holders become effective following an amendment to Article 11.3 are activated.
Validator Nodes and Validator Node Candidates	40%
Root Nodes	20%

provided that the actual percentage in respect of each allocation may be higher or lower than the target percentage and shall be as determined by the Q Fees & Incentives Expert Panel from time to time, having regard for the integrity, efficiency and robustness of Q overall.

5. Within each relevant group of Q Stakeholders (other than Q Nodes), any Q Tokens allocated or redistributed to such group of Q Stakeholders shall be allocated to the members of such group as follows:
- (a) to the Q Token Holders, *pro rata* to the number of Q Tokens held by each Q Token Holder;
 - (b) to the Q ID Holders, *equally* to each Q ID Holder;
 - (c) to the Validator Nodes *pro rata* to the Total Accountable Stake of each Validator Node;
 - (d) to the Validator Node Candidates, *equally* to each Validator Node Candidate; and
 - (e) to the Root Nodes, *equally* to each Root Node,

or, if such *pro rata* or equal allocation or redistribution is not practicably possible, such other allocation or redistribution as shall be determined by the Q Fees & Incentives Expert Panel from time to time, having regard for the target allocation or redistribution set out above and for the integrity, efficiency and robustness of Q overall.

6. Any Q Tokens to be allocated or redistributed to the groups of existing Q Stakeholders (other than Q Nodes) shall be held in escrow effected by way of smart contract.
7. Each Eligible Q Stakeholder may claim the Q Tokens allocated or redistributed to such Q Stakeholder from time to time in accordance with this Appendix 6 by claiming such Q Tokens from such smart contract.

PART B- TECHNICAL PARAMETERS

The following are certain technical parameters used in the definitions included in Appendix 1.

Variable:	Value:
Block Subsidy [blockSubsidy]	1.5 Q Tokens
CliqueEpocheLength [cliqueEpochLength]	101
Co-Respondent Appointment Period	30 days
Co-Respondent Threshold	10%
Maximum Number of Experts: Q DeFi Expert Panel [EPDR.maxNExperts]	15
Maximum Number of Experts: Q Fees & Incentives Expert Panel [EPQFI.maxNExperts]	15
Maximum Number of Experts: Root Node Selection Expert Panel [EPRS.maxNExperts]	15

Variable:	Value:
Maximum Number of Root Nodes [maxNRootNodes]	21
Maximum Number of Validator Node Candidates [maxNStandbyValidators]	32
Maximum Number of Validator Nodes [maxNValidators]	22
Q Token Time Lock Period [rootWithdrawP], [valWithdrawP]	21 days
Slashing Appeal Period [rootSlashingAppealP], [valSlashingAppealP]	60 days
Slashing Appeal Verification Period	7 days
Slashing Objection Period [rootSlashingOBJP], [valSlashingOBJP]	30 days
Slashing Reward Share [rootSlashingReward], [valSlashingReward]	(1) 10% (2) 10%
Stake Delegation Factor [stakeDelegationFactor]	10

APPENDIX 7
EXPERT PANELS

1. The Q DeFi Expert Panel shall be responsible for taking decisions on certain technical and operational aspects of Q DeFi (as described in Appendix 4). In particular:
 - (a) The Q DeFi Expert Panel shall consist of up to the Maximum Number of Experts specified for the Q DeFi Expert Panel in Part B of Appendix 6.
 - (b) The competence of the Q DeFi Expert Panel shall be as follows:
 - (i) The Q DeFi Expert Panel shall determine what currencies and assets constitute Eligible Collateral for the purposes of the Q Lending & Borrowing Platform from time to time.
 - (ii) The Q DeFi Expert Panel shall determine the Oracles to be used for the purposes of determining the value of each type of Eligible Collateral from time to time.
 - (iii) The Q DeFi Expert Panel shall determine the Collateralization Ratio and the Liquidation Ratio for each type of Eligible Collateral from time to time.
 - (iv) The Q DeFi Expert Panel shall determine the collateral ceiling (if any) in respect of each type of Eligible Collateral from time to time.
 - (v) The Q DeFi Expert Panel shall set the Liquidation Fees applicable to auctions of Eligible Collateral from time to time.
 - (vi) The Q DeFi Expert Panel shall set the Borrowing Fees applicable to Q L&B Loans and the Stabilization Rewards applicable to Q L&B Immobilized Amounts from time to time.
 - (vii) The Q DeFi Expert Panel shall determine the technical and operational parameters in connection with each type of Eligible Collateral necessary to ensure consistency between the use of such Eligible Collateral on the Q Blockchain (including, without limitation, within Q DeFi) and on the original blockchain on which such type of Eligible Collateral is tokenized from time to time.
 - (viii) The Q DeFi Expert Panel shall determine the QUSD Surplus Threshold applicable from time to time.
2. The Q Fees & Incentives Expert Panel shall be responsible for taking certain decisions regarding fees and incentives within Q. In particular:
 - (a) The Q Fees & Incentives Expert Panel shall consist of up to the Maximum Number of Experts specified for the Q Fees & Incentives Expert Panel in Part B of Appendix 6.
 - (b) The competence of the Q Fees & Incentives Expert Panel shall be as follows:
 - (i) The Q Fees & Incentives Expert Panel shall determine the rate(s) at which Validator Nodes may charge transaction fees in accordance with Appendix 3.
 - (ii) The Q Fees & Incentives Expert Panel shall determine the System Reserve Share in connection with any Q Tokens to be allocated or redistributed to the groups of existing Q Stakeholders (other than Q Nodes) in accordance with Part A of Appendix 6 and the circumstances in which the corresponding reserve of Q Tokens within the Q Blockchain may be used for technical and/or operational purposes within the Q Blockchain.
 - (iii) In circumstances where it is not reasonably practicable that Q Tokens be allocated or redistributed to Q Stakeholders (other than Q Nodes) in accordance with any ratio specified in Part A of Appendix 6, the Q Fees & Incentives Panel shall determine an alternative basis for such allocation or redistribution, having regard for such ratio.
 - (iv) The Q Fees & Incentives Expert Panels shall set the process in accordance with which Q Stakeholder (other than Q Nodes) shall claim the Q Tokens allocated or redistributed to them from time to time in accordance with this Appendix 6, including all technical parameters.
 - (v) The Q Fees & Incentives Panels shall determine from time to time the price source to be used for the purposes of determining the rate at which QUSD shall be converted into Q Tokens.
3. The Root Node Selection Expert Panel shall be responsible for determining whether and to what extent any Root Node Candidate satisfies the eligibility criteria set out in Part B of Appendix 2. The Root Node Selection Expert Panel shall consist of up to the Maximum Number of Experts specified for the Root Node Selection Expert Panel in Part B of Appendix 6.

APPENDIX 8

GUIDELINES FOR SLASHING

PART A- SLASHING OF Q TOKENS WHICH ARE SELF STAKED TO VALIDATOR NODES

Severity of non-compliance	Description	Non-exhaustive List of Examples	Maximum percentage of Q Tokens which are Self Staked to Validator Node to be Slashed
Level 1	Very light misbehavior	<ul style="list-style-type: none"> Availability below 96% down to 90% on a 1,000 validation cycle basis 	0.1%
Level 2	Light misbehavior	<ul style="list-style-type: none"> Availability below 90% down to 80% on a 1,000 validation cycle basis Extending a local fork, one of whose paths is invalid (building on an invalid block) Initiating or co-signing empty blocks (without including Valid Transactions) 	3.0%
Level 3	Medium misbehavior	<ul style="list-style-type: none"> Availability below 80% down to 60% on a 1,000 validation cycle basis Not validating and/or recording transactions on the Q Blockchain on a first-come-first-served basis Abusive proposition of out-of-turn blocks Confirmation of transactions which are not Valid Transactions Accepting invalid blocks and forwarding in the network to peers 	10.0%
Level 4	Severe misbehavior	<ul style="list-style-type: none"> Availability below 60% down to 30% on a 1,000 validation cycle basis Breach of obligations set out in Article 4.4.1 	95.0%
Level 5	Very severe misbehavior	<ul style="list-style-type: none"> Availability below 30% on a 1,000 validation cycle basis Blacklisting of transactions or addresses Fraudulent transactions (e.g. signing double spend transactions) Ignoring voting transactions which are Valid Transactions Breach of obligations set out in Articles 4.4.2 or 4.4.3 	100%

PART B- SLASHING OF Q TOKENS WHICH ARE SELF STAKED TO ROOT NODES

Severity of non-compliance	Description	Non-exhaustive List of Examples	Maximum percentage of Q Tokens which are Self Staked to Root Node to be Slashed
Level 1	Light misbehavior	<ul style="list-style-type: none"> Breach of obligations set out in Article 5.3.8 	0.1%
Level 2	Medium misbehavior	<ul style="list-style-type: none"> Repeated downtime Breach of obligations set out in Articles 5.3.1, 5.3.4 or 5.3.11 	3.0%
Level 3	Severe misbehavior	<ul style="list-style-type: none"> Prolonged downtime (>24 hours) Breach of obligations set out in Articles 5.3.2, 5.3.3, 5.3.9 Breach of obligations set out in Articles 5.3.1 or 5.3.4 two or more times in a row 	10%
Level 4	Very severe misbehavior	<ul style="list-style-type: none"> Breach of obligations set out in Articles 5.3.5, 5.3.6, 5.3.7, 5.3.10, 5.3.12 or 5.3.13 	100%

APPENDIX 9

WITHDRAWAL OF STAKE PROCEDURE

1. If, at any time, the Operator of a node on Q requests the withdrawal of any Q Tokens it has Self Staked to such node on Q, but, prior to the expiry of the relevant Q Token Time Lock Period, a Slashing Proposal is made in respect of some or all of the Q Tokens Self Staked to such node, then (x) the aggregate number of Q Tokens Self Staked to such node at such time, (y) the number of Self Staked Q Tokens whose release from Stake has been requested by the Operator and (z) the number of Self Staked Q Tokens to be Slashed in accordance with the relevant Slashing Proposal (the result rounded down to the nearest $1/10^{18}$ of a Q Token) shall be compared and:
 - (i) if the sum of the number of Self Staked Q Tokens whose release from Stake has been requested by the Operator and the number of Self Staked Q Tokens to be Slashed in accordance with the relevant Slashing Proposal is equal to or lower than the aggregate number of Q Tokens Self Staked to such node at such time, a number of Self Staked Q Tokens equal to the number of Self Staked Q Tokens whose release from Stake has been requested by the Operator shall be released from Stake upon the expiry of the Q Token Time Lock Period;
 - (ii) if the sum of the number of Self Staked Q Tokens whose release from Stake has been requested by the Operator and the number of Self Staked Q Tokens to be Slashed in accordance with the relevant Slashing Proposal is greater than the aggregate number of Q Tokens Self Staked to such node at such time, then, subject to Paragraph 2:
 - (A) a number of Self Staked Q Tokens equal to (I) the aggregate number of Q Tokens Self Staked to such node at such time *minus* (II) the number of Self Staked Q Tokens to be Slashed in accordance with the relevant Slashing Proposal shall be released from Stake upon the expiry of the Q Token Time Lock Period;
 - (B) if the Slashing Proposal is not accepted in accordance with Appendix 5, a number of Self Staked Q Tokens equal to (1) the number of Self Staked Q Tokens whose release from Stake has been requested by the Operator *minus* (2) the number of Q Tokens released from Stake pursuant to Paragraph (A) shall be released from Stake upon the later of (I) the expiry of the Q Token Time Lock Period and (II) the expiry of the Voting Period in respect of the Voting Proposal; and
 - (C) if the Slashing Proposal is accepted in accordance with Appendix 5, a number of Self Staked Q Tokens equal to the number of Self Staked Q Tokens to be Slashed in accordance with the relevant Slashing Proposal shall be Slashed (the "**Relevant Slashed Q Tokens**").
2. The procedure set out in Paragraph 1 shall apply separately in connection with each relevant Slashing Proposal made prior to the expiry of the relevant Q Token Time Lock Period. However, for the purposes of any calculations made in connection with each second and subsequent Slashing Proposals, the aggregate number of Q Tokens Self Staked to such node at any time shall be reduced to take into account the aggregate Relevant Slashed Q Tokens determined under Paragraph 1 in connection with all previous Slashing Proposals. No Self Staked Q Tokens shall be released from Stake until the Relevant Slashed Q Tokens (if any) in respect of the last Slashing Proposal made prior to the expiry of the relevant Q Token Time Lock Period have been calculated.