Tgrade Constitution

<p style="text-align:center">Tgrade Constitution</p>

Revision History

Version	Date	Author	Notes
1st Draft	01.06.2021	Martin Worner	
2nd Draft	14.06.2021	Martin Worner	Fixed spelling, and inconsistencies with pictures and text
1st Version	05.07.2021	Martin Worner	Added

References

Tgrade whitepaper:

https://github.com/Ocean-Blue-Foundation/resources.tgrade.finance/blob/master/Tgrade_Whitepaper.pdf

Proof of Engagement paper:

https://github.com/confio/ProofOfEngagement/blob/master/Proof%20of%20Engagement%20paper.pdf

Token Terms of Use

https://github.com/Ocean-Blue-Foundation/resources.tgrade.finance/blob/master/TGD%20Terms%20of%20Use%20v.1.0.pdf

Validator Code of Conduct

https://github.com/Ocean-Blue-Foundation/resources.tgrade.finance/blob/master/validator%20code%20of%20conduct.pdf

Tgrade Constitution

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Provisions?

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<div align="center">Tgrade Constitution</div>

1 Purpose of the constitution

The values of Tgrade are to foster a strong community who are incentivized to collaborate in running and securing the Tgrade blockchain which has a focus on encouraging the development of and compliance with regulatory frameworks for decentralized finance.

The constitution of Tgrade endeavours to make community governance as transparent as possible and to support the efficient and secure operation of the Tgrade blockchain network, especially through meeting the objectives of the Proof of Engagement mechanisms. Committees of participants are established to bring in human judgement and interpretation to the constitution, which will foster good decision-making and avoid complexity in programming rules and game theory-based exploits.

The Arbiter Pool is important as an independent check to the Oversight Community and plays a role in developing the constitution. The Oversight Community are required in order for Proof of Engagement to fully function.

Blockchain networks are complex, and complexity is either accounted for and accommodated via code, which introduces rigidity to the governance, or - as is the case with Tgrade - by bringing in human judgement through the Committee structure. For Tgrade having human judgement and whole community involvement is important as it makes a more robust chain.

The tone and intention of the constitution is to foster collaborative engagement from and amongst network participants and is inspired by the approach of Mutual organisations and Commons in managing resources. The constitution empowers community participation within defined boundaries, and specifies the rights and responsibilities of network participants.

2 General Provisons

<div style="float:right; border:1px solid #ccc; padding:4px;">**Commented [MR3]:** Provisions</div>

2.1 Article 1 – Overview of Tgrade ecosystem

   I.   Tgrade is a blockchain with a focus on regulated, decentralised finance.

   II.   Participants of Tgrade are defined as controllers of the private key of a Tgrade blockchain address.

   III.   Network fees are set at Genesis and may be changed through a software proposal.

   IV.   The source of constitutional authority is derived from the participants who collaborate to support the purpose and aims of Tgrade.

   V.   Tgrade is secured through a community of validators who run the nodes, software engineers who contribute code, businesses who build applications, documentation writers, and those who help the community, and promote the project.

   VI.   The economy of Tgrade is managed through the TGD token which is used to collect transaction fees and commissions from activity on the blockchain. The token is also used to secure the blockchain through staking by validators.

   VII.   Stichting Ocean Blue has no involvement, oversight or responsibility for the running or governance of Tgrade.

   VIII.   Tgrade is a decentralised blockchain and is organised by self-sovereign governance.

   IX.   Validators run the nodes of the Tgrade blockchain and are required to hold a stake of TGD tokens which give them voting power and are combined with Engagement Rewards to calculate the reward distributions received in connection with the validation activities they undertake.

   X.   Validators may join the Tgrade network without hindrance and need no permission to set up a node and join.

   XI.   Validators who participate in the Tgrade launch are subject to a Validator Agreement.

XII.   The Committees of Tgrade are the Oversight Community and Arbiter Pool. The Oversight Community and Arbiter Pool are to be considered of equal authority with respect to their respective constitutional roles and powers.

XIII.   The Oversight Community and Arbiter Pool members are to be compensated for their work in accordance with principles that maintain the integrity of the constitution and support the development and adoption of the Tgrade blockchain.

XIV.   Validators who are included in the Genesis file and are allocated tokens have signed a Validator Code of Conduct. Subsequent additions to the validator set are not required to agree to the Validator Code of Conduct.

XV.   Proof of Engagement is a consensus model based on Proof of Stake and is a mechanism used to secure the Tgrade network and safeguard the immutable ledger.

   a.   Engagement in the Tgrade blockchain is assessed by people in the community and forms a reward mechanism that is managed by the governance processes and the allocation of Engagement Rewards.
   b.   Income is derived from transaction fees and commissions generated on the Tgrade blockchain which is distributed to the holders of Engagement Rewards and in the case of Validators a combination of Engagement Rewards and their staked tokens.
   c.   Engagement Rewards have a "half-life" that means that the Engagement Rewards held are reduced by 50% over a given time period through an automatic process on the blockchain.
   d.   Proof of Engagement has defined, self-sovereign, governance committees, known as the Oversight Community and the Arbiter Pool that are independent and the rules applying to the committees are set out in the constitution.
   e.   The mechanism of Proof of Engagement is described in the Whitepaper (see references)

2.2   Article 2 – Scope of Tgrade Constitution

The purpose of the Tgrade Constitution is to ensure the rights and responsibilities, and processes are defined for the collaborative running of the Tgrade blockchain, by addressing and specifying the following:

   I.   Enforce the mechanisms of Proof of Engagement.
   II.   Define the rights and responsibilities of all community participants
   III.   Define the core underlying principles for the development of the Tgrade network and the establishment of associated communities of participants
   IV.   Define the structure of the Committees.
   V.   Define the objectives [and powers] the Committees.
   VI.   Define the mechanisms of joining and leaving Committees.
   VII.   Define the roles and responsibilities of the Committee members.

2.3   Article 3 – Rights, conditions and obligations of Participants

> **Commented [MR4]:** Conditions,

The participants of Tgrade have different rights and obligations which depend on their role within the network.

The rights of participants of Tgrade are to run or use the network, participate in one or more Self-Sovereign Groups, join the Oversight Community or Arbiter Pool and instigate or be involved in activities to earn engagement rewards as judged by the Oversight Community.

All participants are encouraged to share the values of collaboration, honesty and integrity in participating in Tgrade. Additional rights and responsibilities are held by members of the Oversight Community and the Arbiter Pool. The Self-Sovereign Communities have additional rights and responsibilities set by their organisation that are specific to each Self-Sovereign Community and as such are entirely separate and not subject to the governance and oversight processes that the constitution defines and maintains.

> **Commented [MR5]:** honesty,

The Oversight Community have rights and responsibilities to enforce the mechanisms of the Proof of Engagement, maintain the integrity and manage membership of the Oversight Community, and enforce punishments for certain events relating to the actions of validators.

The Arbiter Pool have the rights and responsibilities to establish tribunals to give reasoned decisions on the constitution either in the case of disputes or to an application for guidance and to facilitate dispute resolution explicitly for constitutional questions.

The Self-Sovereign Communities are empowered and have autonomy to define and confer on community participants their own [community-specific] rights and responsibilities, and may in their sole discretion define and establish internal governance frameworks for such rights and responsibilities, including community-specific arbitration and dispute resolution mechanisms that are separate to and independent of this constitution.

2.4 Article 4 – Key constitutional organisations and their interrelationships.

The relationships between all participants, the Committees with rights and responsibilities and the Self-Sovereign Communities are illustrated here:

Figure 1 Relationships between Committees

The Self-Sovereign Communities can be seen as operating within a federated structure, with internal, community-specific rights and responsibilities being self-determined.

Participants are not restricted by the terms of this constitution from successively or simultaneously controlling membership of multiple Self-Sovereign Communities, acting as Validators and controlling membership of one of the Committees. Restrictions could arise however by operation of rules external to the constitution (either as a result of applicable law / regulations or possibly, the internal rules of particular SSCs). A participant that controls membership of the Oversight Community may not successively hold or control membership of the Arbiter Pool, nor vice versa.

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There may be certain circumstances where there are conflicts of interest, for example if a Validator is a member of the Oversight Community and in their role as a Validator they cause an event which triggers a proposal to jail them. The Oversight Community process of submitting a proposal and voting, subject to the threshold and quorum, will produce the correct result of consensus even if the Validator/Oversight Community member votes against. Conflicts of interest should be managed by the Committees, and there are mechanisms to sanction members, or expel them should dialog not work.

The Oversight Community and Arbiter Pool have no direct rights or responsibilities with respect to the internal constitution or other governance rules or customs of any of the Self-Sovereign Communities.

2.5   Article 5 – Constitutional amendments.

The constitution is intended as a living document and is subject to amendments which can be formally proposed by any participant, and considered and implemented in accordance with this constitution through and under the supervision of the Committees .

Commented [MR7]: Committees. (there is 1 space between)

3 Rules of the Constitution

Governance in Tgrade covers the governance of: the process to update the chain software; community engagement through the activities of the Oversight Community; the Arbiter Pool, acting as an independent check on the activities of the Oversight Community and providing guidance on interpreting and making reasoned decisions to resolve disputes arising in connection with the constitution, and Self-Sovereign Communities. Note in the case of Self-Sovereign Communities the role of the constitution is limited to group creation and membership management to the extent such activities are recorded on / undertaken via the Tgrade blockchain

> **Commented [MR8]:** blockchain.

3.1 Software upgrade proposals

Software upgrade proposals are necessary for the update of the core blockchain software. There is a degree of coordination between the developers and validators, where the validators ultimately decide whether to deploy the new software or not.

3.2 Self-Sovereign Communities

Self-Sovereign Communities in Tgrade, are by definition not appointed or approved by any central authority in Tgrade. The Self-Sovereign Communities determine their own rules, rights and responsibilities, and where applicable, their own internal dispute resolution mechanisms.

From the perspective of the constitution and the Tgrade Blockchain the principles of the Self-Sovereign Community framework are:

3.2.1 Definitions

There are two types of participants of a Self-Sovereign Community, namely voting and non-voting participants.

3.2.2 Creation

Any participant can create a Self-Sovereign Community.

3.2.3 Adding members to the Self-Sovereign Community:

The owner or appointed members of the Self-Sovereign Community who are voting participants can add others following their defined onboarding processes. The recommendation of good practice is to link an identity to a Tgrade blockchain address.

3.2.4 Removing members from the Self-Sovereign Community

There are "on-chain" mechanisms to remove members either as good or bad leavers.

3.2.5 Entitlements groups

Within a self-sovereign community, there are mechanisms to set the permissions of who can interact with whom, and what smart contracts, or services they can access.

Supporting the operation of the Self-Sovereign Communities and maintaining the integrity and operation of this constitution and the Tgrade network is the responsibility of the Committees i.e. the Oversight Community and Arbiter Pool

3.3 Constitutional Committees: the Oversight Community and Arbiter Pool

3.3.1 Arbiter Pool

The Arbiter Pool is a community that has two purposes: the constitution of tribunals for dispute resolution and the publication of reasoned decisions. The Arbiter Pool can be called on more broadly in a non-contentious context to prevent future disputes arising

The Arbiter Pool selects a tribunal from the pool to act in the cases of dispute resolution and reasoned decisions. The selection process is a consensual process and decided on the best interests of the pool, and considers the appropriate skills/experience of the Arbiter Pool members. The Arbiter Pool should consider any potential conflicts of interest and exclude Arbiter Pool members from processes where they have a conflict of interest.

There are processes around the maintenance of the Arbiter Pool through governance with the addition, and removal of members.

3.3.1.1 Dispute resolution

a) The resolution of disputes is limited to disputes arising from the interpretation of the constitution and not a general-purpose court for Tgrade. Participants are required to settle constitutional disputes by way of raising a case with the Arbiter Pool, and they may not bypass the Arbiter Pool in favour of external tribunals. The Arbiter Pool will not act as a final right of appeal to purely internal matters of a Self-Sovereign Community.

b) Both parties in dispute who open a dispute resolution with the Arbiter Pool are bound by the decision, and that the decision is made by the Arbiter Pool Committee members and not algorithms. The parties undertake not to dispute the decisions taken by the Arbiter Pool through external tribunals, such as a local national court.

c) The authority of the Arbiter Pool is such that it compels the Oversight Community to mandate a particular substantive end result or rerun a particular process since the Arbiter Pool may feel that it lacks the expertise to decide on the appropriate substantive end result.

3.3.1.2 Reasoned decisions

There will be differing opinions on the text and meaning of the constitution and how it is enacted in practice. The Arbiter Pool are called on to assess the opinions and the reasoning and produce reasoned decisions. The reasoned decisions are intended as interpretive guidance in governance under this constitution and are published to a public repository to ensure there is a clear and transparent record of the decisions made, and where appropriate, transcripts of the reasoning.

3.3.2 Oversight Community

The Oversight Community have a central role in Tgrade.

a) Engagement Reward allocations are proposed and voted on by the Oversight Community. Note the Oversight Community members are open to proposals from the community but are the ones responsible for formally submitting proposals for implementation through the Tgrade blockchain.

b) Identity is linked to blockchain addresses by the Oversight Community through governance processes in the allocation of Engagement Rewards.

c) There are governance processes around the maintenance of the Oversight Community, including in relation to the addition and removal of members.

d) Validators may be subject to sanctions by the Oversight Community where they have breached the principals of running an honest validator node.

3.4 Constitutional amendments

The values of collaboration shared by the participants of Tgrade shape the constitution which is intended as a living document.

3.4.1 Proposals for change

Any participant can submit a proposal to change the constitution and pay the appropriate bond in TGD tokens. The bond is refunded if the proposal is accepted and if the proposal is rejected the bond is sent to the distribution address which allocates the tokens determined by the Engagement Rewards.

All participants have the right to vote on a proposal, which is subject to a transaction fee.

3.4.2 Implementation

On passing the threshold and quorum requirements, the constitution is amended and a copy is lodged at https://github.com/Ocean-Blue-Foundation/resources.tgrade.finance

1   Procedural Rule Book

1.1   Software upgrade proposals

1.1.1   Who can propose?
Any participant can submit a software proposal, subject to paying a transaction fee as an anti-spam measure.

1.1.2   What can be proposed?
A software update proposal is the only valid proposal type, there is scope for adopting a free-text proposal type which are not software related for the future, but it is envisaged that the discussions are held off-chain.

1.1.3   Proposal fee
The proposal fee is set as 10 TGD

1.1.4   Voting mechanisms
Voting is approved by more than 67% of Validators on the **software upgrades**.

1.2   Create a Self-Sovereign Community
There is a mechanism to create on the Tgrade blockchain a Self-Sovereign Community which, by nature, is open to any participant.

The Self-Sovereign Community is created by a minimum of one person (address) and there is a fee payable as an anti-spam fee. There is an optional "deposit" so that the Self-Sovereign Community has the tools to apply an on-chain sanction or penalty to the founder member in the same way as other Self-Sovereign Community members with responsibilities.

Note there is a transaction fee to create a self-sovereign community as an anti-spam measure.

1.3   Add a member to the Self-Sovereign Community
The proposal is submitted with a Self-Sovereign Community reference/address, the member to be added, the participant classification (voting or non-voting), a proposer fee and an optional deposit to an escrow address for voting participants. Note the proposal is only valid if submitted by an existing voting participant member. In the case of the Oversight Community there is a reward paid to the proposer from the Oversight pool on acceptance to incentivise the member to spend time doing the validation, submission and consensus building.
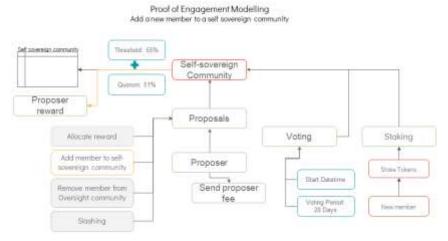
Figure 2 Add a new member to self-sovereign community

Best practice is that the proposer has done their due diligence off-chain and builds consensus within the community. A suggested voting period is 20 days, a quorum of 51% and a threshold of 55%.

1.4   Remove a member from the community (good leaver)

A voting participant may propose the removal of a community member as a good leaver (events such as a merger may see the removal of a member). If there is an optional deposit in place it is released.
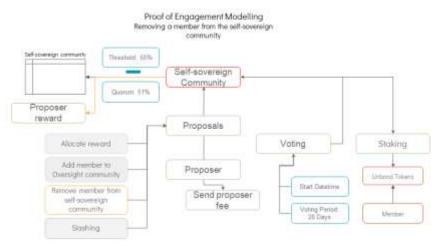

Figure 3 Remove a member (good leaver) from self-sovereign community

A suggested voting period is 10 days, a quorum of 51% and a threshold of 55%.

1.5   Remove a member from the community (bad leaver)

A voting participant may propose the removal of a community member as a bad leaver. If there is an optional deposit in place it is allocated to an address determined by the voting participants.
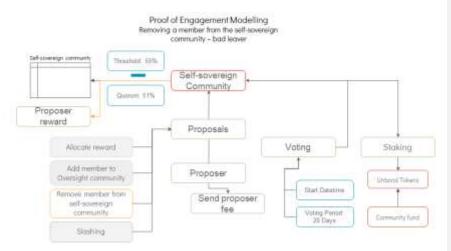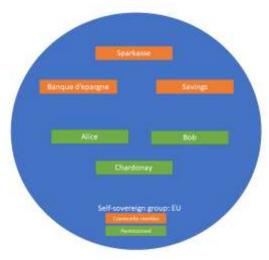
Figure 4 Remove member (bad leaver)

The voting period is 10 days, a quorum of 51% and a threshold of 55%.

1.6   Add an entitlements group

The management of community-specific optional entitlements is done by the voting participants of the relevant Self-Sovereign Community.

The entitlements apply to instruments, participants, or services. An example, a member of a Self-Sovereign Community issues an asset backed by carbon credits and sets the permission to the Self-Sovereign Community, only members may hold, swap and trade them.

Figure 5 voting participants and non-voting participants (permissioned members)

It is recommended that the voting participants verify (KYC/AML) individuals who can take part in their Self-Sovereign Community , and they are added as permissioned members or non-voting participants. Note the non-voting participants cannot vote on the addition or removal of members of the Self-Sovereign Community.

Note: Entitlements can only be created once there is a self-sovereign community made up of one or more voting participants. The permissions are allocated by the self-sovereign voting participants who propose on vote to allocate the permissions.

The proposer submits an entitlements group name, a list of members and/or a list of instruments and/or services. The voting pool are the voting participants of the elected community. The voting period is 15 days, a quorum of 51% and a threshold of 51%

On acceptance an entitlements group id is generated and is associated with the lists submitted.

1.7 Edit an entitlements group
The proposer submits an entitlements group id, a list of members and/or a list of instruments and/or services which overwrite the existing list(s). The voting period is 15 days, a quorum of 51% and a threshold of 51%

1.8 Delete an entitlements group
The proposer submits an entitlements group id. The voting period is 15 days, a quorum of 51% and a threshold of 65%

2 Predefined Self-sovereign committees

2.1 Oversight Community
The Oversight Community is responsible for the allocation of rewards, adding and removing members to the Oversight Community, and slashing an Oversight Community member's stake.
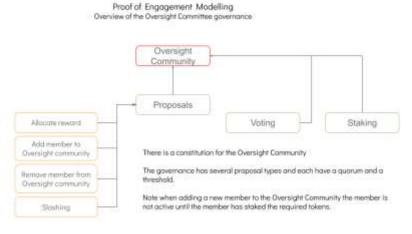

Figure 6 Oversight Community

2.1.1   Oversight Community maintenance
The maintenance of committee members follows the mechanisms of the self-sovereign committee.

2.1.2   Slashing a member from the Oversight Community
If a member of the Oversight Community has behaved badly, such as proposing somebody for engagement rewards in exchange for money or proposed someone for the Committee without checking their real identity, any other member of the Oversight Community may raise a proposal to slash the committee member's stake and a vote takes place to represent and record the consensus view adopted by the Oversight Community. If the threshold of 66% and a quorum of 51% is reached, then the tokens are burned.
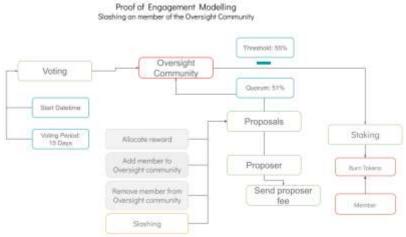

Figure 7 Slashing an Oversight community member

2.1.3   Allocate rewards
The Oversight community oversees the allocation of Engagement Rewards. The identification of the persons in the community who are making a positive contribution through engagement is an off-chain process and this includes verifying that a particular Tgrade blockchain address to which distributions will be made is held or controlled by the intended recipient of Engagement Rewards.

To simplify a potentially time consuming process of proposing and voting on each prospective person to receive Engagement Rewards, proposals are submitted on a continual basis and the voting is then undertaken on a batched basis at the beginning of the following month.

Commented [MR12]: time-consuming

The batch proposals are held open for 10 days and passes if the threshold reaches 55% and has a quorum of 51%, the Committee members vote yes, no, abstain on each prospective reward recipient.

Engagement rewards are used in the calculation of distribution of rewards, which are in TGD. The detailed mechanisms are described in the paper Proof of Engagement (see references).

Figure 8 Reward allocation

2.1.4   Complex Malicious Events

There are malicious events as defined by [Tendermint](#) (the consensus layer) and these result in automatic slashing of stakes.

There are events that are too complex to configure a set of meaningful rules for and that require human interpretation. This is described in the [PoE Architecture](#) document.

For example, a scenario we could observe is where a validator could sign 7% of all blocks for months and never be jailed, while slowing down the chain. Another scenario would be failure to maintain a 98% uptime over a 12-month period, or 95% over one month, which may lead to validator jailing.

The Oversight Community can slash engagement and/or jail validators that have shown to have consistently high downtime or otherwise malicious p2p activity. Note slashing engagement rewards or jailing does not include slashing tokens, rather a forced un-bonding period for the validator. It is imperative that the jailing needs to be fast, for example by having conditions that the proposal is accepted as soon as the quorum reaches 51% and the threshold of 55% and would expire after 5 days.

2.1.4.1   *Oversight Community Validator Engagement Reward Slashing*
The Oversight Community proposes the slashing of a validator's engagement rewards. The proposal lists the validator address, the number of engagement rewards that are to be slashed, and the time-period of the voting. The proposer pays a fee, the quorum is 60% and threshold of 75%.

2.1.4.2   *Oversight Community Validator Jailing*
The Oversight Community proposes the jailing of a validator. The proposal lists the validator address, the "incarceration" period (defaulted to 3 weeks), and the time-period of the voting. The proposer pays a fee, the quorum is 60% and threshold of 75%.

Once the jail term has been served the Validator needs to submit a Bail request in order to resume services, this would ensure that the jail event is discussed and they seek help in mitigating further issues. The validator remains in a probation state and is unable to move tokens or resume services.

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2.1.4.3 Validator Bail request

The Validator submits a proposal to resume services and move from the Probation state to the cleared state. The submission requires a fee, has a voting period of 14 days and needs a quorum of 40% and a threshold of 51% to pass.

There is an obligation for the Oversight Community to work with the Validator in the Probation state to ensure the bail request is submitted and that consensus is reached on the voting. If consensus cannot be reached within the Oversight Community has the right to submit a jail request and begin the process again.

2.1.4.4 Oversight Community member compensation

The Oversight Community members should not be allocating Engagement Rewards to themselves as this could create conflicts of interest. For the work done the Oversight Community member who submits a proposal is paid 100 TGD. Clearly there are checks and balances within the Oversight Community should a member begin submitting spurious proposals in order to generate rewards. This mechanism should be reviewed once Tgrade is in operation to ensure the reward system is proportionate and whether it is appropriate.

2.2 Arbiter Pool

Dispute Resolution via Arbiter Pool tribunals is designed as a check and balance to the Oversight Community and is limited to breaches of rules set out in the constitution, and not as a general-purpose court.

The principle behind the dispute resolution mechanism is that both parties (comprising of an individual participant acting as the claimant and the Oversight Community as a collective Committee being the respondent) are bound by the decision, and that the decision is made by people. Additionally the parties agree that the decision made is final and they undertake not to take the issue to any other tribunal such as a local, national court.

The arbiter pool is a self-sovereign pool of arbiters and the arbiters are screened off-chain by the community.

There is a pool of arbiters who can be called on to adjudicate a dispute. The selection of arbitrators is done by the Arbiter Pool who consider possible conflicts of interest and availability of arbiters. Both parties in a dispute agree to the final binding decision made by the Arbiter. The parties will deposit a fee for the service, which on conclusion of the dispute is allocated to the Arbiter(s) involved in the case.

In addition, the arbiters may be called on to make a reasoned decision either in the case of a dispute or a non-contentious application for guidance where an area of the constitution is not clear or needs interpreting. The decision is published to a repository so there is a clear and transparent record of the decisions made, and where appropriate transcripts of the reasoning.

The management of the Arbiter Pool membership follows the mechanism of the self-sovereign committee.

2.2.1 Submit a dispute

A dispute is raised by two or more parties who consent to abide by the decision of the arbiter and to not seek further review from external tribunals, the case documents are lodged and encrypted, with the hash being submitted as part of the dispute.

The arbiter sums up the case and applies the appropriate decision, thus providing documented clarifications on the constitutional matter and the reasoning behind it, thus providing "case law" or precedents.

While they have little-to-no direct on-chain impact, they provide guidelines that various committees should follow and can be the basis for justifying needed software upgrades.

2.2.2 Decision

The mechanism of decision-making is for the Arbiter Pool to decide. The published decisions are published to an open, accessible location for transparency, however, the names of the individual participant who raised the dispute will not be disclosed.

2.2.3 Arbiter Pool compensation

The allocation of compensation paid to the Arbiter Pool is important to ensure that their time spent in producing reasoned decisions is rewarded. There is a strong case for a "wait and see" approach to compensating the Arbiter Pool, an initial flat fee reward of 100TGD is a good starting point until a better system is established. There needs to be room for a variable amount to reflect time spent on the activities, but this should not be set by the Arbiter Pool, nor the Oversight community. The mechanism could be an initial estimate on how much time is required that forms a proposal to be voted on by token holders.