

title: [TEMP CHECK] Safety Module Upgrade Part III - Enable gauges on BPT in Safety Module (smBPT)

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Summary

This publication presents the community with an opportunity to improve the capital efficiency of the Safety Module (SM) by enabling deposits to earn yield from other protocols and discuss the smBPT gauges proposal.

Abstract

The previous proposal presented the community with the opportunity to include LP positions in the SM. Those same LP positions can be deposited into other protocols to earn yield without the prospect of being slashed. These alternative investment options create an opportunity cost and act as a minimum APY hurdle rate when considering investing in Aave's SM.

This publication presents an opportunity to enable participants in the Aave SM to earn rewards from other protocols whilst providing a backstop to Aave. The inclusion of GHO pools further helps provide sustained liquidity in the market and generate revenue for Aave through GHO's borrow rate.

This introduces the prospect of increasing the sustainability of the SM by enabling rewards to scale with TVL over time which is currently solely dependent upon AAVE's price correlation with the SM's TVL given the fixed distribution limitation.

This proposal will discuss the differences between "classic" gauges and specific ones ("smBPT gauges") as outlined in the [intro post](#), and will introduce the strategy.

Motivation

The Balancer Liquidity Mining system is an automated program which governs the minting of all BAL tokens based on on-chain voting by veBAL holders. veBAL is obtained by joining the canonical 80/20 BAL/ETH Weighted Pool and then locking the Pool shares token (often called BPT, for 'Balancer Pool Token') for a time duration up to 1 year. The longer the 80/20 BPT is locked for, the more veBAL and voting power is obtained.

Balancer token emission is currently at 121,930 BAL/week and decreases linearly each year.

veBAL holders can vote each week to redirect part of these incentives to the pool of their choice.

At the time of writing, 1 veBAL can redirect 0.01187 BAL /veBAL vote/week (\$0.0851).

By using the voting power & voting incentives, it is possible to either leverage better rewards for the similar \$\$ cost or similar APR rewards with reduced cost. Our calculations are based on delivering a similar APR to users whilst reducing the overall dollar spend on the SM.

Like Curve, the APR of liquidity pools staked on Balancer (BPT-XX-gauge) can be boosted up 2.5x depending on several parameters, such as veBAL boost holdings, value deposited, total TVL of the pool etc. However, having the max boost requires a huge amount of veBAL, which most projects don't have.

While they can still buy boosts on Marketplace like Warden, it can be expensive and potentially limitate the strategy profitability. However, there are projects accumulating a considerable amount of veTokens to mutualize the boost, improving the yield for depositors.

Aura Finance is the biggest on the Balancer ecosystem with [27% of the veBAL held by the protocol](#) These holdings are utilized to boost the users deposits (Most of the pools are currently boosted ~1.4x).

It's important to note that 25% of all BAL earned on Aura are captured by the protocol, which distributes AURA rewards in return, the Aura Finance governance token. More details on the AURA distribution can be found [here](#).

The AURA token can be locked for 4 months for vAURA without decay on the voting power, which allows to participate on Aura Governance, Balancer gauges votes as it controls the underlying veBAL voting power, and can receive rewards in auraBAL & vote incentives. At this time, 1 vAURA controls 0.2081 veBAL. Once a gauge is voted on Balancer, the pool is added on Aura Finance in the following days.

The goal of this proposal is to consider staking the LPs deposited in the SM on Aura Finance, to receive BAL + AURA rewards distributed to SM depositors. However, there are different possibilities to reach this goal:

“Classic” gauges mechanism

After a liquidity pool is created, an application is shared on the respective communities governance forum to create a gauge. Upon creation, users are able to deposit their LPs into the gauges to earn rewards.

Projects like Aura Finance receive the BPTs, deposit them into the Balancer gauge and retain a portion of the BAL emission in exchange of their own governance token. Users receive an elevated yield to reward users for the additional smart contract risk and premium for replacing BAL with AURA. Aave could deploy contracts within the SM that extends this concept and enable users to receive Aura Finance and Balancer rewards.

Most projects are proposing to enable the gauge on the BPT assets. This works quite well because they are creating vote incentives (often with their native token) to acquire votes in veBAL & wrappers, directing more rewards to the pool, making it attractive for the community to deposit liquidity.

However, if Aave's SM was to accept the BPT directly and not deposit the BPT into the Balancer Gauge. Any users could deposit & stake their BPT to receive BPT-gauge without depositing in the SM, allowing them to bypass the SM lock period and cooldown to receive the same incentives as SM depositors, so classic gauges invalidates the strategy

This would create a huge dilution for Aave, which is a large issue when the liquidity also doubles as protocol insurance. If Aave was to offer the same APR as Aura Finance there is no incentive for users to take on the additional shortfall and cool down period lock up risk/opportunity cost.

In Part IV, the SM upgrade proposal will consider using 75% of the current incentives budget for volatile & stable BPTs categories. That's 825 AAVE/ day that could either be used to incentivize the pools directly (Not recommended to keep doing liquidity mining for all categories) or to create vote incentives for the associated gauges driving a higher rewards value to the pools.

This method can still be used for main liquidity pools outside of the SM, but to keep the proposed strategy profitable for Aave, an alternative could be what this publication will refer to as “smBPT gauges” which is a suggestion from Solarcurve.

“smBPT gauges mechanism”

The method requires implementing a wrapper in the safety module. The SM contract receives BPT from users, and deposits in the wrapper contract which would mint smBPT received by the SM.

Instead of enabling gauges that accept the BPT, Balancer can approve BAL emissions to gauges which accept the smBPT. Users would have the option to deposit the BPT into Aave's SM to mint smBPT which will be deposited on Aura Finance which then deposits the smBPT into the Balancer gauge.

This means that any users could deposit liquidity and receive the trading fees on the underlying Balancer pools, but only users who stake their BPT in the SM would be eligible to gauge rewards.

If the smBPT gauges are approved by the Balancer DAO, Aura Finance will implement the pools associated with these gauges. The gauges will only accept smBPT. This eliminates the opportunity cost as users can not deposit into Aura Finance or Balancer's gauge directly and avoid the slashing plus cool down risk. Considering that the SM would mint the smBPT internally, it would be the only contract available to stake on this gauge.

Once deposited, the SM contract would receive “aurasmBPT-gauge” and mint “StkaurasmBPT-gauge” distributed to the initial BPT depositors.

If a user wants to withdraw from the SM, he would activate the cooldown period. The SM contract would then burn the “aurasmBPT-gauge” by unstaking from Aura Finance to receive smBPT. It would then unlock and distribute the BPT as well as burn the smBPT and “StkaurasmBPT-gauge” once the withdrawal is done.

At this point, and while several aspects of the proposals have been updated since the strategy introduction post, this chart should help understand and visualize the overall strategy described.

Considering that the veBAL voting power held by Aave is not enough to sustain these pools with good TVL, the goal is to use part of the SM rewards budget as votes incentives.

The part IV of this proposal will focus on incentives management updates and details on estimations made, while the part V will be mostly about further considerations.

smBPT Risks

To implement interoperability and integrate different protocols, several changes are needed, which will result in the upgraded SM contracts having greater smart contract risk than in the current implementation. Introducing smBPT to the SM creates additional Balancer gauge and Aura smart contract risk exposure.

The current ABPT integration demonstrates the community's willingness to have exposure to the Balancer protocol within the SM. Aave further demonstrated confidence in the Balancer <> Aave partnership via the token swap performed during 2022. Since then, Balancer has launched several liquidity pools which deposit funds in Aave v3 across several networks. Further, BGD has already proposed upgrading to Balancer V2 and Aave Companies have recently [proposed including BPT assets as collateral](#).

Aave and Balancer have been working together since the launch of the Safety Module. Further, BGD has already proposed upgrading to Balancer V2 and Aave Companies have recently [proposed including BPT assets as collateral](#).

Aura Finance is a protocol built on top of the [Balancer system](#) to provide maximum incentives to Balancer liquidity providers and BAL stakers (into [veBAL](#)) through social aggregation of BAL deposits and Aura's native token. Even if the protocol is relatively young (launched on June 3, 2022), the team has an extensive focus on security, having run 3 [audits](#): [Peckshield](#), [Halborn](#), [Code4rena](#)

Aura started a \$1 million [bug bounty program on Immunefi](#) on June 16, 2022 and to date, no vulnerabilities have been found.

Moreover, Aura was given a rating of [88% from DeFiSafety](#) which also suggested improvements to protocol documentation (actively being worked on now by contributors).

Finally, some security researchers and developers are closely looped into Aura via its multisig, and general protocol oversight.

Smart Contract Considerations

Aave Governance as admin, can perform the following:

- Add/remove assets into the SM
- Invoke Emergency power to withdraw of all funds deployed by the SM on Aura
- Update reward budget influencing the SM yield
- Update the slashing parameters & associated yield ranges

Aave SM as admin, can perform the following:

- Receive BPT and mint smBPT
- Deposit/withdraw smBPT from Aura
- Mint/Burn smBPT and aurasmBPT-XX-gauge
- Claim BAL & AURA rewards
- Redistribute the rewards to StkaurasmBPT-XX-gauge or StkTokens holders (This can probably done weekly/bi-weekly)

Technical Specifications

- Deploy wrapper contract to wrap BPT into smBPT (BGD)
- Enable gauges on smBPT voted in Part I & II. (Llama)
- Enable SM Staking on Aura for Volatile & Stables LP categories (Llama)
- Add rewards management & redistribution mechanism (BGD)

Voting Options

YAE - Implement smBPT gauges & Aura Staking

NAE - Implement classic BPT gauges

ABSTAIN

Disclaimer

The Llama is not compensated by any of the mentioned communities outside of Aave.

Llama is an unpaid delegate within the Balancer ecosystem.

Members who contributed to this proposal are not angel investors or advisors to any of the mentioned communities but some do hold small holdings in those communities tokens.

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References

1. [\[TEMP CHECK\] Safety Module Update Part I - Migrate AAVE/wETH Balancer v1 Pool to Balancer v2](#)
2. [\[TEMP CHECK\] Safety Module Upgrade Part II - Asset Diversity, SM Categories & Slashing Updates](#)
3. [\[TEMP CHECK\] Safety Module Upgrade Part III - Enable gauges on BPT in Safety Module \(smBPT\)](#)
4. [\[TEMP CHECK\] Safety Module Upgrade Part IV - Incentives Management Upgrade](#)
5. [\[TEMP CHECK\] Safety Module Upgrade Part V - veToken Holding Management Framework](#)
6. [\[TEMP CHECK\] Safety Module Upgrade Part VI - Future considerations](#)