SECURITY AUDIT REPORT

JewelSwap liquid-stake
smart contract

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Disclaimer

The report makes no statements or warranties, either expressed or implied, regarding the security of the code, the information herein or its usage. It also cannot be considered as a sufficient assessment regarding the utility and safety of the code, bugfree status or any other statements of the contract.

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Terminology

Inherent risk: A risk for users that comes from a behavior inherent to the smart contract design.

Inherent risks only represent the risks inherent to the smart contract design, which are a subset of all the possible risks. **No inherent risk doesn't mean no risk.** It only means that no risk inherent to the smart contract design has been identified. Other kind of risks could still be present. For example, the issues not fixed incur risks for the users, or the smart contracts deployed as upgradeable also incur risks for the users.

Issue: A behavior unexpected by the users or by the project, or a practice that increases the chances of unexpected behaviors to appear.

Critical issue: An issue intolerable for the users or the project, that must be addressed.

Major issue: An issue undesirable for the users or the project, that we strongly recommend to address.

Medium issue: An issue uncomfortable for the users or the project, that we recommend to address.

Minor issue: An issue imperceptible for the users or the project, that we advise to address for the overall project security.

Audit Summary

Scope of initial audit

- **Repository:** https://github.com/icegriffinguru/jewel-liquid-stake-sc/
- **Commit:** `17113f13bcda1f007800b59a39113422f7b4b0bc`
- **Path to Smart contract:** `./jewel-egld-stake/`

Scope of final audit

- **Repository:** https://github.com/JewelSwapXFinance/jewel-liquid-stake-sc
- **Commit:** `c1fefd4ac812fe69496e89c4f15244f129310ce6`
- **Path to Smart contract:** `./jewel-egld-stake/`

Report objectives

1. Reporting all **inherent risks** of the smart contract.
2. Reporting all **issues** in the smart contract **code**.
3. Reporting all **issues** in the smart contract **test**.
4. Reporting all **issues** in the **other** parts of the smart contract.
5. Proposing **recommendations** to address all issues reported.

2 inherent risks

0 issue remaining

19 issues reported in the initial audit and 0 remaining in the final audit:

Severity	Reported			Remaining		
	Code	Test	Other	Code	Test	Other
Critical	2	0	0	0	0	0
Major	6	0	0	0	0	0
Medium	6	1	0	0	0	0
Minor	4	0	0	0	0	0

Inherent Risks

R1: Users might not be able to convert back their JWLEGLD to EGLD at a 1:1 ratio.

More specifically, a part of deposited EGLD (~90% at the moment) is delegated to staking providers and can always be converted back at a 1:1 rate, but the rest (~10% at the moment) is used as liquidity in AshSwap JWLEGLD-EGLD farm to increase the yield, which can't always be converted back at a 1:1 rate because the JWLEGLD-EGLD pool is subject to price change, protocol fees and impermanent loss.

R2: Users earn rewards only from 90% of their deposited EGLD.

This is because 10% of users EGLD are deposited in AshSwap JWLEGLD-EGLD farm, and the generated rewards go to the protocol, not to users.

Code Issues & Recommendations

Since the smart contract code is not open-source, only the remaining issues are published.

Test Issues & Recommendations

Since the smart contract code is not open-source, only the remaining issues are published.