



METATRUST

Draft  
Security Assessment for  
**79-2022-01-trader-joe  
(10K-FLP)**

July 23, 2023






## Executive Summary

Overview			
Project Name	79-2022-01-trader-joe (10K-FLP)		
Codebase URL	https://github.com/code-423n4/2022-01-trader-joe		
Scan Engine	AI Analyzer		
Scan Time	2023/07/23 23:28:14		
Commit Id	23e068b		

Total			
Critical Issues	0	Critical Issues	The issue can cause large economic losses, large-scale data disorder, loss of control of authority management, failure of key functions, or indirectly affect the correct operation of other smart contracts interacting with it.
High risk Issues	1	High Risk Issues	The issue puts a large number of users' sensitive information at risk or is reasonably likely to lead to catastrophic impacts on clients' reputations or serious financial implications for clients and users.
Medium risk Issues	0	Medium Risk Issues	The issue puts a subset of users' sensitive information at risk, would be detrimental to the client's reputation if exploited, or is reasonably likely to lead to moderate financial impact.
Low risk Issues	0	Low Risk Issues	The risk is relatively small and could not be exploited on a recurring basis, or is a risk that the client has indicated is low-impact in view of the client's business circumstances.
Informational Issues	0	Informational Issue	The issue does not pose an immediate risk but is relevant to security best practices or Defence in Depth.



	Critical Issues	0%	0
	High risk Issues	100%	1
	Medium risk Issues	0%	0
	Low risk Issues	0%	0
	Informational Issues	0%	0

## Summary of Findings

MetaScan security assessment was performed on **July 23, 2023 23:28:14** on project **79-2022-01-trader-joe (10K-FLP)** with the repository **<https://github.com/code-423n4/2022-01-trader-joe>** on branch **default branch**. The assessment was carried out by scanning the project's codebase using the scan engine **AI Analyzer**. There are in total **1** vulnerabilities / security risks discovered during the scanning session, among which **0** critical vulnerabilities, **1** high risk vulnerabilities, **0** medium risk vulnerabilities, **0** low risk vulnerabilities, **0** informational issues.

ID	Description	Severity
MSA-001	MWE-200: Insecure LP Token Value Calculation	High risk



## Findings

### Critical (0)

No Critical vulnerabilities found here

### High risk (1)

## 1. MWE-200: Insecure LP Token Value Calculation

 High risk Security Analyzer

Liquidity token value/price can be manipulated to cause flashloan attacks.

### File(s) Affected

contracts/RocketJoeStaking.sol #158-176

```
158     function updatePool() public {
159         if (block.timestamp <= lastRewardTimestamp) {
160             return;
161         }
162         uint256 joeSupply = joe.balanceOf(address(this));
163         if (joeSupply == 0) {
164             lastRewardTimestamp = block.timestamp;
165             return;
166         }
167         uint256 multiplier = block.timestamp - lastRewardTimestamp;
168         uint256 rJoeReward = multiplier * rJoePerSec;
169         accRJoePerShare =
170             accRJoePerShare +
171             (rJoeReward * PRECISION) /
172             joeSupply;
173         lastRewardTimestamp = block.timestamp;
174
175         rJoe.mint(address(this), rJoeReward);
176     }
```

contracts/RocketJoeStaking.sol #116-135

```
116     function withdraw(uint256 _amount) external {
117         UserInfo storage user = userInfo[msg.sender];
118         require(
119             user.amount >= _amount,
120             "RocketJoeStaking: withdraw amount exceeds balance"
121         );
122
123         updatePool();
124
125         uint256 pending = (user.amount * accRJoePerShare) /
126             PRECISION -
127             user.rewardDebt;
128
129         user.amount = user.amount - _amount;
130         user.rewardDebt = (user.amount * accRJoePerShare) / PRECISION;
131
132         _safeRJoeTransfer(msg.sender, pending);
133         joe.safeTransfer(address(msg.sender), _amount);
134         emit Withdraw(msg.sender, _amount);
135     }
```

### Recommendation

Do not use AMM pool or custom liquidity calculation to calculate LP token value/price.

No Medium risk vulnerabilities found here

### **Low risk (0)**

No Low risk vulnerabilities found here

### **Informational (0)**

No Informational vulnerabilities found here

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