

**Blockchain Security | Smart Contract Audits** 

MADE IN GERMANY

# Audit Passed

Security Assessment 27. June, 2021

For



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## **Overview**

#### Network

Binance Smart Chain (BEP20)

#### Website

https://www.pofy.net/

#### **Telegram**

https://t.me/PofyCoin

#### **Twitter**

https://twitter.com/PofyCoin

#### **Description**

POFY is an auto-staking coin on the Binance Smart Chain that redistributes 3% of each transaction amongst all POFY hodlers proportionally. Watch your balance rise by the minute without even lifting your finger. 5% of each transaction is also automatically injected into the liquidity pool, giving POFY protocol the fuel for continuous bullish momentum and raising the price floor.

#### **Project Engagement**

During the 25th of June, **POFY Team** engaged Solidproof.io to audit smart contracts that they created. The engagement was technical in nature and focused on identifying security flaws in the design and implementation of the contracts. **POFY Team** provided Solidproof.io with access to their code repository and whitepaper.





#### **Contract Link**

https://bscscan.com/address/ 0x68Ba4D4B726cBF1199A27a90Dcd72B360662abAf#code

## **Vulnerability & Risk Level**

Risk represents the probability that a certain source-threat will exploit vulnerability, and the impact of that event on the organization or system. Risk Level is computed based on CVSS version 3.0.

| Level         | Value   | Vulnerability   | Risk (Required Action)  |
|---------------|---------|---|---|
| Critical      | 9 - 10  | A vulnerability that can disrupt the contract functioning in a number of scenarios, or creates a risk that the contract may be broken.      | Immediate action to reduce risk level.                              |
| High          | 7 – 8.9 | A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way. | Implementation of corrective actions as soon aspossible.            |
| Medium        | 4 – 6.9 | A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.                                     | Implementation of corrective actions in a certain period.           |
| Low           | 2 – 3.9 | A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.       | Implementation of certain corrective actions or accepting the risk. |
| Informational | 0 – 1.9 | A vulnerability that have informational character but is not effecting any of the code.   | An observation that<br>does not determine a<br>level of risk        |

# Auditing Strategy and Techniques Applied

Throughout the review process, care was taken to evaluate the repository for security-related issues, code quality, and adherence to specification and best practices. To do so, reviewed line-by-line by our team of expert pentesters and smart contract developers, documenting any issues as there were discovered.

#### Methodology

The auditing process follows a routine series of steps:

- 1. Code review that includes the following:
  - i) Review of the specifications, sources, and instructions provided to SolidProof to make sure we understand the size, scope, and functionality of the smart contract.
  - ii) Manual review of code, which is the process of reading source code line-byline in an attempt to identify potential vulnerabilities.
  - iii) Comparison to specification, which is the process of checking whether the code does what the specifications, sources, and instructions provided to SolidProof describe.
- 2. Testing and automated analysis that includes the following:
  - i) Test coverage analysis, which is the process of determining whether the test cases are actually covering the code and how much code is exercised when we run those test cases.
  - ii) Symbolic execution, which is analysing a program to determine what inputs causes each part of a program to execute.
- 3. Best practices review, which is a review of the smart contracts to improve efficiency, effectiveness, clarify, maintainability, security, and control based on the established industry and academic practices, recommendations, and research.
- 4. Specific, itemized, actionable recommendations to help you take steps to secure your smart contracts.

## **Used Code from other Frameworks/Smart Contracts (direct imports)**

#### Imported packages:

- OpenZeppelin
  - Address
  - Ownable
  - SafeMatch
- Uniswap
  - UniswapV2Factory
  - UniswapV2Pair
  - UniswapV2Router01
  - UniswapV2Router02

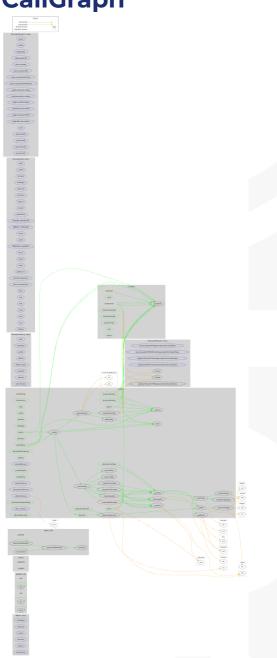
# Metrics Source Lines



#### **Capabilities**

| Solidity<br>Versions<br>observed | Experiment al Features | Can<br>Receive<br>Funds | Uses Assembly         | Has Destroyable Contracts |
|----------------------------------|------------------------|-------------------------|-----------------------|---------------------------|
| ^0.6.12                          |                        | yes                     | yes<br>(2 asm blocks) |                           |

#### **CallGraph**



### **Source Units in Scope**

| Туре                       | File               | Logic Contracts | Interfaces | Lines | nLines | nSLOC | Comment Lines | Complex. Score | Capabilities |
|----------------------------|--------------------|-----------------|------------|-------|--------|-------|---------------|----------------|--------------|
| <b>                   </b> | contracts/pofy.sol | 5               | 5          | 1165  | 885    | 509   | 334           | 527            | <b>■Š</b> *  |
| <b> ≥ ≥ ≥ ≥ ≥ ≥ ≥ ≥ ≥ </b> | Totals             | 5               | 5          | 1165  | 885    | 509   | 334           | 527            | <b>■</b> Šÿ  |

## **Audit Results**

## **AUDIT PASSED**

#### **Critical issues**

- no critical issues found -

#### **High issues**

- no high issues found -

#### **Medium issues**

- no medium issues found -

#### Low issues

- no low issues found -

#### Informational issues

- no informational issues found -

| Issue | File | Type  | Line | Description   |
|-------|------|---|------|---|
| #1    | Main | A floating pragma is set                            | 26   | The current pragma Solidity directive is ""^0.6.12""  |
| #2    | Main | Multiple calls are executed in the same transaction | 763  | This call is executed following another call within the same transaction. It is possible that the call never gets executed if a prior call fails permanently. |

### **SWC Attacks**

| ID                                   | Title  | Relationships  | Status |
|--------------------------------------|--|--|--------|
| <u>SW</u><br><u>C-13</u><br>1        | Presence of unused variables                                   | CWE-1164: Irrelevant Code  | PASSED |
| <u>SW</u><br><u>C-13</u><br><u>O</u> | Right-To-Left-<br>Override<br>control<br>character<br>(U+202E) | CWE-451: User Interface (UI) Misrepresentation of Critical Information | PASSED |
| <u>SW</u><br><u>C-12</u><br><u>9</u> | Typographical<br>Error   | CWE-480: Use of Incorrect Operator                                     | PASSED |
| <u>SW</u><br><u>C-12</u><br><u>8</u> | DoS With Block<br>Gas Limit                                    | CWE-400: Uncontrolled Resource Consumption                             | PASSED |
| <u>SW</u><br><u>C-12</u><br><u>7</u> | Arbitrary Jump<br>with Function<br>Type Variable               | CWE-695: Use of Low-Level Functionality                                | PASSED |
| <u>SW</u><br><u>C-12</u><br><u>5</u> | Incorrect<br>Inheritance<br>Order                              | CWE-696: Incorrect Behavior Order                                      | PASSED |
| <u>SW</u><br><u>C-12</u><br><u>4</u> | Write to<br>Arbitrary<br>Storage<br>Location                   | CWE-123: Write-what-where Condition                                    | PASSED |
| <u>SW</u><br><u>C-12</u><br><u>3</u> | Requirement<br>Violation                                       | CWE-573: Improper Following of Specification by Caller                 | PASSED |
| <u>SW</u><br><u>C-12</u><br><u>2</u> | Lack of Proper<br>Signature<br>Verification                    | CWE-345: Insufficient Verification of Data Authenticity                | PASSED |

| <u>SW</u><br><u>C-12</u><br><u>1</u> | Missing Protection against Signature Replay Attacks       | CWE-347: Improper Verification of Cryptographic Signature  | PASSED        |
|--------------------------------------|---|--|---------------|
| <u>SW</u><br><u>C-12</u><br><u>0</u> | Weak Sources<br>of Randomness<br>from Chain<br>Attributes | CWE-330: Use of Insufficiently Random Values   | PASSED        |
| <u>SW</u><br><u>C-11</u><br><u>9</u> | Shadowing<br>State Variables                              | CWE-710: Improper Adherence<br>to Coding Standards   | PASSED        |
| <u>SW</u><br><u>C-11</u><br><u>8</u> | Incorrect<br>Constructor<br>Name                          | CWE-665: Improper Initialization   | PASSED        |
| <u>SW</u><br><u>C-11</u><br><u>7</u> | Signature<br>Malleability                                 | CWE-347: Improper Verification of Cryptographic Signature  | PASSED        |
| <u>SW</u><br><u>C-11</u><br><u>6</u> | Timestamp<br>Dependence                                   | CWE-829: Inclusion of Functionality from Untrusted Control Sphere  | PASSED        |
| <u>SW</u><br><u>C-11</u><br><u>5</u> | Authorization<br>through<br>tx.origin                     | CWE-477: Use of Obsolete Function  | PASSED        |
| <u>SW</u><br><u>C-11</u><br><u>4</u> | Transaction<br>Order<br>Dependence                        | CWE-362: Concurrent  Execution using Shared  Resource with Improper  Synchronization ('Race  Condition') | PASSED        |
| <u>SW</u><br><u>C-11</u><br><u>3</u> | DoS with Failed<br>Call                                   | CWE-703: Improper Check or<br>Handling of Exceptional<br>Conditions                                      | NOT<br>PASSED |
| <u>SW</u><br><u>C-11</u><br><u>2</u> | Delegatecall to<br>Untrusted<br>Callee                    | CWE-829: Inclusion of Functionality from Untrusted Control Sphere  | PASSED        |

| <u>SW</u><br><u>C-111</u>            | Use of<br>Deprecated<br>Solidity<br>Functions | CWE-477: Use of Obsolete Function                                  | PASSED        |
|--------------------------------------|---|--|---------------|
| <u>SW</u><br><u>C-11</u><br><u>0</u> | Assert Violation                              | CWE-670: Always-Incorrect Control Flow Implementation              | PASSED        |
| <u>SW</u><br><u>C-10</u><br><u>9</u> | Uninitialized<br>Storage Pointer              | CWE-824: Access of Uninitialized Pointer                           | PASSED        |
| <u>SW</u><br><u>C-10</u><br><u>8</u> | State Variable<br>Default<br>Visibility       | CWE-710: Improper Adherence<br>to Coding Standards                 | PASSED        |
| SW<br>C-10<br>7                      | Reentrancy                                    | CWE-841: Improper Enforcement of Behavioral Workflow               | PASSED        |
| <u>SW</u><br><u>C-10</u><br><u>6</u> | Unprotected<br>SELFDESTRUC<br>T Instruction   | CWE-284: Improper Access Control                                   | PASSED        |
| <u>SW</u><br><u>C-10</u><br><u>5</u> | Unprotected<br>Ether<br>Withdrawal            | CWE-284: Improper Access Control                                   | PASSED        |
| <u>SW</u><br><u>C-10</u><br><u>4</u> | Unchecked Call<br>Return Value                | CWE-252: Unchecked Return Value                                    | PASSED        |
| <u>SW</u><br><u>C-10</u><br><u>3</u> | Floating<br>Pragma                            | CWE-664: Improper Control of<br>a Resource Through its<br>Lifetime | NOT<br>PASSED |
| <u>SW</u><br><u>C-10</u><br><u>2</u> | Outdated<br>Compiler<br>Version               | CWE-937: Using Components with Known Vulnerabilities               | PASSED        |
| <u>SW</u><br><u>C-10</u><br>1        | Integer<br>Overflow and<br>Underflow          | CWE-682: Incorrect Calculation                                     | PASSED        |

| <u>SW</u><br><u>C-10</u><br><u>0</u> | Function<br>Default<br>Visibility | CWE-710: Improper Adherence<br>to Coding Standards | PASSED |
|--------------------------------------|-----------------------------------|--|--------|
|--------------------------------------|-----------------------------------|--|--------|





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