# sec3™

Security Assessment Report

Unique Delegation Manager v0.1.1

February 8th, 2023

# Summary

The sec3 team (formerly Soteria) was engaged to do a thorough security analysis of the Unique Delegation Manager smart contract program on Solana. The artifact of the audit was the source code of the following on-chain smart contract excluding tests in a private repository.

The audit was done on the following contract

- **Contract "upl-delegation-manager":**
  - https://github.com/unqclub/unique-program-library/tree/38e6cbf/delegation-manager/program
  - Commit 38e6cbf2c20deda20117898a8bd432135300a1d9

The audit revealed 0 issues or questions.

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# Methodology and Scope of Work

The sec3 (formerly Soteria) audit team, which consists of Computer Science professors and industrial researchers with extensive experience in Solana smart contract security, program analysis, testing and formal verification, performed a comprehensive manual code review, software static analysis and penetration testing.

Assisted by the sec3 Scanner developed in-house, the audit team particularly focused on the following work items:

- Check common security issues.
    - Missing ownership checks
    - Missing signer checks
    - Signed invocation of unverified programs
    - Solana account confusions
    - Arithmetic over- or underflows
    - Numerical precision errors
    - Loss of precision in calculation
    - Insufficient SPL-Token account verification
    - Missing rent exemption assertion
    - Casting truncation
    - Did not follow security best practices
    - Outdated dependencies
    - Redundant code
    - Unsafe Rust code

- Check program logic implementation against available design specifications.

- Check poor coding practices and unsafe behavior.

- The soundness of the economics design and algorithm is out of scope of this work

# Result Overview

In total, the audit team found the following issues.

### CONTRACT UPL-DELEGATION-MANAGER v0.1.1

| Issue | Impact | Status |
|---|---|---|
| No issue found | | |

We recommend developers integrating upl-delegation-manager carefully review README, to make sure the implementation follows the principle "**Delegates don't have, under any circumstances, an option to operate assets on the master account**" explained there.

# DISCLAIMER

Founded by leading academics in the field of software security and senior industrial veterans, sec3 (formerly Soteria) is a leading blockchain security company that currently focuses on Solana programs. We are also building sophisticated security tools that incorporate static analysis, penetration testing, and formal verification.

At sec3, we identify and eliminate security vulnerabilities through the most rigorous process and aided by the most advanced analysis tools.

For more information, check out our website and follow us on twitter.

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