

Security by Design Project Overview

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Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

Outline

- Project Objectives
- Phases
 1. Assessment
 2. Concept Development and Testing
 3. Implementation
- Collaboration Expectations
- Conclusion

Project Objectives

1. Collaborative effort to identify and develop low-cost security enhancements that SQHL can incorporate into their designs to help mitigate the risk of source theft.
2. Enhancements should include barriers that detect and impede (delay) attempts at illicit removal of sources and sensors that reliably detect an unauthorized intrusion.
3. Encourage other manufacturers and the industry to adopt these proven security enhancements by reporting on the project results and status at industry events.

Phase 1: Assessment

| # | Activity | Responsible Party |
|---|---|-------------------|
| 1 | Conduct site assessments to characterize facilities, operations, and equipment. | SNL/SQHL |
| 2 | Conduct adversary “path analysis” to identify source removal methods and timeline estimates (establish baseline delay). | SNL |
| 3 | Develop initial security-by-design concepts | SNL/SQHL |
| 4 | Assessment Report: Analysis results and concepts | SNL |
| 5 | Review and feedback on report | SQHL |

Phase 2: Concept Development and Testing

| # | Activity | Responsible Party |
|---|---|-------------------|
| 1 | Refine designs and produce facility drawings | SQHL |
| 2 | Issue contract for manufacture of prototypes | SNL |
| 3 | Attack testing and validation of prototypes | SNL |
| 4 | Modify design based on testing results | SQHL |
| 5 | Create retrofit version for existing facilities | SQHL/SNL |
| 6 | Status Report: Findings, recommendations, lessons learned | SNL |
| 7 | Report status at industry venue | SQHL/SNL |

Phase 3: Implementation

| # | Activity | Responsible Party |
|---|---|-------------------|
| 1 | Identify new facility/customer for implementation | SQHL |
| 2 | Obtain agreement from licensee to receive enhanced design | SQHL |
| 3 | Pilot Installation | SQHL |
| 4 | Assessment of Pilot Installation | SNL/SQHL |
| 5 | Final Report: Findings, recommendations, lessons learned | SNL |
| 6 | Report status at industry venue | SNL/SQHL |



Collaboration Expectations

- SNL and SQHL will jointly collaborate ^{HCJ1} to develop security enhancements.
- SQHL will take the lead for refining the security concepts and integrating them into their design definition using their internal design software and processes.
- SQHL will be responsible for ensuring the design meets all product requirements, regulatory requirements, and industrial standards.
- SNL and SQHL will promote the enhancements within industry and encourage other manufacturers to adopt similar design modifications.

Slide 7

HCJ1

I suggest removing 'jointly'...there is no way to collaborate without it being jointly

Hartwigsen, Christian J, 10/29/2015

Conclusion

- We are excited and look forward to collaborating with SQHL and MEP to help improve global security.