Ontology-based Expert System for a Generic Drug Production of Pharmaceutical Dosage Forms

Traceability Record

By

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**Dr. Chartchai Doungsa-ard**

# Document History

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| --- | --- | --- | --- | --- | --- | --- |
| **Document Name** | **Version** | **Status** | **Date** | **Viewable** | **Reviewer** | **Responsible** |
| **Documents** | | | | | | |
| **OEGP – Traceability Record v.0.1.docx** | **0.1**   * URS and SRS * URS and Class diagram * URS and Sequence diagram * URS and User interface * Class diagram and sequence diagram | Draft | July 4, 2014 | NS, PW, CD | NS, PW | NS, PW |
| **OEGP – Traceability Record v.1.0.docx** | **1.0**   * Class diagram and Unit Test Case | Release | July 7, 2014 | NS, PW, CD | NS, PW | NS, PW |
| **OEGP – Traceability Record v.2.0.docx** | **2.0**   * Update the record | Release | October 21, 2014 | NS, PW, CD | NS, PW | NS, PW |

**[[1]](#footnote-1)**

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# Introduction

## Purpose

The purpose of traceability record for Ontology-based Expert System for a Generic Drug Production of Pharmaceutical Dosage Forms is to show the relation of the project. The traceability is linked between user requirements to system requirement specification, use case, sequence diagram and user interface design.

## Acronyms

|  |  |
| --- | --- |
| OEGP | Ontology-based Expert System for a Generic Drug Production of Pharmaceutical Dosage Forms |
| PDPO | Pharmaceutical Dosage Form Production Ontology |
| URS | User Requirement Specification |
| SRS | System Requirement Specification |
| CD | Class diagram |
| CD-CI | Class diagram For Client Side |
| CD-SV | Class diagram For Server Side. |
| SQD | Sequence Diagram |
| SQD-CI | Sequence Diagram For Client Side |
| SQD-SV | Sequence Diagram For Server Side |
| UI | User interface |
| SDD | Software Design Document |
| UTC-CI | Unit Test Case For Client Side |
| UTC-SV | Unit Test Case For Server Side |

## Traceability Matrix between URS/SRS

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 |
| SRS-01 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-02 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-03 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-04 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-05 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-06 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-07 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-08 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-09 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-10 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-11 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-12 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| SRS-13 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-14 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-15 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-16 |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-17 |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-18 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-19 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-20 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-21 |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 |
| SRS-22 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-23 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-24 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-25 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-26 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-27 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-28 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-29 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-30 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-31 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-32 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-33 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-34 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-35 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-36 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-37 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-38 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-39 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-40 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-41 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-42 |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-43 |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-44 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-45 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-46 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 |
| SRS-47 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-48 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-49 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-50 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-51 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-52 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-53 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-54 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-55 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-56 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-57 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-58 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-59 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-60 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-61 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-62 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-63 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-64 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-65 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-66 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-67 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-68 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-69 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-70 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-71 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 |
| SRS-72 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-73 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-74 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-75 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-76 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-77 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-78 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-79 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-80 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-81 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-82 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-83 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-84 |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |
| SRS-85 |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |
| SRS-86 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-87 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-88 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-89 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SRS-90 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SRS-91 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SRS-92 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SRS-93 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-94 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-95 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-96 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 |
| SRS-97 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-98 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-99 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-100 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-101 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-102 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-103 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-104 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-105 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-106 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-107 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SRS-108 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |
| SRS-109 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |
| SRS-110 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SRS-111 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SRS-112 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SRS-113 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SRS-114 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SRS-115 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SRS-116 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SRS-117 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-118 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-119 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-120 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 |
| SRS-121 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-122 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-123 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-124 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-125 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-126 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-127 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-128 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-129 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-130 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-131 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-132 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SRS-133 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |
| SRS-134 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |
| SRS-135 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SRS-136 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SRS-137 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SRS-138 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SRS-139 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SRS-140 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SRS-141 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SRS-142 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-143 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-144 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-145 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 |
| SRS-146 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-147 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-148 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-149 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| SRS-150 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |

## Traceability Matrix between URS/CD-CI

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ CD-CI | URS-06 | URS-07 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 |
| CD-CI-01 |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |
| CD-CI-02 |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |
| CD-CI-03 |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |
| CD-CI-04 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-CI-05 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |

## Traceability Matrix between URS/CD-SV

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ CD-SV | URS-06 | URS-07 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 |
| CD-SV-01 |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |
| CD-SV-02 |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |
| CD-SV-03 |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |
| CD-SV-04 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-SV-05 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |

## Traceability Matrix between URS/SQD-CI

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ SQD-CI | URS-06 | URS-07 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 |
| SQD-CI-01 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SQD-CI-02 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SQD-CI-03 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SQD-CI-04 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SQD-CI-05 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SQD-CI-06 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SQD-CI-07 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SQD-CI-08 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SQD-CI-09 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SQD-CI-10 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SQD-CI-11 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SQD-CI-12 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| SQD-CI-13 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-CI-14 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |

## Traceability Matrix between URS/SQD-SV

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ SQD-SV | URS-06 | URS-07 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 |
| SQD-SV-01 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SQD-SV-02 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SQD-SV-03 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SQD-SV-04 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SQD-SV-05 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SQD-SV-06 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SQD-SV-07 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SQD-SV-08 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SQD-SV-09 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SQD-SV-10 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SQD-SV-11 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SQD-SV-12 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| SQD-SV-13 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-SV-14 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |

## Traceability Matrix between URS/UI

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ UI | URS-06 | URS-07 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 |
| UI-01 |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |
| UI-02 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UI-03 |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |
| UI-04 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| UI-05 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| UI-06 |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |
| UI-07 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UI-08 |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |
| UI-09 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| UI-10 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| UI-11 |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |
| UI-12 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UI-13 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |
| UI-14 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| UI-15 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| UI-16 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-17 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-18 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-19 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-20 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |

## Traceability Matrix between CD-CI/SQD-CI

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CD-CI/ SQD-CI | CD-CI-01 | CD-CI-02 | CD-CI-03 | CD-CI-04 | CD-CI-05 |
| SQD-CI-01 | ✓ |  |  |  |  |
| SQD-CI-02 | ✓ |  |  |  |  |
| SQD-CI-03 | ✓ |  |  |  |  |
| SQD-CI-04 | ✓ |  |  |  |  |
| SQD-CI-05 |  | ✓ |  |  |  |
| SQD-CI-06 |  | ✓ |  |  |  |
| SQD-CI-07 |  | ✓ |  |  |  |
| SQD-CI-08 |  | ✓ |  |  |  |
| SQD-CI-09 |  |  | ✓ |  |  |
| SQD-CI-10 |  |  | ✓ |  |  |
| SQD-CI-11 |  |  | ✓ |  |  |
| SQD-CI-12 |  |  | ✓ |  |  |
| SQD-CI-13 |  |  |  | ✓ |  |
| SQD-CI-14 |  |  |  |  | ✓ |

## Traceability Matrix between CD-SV/SQD-SV

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CD-SV/ SQD-SV | CD-SV-01 | CD-SV-02 | CD-SV-03 | CD-SV-04 | CD-SV-05 |
| SQD-SV-01 | ✓ |  |  |  |  |
| SQD-SV-02 | ✓ |  |  |  |  |
| SQD-SV-03 | ✓ |  |  |  |  |
| SQD-SV-04 | ✓ |  |  |  |  |
| SQD-SV-05 |  | ✓ |  |  |  |
| SQD-SV-06 |  | ✓ |  |  |  |
| SQD-SV-07 |  | ✓ |  |  |  |
| SQD-SV-08 |  | ✓ |  |  |  |
| SQD-SV-09 |  |  | ✓ |  |  |
| SQD-SV-10 |  |  | ✓ |  |  |
| SQD-SV-11 |  |  | ✓ |  |  |
| SQD-SV-12 |  |  | ✓ |  |  |
| SQD-SV-13 |  |  |  | ✓ |  |
| SQD-SV-14 |  |  |  |  | ✓ |

## Traceability Matrix between CD-CI/ UTC-CI

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CD-CI/ UTC-CI | CD-CI-01 | CD-CI-02 | CD-Ci-03 | CD-CI-04 | CD-Ci-05 |
| UTC-CI -01 | ✓ |  |  |  |  |
| UTC-CI -02 | ✓ |  |  |  |  |
| UTC-CI -03 | ✓ |  |  |  |  |
| UTC-CI -04 | ✓ |  |  |  |  |
| UTC-CI -05 |  | ✓ |  |  |  |
| UTC-CI -06 |  | ✓ |  |  |  |
| UTC-CI -07 |  | ✓ |  |  |  |
| UTC-CI -08 |  | ✓ |  |  |  |
| UTC-CI -09 |  | ✓ |  |  |  |
| UTC-CI -10 |  | ✓ |  |  |  |
| UTC-CI -11 |  |  | ✓ |  |  |
| UTC-CI -12 |  |  | ✓ |  |  |
| UTC-CI -13 |  |  | ✓ |  |  |
| UTC-CI -14 |  |  | ✓ |  |  |
| UTC-CI -15 |  |  | ✓ |  |  |
| UTC-CI -16 |  |  |  | ✓ |  |
| UTC-CI -17 |  |  |  |  | ✓ |
| UTC-CI -18 |  |  |  |  | ✓ |

## Traceability Matrix between CD-SV/ UTC-SV

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CD-SV/ UTC-SV | CD-SV-01 | CD-SV-02 | CD-SV-03 | CD-SV-04 | CD-SV-05 |
| UTC-SV -01 | ✓ |  |  |  |  |
| UTC-SV -02 | ✓ |  |  |  |  |
| UTC-SV -03 | ✓ |  |  |  |  |
| UTC-SV -04 | ✓ |  |  |  |  |
| UTC-SV -05 | ✓ |  |  |  |  |
| UTC-SV -06 |  | ✓ |  |  |  |
| UTC-SV -07 |  | ✓ |  |  |  |
| UTC-SV -08 |  | ✓ |  |  |  |
| UTC-SV -09 |  | ✓ |  |  |  |
| UTC-SV -10 |  | ✓ |  |  |  |
| UTC-SV -11 |  |  | ✓ |  |  |
| UTC-SV -12 |  |  | ✓ |  |  |
| UTC-SV -13 |  |  | ✓ |  |  |
| UTC-SV -14 |  |  | ✓ |  |  |
| UTC-SV -15 |  |  |  |  | ✓ |
| UTC-SV -16 |  |  |  |  | ✓ |
| UTC-SV -17 |  |  |  |  | ✓ |
| UTC-SV -18 |  |  |  |  | ✓ |
| UTC-SV -19 |  |  |  |  | ✓ |
| UTC-SV -20 |  |  |  | ✓ |  |

1. NS – Narongrit Saisuwan , PW – Panupak Wichaidit , CD - Chartchai Doungsa-ard [↑](#footnote-ref-1)