**CACIE Tool** **#08a –** **CA *RET Input Generator (******CA\_RET\_input\_gen.f)***

**Version** **1.0**

**QA**: **TEST** or **NA** or **QA**

1. **Description and Purpose**

One or two paragraphs describing the tool’s function and purpose.

The CA RET Input Generator tool reads an SS input file, modifies the Simulation Title Card, Solution Control Card, and Initial Conditions Card, and replaces the RET SS input with the transient RET input.

1. **Functional Requirements**

The functional requirements of the tool will be documented in this section. Each requirement will have an ID, such as: FR-N, where N starts at 1 and increments for each Functional Requirement. Each of the Functional Requirement IDs will have a corresponding test ID listed in the RTM.

The functional requirements for the CA RET Input Generator tool are as follows:

FR-1b: read in SS input file

FR-2b: modify the Simulation Title Card

FR-3b: modify the Solution Control Card

FR-4b: modify the Initial Conditions Card

FR-5b: read in ca\_tr\_boundary\_card.dat file

FR-6b: replace RET SS input with transient RET input

FR-7b: generate input\_CA-RET file

1. **Software Requirements Specifications**

The software requirements specification of the tool will be documented in this section.

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1. **Software Design Description**

The software design description of the tool will be documented in this section. The results of a Code Walkthrough with an independent third party will be summarized in this section.

05b – CA RET Input Generator—  
Inputs:  
../ss/input\_SS  
../ret/ca\_tr\_boundary\_card.dat

Outputs:  
input\_CAT-RET

.sh: create\_CA\_RET\_input\_file.sh

* ../../tools/ca-modinput/CA-RET\_input\_gen.exe

1. **Requirements Traceability Matrix**

A requirements traceability matrix for the tool will be documented in this section. At a minimum, the matrix will include IDs of: Functional Requirements and the corresponding Acceptance Test, along with an indication of the test result (Pass/Fail).

Table 1 presents the requirements traceability matrix for the CA RET Input Generator tool.

| **Table 1. CA RET Input Generator Tool Requirements Traceability Matrix** | | |
| --- | --- | --- |
| **Functional Requirement** | **Acceptance Test** | **Test Result (Pass/Fail)** |
| FR-1a |  |  |
| FR-2a |  |  |
| FR-3a |  |  |
| FR-4a |  |  |
| FR-5a |  |  |
| FR-6a |  |  |
| FR-7a |  |  |

1. **Test Plan and Cases**

The test plan for the tool will be documented in this section. Each test will have a unique ID and criteria for determining if the test result is pass or fail. The TEST ID will be referenced in the RTM and ATR. An installation test, labeled **IT-1**, will be used by the Tool Runner to confirm the version of the tool being used is running correctly before launching it with the user’s parameters.

The Unit Testing done on the tool will be documented here, also.

The test plan for the CA RET Input Generator tool is as follows.

| **Table 6. CA RET Input Generator Tool Test Plan** | | |
| --- | --- | --- |
| **TEST ID** | **Test Case** | **Test Result (Pass/Fail)** |
| IT-1 | Installation Test |  |
| ATC-X |  |  |
| ATC-X |  |  |

See attachments for the acceptance test case test logs.

1. **Acceptance Test Report**

The test report will state whether the tool is qualified for use, summarize test case results, and report all resolved incidents and resolution of unresolved incidents.

1. **User Guide**

A guide for using the tool will be documented in this section.