**CACIE Tool #07.1** – ***Z-Profile (ca-zplot2profile.pl)***

**Version** **1.0**

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

1. **Description and Purpose**

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

Creates z profiles of plot variables from STOMP plot files for ease of plotting.

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.

FR-1: Open STOMP file

FR-2: Extract year, find number of nodes, and dataset (?) from STOMP file

FR-3: Write profile to output 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.

Arguments:

STOMP plot file

I cord and J cord

Output profile

Output files:

Output profile

.sh file: runzprof.sh

* perl ../../tools/ca-zprofile/ca-zplot2profile.pl plot.nnn aa bb plts/ModelName\_ss\_plot\_nnn\_iaa\_jbb\_
* Command line variables are 1) name of the 10,000-yr STOMP steady-state plot file, 2) i-index of the location to plot, 3) j-index of the location to plot, and 4) prefix for the output file name. Writes files to the .../ss/plts directory.

Create a copy of the following line for each location to be plotted; Modify command line variables for each location:  
1) replace nnn with plot file number  
2) replace aa with node i-index  
3) replace bb with node j-index  
4) replace ModelName with your model name, nnn with plot number and aa bb with index numbers

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 Z-Profile tool.

| **Table 1. Z-Profile Tool Requirements Traceability Matrix** | | |
| --- | --- | --- |
| **Functional Requirement** | **Acceptance Test** | **Test Result (Pass/Fail)** |
| FR-1 |  |  |
| FR-2 |  |  |
| FR-3 |  |  |

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 Z-Profile tool is as follows.

| **Table 2. Z-Profile Tool Test Plan** | | |
| --- | --- | --- |
| **TEST ID** | **Test Case** | **Test Result (Pass/Fail)** |
| IT-1 | Installation Test |  |
| ATC-X |  |  |
| ATC-X |  |  |

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.