QA: N/A
50040-UM-03-6.0-00
October 2007

# Glossary for the Total System Model Version 6.0

Prepared for:
U.S. Department of Energy
Office of Civilian Radioactive Waste Management
1000 Independence Avenue, SW
Washington, D.C. 20585

Prepared by:
Bechtel SAIC Company, LLC
1180 Town Center Drive
Las Vegas, Nevada 89144

Under Contract Number
DE-AC28-01RW12101

## DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

# GLOSSARY FOR THE TOTAL SYSTEM MODEL VERSION 6.0

50040-UM-03-6.0-00

October 2007

| | | |
|---|---|---|
| Prepared by: | Lisa M. Hall | 10.31.2007<br>Date |
| | Russell deCastongrene | 10/31/07<br>Date |
| Checked by: | Stephen L. Turner | 10-31-2007<br>Date |
| Reviewed by: | Scott G. Gillespie | 11/02/2007<br>Date |
| Approved by: | David Siefken<br>Manager, Waste Management Integration | 11/05/07<br>Date |

INTENTIONALLY LEFT BLANK

## REVISION HISTORY

| Revision No. | Interim Change No. | Date | Description |
|---|---|---|---|
| 00 | 0 | 10/2007 | Original Issue for TSM Version 6.0, SimCAD™ 7.1, Build 1235. |

INTENTIONALLY LEFT BLANK

## CONTENTS

Page

1. INTRODUCTION ..... 1
   1.1 GENERAL ..... 1
   1.2 CONFIGURATION ITEMS ..... 2
   1.3 CHANGES FOR TSM VERSION 6.0 ..... 3
2. OBJECT GLOSSARY ..... 5
3. PROCESS GLOSSARY ..... 13
4. VARIABLE GLOSSARY ..... 53
5. SITE GLOSSARY ..... 71
6. RESOURCE GLOSSARY ..... 75
7. REFERENCES ..... 77
   7.1 DOCUMENTS CITED ..... 77
   7.2 CODES, STANDARDS, REGULATIONS, AND PROCEDURES ..... 77

INTENTIONALLY LEFT BLANK

## ACRONYMS

| | |
|---|---|
| B | Barge, BWR |
| BSC | Bechtel SAIC Company, LLC |
| BWR | Boiling Water Reactor |
| CaS | Create-a-Soft™ |
| CMPP | Configuration Management and Maintenance Plan |
| CRWMS | Civilian Radioactive Waste Management System |
| CRCF | Canister Receipt and Closure Facility |
| CSNF | Commercial Spent Nuclear Fuel |
| D | DPC, Defense, DOE SNF |
| DOE | U.S. Department of Energy |
| DPC | Dual-Purpose Canister |
| DOE SNF | DOE Spent Nuclear Fuel |
| DTF | Dry Transfer Facility |
| FMF | Fleet Maintenance Facility |
| GROA | Geologic Repository Operations Area |
| GUI | Graphical User Interface |
| HH | Heavy Haul |
| HLW | High-Level Radioactive Waste |
| IHF | Initial Handling Facility |
| IMF | Intermodal Facility |
| IS | Initial State |
| L | Long (assembly or WP) |
| LWT | Legal Weight Truck |
| MTHM | Metric Tons of Heavy Metal |
| MGR | Monitored Geologic Repository |
| MPC | Multi-Purpose Canister |
| MSC | Monitored Geologic Repository Site-Specific Cask |
| MTU | Metric Tons of Uranium |
| N | Naval |
| N/A | Not applicable |

## ACRONYMS (CONTINUED)

| | |
|---|---|
| OV | Overpack |
| | |
| P | PWR |
| PWR | Pressurized Water Reactor |
| | |
| R | Rail |
| RF | Receipt Facility |
| | |
| SNF | Spent Nuclear Fuel |
| SRTC | Site Rail Transfer Cart |
| SSC | Site-Specific Cask |
| STP | South Texas Project |
| | |
| T | Truck |
| TAD | Transportation, Aging, and Disposal |
| TSC | Transportable Storage Casks |
| TSM | Total System Model |
| TSMCC | TSM Control Center |
| TSMPP | TSM Pre-Processor |
| | |
| UM | User Manual |
| | |
| V | Version |
| VB | Visual Basic |
| VSM | Value Stream Map |
| | |
| WHF | Wet Handling Facility |
| WP | Waste Package |

See the Site List for Acronyms used for the Waste Sites

# 1. INTRODUCTION

## 1.1 GENERAL

This manual contains glossaries of the various objects, processes, variables, and waste sites used in the Total System Model (TSM) Version (V) 6.0. See the TSM User Manual (UM) (BSC 2007a) and the supporting documents (BSC 2007b through BSC 2007f) for more details on the TSM design and operation.

Brief information on how the items are used in the TSM is also provided. The main elements that are used in the model are defined and set in the "Process Flow" dialog box under the "Properties" tab of the SimCAD™ TSM main window. The primary elements set in the Flow Properties are the variables, objects, resources, and carriers used in the process. These items can control the flow of the simulation and the objects and carriers are the items that are dynamically moved and controlled through the defined logistics of the TSM during each simulation time step or "tick". The variables are defined in the Variables Glossary, objects and carriers are defined in the Objects Glossary, and the resources are defined in the Resources Glossary.

This manual also has a glossary to define and discuss the properties of the TSM processes. Processes are created by drawing them on the TSM Graphical User Interface (GUI) then defining their behavior using the dialog box for each process. Processes in most cases are an abstraction of an actual physical process or mission activity. However, processes can also be used to manipulate objects, carriers, and resources in "logic processes". Logic processes ensure that the overall simulation has the proper logic and material flow but they have no physical counterpart in the Civilian Radioactive Waste Management System (CRWMS). The TSM is set up such that the process times for these "logic" elements do not have a major impact on the overall simulation by setting the process time to zero. See the TSM Transportation Design and Basis document (BSC 2007b) for more discussion about process timing.

The details of each glossary are discussed in separate sections below followed by the glossary tables.

**Note:** The TSM described in this document is based on CRWMS plans and facility design concepts as of the document issue date. Due to the preliminary nature of these plans and designs, it was necessary to make assumptions (both referenced and specifically cited in the TSM design bases manuals) during the development of this model concerning detailed CRWMS operations. It is expected that many of these assumptions will be revised as the CRWMS facility designs and concept of operations are further developed.

This document was prepared in accordance with AP-ENG-006, *Total System Model (TSM) – Changes to Configuration Items and Base Case*.

## 1.2 CONFIGURATION ITEMS

All of the items listed in this glossary are considered to be Configuration Items as defined in the Configuration Management and Maintenance Plan (CMMP) for the TSM (BSC 2007g) with the exception of:

- Variables that are changed to run various cases using the Total System Model Control Center (TSMCC)
- Unit costs, times, and dose rates input as process variables (see Section 4)

The variables set by the TSMCC are listed below. Variable names used in the TSMCC xml programming do not always match the model variable names in TSM; see the TSM UM (BSC 2007a) for more information on the TSMCC.

| **TSM** | **TSMCC[1]** |
|---|---|
| cTADBypassNum | TAD_QBypass |
| dateCRCF1 | DATE_CRCF1 |
| dateCRCF2 | DATE_CRCF2 |
| dateCRCF3 | DATE_CRCF3 |
| DateDPCReturn | DATE_DPCReturn |
| dateIHF | |
| dateRF | DATE RF |
| dateWHF | DATE WHF |
| DPC_Bypass | DPC_Bypass |
| DPC_QBypass | DPC_QBypass |
| DSNF_Mismatch | DSNF_Mismatch |
| HLW_Mismatch | HLW_Mismatch |
| Scenario_ID | SCENARIO_ID |
| SHIPMENTS_LAST | SHIPMENTS_LAST |
| SHIPMENTS_NUM | SHIPMENTS_NUM |
| SHIPMENTS_ROWS | SHIPMENTS_ROWS |
| Study_Name | STUDY_ID |
| WHFTruckDPCRatio | WHF_TruckDPCRatio |
| WP_maxHEAT | WP_HEAT |

Note 1: As listed in the .xml template.

## 1.3 CHANGES FOR TSM VERSION 6.0

The major changes for TSM V6.0 are discussed in Section 1.5 of the TSM User Manual (BSC 2007a) and include:

- The main changes are updating the process line configurations in the Geologic Repository Operations Area (GROA) to the critical decision 1 (CD-1) design that replaces dry processing lines to transfer individual assemblies to a Transportation, Aging, and Disposal (TAD) canister with a Wet Handling Facility (WHF), and three flexible processing Canister Receipt and Closure Facilities (CRCF) to handle canistered wastes. In addition, an Initial Handling Facility (IHF) is added to process Naval SNF.
- The Canister Handling Facility (CHF), Dry Transfer Facilities (DTF), Fuel Handling Facility (FHF), and TAD process lines have been removed. The Transportable Storage Casks (TSC) process line is retained for future use but is inactive in TSM V6.0. TSCs are now processed as bare CSNF casks and are not diverted to aging (there are few TSCs).
- Site Specific Canisters (SSC) and Monitored Geologic Repository (MGR) Site Specific Canisters (MSC) were removed in TSM V6.0 since they are no longer used-TAD canisters are now used. However, these acronyms may still appear in some variables and processes that are retained for potential future use or where the change would have caused many changes in flow down logic requiring major re-check of code.
- The Transportation Cask Receipt and Return Facility (TCRRF) and the associated Site Rail Transportation Carts (SRTC) were removed from the design and the facility and the associated radiation doses have been removed from the simulation.
- The "Deploymenttime" process and associated routers that changed the waste routings as facilities came on line during startup have been removed. The startup facility sequencing is now simplified and handled within the other routers and within a Receipt Facility (RF) process.
- Arrival buffers have been simplified and consolidated because the need for specialized processing for criticality is no longer required.
- Several of the GROA processes along the cask return processes are no longer required in the updated GROA design. This reduces the time for the cask to be returned from the GROA to the Fleet Management Facility (FMF).
- A new department ("DOEOV") was added to implement the so-called "basket and shell" approach for Department of Energy (DOE) canisters and transportation overpacks. The design for the DOE casks are not established and this department allows the TSM to assess the impact of unique cask designs for each type of DOE waste vs. designs where a single overpack design is used to package the waste canisters.

There are cases where the TSM V6.0 changes could allow the removal of some TSM objects, variables, triggers, etc. but these elements remain in the model. This is to allow possible future use and also because it appears that as items are deleted SimCAD™ does not always clear the information and leaves "debris." As it is not expected that this debris can cause problems (such as eventually hitting a memory ceiling) the TSM developers have decided to leave these elements in. These elements will not be evident to the typical user but there may be cases where items are seen in detailed outputs. For these elements, the tables in this glossary are usually

noted with “not active in TSM V6.0”. For processes that are not active, this is usually changed to appear only in the Value Stream Map (VSM) GUI view so they are not visible during the simulation.

# 2. OBJECT GLOSSARY

The objects used in the TSM are listed in the "Flow Properties", "Object Type Definition" tab under the TSM main view "Properties" dialog box. The Object Type Definition tab lists objects in the order that they were input into the model as the model was developed; the objects are not listed alphabetically. The object glossary in this appendix lists the object alphabetically with the object number that is used in the Object Type Definition tab. This makes it easier for users to find objects in the Object Type list in the TSM; the object can be alphabetically located using the glossary to get the Object Type number to find the object in the TSM Object Type Tab list.

The Object Glossary also includes the "carriers" which are similar to objects but are not changed or modified or controlled by the processes. Carriers used in the TSM are listed in the "Flow Properties", "Carrier Definition" tab under the TSM main view "Properties" dialog box. Locations where carriers are used are easily identified in the TSM by connectors that are dashed lines indicating a carrier return path. Also, the TSM will show both the carrier and the objects loaded on the carrier moving on the connection line. In TSM V6.0, the DOE rail carriers and the GROA aging transporter carriers are disabled to simplify the TSM because it became clear as analyses were performed that the carriers did not provide any additional logistics or analysis value. However, the objects were retained for possible future use. Carriers in the glossary are highlighted in **bold** letters.

The Object Glossary has information on the following object characteristics:

*TSM Object Number*: The number of the object in the Object Type Definition tab

*Object Type*: The name of the object used in the TSM. This is also called the "object name" or just "object". If the object is a batch, the type is shown in *italics*.

*Origin Process*: The TSM process where the object is input to the model or created as part of the processing. Objects are typically created by inputting them from the TSM Initial State (IS) file, using a TSM "start" process, using a batch or join process to create a batch object from other objects, or using the "create object" statement in a process extension or in Visual Basic (VB) code. If the origin process is in a TSM department process, the glossary lists the department process, then the individual process. For carriers, the origin process is the process where the carrier route begins.

*End Process*: The process where an object is terminated from the TSM usually by a TSM "end" process. For batched objects, the TSM often destroys the outer "layers" of the batch by sending them to an end process. For example, a "railshipment" batch has the railshipment object "wrapped" around the RollingStock and caskonrail objects that are in the batch. The caskonrail is a batch that is wrapped around the cask and waste cask load. The railshipment and caskonrail objects (wraps) are terminated once the shipment is completed, but the RailRollingStock objects, waste cask load, and cask continue in the simulation. In some cases, objects such as casks are reused and cycled through the model and are not terminated. For carriers, there is no end process because carriers are not terminated. For carriers, the end process listed in the table is the process where the carriers deliver the carrier load. End Processes that are marked "(VSM)" are hidden unless the view is selected to display the VSM.

*Description*: This glossary column describes the most important attributes of the object and the relation to actual physical materials that are in the CRWMS mission where applicable. The description assumes that the reader has considerable familiarity with the basic CRWMS processes, wastes, and program activities.

Information on the results for objects during the run is available in the left side of the dynamic update display as the model runs and is also available in the Object Table and Object List in the TSM.simdata file post-run. All objects are listed in the Object List; only objects that are used in the model are in the Object Glossary (some objects are test objects, intended for future use, or were used in model development and may not be in use for a particular TSM model). Carrier activity is also listed in the Object Status area of the dynamic data display.

In some cases, a TSM user needs to identify the object by the image that is at a process or is moving along a connector during a run. By selecting the process or connector with one click, the top, right side of the dynamic display shows the object type in the process or connector and the user can refer to this glossary to understand more about the object. The number for the object type can be used to refer to the TSM Object Type Definition tab to identify the image files that is used in the TSM.

Note that cask load objects associated with the reactor sites and objects for the DOE sites (see Site Table for the site descriptions) are defined by generic names that combine the site designators (see the Site Glossary) the transportation cask type [Rail (R), Dual-Purpose Canister (DPC) (D), or Truck (T)]. The DOE site objects also include a letter for the waste type (H for High-Level radioactive Waste (HLW), D for DOE Spent Nuclear Fuel (DOE SNF), P for CSNF Pressurized Water Reactor (PWR), N for Naval or B for Commercial Spent Nuclear Fuel (CSNF) Boiling Water Reactor (BWR).) The Morris site (MO) does not follow the generic object names because it has CSNF from various reactors or source and the origin is added to the name. For example, R-MOSO is a San Onofre cask load object from Morris.

| OBJECT GLOSSARY | | | | |
|---|---|---|---|---|
| **Object Number** | **Object Type** | **Origin Process (Department, Process)** | **End Process (Department, Process)** | **Description/Abstraction** |
| 437 | CASK1 | BuyCask | None, cycles for reuse | GA-9 Legal Weight Truck (LWT) |
| 465 | CASK102 | BuyCask | None, cycles for reuse | VSC-24 canister – PWR |
| 466 | CASK106 | BuyCask | None, cycles for reuse | Castor V21 – one time transport |
| 467 | CASK109 | BuyCask | None, cycles for reuse | Castor V33 - one time transport |
| 439 | CASK11 | BuyCask | None, cycles for reuse | NAC-LWTB |
| 440 | CASK12 | BuyCask | None, cycles for reuse | NAC-LWTP |
| 441 | CASK18 | BuyCask | None, cycles for reuse | FSVrain truck cask |
| 468 | CASK200 | BuyCask | None, cycles for reuse | HI-STAR 100 canister - BWR |
| 469 | CASK202 | BuyCask | None, cycles for reuse | HI-STAR 100 transportation overpack - BWR |
| 470 | CASK203 | BuyCask | None, cycles for reuse | HI-STAR 100 canister - PWR |
| 471 | CASK206 | BuyCask | None, cycles for reuse | Small TAD canister - BWR |
| 472 | CASK208 | BuyCask | None, cycles for reuse | Small TAD transportation overpack |
| 473 | CASK209 | BuyCask | None, cycles for reuse | Small TAD canister - PWR |
| 474 | CASK212 | BuyCask | None, cycles for reuse | NAC STC bare fuel basket - Yankee Rowe |
| 475 | CASK214 | BuyCask | None, cycles for reuse | NAC STC transportation overpack Yankee Rowe |
| 476 | CASK215 | BuyCask | None, cycles for reuse | TS-125 canister - Big Rock Pt |
| 477 | CASK217 | BuyCask | None, cycles for reuse | TS-125 transportation overpack |
| 478 | CASK218 | BuyCask | None, cycles for reuse | HI-STAR 100 canister - Trojan |
| 479 | CASK221 | BuyCask | None, cycles for reuse | NAC STC canister - PWR |
| 480 | CASK224 | BuyCask | None, cycles for reuse | MP-187 canister - PWR (24 assy) |
| 481 | CASK226 | BuyCask | None, cycles for reuse | MP-187 transportation overpack |
| 482 | CASK227 | BuyCask | None, cycles for reuse | South Texas Project (STP) canister |
| 483 | CASK229 | BuyCask | None, cycles for reuse | STP transportation overpack |
| 484 | CASK230 | BuyCask | None, cycles for reuse | Not used in TSM V6.0 |
| 485 | CASK232 | BuyCask | None, cycles for reuse | TN-68 from storage - one time transport |
| 486 | CASK235 | BuyCask | None, cycles for reuse | TN-32 from storage - one time transport |
| 487 | CASK236 | BuyCask | None, cycles for reuse | NAC UMS canister - BWR |
| 489 | CASK238 | BuyCask | None, cycles for reuse | NAC UMS transportation overpack – BWR |
| 488 | CASK239 | BuyCask | None, cycles for reuse | NAC UMS canister - PWR |
| 490 | CASK242 | BuyCask | None, cycles for reuse | I-STAR HB canister |
| 491 | CASK244 | BuyCask | None, cycles for reuse | HI-STAR HB transportation overpack |
| 492 | CASK245 | BuyCask | None, cycles for reuse | MP-197 canister - BWR |
| 493 | CASK247 | BuyCask | None, cycles for reuse | MP-197 transportation overpack |
| 494 | CASK248 | BuyCask | None, cycles for reuse | MP-187 canister - PWR (32 assy) |
| 495 | CASK251 | BuyCask | None, cycles for reuse | Large TAD canister - BWR |
| 496 | CASK253 | BuyCask | None, cycles for reuse | Large TAD transportation overpack |
| 497 | CASK254 | BuyCask | None, cycles for reuse | Large TAD canister - PWR |
| 442 | CASK26 | BuyCask | None, cycles for reuse | HI-STAR 100 bare fuel basket - BWR |
| 443 | CASK27 | BuyCask | None, cycles for reuse | HI-STAR 100 bare fuel basket - PWR |

| OBJECT GLOSSARY | | | | |
|---|---|---|---|---|
| **Object Number** | **Object Type** | **Origin Process (Department, Process)** | **End Process (Department, Process)** | **Description/Abstraction** |
| 444 | CASK28 | BuyCask | None, cycles for reuse | Medium bare rail - BWR |
| 445 | CASK29 | BuyCask | None, cycles for reuse | Medium bare rail - PWR |
| 498 | CASK290 | BuyCask | None, cycles for reuse | TN-40 - PWR -one time transport |
| 499 | CASK291 | BuyCask | None, cycles for reuse | Nuhoms 52B canister (BWR) |
| 500 | CASK295 | BuyCask | None, cycles for reuse | MC-10 - PWR - one time transport |
| 501 | CASK298 | BuyCask | None, cycles for reuse | NAC-I28 - PWR - one time transport |
| 528 | CASK2XX | BuyCask | None, cycles for reuse | Overpack for DOE INS baskets. Note 1. |
| 446 | CASK30 | BuyCask | None, cycles for reuse | Small bare rail - BWR |
| 447 | CASK31 | BuyCask | None, cycles for reuse | Small bare rail - PWR |
| 448 | CASK44 | BuyCask | None, cycles for reuse | HLW rail |
| 523 | CASK44_INS | BuyCask | None, cycles for reuse | HLW basket or insert |
| 449 | CASK50 | BuyCask | None, cycles for reuse | MCO rail |
| 524 | CASK50_INS | BuyCask | None, cycles for reuse | MCO basket or insert |
| 450 | CASK51 | BuyCask | None, cycles for reuse | DOE SNF rail |
| 525 | CASK51_INS | BuyCask | None, cycles for reuse | DOE basket or insert |
| 451 | CASK52 | BuyCask | None, cycles for reuse | Naval SNF rail |
| 452 | CASK56 | BuyCask | None, cycles for reuse | DOE SNF rail |
| 527 | CASK56_INS | BuyCask | None, cycles for reuse | DOE SNF basket or insert |
| 453 | CASK58 | BuyCask | None, cycles for reuse | TMI canister, used once |
| 438 | CASK6 | BuyCask | None, cycles for reuse | GA-4 LWT |
| 454 | CASK60 | BuyCask | None, cycles for reuse | STP bare rail |
| 455 | CASK62 | BuyCask | None, cycles for reuse | West Valley rail – BWR |
| 456 | CASK63 | BuyCask | None, cycles for reuse | West Valley rail – PWR |
| 457 | CASK64 | BuyCask | None, cycles for reuse | NAC STC bare fuel basket – PWR |
| 458 | CASK65 | BuyCask | None, cycles for reuse | NAC UMS bare fuel basket – PWR |
| 459 | CASK66 | BuyCask | None, cycles for reuse | TN-68 Transportable Storage Cask (TSC) loaded from pool |
| 460 | CASK68 | BuyCask | None, cycles for reuse | MP-187 bare fuel basket – PWR (24 assy) |
| 461 | CASK69 | BuyCask | None, cycles for reuse | MP-187 bare fuel basket – PWR (32 assy) |
| 462 | CASK70 | BuyCask | None, cycles for reuse | MP-197 bare fuel basket – BWR |
| 463 | CASK76 | BuyCask | None, cycles for reuse | TN-32 TSC loaded from pool – PWR |
| 464 | CASK77 | BuyCask | None, cycles for reuse | NAC UMS bare fuel basket – BWR |
| 401 | Caskonrail | Cask department join processes | Rail Unbatch 3, IMFUnbatch 2 3 | Batch of 1 waste cask load and 1 rail cask |
| 402 | Caskontruck | Truck cask department join processes | GROA Unbatch Truck 1, TruckCarrierReturn1 | Batch of 1 waste cask load and 1 truck cask |
| 1 | Default Object | | | SimCAD™ default object |
| N/A | **DOEloco** | DOE Rail | GROARailSecurity | Carrier to model the DOE rail from the Intermodal Facility (IMF) to the GROA. Not used in TSM V6.0. |
| 212 | D-MOB | Initial State File | GROA, WHFDPCOpen | DPC cask load, Morris, BWR. Unlikely that Morris would use a DPC. |

| OBJECT GLOSSARY | | | | |
|---|---|---|---|---|
| **Object Number** | **Object Type** | **Origin Process (Department, Process)** | **End Process (Department, Process)** | **Description/Abstraction** |
| 515 | D-MOCP | Initial State File | GROA, WHFDPCOpen | DPC cask load, Morris, Cooper CSNF. Unlikely that Morris would use a DPC. |
| 516 | D-MOGE | Initial State File | GROA, WHFDPCOpen | DPC cask load, Morris, General Electric CSNF. Unlikely that Morris would use a DPC. |
| 517 | D-MOHA | Initial State File | GROA, WHFDPCOpen | DPC cask load, Morris, Haddam Neck CSNF. Unlikely that Morris would use a DPC. |
| 518 | D-MOMO | Initial State File | GROA, WHFDPCOpen | DPC cask load, Morris, Monticello CSNF. Unlikely that Morris would use a DPC. |
| 218 | D-MOP | Initial State File | GROA, WHFDPCOpen | DPC cask load, Morris, PWR. Unlikely that Morris would use a DPC. |
| 519 | D-MOSO | Initial State File | GROA, WHFDPCOpen | DPC cask load, Morris, San Onofre CSNF. Unlikely that Morris would use a DPC. |
| 59-386 | D-XXX | Initial State File | GROA, WHFDPCOpen | DPC cask load, Site XXX, For sites with one reactor/pool. See Site Glossary |
| 2-392 | D-XXX# | Initial State File | GROA, WHFDPCOpen | DPC cask load, Site XXX, Reactor#, See Site Glossary |
| 128-380 | D-YYYB | Initial State File | GROA, WHFDPCOpen | DPC cask CSNF BWR load from DOE site YYY |
| 131-158 | D-YYYD | Initial State File | GROA, CRCF1Unload, CRCF3Unload | DOE SNF canister load from DOE site YYY |
| 134-383 | D-YYYH | Initial State File | GROA, CRCF1Unload, CRCF3Unload | High Level Waste canister load from DOE site YYY |
| 164 | D-YYYN | Initial State File | GROA, IHFClose | DPC cask Navy fuel load from DOE site YYY |
| 137-167 | D-YYYP | Initial State File | GROA, WHFDPCOpen | DPC cask CSNF PWR load from DOE site YYY |
| N/A | **MGRtrans** | ToMGRdrift | MGRemplace | Carrier for WP to emplace it in the MGR. Not active in TSM V6.0. |
| 420 | MSC | N/A | N/A | Multi-purpose Storage Cask previously used to stage fuel that is too hot to place in a WP. Not used in TSM V6.0.. |
| 421 | MSCDPC | N/A | N/A | GROA Aging "overpack" Previously used by FHF for DPC's. Not used in TSM V6.0 |
| 422 | MSCDummy | N/A | N/A | Previously used to pass through GROA SRTCs and Positioner to give correct loading. Not used in TSM V6.0 |
| 403 | RailRollingStock | BuyLoco | None, cycles for reuse | Locomotive, 2 buffer railcars, Security crew railcar for Railshipment and RailshipmentDOE batches |
| 404 | *Railshipment* | R sites in Rail maps, see Sites Glossary | Rail Unbatch 3, IMFUnbatch 2 3 | Batch of 3 caskonrail and RollingStock |

| OBJECT GLOSSARY | | | | |
|---|---|---|---|---|
| **Object Number** | **Object Type** | **Origin Process (Department, Process)** | **End Process (Department, Process)** | **Description/Abstraction** |
| 405 | *RailshipmentDOE* | DOE R sites on maps | Rail Unbatch 3, IMFUnbatch 2 3 | A batch rail shipment of 5 caskonrail and 1 RollingStock at a DOE site |
| 213 | R-MOB | Initial State File | GROA, CRCFXCloseY | Rail cask load, Morris, BWR |
| 505 | R-MOCP | Initial State File | GROA, CRCFXCloseY | Rail cask load, Morris, Cooper CSNF |
| 506 | R-MOGE | Initial State File | GROA CRCFXCloseY | Rail cask load, Morris, General Electric CSNF |
| 507 | R-MOHA | Initial State File | GROA CRCFXCloseY | Rail cask load, Morris, Haddam Neck CSNF |
| 508 | R-MOMO | Initial State File | GROA CRCFXCloseY | Rail cask load, Morris, Monticello CSNF |
| 219 | R-MOP | Initial State File | GROA, CRCFXCloseY | Rail cask load, Morris, PWR |
| 509 | R-MOSO | Initial State File | GROA, CRCFXCloseY | Rail cask load, Morris, San Onofre CSNF |
| 60-387 | R-XXX | Initial State File | GROA, CRCFXCloseY | Rail cask load, Site XXX. Single reactor site. See Site Glossary |
| 3-393 | R-XXX# | Initial State File | GROA, CRCFXCloseY | Rail cask load, Site XXX, Reactor#, See Site Glossary |
| 129-381 | R-YYYB | Initial State File | GROA, CRCFXCloseY | Rail cask CSNF BWR load from DOE site YYY |
| 132-395 | R-YYYD | Initial State File | GROA, CRCF1Unload, CRCF3Unload | Rail cask DOE SNF load from DOE site YYY |
| 135-397 | R-YYYH | Initial State File | GROA, CRCF1Unload, CRCF3Unload | Rail cask HLW load from DOE site YYY |
| 165 | R-YYYN | Initial State File | GROA, IHFxfertoWP | Rail cask Navy fuel load from DOE site YYY |
| 138-399 | R-YYYP | Initial State File | GROA, CRCFXCloseY | Rail cask CSNF PWR load from DOE site YYY |
| 423 | Stagedummy | Stagedummy | None, stays on carrier | Dummy object used to control aging carrier StageXport. Not used in TSM V6.0. |
| N/A | **StageXport** | GROA, LTXportdepot or STXportdepot | GROA, STStagedist or LTStagedist | Carrier to model the haulers that move TAD canisters or DPCs to the Long-Term or Short-Term aging areas. Not active in TSM V6.0. |
| 521 | TAD | WHFTADfill | CRCFXCloseY | TAD canister |
| 522 | TADreturn | VB code | CRCFXCloseY | TAD canister returning from aging |
| 406 | Truckcaskload | N/A | N/A | Not used in TSM V6.0. |
| 407 | *Truckshipment* | T sites in Truck maps, see Sites Glossary | GROA Unbatch Truck 1, TruckCarrierReturn1 | Batch of 1 Caskontruck and 1 x-truck |
| 214 | T-MOB | Initial State File | GROA, WHFUnload | Rail cask load, Morris, BWR |
| 510 | T-MOCP | Initial State File | GROA, WHFUnload | Rail cask load, Morris, Cooper CSNF |

| OBJECT GLOSSARY | | | | |
|---|---|---|---|---|
| **Object Number** | **Object Type** | **Origin Process (Department, Process)** | **End Process (Department, Process)** | **Description/Abstraction** |
| 511 | T-MOGE | Initial State File | GROA, WHFUnload | Rail cask load, Morris, General Electric CSNF |
| 512 | T-MOHA | Initial State File | GROA, WHFUnload | Rail cask load, Morris, Haddam Neck CSNF |
| 513 | T-MOMO | Initial State File | GROA, WHFUnload | Rail cask load, Morris, Monticello CSNF |
| 220 | T-MOP | Initial State File | GROA, WHFUnload | Rail cask load, Morris, PWR |
| 514 | T-MOSO | Initial State File | GROA, WHFUnload | Rail cask load, Morris, San Onofre CSNF |
| 424 | TSC | VB code for blending process, at WPFill processes | GROA, "Close" processes | Previously used to send an arriving TSC load to aging and to return it for processing when processing capacity is available. Not used in TSM V6.0. |
| 60-504 | T-XXX | Initial State File | GROA, WHFUnload | Truck cask load, Site XXX. Single reactor site. See Site Glossary |
| 4-394 | T-XXX# | Initial State File | GROA, WHFUnload | Truck cask load, Site XXX, Reactor#, See Site Glossary |
| 130-382 | T-YYYB | Initial State File | GROA, WHFUnload | Truck cask CSNF BWR load from DOE site YYY |
| 133-396 | T-YYYD | Initial State File | GROA, CRCF1Unload, CRCF3Unload | Truck cask DOE SNF load from DOE site YYY |
| 136-466 | T-YYYH | Initial State File | GROA, CRCF1Unload, CRCF3Unload | Truck cask HLW load from DOE site YYY |
| 166 | T-YYYN | Initial State File | GROA, IHFClose | Truck cask Naval load from DOE site YYY. Will probably never be needed, included n TSM for completeness.. |
| 139-400 | T-YYYP | Initial State File | GROA, WHFUnload | Truck cask CSNF PWR load from DOE site YYY |
| 425 | WPBWR24 | VB code for blending process, at WPFill processes | GROA, WP-MSCBuffer (VSM) | 24 assembly BWR WP (criticality) Not used in TSM V6.0. |
| 426 | WPBWR44 | VB code for blending process, at WPFill processes | GROA, WP-MSCBuffer (VSM) | 44 assembly BWR WP Not used in TSM V6.0. |
| 427 | WPCodisposeL | VB code for blending process, at CRCF DOE WP processes | GROA, WP-MSCBuffer (VSM) | Codipose WP: 1 DOE SNF Long + 5 HLW Long. Not used in TSM V6.0. |
| 428 | WPDummy | GROA, WP start processes, TAD | GROA, WP-MSC Buffer (VSM) | Object to simulate GROA movement of empty WPs and TAD canisters |
| 429 | WPloaded | N/A | N/A | Not used in TSM V6.0. |
| 430 | WPMCO | VB code for blending process, at CRCF1WPFill, CRCF3WPFill | GROA WP-MSC Buffer | MCO WP: 2 MCO+2 HLW Long. Not used in TSM V6.0. |
| 431 | WPNavy | N/A | N/A | Navy SNF WP. Not used in TSM V6.0 |

| OBJECT GLOSSARY | | | | |
|---|---|---|---|---|
| **Object Number** | **Object Type** | **Origin Process (Department, Process)** | **End Process (Department, Process)** | **Description/Abstraction** |
| 432 | WPNavyL | N/A | N/A | Navy-Long SNF WP. Not used in TSM V6.0 |
| 433 | WPPallet | GROA, all transfer facility "Close" processes | TSM End (emplaced in MGR) | Generic WP representing all types of WPs that are emplaced. |
| 434 | WPPWR12L | VB code for blending process, at WPFill processes | GROA WP-MSCBuffer (VSM) | 12 assembly PWR WP (STP) Not used in TSM V6.0. |
| 434 | WPPWR21 | VB code for blending process, at WPFill processes | GROA WP-MSCBuffer (VSM) | 21 assembly PWR WP Not used in TSM V6.0. |
| 436 | WPPWR21Rod | VB code for blending process, at WPFill processes | GROA WP-MSCBuffer (VSM) | 21 assembly PWR WP (criticality) Not used in TSM V6.0. |
| 520 | WPTAD | N/A | N/A | Not used in TSM V6.0. |
| 410 | x-barge | N/A | N/A | Not used in TSM V6.0. |
| 408 | Xfercask | GROA RailUnbatch3, XFERCask1 3, XFERCask2 3 | GROARailUnbatch2, XferCaskEnd 3 | Generic cask used to make a batch with any waste cask load to make a Xfercaskonrail |
| 409 | Xfercaskonrail | GROA RailUnbatch3, IMFRailShipment 1 3, IMFRailShipment2 3 | GROARailUnbatch2, XferCaskEnd 2 | Batch of 1 Xfercask used as a generic object for transport from GROA RailUnbatch3 to the GROARailUnbatch2 |
| 411 | x-heavyhaul | N/A | N/A | Not used in TSM V6.0. |
| 412 | x-locomotive | BuyLoco | N/A | Not used in TSM V6.0. RollingStock object includes the locos. |
| 413 | x-railcar | N/A | N/A | Not used in TSM V6.0. Cask rail cars are assumed to be with cask. |
| 414 | x-railcarbuffer | Buy RCB | N/A | Active but not used in TSM V6.0. In RollingStock object. |
| 415 | x-railcarhlw | N/A | N/A | Not used in TSM V6.0. Cask rail cars are assumed to be with cask. |
| 416 | x-railcarperson | Buy RCP | N/A | Active but not used in TSM V6.0. In RollingStock object. |
| 417 | x-truck | BuyTruck | None, cycles for reuse | Truck used for Truckshipment batches at T sites |
| N/A | **z-barge1** | Rail Maps, XXXR sites | Rail Maps, XXXB sites | Carrier to model barges from barge (B) sites to a barge rail head (R) |
| N/A | **z-HHtruck1** | Rail Maps, XXXR sites | Rail Maps, XXXHH sites | Carrier to model Heavy Haul (HH) vehicle from HHsites to a HH rail head |
| 418 | *z-railshipbarge* | Barge "B" sites on maps | Rail Unbatch 3, Carrier Return 3 | A batch rail shipment of 3 caskonrail and 1 RollingStock at the terminal of a barge route |
| 419 | *z-railshipHH* | Heavy Haul "HH" sites on maps | Rail Unbatch 3, Carrier Return 3 | A batch rail shipment of 3 caskonrail and 1 RollingStock at the terminal of a HH route |

Note 1: 2XX is not a “wildcard,” it is the DOE OV cask name.

# 3. PROCESS GLOSSARY

The TSM processes are listed in the "Analysis" menu on the main TSM page, menu item "Model Properties" sub menu "Process/Connection Timing". Notice that the selection box to the left of the process name in the Process/Connection Timing display can be used to open the dialog box for that process to understand the process behavior and settings. Therefore, the Process Glossary here does not include all of the process details and is aimed at a basic understanding of the process.

Note that the process lists in the TSM and in the TSM results data bases and various drop-down menus are typically not in alphabetical order. This makes it somewhat cumbersome to find processes to select for evaluation or to make changes. To help locate processes, the list in the TSM Process/Connection Timing submenu can be cut and pasted into an EXCEL workbook for searching, formatting, or printing.

Information on the results for processes during the run is available in the right side of the dynamic update display as the model runs. The process of interest must be selected in the GUI with one click to display the results. Results for each process are also in the TSM output .simdata file that includes a Process List and a Process Table. The process results usually involve how the process affected various objects and include parameters such as the number of objects completed or the object lead time (the time an object is in the process queue plus the processing time, plus the time waiting to move to the next process).

Processes are best understood by following the process flow and understanding the actual process or CRWMS activity that is modeled by the TSM process. However, this process glossary also helps to get a basic understanding of the processes. Typically, it is not helpful to look at the output data in the .simdata process and then try to understand what the output means. Processes can best be understood in the context of the surrounding processes or the effect on the objects that are processed. Therefore, selecting processes of interest from the GUI then selecting data to review is usually more beneficial to understand the TSM behavior than selecting a process in the .simdata output. The glossary, the GUI, and the process dialog box should be used together to understand process behavior.

The information in the glossary columns includes:

*Process Name*: Name assigned to the process. The name usually resembles the physical process or activity in the CRWMS program. Process names in departments are often followed by numbers that are added by SimCAD™ when the departments are imported into the model (for example "244Dump 1 1 7"). These usually have no meaning and should just be considered part of the process name.

*Process Type*: The SimCAD™ process types are discussed in detail in the Create-a-Soft™ (CaS) SimCAD™ User's Manual (CaS 2006). The types of processes include:

- The Start Process
- End Process
- Selector Process

- Distribution Process
- Join (Assembly) Process
- Router Process
- Generic Process
- Department/Cell Process
- Jump Process
- Image Placeholder

*Department*: If the process is in a Department Process, the Department Process name is listed. If the process is in the main TSM GUI, Not Applicable (N/A) is listed.

*Abstraction*: Most processes are abstractions of actual activities or physically real items that are part of the CRWMS. However, some of the processes provide the proper logic and flow of the TSM or are included to do calculations or allow analysis of the TSM. For example, the casks are held in "Caskhold" processes that make it easy to measure the cask residence time in the GROA; but there is no physical embodiment of such an area to hold casks while the waste load moves forward for processing. In reality the wastes remain in the casks until unloading; in the TSM only the waste cask load moves down stream from the cask hold processes.

One idiosyncrasy of SimCAD™ is that processes that use a "NextProcesstoStart" command to transfer an object to another process rather than along its output connector (this action is also called "teleporting") must still have an output connector to a generic process downstream. These downstream processes are not abstractions but are "logical end" elements that should never process any objects or affect the TSM because they should never be used. In the TSM GUI, most of these processes are hidden unless the view is selected to display the VSM. If triggers do not act properly in the processes subsequent to these logical end processes, the objects will 'leak" into the logical end and cause an error. These processes are a good indicator of proper trigger action and are sometimes called "LeakTest" processes.

*Description*: A brief description of the process actions and/or functions in the TSM. The description includes how objects are received, processed, and then sent downstream. The relationship to specific objects is also described where appropriate. The origin of the jumps that send objects to the process is described where applicable. Processes that are marked "(VSM)" in this column are hidden unless the view is selected to display the VSM.

The processes on the transportation maps have many junctions and nodes that have simple numerical names or identifiers. Also note that some of the nodes are Distribution processes indicating that the TSM can choose one of several downstream route possibilities. This enables the TSM to set alternate routes, for example, winter and southern routes. This capability is not yet programmed, but may be enabled to support future versions of the TSM.

Jump processes are not active processes and are not included in the process lists generated by the TSM or in any output data. So, users will not see references to the jump process names except while viewing the GUI. To understand a jump of interest, one click on the jump in the GUI will display the only jump parameter: the destination process.

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 1 To Map | Generic | Trucks | None | Logical end process required after cask/waste join process |
| 102 to Map | Generic | TS | None | Logical end process required after cask/waste join process |
| 102Dist | Generic | TS | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 102load | Join | TS | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 106 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 106Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 106load | Join | TSC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 109 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 109Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 109load | Join | TSC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 11 to Map | Generic | Trucks | None | Logical end process required after cask/waste join process |
| 11CaskEnd | End | GROAUnbatchTruck | None | Logical end process required for Cask Return processes |
| 11Tload | Join | Trucks | Cask Load Operation | Joins the waste cask load and the cask to make a caskontruck object |
| 12 To Map | Generic | Trucks | None | Logical end process required after cask/waste join process |
| 12CaskEnd | End | GROAUnbatchTruck | None | Logical end process required for Cask Return processes |
| 12Tload | Join | Trucks | Cask Load Operation | Joins the waste cask load and the cask to make a caskontruck object |
| 18 to Map | Generic | Trucks | None | Logical end process required after cask/waste join process |
| 18Dist | Generic | Trucks | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 18load | Join | Trucks | Cask Load Operation | Joins the waste cask load and the cask to make a caskontruck object |
| 1CaskEnd | End | GROAUnbatchTruck | None | Logical end process required for Cask Return processes |
| 1Tload | Join | Trucks | Cask Load Operation | Joins the waste cask load and the cask to make a caskontruck object |
| 200 to Map | Generic | HiStar | None | Logical end process required after cask/waste join process |
| 200CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 200load | Join | HiStar | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 202200Dist | Generic | HiStar | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 202203Dist | Generic | HiStar | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell |
| 202218Dist | Generic | HiStar | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell |
| 202Dist | Generic | HiStar | Shell inventory | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 202Dump | Generic | HiStar | None | Logical end process required after shell distribute process (VSM) |
| 203 to Map | Generic | N/A | None | Logical end process required after cask/waste join process |
| 203CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 203load | Join | HiStar | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 206 to Map | Generic | TAD | None | Logical end process required after cask/waste join process |
| 206Dist | Generic | TAD | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 206End | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 206load | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 208Dist | Generic | TAD | None | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 208Dist1 | Generic | TAD | Shell inventory | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 208Dist2 | Generic | TAD | Shell inventory | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 208Dump | Generic | TAD | None | Logical end process required after shell distribute process (VSM) |
| 208load1 | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 208load2 | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 209 to Map | Generic | TAD | None | Logical end process required after cask/waste join process |
| 209Dist | Generic | TAD | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 209End | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 209load | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 212 to Map | Generic | NAC | None | Logical end process required after cask/waste join process |
| 212CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 212load | Join | NAC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 214212Dist | Generic | NAC | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 214221Dist | Generic | NAC | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 214Dist | Generic | NAC | Shell inventory. | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 214Dump | Generic | NAC | None | Logical end process required after shell distribute process (VSM) |
| 215 to Map | Generic | TS | None | Logical end process required after cask/waste join process |
| 215CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 215load | Join | TS | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 217215Dist | Generic | TS | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 217Dist | Generic | TS | Shell inventory. | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 217Dump | Generic | TS | None | Logical end process required after shell distribute process (VSM) |
| 217Dump 1 | Generic | STP | None | Logical end process required after shell distribute process. Process misnamed, should be 229 Dump. (VSM) |
| 218 to Map | Generic | HiStar | None | Logical end process required after cask/waste join process |
| 218CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 218load | Join | HiStar | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 221 to Map | Generic | NAC | None | Logical end process required after cask/waste join process |
| 221CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 221load | Join | NAC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 224 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 224CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 224CaskEnd 2 | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 224Dump | Generic | Nuhoms | None | Logical end process required after shell distribute process. Process misnamed, should be 226 Dump. . (VSM) |
| 224load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 226224Dist | Generic | Nuhoms | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 226248Dist | Generic | Nuhoms | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 226Dist | Generic | Nuhoms | Shell inventory. | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 227 to Map | Generic | STP | None | Logical end process required after cask/waste join process |
| 227load | Join | STP | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 229227Dist | Generic | STP | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 229Dist | Generic | STP | Shell inventory. | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 230CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 232 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 232Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 232load | Join | TSC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 235 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 235Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 235load | Join | TSC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 236 to Map | Generic | NAC | None | Logical end process required after cask/waste join process |
| 236load | Join | NAC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 238236Dist | Generic | NAC | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 238239Dist | Generic | NAC | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 238Dist | Generic | NAC | Shell inventory. | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 238Dump | Generic | NAC | None | Logical end process required after shell distribute process (VSM) |
| 239 to Map | Generic | NAC | None | Logical end process required after cask/waste join process |
| 239CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 239load | Join | NAC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 242 to Map | Generic | HiStar | None | Logical end process required after cask/waste join process |
| 242CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 242load | Join | HiStar | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 244242Dist | Generic | HiStar | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 244Dist | Generic | HiStar | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 244Dump 1 | Generic | HiStar | None | Logical end process required after shell distribute process (VSM) |
| 244Dump 1 1 7 | Generic | STP | None | Not Used in TSM V6.0, inadvertently left when building the STP department |
| 244Dump 1 4 | Generic | TS | None | Not Used in TSM V6.0, inadvertently left when building the STP department |
| 245 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 245CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 245load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 247245Dist | Generic | Nuhoms | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 247291Dist | Generic | Nuhoms | None | Receives DPC from buy process and distributes to join with associated basket, shell or cask load. First 3 numbers are the shell. |
| 247Dist | Generic | Nuhoms | Shell inventory. | Receives shell from buy process and distributes to join with associated basket, shell or cask load |
| 247Dump | Generic | Nuhoms | None | Logical end process required after shell distribute process (VSM) |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 248 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 248CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 248load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 251 to Map | Generic | TAD | None | Logical end process required after cask/waste join process |
| 251Dist | Generic | TAD | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 251End | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 251load | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 253Dist | Generic | TAD | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 253Dist1 | Generic | TAD | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 253Dist2 | Generic | TAD | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 253Dump | Generic | TAD | None | Logical end process required after shell distribute process (VSM) |
| 253load1 | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 253load2 | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 254 to Map | Generic | TAD | None | Logical end process required after cask/waste join process |
| 254Dist | Generic | TAD | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 254End | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 254load | Join | TAD | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 26 to Map | Generic | HiStar | None | Logical end process required after cask/waste join process |
| 26CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 26Dist | Generic | HiStar | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 26load | Join | HiStar | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 27 to Map | Generic | HiStar | None | Logical end process required after cask/waste join process |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 27Dist | Generic | HiStar | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 27load | Join | HiStar | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 28 to Map | Generic | Small/Med Rail | None | Logical end process required after cask/waste join process |
| 28CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 28Dist | Generic | Small/Med Rail | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 28load | Join | Small/Med Rail | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 29 to Map | Generic | Small/Med Rail | None | Logical end process required after cask/waste join process |
| 290 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 290Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 290load | Join | TSC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 291 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 291load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 295 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 295Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 295load | Join | TSC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 298 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 298Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 298load | Join | TSC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 29Dist | Generic | Small/Med Rail | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 29load | Join | Small/Med Rail | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 2XXDist | Generic | DOE OV | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load. Note 1. |
| 2XXDump 1 | End | DOE OV | None | Logical end process required after shell distribute process (VSM) Note 1. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 30 to Map | Generic | Small/Med Rail | None | Logical end process required after cask/waste join process |
| 30Dist | Generic | Small/Med Rail | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 30load | Join | Small/Med Rail | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 31 to Map | Generic | Small/Med Rail | None | Logical end process required after cask/waste join process |
| 31Dist | Generic | Small/Med Rail | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 31load | Join | Small/Med Rail | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 44CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 44Load | Join | DOE | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 44Load_OV | Join | DOE OV | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 44RDISP | End | DOE | None | Logical end process required after cask/waste join process |
| 44RDISP_OV | End | DOE OV | None | Logical end process required after cask/waste join process |
| 5 5 | Generic | NEtruck 5 | Transportation Node | Connection point of two or more routes. |
| 50CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 50Load | Join | DOE | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 50Load_OV | Join | DOE OV | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 50RDISP | End | DOE | None | Logical end process required after cask/waste join process |
| 50RDISP_OV | End | DOE OV | None | Logical end process required after cask/waste join process |
| 51Load | Join | DOE | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 51Load_OV | Join | DOE OV | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 51RDISP | End | DOE | None | Logical end process required after cask/waste join process |
| 51RDISP_OV | End | DOE OV | None | Logical end process required after cask/waste join process |
| 52CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 52RDISP | End | DOE | None | Logical end process required after cask/waste join process |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 52RDLoad | Join | DOE | Cask Load Operation Site Operation to Overpack a Navy canister | Joins the waste cask load and the cask to make a caskonrail object |
| 56Load | Join | DOE | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 56Load_OV | Join | DOE OV | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 56RDISP | End | DOE | None | Logical end process required after cask/waste join process |
| 56RDISP_OV | End | DOE OV | None | Logical end process required after cask/waste join process |
| 58 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 58Dist | Generic | Nuhoms | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 58load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 6 To Map | Generic | Trucks | None | Logical end process required after cask/waste join process |
| 60 to Map | Generic | STP | None | Logical end process required after cask/waste join process |
| 60CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 60Dist | Generic | STP | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 60load | Join | STP | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 62CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 62RDISP | End | DOE | None | Logical end process required after cask/waste join process |
| 62RDLoad | Join | DOE | Site Operation to Overpack a DPC | Joins the waste cask load and the cask to make a caskonrail object |
| 63CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 63RDISP | End | DOE | None | Logical end process required after cask/waste join process |
| 63RDLoad | Join | DOE | Site Operation to Overpack a DPC | Joins the waste cask load and the cask to make a caskonrail object |
| 64 to Map | Generic | NAC | None | Logical end process required after cask/waste join process |
| 64Dist | Generic | NAC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 64load | Join | NAC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 65CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 65Dist | Generic | NAC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 65load | Join | NAC | Cask Load Operation | Joins the waste cask load and the cask to make a caskonrail object |
| 65 to Map | Generic | NAC | None | Logical end process required after cask/waste join process |
| 66 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 66CaskEnd | End | RailUnbatch3 | None | Logical end process required for Cask Return processes |
| 66Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 66load | Join | TSC | Cask Load Operation | Joins the waste cask load of assemblies and the cask to make a caskonrail object |
| 68 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 68Dist | Generic | Nuhoms | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 68load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load of assemblies and the cask to make a caskonrail object |
| 69 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 69Dist | Generic | Nuhoms | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 69load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load of assemblies and the cask to make a caskonrail object |
| 6CaskEnd | End | GROAUnbatchTruck | None | Logical end process required for Cask Return processes |
| 6Tload | Join | Trucks | Cask Load Operation | Joins the waste cask load of assemblies and the cask to make a caskontruck object |
| 70 to Map | Generic | Nuhoms | None | Logical end process required after cask/waste join process |
| 70Dist | Generic | Nuhoms | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 70load | Join | Nuhoms | Cask Load Operation | Joins the waste cask load of assemblies and the cask to make a caskonrail object |
| 76 to Map | Generic | TSC | None | Logical end process required after cask/waste join process |
| 76Dist | Generic | TSC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 76load | Join | TSC | Cask Load Operation | Joins the waste cask load of assemblies and the cask to make a caskonrail object |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| 77 to Map | Generic | NAC | None | Logical end process required after cask/waste join process |
| 77Dist | Generic | NAC | None | Receives cask from buy process and distributes to join with associated basket, shell or cask load |
| 77load | Join | NAC | Cask Load Operation | Joins the waste cask load of assemblies and the cask to make a caskonrail object |
| ANOR | Generic | SWrail 7 | Reactor site with rail depot rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| ANOT | Generic | SWtruck 2 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Arrivals 3 | Distribution | RailUnbatch3 | None | Distributes arriving railshipments or railshipmentDOE objects toIMFUInbatch1 3 and IMFUnbatch 2 3 |
| Atlanta | Generic | SErail 9 | Transportation Node | Connection point of two or more routes. |
| Barstow | Generic | SWrail 7 | Transportation Node | Connection point of two or more routes. |
| BFB | Generic | SErail 9 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| BFR | Generic | SErail 9 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| BFT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Blair6 6 | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| Bloomington2 3 | Generic | MWtruck 3 | Transportation Node | Connection point of two or more routes. |
| BRAR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| BRAT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| BRPcan | Generic | TS | None | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| BRPHH | Generic | MWrail 8 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| BRPR | Generic | MWrail 8 | Reactor with HH | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the HH carrier |
| BRPT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| BRUR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| BRUT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| BuyCaskXXX | Start | All cask departments | Cask Procurement | Creates Cask Objects number XXX on demand or a Work Order. |
| BuyCaskXX_INS | Start | DOE OV | Cask Procurement | Creates DOE Cask Objects number XXX_INS on demand or a Work Order |
| BuyLoco | Start | RollingStock | Transportation procurement | "Buys" the locomotives, buffer rail cars, and security crew railcars that are the makeup the RollingStock object |
| BuyRCB | Start | RollingStock | Transportation procurement | Buys buffer rail car. Not used in TSM V6.0 |
| BuyRCP | Start | RollingStock | Transportation procurement | Buys security personnel rail car. Not used in TSM V6.0 |
| BuyTruck | Start | RollingStock | Transportation procurement | Buys the truck that is the x-truck object |
| BVHH | Generic | NErail 10 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| BVR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| BVT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| BWRBuffer | Generic | GROA | Parking for BWR cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| BYRR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| BYRT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Cairo8 | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| CALHH | Generic | MWrail 8 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| CALR | Generic | MWrail 8 | Reactor with HH | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the HH carrier |
| CALT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| CarrierEnd | End | Reprocessing | None | Not used in TSM V6.0 Disposal point for reprocessing carrier objects |
| CarrierEnd 3 | End | RailUnbatch 3 | None. | Destroys objects from arriving batch that do not continue downstream. |
| CaskEnd | End | Reprocessing | None | Not used in TSM V6.0. Logical end. |
| CaskHoldOnce | Router | RailUnbatch3 | None | Routes new “one time” shipment casks added in TSM V4.0 to Hold Process |
| CaskHoldOVDist | Router | RailUnbatch3 | None | Routes Overpack (OV, shell) casks added in TSM V4.0 to Hold Process |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| CaskHoldRepR | Generic | Reprocessing | Buffer area. | Not used in TSM V6.0 Cask hold for reprocessing |
| CaskHoldXX | Generic | GTROAUnbatchTruck | None | Holds truck cask XX at GROA UnbatchTruck1 until triggered by unload process to return, check GROA residence times with this process |
| CaskHoldYYY | Generic | RailUnbatch3 | None | Holds non-truck Cask or Shell YYY at RailUnbatch3 until triggered by unload process to return, check GROA residence times with this process |
| CaskReturnEnd 1 | End | GROA | None | Logical end process required for empty Cask Return processes (VSM). |
| CaskReturnJumpto TSM | Generic | GROA | | Routes empty Truck and Rail casks to the jumps from the GROA to the main GUI. |
| CaskSort | Router | Maintenance | Cask Maintenance Receipt | Routes the returned cask to DPC (D), rail (R), or truck (T) CaskMaint processes. |
| CaskXX_INSDistribute | Start | DOE OV | Cask XX_INS inventory. | Basket/Insert XX_INS from buy process or return from field ready for trigger to demand move to join process to accept a cask load. |
| CaskXXXDistribute | Generic | All cask departments. | Cask XXX inventory. | Cask XXX from buy process or return from field ready for trigger to demand move to join process to accept a cask load. |
| CastorV21once | Generic | TSC | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| CastorV33once | Generic | TSC | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| CATR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| CATT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| CCB | Generic | NErail 10 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| CCR | Generic | NErail 10 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| CCT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| CGSR | Generic | NWrail 6 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| CGST | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| CHFDSNF | Generic | GROA | None | A "meter" that shows the quantity of waste in the transfer facility lag staging that can be used for filling WP (VSM). Not used in TSM V6.0. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| CHFend 1 1 | End | GROA | None | The terminating point for the waste cask loads after the cask contents that have been "emptied" by the VB thermal recipe (VSM). . Not used in TSM V6.0. |
| CHFHLW | Generic | GROA | None | A "meter" that shows the quantity of waste in the transfer facility lag staging that can be used for filling WP (VSM). Not used in TSM V6.0. |
| CHFNavy | Generic | GROA | None | A "meter" that shows the quantity of waste in the transfer facility lag staging that can be used for filling WP (VSM). Not used in TSM V6.0. |
| Cincinnati2 3 | Generic | MWtruck 3 | Transportation Node | Connection point of two or more routes. |
| CLIR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| CLIT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Columbiana | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| CPR | Generic | SWrail 7 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| CPRB | Generic | NWrail 6 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| CPRR | Generic | NWrail 6 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| CPRT | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| CPT | Generic | SWtruck 2 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| CRCFXCloseY | Generic | GROA | WP Weld Station | Closes the filled WP by welding. 2 welders. CRCF 2 and 3 have one spare in VSM. |
| CRCFXClosureDist | Generic | GROA | WP welding routing | Routes filled WP to welder using “least busy” logic. |
| CRCFXDispatch | Generic | GROA | GROA Dispatch | Routes completed WP to be loaded on the transporter. |
| CRCFXStatus | End | GROA | None | “Traffic light” that shows if facility is on-line (green), within 30 days of on-line (yellow) or off-line (red) based on start date. No logic functions. |
| CRCFXUnload | Generic | GROA | DOE cask load entry | Unloads DOE canisters. In V6.0, CRCF2Unload is not used for DOE wastes. |
| CRCFXWPfill | Generic | GROA | WP fill station | Loads DOE canisters into the WP. TAD canisters are loaded in process TADxfertoWPX. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| CRCFXWPtoTransporter | Generic | GROA | Transporter | Loads completed WP onto transporter to go to MGR. |
| CRCFXend | Generic | GROA | None. | Logical end for unload. In VSM view. |
| CRYR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| CRYT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| DBR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| DBT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| DCCR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| DCCT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| DCHH | Generic | SWrail 7 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| DCR | Generic | SWrail 7 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| DCT | Generic | SWtruck 2 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Denver1 6 6 | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| DeramusSW | Generic | SWrail 7 | Transportation Node | Connection point of two or more routes. |
| Dissolver | Generic | Reprocessing | Front end actions | Not used in TSM V6.0. Models all disassembly/shearing and the dissolution processes. |
| DistLoco | Generic | RollingStock | Transportation procurement | Distributes the RollingStock object to the R sites on demand so R sites can make the Railshipment or RailshipmentDOE batch |
| DistRCB | Generic | RollingStock | Transportation procurement | Not used in TSM V6.0 |
| DistRCP | Generic | RollingStock | Transportation procurement | Not used in TSM V6.0 |
| DistStageReturn | Generic | GROA | Stage Control and Operations | Routes wastes from short-term aging to transfer facilities. |
| DistTruck | Generic | RollingStock | Transportation procurement | Distributes the x-truck object to the T sites on demand so T sites can make the Truckshipment batch |
| DOE | Department | N/A | N/A | Department for cask purchase, allocation, and loading for DOE casks. |
| DOERail | Generic | N/A | DOE Rail Depot | Origin point for DOELoco carrier. Not used in TSM V6.0. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| DOErailArrivals 2 1 | Distribution | GROAUnbatchR | None | Distributes arriving XferCaskonrail objects to GROARailUInbatch1 2 and GROARailUnbatch 2 2 |
| DOERailLoco | Start | N/A | DOE Rail Depot | Generates the locomotives, buffer rail cars, and security crew railcars that makeup the DOELoco carrier. Not used in TSM V6.0. |
| DPCAgePrep | Generic | GROA | Operation to place DPC in overpack | DPC routes to here vs. unload to make WP if WHF process lines are busy |
| DPCBWRBuffer | Generic | GROA | Parking for DPC cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| DPCPWRBuffer | Generic | GROA | Parking for DPC cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| DPCReturnBuffer | Generic | GROA | Age Control and Operations | Holds staged overpacked DPC objects until WHF process can accept them. DPC objects are not killed and recorded in a DB like TAD canisters to aging, D-XXX objects remain in this process (may be several hundred) |
| DPCtoStageST | Generic | GROA | Carrier to short-term staging | Routes overpacked DPC to staging, will be returned by process DPCReturnBuffer |
| DRER | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| DRET | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| DSNF18 | Start | DOE | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNF18_OV | Start | DOE OV | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNF24 | Start | DOE | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNF24_OV | Start | DOE OV | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNFBuffer | Generic | GROA | Parking for DOE SNF cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| DSNFHLW | Start | DOE | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNFHLW_OV | Start | DOE OV | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNFLBuffer | Generic | GROA | Parking for DOE SNFL cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| DSNFMCO | Start | DOE | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNFMCO_OV | Start | DOE ov | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DSNFNavy | Start | DOE | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| DSNFNAVY_OV | Start | DOE OV | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| DTF1BWR | Generic | GROA | None | A "meter" that shows the quantity of waste in the transfer facility lag staging that can be used for filling WP (VSM). Not active in V6.0. |
| DTF1BWRHeat | Generic | GROA | None | A "meter" that shows the total heat of the waste in the transfer facility lag staging that can be used for filling WP (VSM). Not active in V6.0. |
| DTF1DOE | Generic | GROA | None | A "meter" that shows the quantity of waste in the transfer facility lag staging that can be used for filling WP (VSM). Not active in V6.0. |
| DTF1PWR | Generic | GROA | None | A "meter" that shows the quantity of waste in the transfer facility lag staging that can be used for filling WP (VSM). Not active in V6.0. |
| DTF1PWRHeat | Generic | GROA | None | A "meter" that shows the total heat of the waste in the transfer facility lag staging that can be used for filling WP (VSM). Not active in V6.0. |
| DTF1STP | Generic | GROA | None | A "meter" that shows the quantity of waste in the transfer facility lag staging that can be used for filling WP (VSM). Not active in V6.0. |
| DUAR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| DUAT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| EastPalestine2 7 8 | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| End1 2 | End | Reprocessing | None | Not used in TSM V6.0 Logical end |
| End2 2 | End | Reprocessing | None | Not used in TSM V6.0 Logical end. |
| End5 1 1 | End | GROA | None | For test only (VSM). |
| FARR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| FART | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| FCHH | Generic | NWrail 6 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| FCR | Generic | NWrail 6 | Reactor with HH | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the HH carrier |
| FCT | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| FERR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| FERT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| FITR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| FITT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Fresno2 2 | Generic | SWtruck 2 | Transportation Node | Connection point of two or more routes. |
| FSVR | Generic | NWrail 6 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| FSVrain | Generic | Trucks | Reactor site truck depot | The simulation entry point for an IS file cask load in the cask indicated in the Process Name |
| FSVT | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| GA-4 | Generic | Trucks | Reactor site truck depot | The simulation entry point for an IS file cask load in the cask indicated in the Process Name |
| GA-9 | Generic | Trucks | Reactor site truck depot | The simulation entry point for an IS file cask load in the cask indicated in the Process Name |
| GGB | Generic | SErail 9 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| GGR | Generic | SErail 9 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| GGT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| GINHH | Generic | NErail 10 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| GINR | Generic | NErail 10 | Reactor with HH | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the HH carrier |
| GINT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| GROA | Department | N/A | GROA site | Receives waste from transportation, handles aging of SNF, and makes WP |
| GROACaskReturn | Generic | GROA | GROA Unloaded Cask Transporter | After the casks are emptied in the unloading or open processes, casks in the CaskHold processes are triggered to this process to model cask transfers in the GROA. |
| GROARailSecurity | Generic | | GROA Secure Entrance | Checks accountancy of shipment, permits access |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| GROARailUnbatch1 2 1 | Router | GROAUnbatchR | None | Unbatches generic XFERcaskonrail objects after transport to the GROA. Send cask load forward and terminates other generic objects. |
| GROARailUnbatch2 2 1 | Router | GROAUnbatchR | None | Unbatches generic XFERcaskonrail objects after transport to the GROA. Send cask load forward and terminates other generic objects. |
| GROARCaskReturn | Generic | N/A | None | Receives returning rail cask from Jump in GROA (RailCaskReturn) |
| GROATCaskReturn | Generic | N/A | None | Receives returning truckcask from Jump in GROA (TruckCaskReturn) |
| GROATruckDepot | Generic | N/A | GROA Truck Entrance | Receives the truck shipments from the national highways on the truck map departments |
| GROATruckSecurity | Generic | | GROA Secure Entrance | Checks accountancy of shipment, permits access |
| GROAUnbatchR | Department | N/A | None | Unbatches generic XFERcaskonrail objects after transport to the GROA. Send cask load forward and terminates other generic objects. |
| GROAUnbatchTruck | Department | N/A | GROA Truck Depot | Unbatches truckshipments to segregate the transportation objects, waste cask loads, and casks. Holds truck casks while waste cask load is processed. |
| HADB | Generic | NErail 10 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| HADR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| HADT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| HANR | Generic | NWrail 6 | DOE site rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| HANT | Generic | NWtruck 1 | DOE site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Harlan 6 | Generic | NWrail 6 | Transportation Node | Not used in TSM V6.0. |
| HARR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| HART | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| HATR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| HATT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| HCB | Generic | NErail 10 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| HCR | Generic | NErail 10 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| HCT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| HiStar | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| HLWBuffer | Generic | GROA | Parking for HLW cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| HLWLBuffer | Generic | GROA | Parking for HLWL cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| HLWStaging | Generic | Reprocessing | HLW output buffer | Not used in TSM V6.0 Buffer for reprocessed HLW, waiting for transportation to GROA |
| HS-100B | Generic | HiStar | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| HS-100Bcan | Generic | HiStar | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| HS-100P | Generic | HiStar | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| HS-100Pcan | Generic | HiStar | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| HS-HBcan | Generic | HiStar | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| HS-TROcan | Generic | HiStar | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| HUMB | Generic | NWrail 6 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| HUMR | Generic | NWrail 6 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| HUMT | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| IHFBuffer | Generic | GROA | Parking for cask loads destined for IHF. | Holds cask loads until IHF is ready to process. Usually for Navy cask loads but may hold CSNF cask loads or other DOE cask loads for processing if WHF and CRCF are not on line. |
| IHFClose | Generic | GROA | WP weld station | Closes the filled WP by welding. |
| IHFDispatch | Generic | GROA | GROA dispatch | Routes completed WP to be loaded on the transporter. |
| IHFReceipt | Generic | GROA | Entry to IHF | Unloads cask loads to send to transfer to WP. |
| IHFTransporter | Generic | GROA | Transporter | Loads completed WP onto transporter to go to MGR. |
| IHFxfertoWP | Generic | GROA | DOE canister load to WP | DOE canister is transformed to a WP. |
| IMFCaskReceive 1 | Generic | N/A | Empty Cask Receipt | Depot for unloaded casks to return to IMF |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| IMFDepot | Generic | N/A | Head end of Nevada rail | Receives all shipments from the final jumps in transportation maps just after NVR |
| IMFRailShipment1 3 | Join | RailUnbatch3 | None | Joins XferCask and cask load to form XFERCaskonrail object |
| IMFRailShipment2 3 | Join | RailUnbatch3 | None | Joins XferCask and cask load to form XFERCaskonrail object |
| IMFUnbatch1 3 | Router | RailUnbatch3 | IMF Unloading | Unbatches Railshipments and RailshipmentDOE to segregate the transportation objects, waste cask loads, and casks. Routes casks to cask hold, cask load to GROA, and RollingStock to transportation maintenance. |
| IMFUnbatch2 3 | Router | RailUnbatch3 | IMF Unloading | Unbatches Railshipments and RailshipmentDOE to segregate the transportation objects, waste cask loads, and casks. Routes casks to cask hold, cask load to GROA, and RollingStock to transportation maintenance. |
| IMFUnTestEnd | End | RailUnbatch3 | none | For test only |
| INLR | Generic | NWrail 6 | DOE site rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| INLT | Generic | NWtruck 1 | DOE site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| InputtoGROA | Generic | N/A | None | Input to the GROA, cask cumulative weights and arrivals at this point measure WA |
| InspectLoco | Generic | RollingStock | Transportation Maintenance | Inspects RollingStock, 2% are sent RepairLoco process |
| InspectRCB | Generic | RollingStock | Transportation Maintenance | Not used in TSM V6.0 |
| InspectRCP | Generic | RollingStock | Transportation Maintenance | Not used in TSM V6.0 |
| InspectTruck | Generic | RollingStock | Transportation Maintenance | Inspects trucks, 2% are sent RepairTruck process |
| IPHH | Generic | NErail 10 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| IPR | Generic | NErail 10 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| IPT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| JCT New Portage | Generic | NErail 10 | Transportation Node | Connection point of two or more routes. |
| KansasCity1 6 6 | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| KEWHH | Generic | MWrail 8 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| KEWR | Generic | MWrail 8 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| KEWT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| LACR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| LACT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Lake Charles 8 7 | Generic | SWrail 7 | Transportation Node | Connection point of two or more routes. |
| Lawrenceburg2 7 8 | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| Lawrenceville | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| LeakTestEnd | End | RollingStock | None | Logical end for rolling stock distribution. |
| LIMR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| LIMT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| LongStageReturn | Generic | GROA | Stage Control and Operations | Loads a TAD canister to be returned onto the aging transporter carrier to go to the process lines |
| LSR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| LST | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Lunita1 8 7 | Generic | SWrail 7 | Transportation Node | Connection point of two or more routes. |
| Maintenance | Department | N/A | FMF | Process lines to inspect and maintain the casks. |
| MC-10once | Generic | TSC | Site Receive Depot | The simulation entry point for an IS file cask load in the TSC indicated in the Process Name |
| MCGR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| MCGT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| MedRailB | Generic | Small/Med Rail | Site Receive Depot | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| MedRailP | Generic | Small/Med Rail | Site Receive Depot | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| Metropolis2 3 | Generic | MWtruck3 | Transportation Node | Connection point of two or more routes. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| MGRemplace | Generic | N/A | MGR | Receives the WP from the MGRtrans carrier and sends it to the TSMend process |
| MGRTestEnd 1 | End | GROA | None | Test end used for logic checks |
| MGRTransporter | Start | N/A | None | Creates the MGR carrier |
| MILR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| MILT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Minneapolis | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| Modesto2 8 7 | Generic | SWrail 7 | Transportation Node | Connection point of two or more routes. |
| MonDataResources | Generic | N/A | None | Holds program extension to initialize the database and also keep notes on the model description |
| MONR | Generic | NWrail 6 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| MONT | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| MOR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| MOT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| MP-187-24 | Generic | Nuhoms | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name. |
| MP-187-24can | Generic | Nuhoms | Site Loading Area | The simulation entry point for an IS file cask load in a canister indicated in the Process Name. |
| MP-187-32 | Generic | Nuhoms | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name. |
| MP-187-32can | Generic | Nuhoms | Site Loading Area | The simulation entry point for an IS file cask load in a canister indicated in the Process Name |
| MP-197 | Generic | Nuhoms | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name. |
| MP-197can | Generic | Nuhoms | Site Loading Area | The simulation entry point for an IS file cask load in a canister indicated in the Process Name |
| MSC_end 1 1 | End | GROA | Site Loading Area | Logical end that is the terminating point for TAD canister entering aging. |
| MWrail 8 | Department | N/A | Transportation Routes | Department with rail sites and rail routes |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| MWtruck 3 | Department | N/A | Transportation Routes | Department with truck sites and truck routes |
| MYR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| MYT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| NAC | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| NAC-128once | Generic | TSC | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| NAC-LWTB | Generic | Trucks | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| NAC-LWTP | Generic | Trucks | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| NAC-STC | Generic | NAC | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| NAC-STCcan | Generic | NAC | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| NAC-UMSB | Generic | NAC | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| NAC-UMSBcan | Generic | NAC | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| NAC-UMSP | Generic | NAC | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| NAC-UMSPcan | Generic | NAC | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| NAC-YRcan | Generic | NAC | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| NAR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| NAT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| NErail 10 | Department | N/A | Transportation Routes | Department with rail sites and rail routes |
| NEtruck 5 | Department | N/A | Transportation Routes | Department with truck sites and truck routes |
| NewCaskend | Generic | RailUnbatch 3 | None | Logical end process required for Cask Return processes |
| NMPR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| NMPT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| NUHOM52Bcan | Generic | Nuhoms | Site Loading Area | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| Nuhoms | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| NVR | Generic | SWrail 7 | Inter modal facility | Arrival at NVR then jumps to the TSM via process ToNevIMF |
| NWrail 6 | Department | N/A | Transportation Routes | Department with rail sites and rail routes |
| NWtruck1 | Department | N/A | Transportation Routes | Department with truck sites and truck routes |
| Oakley1 1 | Generic | NWtruck 1 | Transportation Node | Connection point of two or more routes. |
| OCB | Generic | NErail 10 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| OCOHH | Generic | SErail 9 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| OCOR | Generic | SErail 9 | Reactor with HH | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the HH carrier |
| OCOT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| OCR | Generic | NErail 10 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| OCT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Omaha | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| Omaha 1 | Generic | NWtruck 1 | Transportation Node | Connection point of two or more routes. |
| OnceDisposal | Generic | RailUnbatch 3 | None | Logical end process required for Cask Return processes |
| OVCaskEnd | Generic | RailUnbatch 3 | None | Logical end process required for Cask Return processes |
| Painesville 8 | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| Painesville2 3 | Generic | MWtruck 3 | Transportation Node | Connection point of two or more routes. |
| PALHH | Generic | MWrail 8 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| PALR | Generic | MWrail 8 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| PALT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| Parking | Generic | GROA | GROA Rail Siding and Truck Parking Area | All cask loads enter the GROA Department at this point. Cask loads jump to this point from the main GUI "InputtoGROA" process |
| PEAHH | Generic | NErail 10 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| PEAR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| PEAT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| PERR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| PERT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| PILB | Generic | NErail 10 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| PILR | Generic | NErail 10 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| PILT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| PIR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| PIT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Plattsmouth6 | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| POIHH | Generic | MWrail 8 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| POIR | Generic | MWrail 8 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| POIT | Generic | MWtruck3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Portsmouth2 7 8 | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| PVR | Generic | SWrail 7 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| PVT | Generic | SWtruck 2 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| PWRBuffer | Generic | GROA | Parking for PWR cask loads. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| QCR | Generic | MWrail 8 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| QCT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| RailCaskReturn | Generic | GROA | None | Jump from the GROA department to the main GUI GROARCaskReturn process. |
| RailShipCostCalc | Generic | N/A | None | Holds program extensions for rail shipment cost calculation callouts |
| Rail-TruckArrivalBuffer | Generic | GROA | GROA Rail Siding and Truck Parking Area | All cask loads enter the GROA Department at this point. Cask loads jump to this point from the TSM InputtoGROA process |
| RailUnbatch 3 | Department | N/A | IMF Transfer | Unbatches Railshipments and RailshipmentDOEs to segregate the transportation objects, waste cask loads, and casks. Forms the generic XFERcaskonrial object to transfer to GROA on the DOE rail |
| RBR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| RBT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| RCaskCheck | Router | Maintenance | Cask Maintenance Receipt | Reads the cask parameters associated with routine maintenance (time, number of trips) and routes to cask maintenance if needed. |
| RCaskMaint | Router | Maintenance | Cask Maintenance | Performs scheduled maintenance. Reads the cask age and routes to CaskRepl if needed. |
| RCaskRepl | Generic | Maintenance | Cask Maintenance | Performs major overhaul if cask is more than 25 years old. |
| Red Oak 6 | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| RepairLoco | Generic | RollingStock | Transportation Maintenance | Repairs RollingStock locomotive and rail cars |
| RepairRCB | Generic | RollingStock | Transportation Maintenance | Not used in TSM V6.0 |
| RepairRCP | Generic | RollingStock | Transportation Maintenance | Not used in TSM V6.0 |
| RepairTruck | Generic | RollingStock | Transportation Maintenance | Repairs trucks |
| Reprocessing | Department | N/A | Reprocessing capability that may be added to CRWMS. | Not used in TSM V6.0. Transforms incoming SNF to HLW canisters. |
| ReprUnbatch | Generic | Reprocessing | Cask unloading. | Not used in TSM V6.0 Unbatch process for reprocessing |
| ReturnRS | Router | RollingStock | Transportation Maintenance Operations | Routes returning rolling stock to proper process line for eminence. Objects teleported from Railunbatch 3 (IMFRSReturn 3) and GROAUnbatchTruck (IMFRSTruck 1) |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| RFStatus | End | GROA | None. | “Traffic light” that shows if facility is on-line (green), within 30 days of on-line (yellow) or off-line (red) based on start date. No logic functions. |
| RF_Router | Generic | GROA | Receipt Facility | Routes cask loads to CRCF, staging, or aging. Not a true SimCAD™ router- router done by extensions. |
| Roanoke2 5 | Generic | NEtruck 5 | Transportation Node | Connection point of two or more routes. |
| ROBR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| ROBT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| RollingStock | Router | RollingStock | Transportation Maintenance Depot | Receives returning Trucks from the GROAUnBatchTruck department and the RollingStock from the GROAUnbatch3 department |
| RollingStockBatch | Join | RollingStock | Transportation Maintenance Depot | Creates a RollingStock batch object |
| RollingStockDist 1 | Generic | RollingStock | Transportation Maintenance Depot | Uses a "NextProcesstoStart" extension to send RollingStock to the sites on demand to be added to the shipment batch. |
| Rreturn | Router | Maintenance | Cask Maintenance Dispatch | Returns rail cask to proper CaskDistribute process for reuse. |
| RSR | Generic | NWrail 6 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| RST | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SALB | Generic | NErail 10 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| SALR | Generic | NErail 10 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| SALT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SCaskCheck | Router | Maintenance | Cask Maintenance Receipt | Reads the cask parameters associated with routine maintenance (time, number of trips) and routes to cask maintenance if needed. |
| SCaskMaint | Generic | Maintenance | Cask Maintenance | Performs scheduled maintenance. Reads the cask age and routes to CaskRepl if needed. |
| Schenectady | Generic | NErail 10 | Transportation Node | Connection point of two or more routes. |
| SEAR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| SEAT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SEQR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| SEQT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SErail 9 | Department | N/A | Transportation Routes | Department with rail sites and rail routes |
| SEtruck 4 | Department | N/A | Transportation Routes | Department with truck sites and truck routes |
| Shreveport1 2 | Generic | SWtruck 2 | Transportation Node | Connection point of two or more routes. |
| ShreveportSW | Generic | SWrail 7 | Transportation Node | Connection point of two or more routes. |
| SLB | Generic | SErail 9 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| SLR | Generic | SErail 9 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| SLT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Small/Med Rail | Department | N/A | Site Loading Area | Department for cask purchase, allocation, and loading for cask type shown |
| SmallRailB | Generic | Small/Med Rail | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| SmallRailP | Generic | Small/Med Rail | Site Loading Area | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| SOR | Generic | SWrail 7 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| SortCaskHold 3 | Router | RailUnbatch 3 | None | Sorts the incoming casks to the IMF to the correct "cask hold" process |
| SOT | Generic | SWtruck 2 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SpareBuffer | Generic | GROA | Parking for cask loads. | For future use, not used in V6.0. |
| SpareEnd | End | GROA | None | The terminating point for the waste cask loads after the cask contents have been "emptied" by the VB thermal recipe. In VSM view. |
| Sreturn | Router | Maintenance | Cask Maintenance | Returns shell to proper CaskDistribute process for reuse. |
| SRSH | Generic | Reprocessing | Arrival depot | Not used in TSM V6.0 Arrival point for reprocessing shipments at SRS |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| SRSR | Generic | SErail 9 | DOE site rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| SRST | Generic | SEtruck 4 | DOE site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| St. George1 | Generic | NWtruck 1 | Transportation Node | Connection point of two or more routes. |
| St. Joseph1 | Generic | NWtruck 1 | Transportation Node | Connection point of two or more routes. |
| StageReturnDump 1 1 | End | GROA | None | Logic end to terminate TAD canister objects from the TSM. Data on each TAD canister is taken and held to calculate the time the TAD canister is cool enough for routing to the transfer facilities. (VSM) |
| StartBarge1 9 | Start | SErail 9 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| StartBarge16 6 | Start | NWrail 6 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| StartBarge16 7 | Start | SWrail 7 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| StartBarge17 | Start | Nwrail 6 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| StartBarge2 9 | Start | SErail 9 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| StartBarge3 9 | Start | SErail 9 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| StartBarge4 9 | Start | SErail 9 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| StartHH1 9 | Start | SErail 9 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "B" sites |
| StartHH13 8 | Start | MWrail 8 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "B" sites |
| StartHH14 8 | Start | MWrail 8 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "B" sites |
| StartHH15 8 | Start | MWrail 8 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "B" sites |
| StartHH5 8 | Start | MWrail 8 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "B" sites |
| StartHH6 8 | Start | MWrail 8 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "B" sites |
| StartHH7 6 | Start | NWrail 6 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "B" sites |
| STP | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| StPaul1 6 6 | Generic | NWrail 6 | Transportation Node | Connection point of two or more routes. |
| STPBare | Generic | STP | None | The simulation entry point for the bare cask load indicated in the Process Name |
| STPcan | Generic | STP | None | The simulation entry point for an IS file cask load in the can indicated in the Process Name |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| STPR | Generic | SWrail 7 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| STPT | Generic | SWtruck 2 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| STStage | Generic | GROA | Short Term Aging Pad | Hold wastes short term (usually overpacked DPC that arrive before there is line to open them). |
| SUMR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| SUMT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SURB | Generic | SErail 10 | Barge/Rail Depot near reactor | Unloads the barge carrier and batches the caskonrail objects into a z-bargeshipment. |
| SURR | Generic | NErail 10 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |
| SURT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SUSR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| SUST | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| SWrail 7 | Department | N/A | Transportation Routes | Department with rail sites and rail routes |
| SWtruck 2 | Department | N/A | Transportation Routes | Department with truck sites and truck routes |
| TAD | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| TAD | Generic | GROA | PWR TAD canister procurement | Starting point for the WPdummy objects that are used to properly model TAD canister transfers in the GROA. Dummy objects released on demand from the WHFWPFill. |
| TADAgeDist | Generic | GROA | Age Control and Operations | Routes TAD canister going to long term aging buffer where it is recorded to the TAD.mdb file. |
| TADAgePrep | Join | GROA | TAD overpack operation | Places TAD canister in overpack to go to aging. Transforms the arriving TAD canister cask load object into a TAD canister object to go to aging. |
| TADAgePrepWait | Generic | GROA | Buffer waiting for overpack. | Holds TAD canisters destined for long-term aging until overpack is available |
| TADAgeReturn | 1 | GROA | Age Control and Operations | Controls route for returning TAD canister to the TADReturnBuffer |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| TADBuffer | Generic | GROA | Parking for TAD cask loads or return point for TAD canisters from aging. | Holds the waste load until the VB code triggers the waste load to move to a transfer facility |
| TADLargeB | Generic | TAD | Site Receipt Depot | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, the utility has purchased the TAD canister. |
| TADLargeBBare | Generic | TAD | None | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, DOE purchases the TAD canister for the bare fuel cask load from the IS file. |
| TADLargeP | Generic | TAD | Site Receipt Depot | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, the utility has purchased the TAD canister. |
| TADLargePBare | Generic | TAD | Site Receipt Depot | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, DOE purchases the TAD canister for the bare fuel cask load from the IS. |
| TADLongAge | Generic | GROA | Long-Term aging | Endpoint for TAD canister in aging after recording info in TSM.mdb. |
| TADLongReturn | Generic | GROA | Age Control and Operations | Simulation reentry point for TAD canister ready to return from aging as determined by VB. |
| TADReturnBuffer | Generic | GROA | Age Control and operations. | Way station for TAD canister returning from Aging on the way to the TADBuffer. TAD canisters held here until the process lines are available for processing. |
| TADSmallB | Generic | TAD | Site Receipt Depot | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, the utility has purchased the TAD canister. |
| TADSmallBBare | Generic | TAD | Site Receipt Depot | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, DOE purchases the TAD canister for the bare fuel cask load from the IS. |
| TADSmallP | Generic | TAD | Site Receipt Depot | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, DOE purchases the TAD canister for the bare fuel cask load from the IS. |
| TADSmallPBare | Generic | TAD | Site Receipt Depot | The simulation entry point for an IS file cask load in the TAD canister indicated in the Process Name. In this case, DOE purchases the TAD canister for the bare fuel cask load from the IS. |
| TADtoStageLT | Generic | GROA | Transporter to aging | An intermediate process on the route from RF to aging. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| TADTruckEnd | End | GROA | None. | Logical end trucks (VSM). |
| TADxfertoWP1 | Generic | GROA | TAD canister transfer | Loads TAD canister into WP in CRCF1 |
| TADxfertoWP2 | Generic | GROA | TAD canister transfer | Loads TAD canister into WP in CRCF2 |
| TADxfertoWP3 | Generic | GROA | TAD canister transfer | Loads TAD canister into WP in CRCF3 |
| TCaskCheck | Router | Maintenance | Cask Maintenance Receipt | Reads the cask parameters associated with routine maintenance (time, number of trips) and routes to cask maintenance if needed. |
| TCaskMaint | Router | Maintenance | Cask Maintenance | Performs scheduled maintenance. Reads the cask age and routes to CaskRepl if needed. |
| TCaskRepl | Generic | Maintenance | Cask Maintenance | Performs major overhaul if cask is more than 25 years old. |
| TMIcanonce | Generic | Nuhoms | Site Receipt Depot | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| TMIR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| TMIT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| TN-32once | Generic | TSC | Site Receipt Depot | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| TN-32TSC | Generic | TSC | Site Receipt Depot | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| TN-40once | Generic | TSC | Site Receipt Depot | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| TN-68once | Generic | TSC | Site Receipt Depot | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| TN-68TSC | Generic | TSC | Site Receipt Depot | The simulation entry point for an IS file cask load in the basket indicated in the Process Name |
| TN-BRPwv | Start | DOE | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| TN-REGwv | Start | DOE | Site Receipt Depot | The simulation entry point for an IS file cask load indicated in the Process Name |
| To_MGR_Trans_in_TSM | Generic | GROA | MGR transporter dispatch | Final process in GROA department where WPPallet objects are sent to MGREmplace in the main GUI. |
| ToMGRdrift | Generic | N/A | MGR transporter emplacement | MGR transport of the WP into the drifts. |
| TPB | Generic | SErail 9 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| TPR | Generic | SErail 9 | Reactor with barge | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the barge carrier |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| TPT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| Treturn | Router | Maintenance | Cask Maintenance Dispatch | Returns truck cask to proper CaskDistribute process for reuse. |
| TROR | Generic | NWrail 6 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| TROT | Generic | NWtruck 1 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| TruckArrivals 1 | Distribution | GROAUnbatchTruck | None | Distributes arriving railshipments or RailshipmentDOE objects toIMFUInbatch1 3 and IMFUnbatch 2 3 |
| TruckCarrierReturn 1 | End | GROAUnbatchTruck | None | Terminates unbatched objects that do not recycle or go forward |
| TruckCaskHold 1 | Router | GROAUnbatchTruck | None | Routes Cask 1 and Cask 6 truck casks to Cask hold processes |
| TruckCaskHold18 | Generic | GTROAUnbatchTruck | None | Holds cask at GROA UnbatchTruck1 until triggered by unload process to return, check GROA residence times with this process |
| TruckCaskHold18 End | End | GROAUnbatchTruck | None | Logical end process required for Cask Return processes |
| TruckCaskReturn | Generic | GROA | None | Jump from the GROA department to the main GUI GROATCaskReturn process. |
| Trucks | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| TruckShipCostCalc6 | Generic | N/A | None | Holds program extensions for Cask 6 truck shipment cost calculation callouts |
| TruckUnbatch1 1 | Router | GROAUnbatchTruck | None | Unbatches truckshipments after transport to the GROA. Sends cask load forward and terminates other generic objects. |
| TruckUnbatch2 1 | Router | GROAUnbatchTruck | None | Unbatches truckshipments after transport to the GROA. Sends cask load forward and terminates other generic objects. |
| TruckUnbatchTest End 1 | End | GROAUnbatchTruck | None | For test only |
| TruckUnbatchTest Start 1 | End | GROAUnbatchTruck1 | None | For test only |
| TS | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| TSC | Department | N/A | None | Department for cask purchase, allocation, and loading for cask type shown |
| TSCAgeDist | Generic | GROA | Age Control and Operations | Routes TSC going to long term aging buffer where it is recorded to the TSM.mdb file. |
| TSCAgeReturn | Generic | GROA | Age Control and Operations | Controls route for returning TSC to the TSCReturnBuffer |
| TSCLoad | Generic | GROA | Loading Station for TSC. | Loads TSC onto transporter for aging (VSM). |
| TSCLongAge | Generic | GROA | Long-Term aging | Endpoint for TSC in aging after recording info in TSM.mdb. |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| TSCLongReturn | Generic | GROA | Age Control and Operations | Simulation reentry point for TSC ready to return from aging as determined by VB. |
| TSCReturnBuffer | Generic | GROA | Aging activities and control. | Way station for TSC returning from staging (VSM).. Not used in V6.0. |
| TSCtoStageLT | Generic | GROA | Dispatch to long-term aging | Routes the TSC to long-term aging (VSM). w |
| TSCtoStaging | Generic | GROA | TSC staging prep | Start of TSC line to send to aging if bare process lines are busy (VSM). |
| TSMEnd | End | N/A | None | End for entire model, terminates WPPallet objects |
| Uvada2 8 7 | Generic | SWrail 7 | Transportation Node | Connection point of two or more routes. |
| Vitrification | Generic | Reprocessing | Converts SNF Shipments into MTU | Not used in TSM V6.0 |
| VOGR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| VOGT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| VSC-24can | Generic | TS | Site Receipt Depot | The simulation entry point for an IS file cask load in the can indicated in the Process Name |
| VYR | Generic | NErail 10 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| VYT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| WATR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| WATT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| WBR | Generic | SErail 9 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| WBT | Generic | SEtruck 4 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| WCR | Generic | SWrail 7 | Reactor site with rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| WCT | Generic | SWtruck 2 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| WHFClose1 | Generic | GROA | WP weld station | Closes the filled WP by welding then sends WPPallet to WHFDispatch1. |
| WHFClosureDist | Generic | GROA | WP welder routing | WHF: Routes filled WP to welder using “least busy” logic. (Set up to route in the future-V6.0 uses only 1 WHF welder). |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| WHFDispatch1 | Generic | GROA | Line dispatch | WHF: Routes the completed TAD WP to the transporter to go to the MGR. |
| WHFDPCOpen | Generic | GROA | DPC cutting process | Opens arriving DPC and transfers assemblies to WP. |
| WHFPool | Generic | GROA | Spent fuel pool | No logic processes- for display only. |
| WHFStatus | End | GROA | None | "Traffic light" that shows if facility is on-line (green), within 30 days of on-line (yellow) or off-line (red) based on start date. No logic functions. |
| WHFTADfill | Generic | GROA | TAD canister transfer to WP. | Loads assemblies into TAD canister based on thermal constraints and transfers filled TAD canister to welder via WHFClosureDist process. |
| WHFUnload | Generic | GROA | Bare cask open and transfer process | Unloads bare casks and transfer assemblies to TAD canister. |
| WHFend | Generic | GROA | None. | Logical end for unload. In VSM view |
| WP_TAD_Router | Distribution | GROA | None. | On path of empty WP and TAD canister GROA motions. No logic, pass through. |
| WPBWR44 | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB (VSM). |
| WPCodisp | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB. |
| WPCodispL | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB. |
| WPMCO | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB. |
| WP-MSCBuffer | End | GROA | None | Logical end that terminates WPdummy objects that model the WP transfers (VSM). |
| WPNavy | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB. |
| WPNavyL | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB. |
| WPPWR12L | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB (VSM). |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| WPPWR21 | Start | GROA | WP Procurement | Starting point for the WPdummy objects that are used to properly model the WP transfers. Dummy objects created on demand from the VB (VSM). |
| WVR | Generic | NErail 10 | DOE site rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| WVT | Generic | NEtruck 5 | DOE site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| XferCask1 3 | Start | RailUnbatch3 | None | Starting point for a generic cask object Xfercask to join with the cask load to make a generic Xfercaskonrail object |
| XferCask2 3 | Start | RailUnbatch3 | None | Starting point for a generic cask object Xfercask to join with the cask load to make a generic Xfercaskonrail object |
| XferCaskEnd 2 1 | End | GROAUnbatchR | None | Terminates Xfercask objects |
| YMR | Generic | NWrail 6 | DOE site rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| YMT | Generic | NWtruck 1 | Yucca Mountain | Arrival at YMT then jumps to the TSM via process ToGROATruck |
| Youngstown 7 | Generic | MWrail 8 | Transportation Node | Connection point of two or more routes. |
| Youngstown2 3 | Generic | MWtruck 3 | Transportation Node | Connection point of two or more routes. |
| YRHH | Generic | NErail 10 | HH/Rail Depot near reactor | Unloads the HHcarrier and batches the caskonrail objects into a z-hhshipment. |
| YRR | Generic | NErail 10 | Reactor with HH | Receives the caskonrail object from the RDLoad or Rload processes and loads onto the HH carrier |
| YRT | Generic | NEtruck 5 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| ZIOR | Generic | MWrail 8 | DOE site rail depot | Receives the caskonrail object from the RDLoad or Rload processes and batches them into a railshipment |
| ZIOT | Generic | MWtruck 3 | Reactor site truck depot | Receives the caskonrail object from the TLoad load processes and batches them into a truckshipment |
| z-StartBarge11 10 | Start | NErail 10 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| z-StartBarge12 10 | Start | NErail 10 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| z-StartBarge5 10 | Start | NErail 10 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| z-StartBarge6 10 | Start | NErail 10 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| z-StartBarge7 10 | Start | NErail 10 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| z-StartBarge8 10 | Start | NErail 10 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |

| PROCESS GLOSSARY | | | | |
|---|---|---|---|---|
| **Process Name** | **Process Type** | **Department** | **Abstraction** | **Description** |
| z-StartBarge9 10 | Start | NErail 10 | Barge Vendor | Generates the z-barge1 carriers and sends them to the "B" sites |
| z-StartHH | Start | NErail 10 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "HH" sites |
| z-StartHH10 10 | Start | NErail 10 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "HH" sites |
| z-StartHH2 10 | Start | NErail 10 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the "HH" sites |
| z-StartHH3 10 | Start | NErail 10 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the " HH " sites |
| z-StartHH4 10 | Start | NErail 10 | HH Vendor | Generates the z-HHtruck1 carriers and sends them to the " HH " sites |

Note 1: 2XX is not a “wildcard,” it is the DOE OV cask name.

# 4. VARIABLE GLOSSARY

SimCAD™ and the TSM use a wide range of variables to control the simulation and to track data within the model. Many of these variables can be read or modified by the user. See the SimCAD™ User's Manual Appendix C (CaS 2006) for definitions of the variable types defined by SimCAD™.

In addition, SimCAD™ allows the user to define custom variables in order to better control the simulation, or to collect additional data on user-defined parameters. Custom variables are the focus of the variable glossary.

The main aspects to properly use variables are the variable *context* and variable *type.*

Variables are created in a "context" or environment in which they are active. There are four contexts available in SimCAD™:

> *Model variables* are global to the simulation and can be accessed at all times by all processes and extensions (extensions are unique script programs used in TSM).
>
> *Process and connection variables* can only be accessed from the process or connection line context. Note that each process has its own copy of the "process variables", as is the case for "connection variables" and connection lines. This means that process and connection variables are "local" to a process and connection. This way, a process variable can have one value in Process A and a different value in Process B. When SimCAD™ call functions are used (for example, to call out the functions to estimate the cost for a shipment from a process) the variables for that process (such as the number of casks in the shipment just completed) are sent to the call function and remain unique for that process.
>
> *Object variables* travel with the object throughout the model. Since each object has its own set of variables in its context, object variables can be used to collect and distinguish data for each object. Once again, these variables are "local" to each object. Note that when custom variables in the object context are defined, the IS file format automatically expands to add a column for the new custom variable. In the object context objects can use variables that are not true physical attributes of the object itself. For example, CSNF cask load objects use variables Heat01-Heat10 to bin the heats for the assemblies in the cask load. However, cask objects use Heat01-Heat04 for parameters related to maintenance needs such as the time since the last maintenance or the number of trips since the last maintenance. This is documented in the glossary by describing the variable use for all the types of objects that use the variable as required.

In addition to having a context, the variable also has a certain type. The variable types available in SimCAD™ and used in the TSM are:

> *String* - A string variable stores data that is text based and can contain both numeric and alphanumeric characters.

*Integer* - An integer variable stores whole numbers without decimal points. By default an integer variable has a value of 0 unless otherwise specified.

*Long* – A long integer variable stores whole numbers with a greater range than the integer variable. By default a long integer variable has a value of 0 unless otherwise specified.

*Double* - A double variable can store any number. Double variables can be used to store whole numbers with a greater range than long integer variables. By default all double variables have a value of 0.0.

*Event* - An event is a named property that can have two states, either signaled or not signaled. Each event operates in the global model space and is accessible in every process or connection within the model. Events can be signaled based on different custom conditions within the model. Each process contains a special "event handler" that allows it to release certain objects based on the event triggered. Events have to be reset using conditions or calls from within the model.

*AutoEvent* - The AutoEvent behaves similarly to the event except that it is reset automatically after the event handler is called.

See the SimCAD™ User's Manual (CaS 2006) for a better understanding of events. The events and autoevents are also referred to as "triggers" and are used extensively in the TSM process extensions (there are more than 400 triggers). Triggers are in a separate glossary table from the other variables and are a subject for advanced users of the TSM. Trigger variables have a similar variable name form and can be described generically using the names of the objects or designators for the sites involved.

The custom variables used in the TSM are listed in the "Flow Properties" menu, "Custom Variables" tab in the TSM main view. All of the TSM variables are listed in the "Analysis" menu on the main TSM page, menu Item "Model Properties" sub menu "Model Extensions". The variables glossary summarizes the function of the variables for the context used: model, process, connection, or object.

Variables defined and used in the VB code for the GROA WP blending and logistics are by definition custom variables that are in the model context. However, SimCAD™ is not programmed to scan VB code for the variables and add them to the custom variable list that the TSM records and tracks. The variables used in the VB code are defined and discussed in the GROA User Manual (BSC 2007c).

Notice that some variables are not used. These are either planned for use in future versions of the TSM or were used in earlier versions of the TSM and have not been "cleared out".

There was an attempt to use standard naming conventions for variables but this was not strictly followed. In general variables beginning with "mv" mean "Model Variable" that designates variables that were of interest to follow TSM results. Variables beginning with "cost" are related to cost calculations (BSC 2007d) but do not mean the variable itself is a cost. Similar variable

naming conventions include “Metric Tons of Uranium (MTU)” for variables related to CSNF mass tracking, “rad” related to dose estimates (BSC 2007f), and “date” related to the dates when facilities are commissioned. Many of these variables have unit values, quarterly values (“qtr”) or cumulative values (“cum”). Cumulative values are constantly updated as the model progresses by adding the value in the current time step to the sum of the variable values from all previous steps. Notice that regardless of the data interval the cum value is incremented each time the variable changes.

Calculations that use the variables, max values, and cum values as well as many other calculations are in the extensions in the processes or in the Flow Properties Dialog Box, Extensions/Events Tab, for the “Simulation Step Started” event. Extensions in the Flow Properties are executed each time step.

Notice that there are also many variables shown as a “max” or “min”. This indicates that the value is a max or min value during a data-recording period. The TSM does not record information to the .simdata base every time step because the .simdata results file would easily exceed several Gbytes. The TSM is typically configured to record data every 270 time steps (or about 3 months) and the min and max values are assessed and held during the data record interval. Instantaneous values that are taken at the time step when data is recorded may miss points with maximum activity. Maximum values of parameters such as the number of resources are a useful parameter to understand system effects.

Notice there are also variables that begin with “flg” for flag. These variables behave like triggers but change values from 0 (unset) to 1 (set).

“SimCAD” variables are included in the glossary as these may be encountered by users when reviewing extensions or code. These are used by the SimCAD™ logic to record object conditions and to set logic and cannot be removed or modified.

The information in the columns of the Variable Glossary includes:

*Variable name*: TSM variable name.

*Variable type*: As described above the types used in TSM are string, integer, double, event, or autoevent.

*Units*: Measurement units.

*Input Value*: The value set in the variable list or a description of where the variable is set (such as the IS file). The values listed in the table are typical and vary with the scenarios analyzed and must be input for each scenario. See the calculations for the analyses documentation for specific studies for the values used.

*Where used*: The Department and Process where the variable is used or defined.

*Description*: The general function or purpose of the variable in the TSM. More details such as equations that use the cost variables are covered in other TSM documentation.

The information in the columns of the Trigger Glossary includes:

*Trigger Generic Name*: The generic name of the trigger in SimCAD™. Triggers usually follow a pattern and are defined with a name that combines a pneumonic for the parameter and the objects or processes affected by the trigger. For example the trigger tr202200 may be designated trXXXYYY where XXX is for Cask (Shell 202) and YYY is for Cask (DPC) 200. This is the trigger where overpack 202 is being set to send an overpack to the join process downstream of Cask 200. A Cask 200 cask load has just arrived in the simulation from the IS file and issued a trigger to send the cask.

*Typical Name*: Example of an actual name used in the TSM. For example, tr202200 in the example above.

*XX*: Defines the object or processes designated by the "wildcard" nomenclature XX.

*YY*: Defines the Object or process designated by the "wildcard" nomenclature YY.

*Origin Process*: The process (or group of similar processes) that originate the trigger. Triggers may also be originated by the VB Code used for the GROA WP filling.

*Triggered Process*: The process (or group of similar processes) that initiate actions based on the trigger. Triggers may also be used to influence the VB Code used for the GROA WP filling.

*Description*: A general description of the function or action initiated by the trigger.

Note that many triggers end in "mon" and are described as a "monitor variable" If two processes activate the same autoevent trigger in a single time step, only a single instance will be recognized by SimCAD™. To ensure that both triggers are preserved, a monitor event (postfixed with a 'mon') is used to track all triggers from multiple requests. Each time step, this monitor event will trigger a single instance of the autoevent until all requests have been met. For example, a release of a TAD WP may be requested by CRCF1, CRCF2, and CRCF3 at the same time. Each of these will call the trWPTADmon event, which will in turn call the trWPTAD event. Each call to the trWPTAD event will release a single PWR WP.

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| Buffer_Type | Object | String | N/A | Buffer name | GROA Routers | Designates the type of buffer used in the GROA Department for a cask load. Set in the IS file. |
| DPC_Bypass | Model | Integer | N/A | 0 or 1 | VB-TSMCC | Equals 1 if DPC_bypass to staging will be used |
| Cask_ID | Object | String | N/A | Cask name | Load processes in cask allocation departments | Designates the type of transportation cask for a cask load. Set in the IS file. |
| caskrailshiptrwt | Model | Double | Lb. | N/A | Testing | Not used in TSM V6.0. Old testing variable |
| caskwtempty | Model | Double | lb | Varies by cask | Cost algorithm | Extension setting in CostCalc6 process to estimate shipping cost |
| caskwtfull | Model | Double | lb | Varies by cask | Cost algorithm | Extension setting in CostCalc6 process to estimate shipping cost |
| costbargeCPDall | Model | Double | $/day | N/A | Flow Properties Extensions | CostbargeCPDbarge+costbargeCPDtug |
| costbargeCPDbarge | Model | Double | $/day | $16,425 | Flow Properties Extensions | Cost per day for barge use |
| costbargeCPDtug | Model | Double | $/day | $4,080 | Flow Properties Extensions | Cost per day for tug use |
| costbargecum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for all barge costs |
| costbargedock | Model | Double | $/dock | $2,500 | Flow Properties Extensions | Cost for each barge docking |
| costbargeload | Model | Double | $/load | $18,000 | Flow Properties Extensions | Cost for loading a barge, each |
| costbargeloadcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for barge loadings |
| costbargeloadpercask | Model | Double | $/load | $18,000 | Flow Properties Extensions | Same as costbarge load |
| costbargeloadsteps | Model | Double | Time steps | 3 | Flow Properties Extensions | Time to load a barge |
| costbargeportcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative cost for port use |
| costbargeporteach | Model | Double | $/port | $2,500 | Flow Properties Extensions | Cost for port use, each |
| costbargeportnumcum | Model | Double | number | N/A | Flow Properties Extensions | Cumulative number of port uses |
| costbargetravelcum | Model | Double | $ | N/A | Flow Properties Extensions | Cost for barge travel (exclude port uses) |
| costbargeunloadsteps | Model | Double | Time steps | 3 | Flow Properties Extensions | Time to unload a barge |
| costbargeusecum | Model | Double | Time steps | N/A | Flow Properties Extensions | Cumulative barge use |
| costcaskbarebasket | Model | Double | $ each | $400,000 | Flow Properties Extensions | Cost for a bare basket |
| costcaskDOE | Model | Double | $ each | $4,470,000 | Flow Properties Extensions | Cost for DOE cask |
| costcaskmed | Model | Double | $ each | $2,800,000 | Flow Properties Extensions | Cost for medium rail cask |
| costcaskov | Model | Double | $ each | $2,800,000 | Flow Properties Extensions | Cost for cask overpack |
| costcasksmall | Model | Double | $ each | $2,000,000 | Flow Properties Extensions | Cost for small cask |
| costcasktruck | Model | Double | $ each | $2,500,000 | Flow Properties Extensions | Cost for truck cask |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| costcaskTSC | Model | Double | $ each | $3,300,000 | Flow Properties Extensions | Cost for TSC cask |
| costcumcaskD | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for DPC cask purchases |
| costcumcaskDOE | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for DOE cask purchases |
| costcumcaskR | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for rail cask purchases |
| costcumcaskreplR | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for rail cask refurb at 25 years |
| costcumcaskreplS | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for cask shells refurb at 25 years |
| costcumcaskreplT | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for truck cask refurb at 25 years |
| costcumcaskS | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for cask shell purchases |
| costcumcaskT | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for truck cask purchases |
| costcumcaskTAD | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for TAD canister purchases |
| costcumcaskTADOV | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative costs for TAD overpack purchases |
| costcumrailship | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative rail shipping costs |
| costcumSLR | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative state fees for rail casks crossing state lines |
| costcumSLT | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative state fees for truck casks crossing state lines |
| costcumtruckship | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative truck shipping costs |
| costHHCPDall | Model | Double | $/day | N/A | Flow Properties Extensions | costHHCPDcrane+costHHCPDlabor+cost HHCPDtractor |
| costHHCPDcrane | Model | Double | $/day | $4,181 | Flow Properties Extensions | HH crane unit costs |
| costHHCPDlabor | Model | Double | $/day | $4,181 | Flow Properties Extensions | HH labor unit cost |
| costHHCPDtractor | Model | Double | $/day | $2,091 | Flow Properties Extensions | HH tractor unit cost |
| costHHcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative HH cost |
| costHHloadsteps | Model | Double | time steps | 3 | Flow Properties Extensions | Time to load HH |
| costHHtravelmin | Model | Double | time steps | 1 | Flow Properties Extensions | Minimum travel time from site to barge/rail depot |
| costHHunloadsteps | Model | Double | time steps | 3 | Flow Properties Extensions | Time to unload HH |
| costHHusecum | Model | Double | time steps | N/A | Flow Properties Extensions | Cumulative time HH in use |
| costrailbufcar | Model | Double | $ | $50,000 | Flow Properties Extensions | Cost to purchase a rail buffer car |
| costrailcarscum | Model | Double | $ | -$700,000 | Flow Properties Extensions | Cumulative costs for rail cars (needs revision) |
| costrailcrewcar | Model | Double | $ | $250,000 | Flow Properties Extensions | Cost to purchase a rail crew car |
| costrailseccrew8hr | Model | Double | $/time step | $675 | Flow Properties Extensions | Rail security crew unit cost |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| costrailseccrewcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative rail security crew cost |
| costrailseccum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative rail security cost |
| costrailsecmile | Model | Double | $/mile | $1.512 | Flow Properties Extensions | Rail security cost per mile |
| costrailsecmilecum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative rail security cost based on miles |
| costrailshipA | Model | Double | None | N/A | RailShipCostCalc | Variable used in shipping cost estimate |
| costrailshipB | Model | Double | None | N/A | RailShipCostCalc | Variable used in shipping cost estimate |
| costrailshipBC | Model | Double | $ | N/A | RailShipCostCalc | Variable used in shipping cost estimate |
| costrailshipC | Model | Double | None | N/A | RailShipCostCalc | Variable used in shipping cost estimate |
| costrailshipcaskcars | Model | Double | None | N/A | RailShipCostCalc | Number of rail cars in a loaded shipment |
| costrailshipD | Model | Double | miles | N/A | RailShipCostCalc | Distance from waste site to repository |
| costrailshipEC | Model | Double | $ | N/A | RailShipCostCalc | Variable used in shipping cost estimate |
| costrailshipempty | Model | Double | $ | N/A | RailShipCostCalc | Cost for shipping empty casks to sites |
| costrailshipFC | Model | Double | ton-mile | N/A | RailShipCostCalc | Variable used in shipping cost estimate |
| costrailshiploaded | Model | Double | $ | N/A | RailShipCostCalc | Cost for shipping loaded casks to repository |
| costrailshipP1 | Model | Double | none | 3.51 | Flow Properties Extensions | Coefficient used in rail cost formula |
| costrailshipP2 | Model | Double | none | 1.8 | Flow Properties Extensions | Coefficient used in rail cost formula |
| costrailshiptrwt | Model | Double | ton | N/A | RailShipCostCalc | Total train load weight |
| costreplaceCask1 | Model | Double | $ | $400,000 | Maintenance, Cask replace process | Cost for major overhaul of casks after 25 years |
| costreplaceCask6 | Model | Double | $ | $570,000 | Maintenance, Cask replace process | Cost for major overhaul of casks after 25 years |
| costreplaceRcask | Model | Double | $ | $510,000 | Maintenance, Cask replace process | Cost for major overhaul of casks after 25 years |
| costruckshipAL | Model | Double | $/mile-hundred wt. | N/A | TruckShipCostCalc 1 and 3 | Variable used in shipping cost estimate |
| costruckshipCL | Model | Double | $ | N/A | TruckShipCostCalc 1 and 4 | Variable used in shipping cost estimate |
| costruckshipD | Model | Double | miles | N/A | TruckShipCostCalc 1 and 5 | Distance from waste site to repository |
| costruckshipQ | Model | Double | miles | N/A | TruckShipCostCalc 1 and 6 | Variable used in shipping cost estimate |
| costsatelite8hr | Model | Double | $/time step | $2.09 | Flow Properties Extensions | Satellite communication unit cost |
| costsatelitecum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative satellite communication cost |
| costSLrateR | Model | Double | $/cask | $900 | Flow Properties Extensions | Fee for state line crossing by rail |
| costSLrateT | Model | Double | $/cask | $1,000 | Flow Properties Extensions | Fee for state line crossing by truck |
| costTADLMB | Model | Double | $/cask | $810,000 | TAD buy processes | Unit costs for large or medium BWR TAD canister |
| costTADLMOV | Model | Double | $/cask | $4,000,000 | TAD buy processes | Unit costs for large or medium TAD overpack |
| costTADLMP | Model | Double | $/cask | $1,120,000 | TAD buy processes | Unit costs for large or medium PWR TAD canister |
| costTADSB | Model | Double | $/cask | $340,000 | TAD buy processes | Unit costs for small BWR TAD canister |
| costTADSOV | Model | Double | $/cask | $2,400,000 | TAD buy processes | Unit costs for small TAD overpack |
| costTADSP | Model | Double | $/cask | $410,000 | TAD buy processes | Unit costs for small PWR TAD canister |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| costtestn | Model | Double | none | N/A | Flow Properties Extensions | For check and test only |
| costtruck2driver | Model | Double | $/mile | $0.82 | Flow Properties Extensions | Cost for 2nd truck driver |
| costtruck2drivercum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative cost for 2nd driver |
| costtruckdem8hr | Model | Double | $/time step | $160 | Flow Properties Extensions | Unit cost for truck demurrage |
| costtruckdemcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative cost for truck demurrage |
| costtruckseccum | Model | Double | | N/A | Flow Properties Extensions | Cumulative cost for truck security |
| costtrucksecmile | Model | Double | $/mile | $6.07 | Flow Properties Extensions | Unit cost for truck security |
| costtruckshipCE | Model | Double | miles-hundred weight | N/A | TruckShipCostCalc 1 and 7 | Variable used in shipping cost estimate |
| costutilloadbare | Model | Double | $/load | $100,000 | Cask join processes | Rough estimate for utility costs to make relative comparisons |
| costutilloadcum | Model | Double | $ | N/A | Cask join processes | Rough estimate for utility costs to make relative comparisons |
| costutilloadDPC | Model | Double | $/DPC | $100,000 | Cask join processes | Rough estimate for utility costs to make relative comparisons |
| costutilloadLMTAD | Model | Double | $/TAD canister | $250,000 | Cask join processes | Rough estimate for utility costs to make relative comparisons |
| costutilloadSTAD | Model | Double | $/TAD canister | $210,000 | Cask join processes | Rough estimate for utility costs to make relative comparisons |
| costwastcaskcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative WAST cost for casks |
| costwastothercum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative WAST cost excluding casks |
| costWPBWR24 | Model | Double | $/WP | $435,200 | WP Preparation | Cost of a BWR Crit WP |
| costWPBWR44 | Model | Double | $/WP | $497,800 | WP Preparation | Cost of a BWR WP |
| costWPCSNFcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative cost for WP |
| costWPDOECo | Model | Double | $/WP | $400,800 | WP Preparation | Cost of a CoDisposal WP |
| costWPDOECoL | Model | Double | $/WP | $489,600 | WP Preparation | Cost of a CoDisposalLong WP |
| costWPDOEcum | Model | Double | $ | N/A | Flow Properties Extensions | Cumulative cost for WP |
| costWPDOEMCO | Model | Double | $/WP | $393,600 | WP Preparation | Cost of a MCO WP |
| costWPMSCcum | Model | Double | $ | N/A | Flow Properties Extensions | Not used in V6.0. |
| costWPNavy | Model | Double | $/WP | $459,800 | WP Preparation | Cost of a Navy WP |
| costWPNavyL | Model | Double | $/WP | $487,600 | WP Preparation | Cost of a NavyLong WP |
| costWPPWR12L | Model | Double | $/WP | $458,700 | WP Preparation | Cost of a STP WP |
| costWPPWR21 | Model | Double | $/WP | $598,800 | WP Preparation | Cost of a PWR WP |
| costWPPWR21c | Model | Double | $/WP | $514,200 | WP Preparation | Cost of a PWR Crit WP |
| costWPTAD | Model | Double | $/WP | $555,158 | WP Preparation | Cost of a TAD WP |
| countCaskGROA | Model | Integer | No. | 0 | GROA | Total count of cask loads waiting for processing in buffers. |
| countCaskGROAmax | Model | Integer | No. | 0 | GROA | Maximum of the total count of cask loads waiting for processing in buffers during a quarter-written to simdata at the end of a quarter. |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| Crit | Object | Double | Number of assy | Various as set in IS | GROA buffer router | Signals that Cask contains waste with crit concerns. Set by IS file. The value is the number of assemblies with crit issues. |
| CritHeat | Object | Double | Watts | Various as set in IS | N/A | Not in use in TSM V6.0. |
| cTADBypassNum | Model | Integer | number | 11 | TADHeatok | If the number of TAD canisters in TADBuffer exceeds this number, RF starts routing TAD canister to Aging regardless of heat. |
| CurrentObjectID | Object | Integer | N/A | N/A | Processes | SimCAD Variable |
| dateCRCFX | Model | Long | timesteps | Varies with case | GROA, RFRouter | Time when facility comes on line |
| DateDPCReturn | Model | Integer | timesteps | Varies with case | GROA, VB | Time when staged DPC can return |
| dateIHF | Model | Integer | timesteps | N/A | N/A | Time when facility comes on line, assumed and hard coded to 0 |
| dateRF | Model | Integer | timesteps | Varies with case | GROA, TADBuffer | Time when facility comes on line |
| dateWHF | Model | Integer | timesteps | Varies with case | GROA | Time when facility comes on line |
| DPC_QBypass | Model | Integer | timesteps | Varies with case | GROA, VB | Sets the number of objects in WHF queue that forces DPC to bypass |
| DSNF_Mismatch | Model | Integer | timesteps | Varies with case | CRCF 1 and 3 DOE Unload | Amount of DOE SNF casks that will not have matching HLW for Codisposal WP |
| FacilityID | Process | String | None | N/A | GROA | Pointer for WHF, IHF, CRCFs, RF |
| flgXXX | Model | Integer | N/A | N/A | Rail and Truck Maps | Where XXX is the site (both rail and truck). Signals that the given site needs a truck or a locomotive |
| flgCaskxxxFlag | Model | Integer | N/A | N/A | Cask departments | (xxx is the cask number) Signals that the given cask has requested an overpack release |
| flgCaskTADLBFlag | Model | Integer | N/A | N/A | TAD department | Signals that the Large TAD BWR canister has requested an overpack release |
| flgCaskTADLPFlag | Model | Integer | N/A | N/A | TAD department | Signals that the Large TAD PWR canister has requested an overpack release |
| flgCaskTADSBFlag | Model | Integer | N/A | N/A | TAD department | Signals that the Small TAD BWR canister has requested an overpack release |
| flgCaskTADSPFlag | Model | Integer | N/A | N/A | TAD department | Signals that the Small TAD PWR canister has requested an overpack release |
| flgCaskXX_INSFlag | Model | Integer | N/A | N/A | DOEOV department | (XX is the cask number) Signals that the given cask has requested an overpack release |
| flgCRCFXDSNF | Model | Integer | N/A | N/A | GROA, next cask logistics | Signals that CRCFX is requesting a DOE SNF cask load. Not implemented for CRCF2. |
| flgCRCFXDSNFL | Model | Integer | N/A | N/A | GROA, next cask logistics | Signals that CRCFX is requesting a DOE SNFL cask load. Not implemented for CRCF2. Not implemented for CRCF2. |
| flgCRCFXHLW | Model | Integer | N/A | N/A | GROA, next cask logistics | Signals that CRCFX is requesting a HLW cask load. Not implemented for CRCF2. Not implemented for CRCF2. |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| flgCRCFXHLWL | Model | Integer | N/A | N/A | GROA, next cask logistics | Signals that CRCFX is requesting a HLWL cask load. Not implemented for CRCF2. Not implemented for CRCF2. |
| flgHoldCRCFX | Model | Integer | N/A | N/A | GROA, CRCF logic | Manages calls and logic of WP being filled. |
| flgHoldIHF | Model | Integer | N/A | N/A | GROA, RF logic | Manages calls and logic of WP being filled. |
| flgHoldWHF | Model | Integer | N/A | N/A | GROA, RF logic | Manages calls and logic of WP being filled. |
| flgSRST | Model | Integer | N/A | N/A | GROA | Not used in TSM V6.0 |
| flgWHFDPCB | Model | Integer | N/A | N/A | GROA, next cask logistics | Signals that WHF is requesting a DPCB cask load. |
| flgWHFDPCP | Model | Integer | N/A | N/A | GROA, next cask logistics | Signals that WHF is requesting a DPCP cask load. |
| Heat01 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| | Object | Double | Casks: Timesteps | Casks: At BuyCask Processes | Cask: CaskMaint Processes | Casks: Lifetime |
| Heat02 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| | Object | Double | Casks: Timesteps | Casks: At CaskMaint processes | Cask: CaskMaint Processes | Casks: time since last maintenance |
| Heat03 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| Heat04 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| | Object | Double | Casks: Number | Casks: At CaskMaint processes | Cask: CaskMaint Processes | Casks: Number of trips, Not used in TSM V6.0 |
| Heat05 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| Heat06 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| Heat07 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| Heat08 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| Heat09 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| Heat10 | Object | Double | SNF: Number | SNF: IS | SNF: VB thermal recipe | SNF: Number of assemblies in the Heat Bin |
| HoldObject | Object | Integer | N/A | N/A | Processes | SimCAD Variable |
| HLW_Mismatch | Model | Long | Casks: Number | N/A | CRCF 1 and 3 DOE Unload | Amount of HLW casks that will not have matching DOE SNF for Codisposal WP |
| IHFWPtype | Model | String | WP string | WP name | GROA, WHF WP logistics | WP type requested by WHF to fill. |
| IsCarrier | Object | Integer | N/A | N/A | Processes | SimCAD Variable |
| LimitCarrierRelease Number | Process | Integer | N/A | N/A | N/A | SimCAD Variable |
| LimitCarrierRelease Object | Process | Integer | N/A | N/A | N/A | SimCAD Variable |
| LineID | Connector | Integer | N/A | N/A | Connectors | SimCAD Variable |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| LoadUnloadTime | Object | Integer | timesteps | See processes | Processes | Time to load and unload object at process, not used in TSM V6.0 |
| ModelID | Model | Integer | N/A | N/A | N/A | SimCAD Variable |
| MTU | Object | Double | MTHM | Various | Process that handle the cask load can asses the MTU if programmed | Metric Tons of Heavy Metal (MTHM) in a waste cask load. "Metric Tons of Uranium (MTU)" is used in TSM variable names vs. "MTHM". |
| MTU_CRCFX | Model | Double | MT | 0 | GROA, CRCFs | MTHM processed in CRCFX |
| MTU_GROA | Model | Double | MTHM | N/A | GROA, MonData 1 | Cumulative MTHM processed |
| MTU_GROAprev | Model | Double | MTHM | N/A | GROA, MonData 1 | Cumulative MTHM processed the previous 30 days |
| MTU_RF | Model | Double | MTHM | N/A | GROA, MonData 1 | Cumulative MTHM processed the previous 30 days |
| MTU_WHF | Model | Double | MTHM | N/A | GROA, MonData 1 | Cumulative MTHM processed the previous 30 days |
| mtucumintoGROA | Model | Double | MTHM | N/A | Inputto TCRRF | Cumulative MTHM input to GROA |
| mtudoeintoGROA | Model | Double | MTHM | N/A | Inputto TCRRF | Cumulative DOE SNF MTHM input to GROA |
| mvAgeCask | Model | Integer | number | N/A | Flow Properties Extensions | Total number of aging casks that were purchased |
| mvAging | Model | Integer | number | N/A | Flow Properties Extensions | Current number of casks sent to aging |
| mvAgingMax | Model | Integer | number | N/A | Flow Properties Extensions | Maximum number of casks sent to aging |
| mvBargemin | Model | Integer | number | 500 | Flow Properties Extensions | Minimum assumed at start of data interval |
| mvBargeresource | Model | Integer | number | N/A | Flow Properties Extensions | Barge Resources in use |
| mvHHmin | Model | Integer | number | 500 | Flow Properties Extensions | Minimum assumed at start of data interval |
| mvHHresource | Model | Integer | number | N/A | Flow Properties Extensions | HH Resources in use |
| mvRailmin | Model | Integer | Number | 500 | Flow Properties Extensions | Reset value for min before the run and after data recording |
| mvRailresource | Model | Integer | Number | 100 | Flow Properties Extensions | Number of Railresources available |
| mvtruckdemresource | Model | Integer | Number | N/A | Flow Properties Extensions | Number of truck demurrage resources available during a step |
| mvTruckmin | Model | Integer | Number | 500 | Flow Properties Extensions | Reset value for min before the run and after data recording |
| mvTruckresource | Model | Integer | Number | 100 | Flow Properties Extensions | Number of Truckresources available |
| NextProcessToStart | Connector | Integer | N/A | N/A | Connectors | SimCAD Variable |
| NextProcessToStart | Object | Integer | N/A | See processes | Processes | Set in extensions to indicate next process |
| ObjectReferenceID | Object | Integer | N/A | N/A | Processes | SimCAD Variable |
| ObjectReworkFlag | Object | Integer | N/A | N/A | Processes | SimCAD Variable |
| ObjectRotationAngle | Object | Integer | N/A | N/A | Processes | SimCAD Variable |
| ObjectSetupTime | Object | Integer | timesteps | See processes | Processes | Set up time before processing begins |
| ObjectTime | Object | Integer | timesteps | N/A | N/A | SimCAD Variable |
| ObjectTravel | Object | Integer | inches | N/A | Objects | SimCAD Variable. New 7.1 to track total object travel |
| ObjectType | Object | Integer | timesteps | N/A | N/A | SimCAD Variable |
| ObjectVolume | Object | Integer | Not used | N/A | N/A | Not used in TSM V6.0 |
| ObjectWeight | Object | Integer | Not used | N/A | N/A | Not used in TSM V6.0 |
| ParentObjectID | Object | Integer | N/A | N/A | Processes | SimCAD Variable |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| PartialOrderMaxWaitTime | Object | Integer | timesteps | See processes | Batch processes | Sets minimum time to wait to get all objects for a batch |
| PreviousProcess | Object | Integer | N/A | N/A | N/A | SimCAD Variable |
| ProcessID | Process | Integer | N/A | N/A | N/A | SimCAD Variable |
| ProcessLoadTime | Object | Integer | timesteps | N/A | Processes | SimCAD Variable. Used to dynamically set load time. |
| ProcessOEERework | Process | Integer | N/A | N/A | N/A | SimCAD Variable |
| ProcessUnloadTime | Object | Integer | timesteps | See processes | Processes | Time to load object into process |
| otXXoYYYD | Model | String | N/A | N/A | Cask Matching | Used to hold the destination for the CaskOnRail object after joining a cask load and CaskYYY |
| otXoYYYT | Model | String | N/A | N/A | Cask Matching | Used to hold the destination for the CaskOnTruck object after joining a cask load and CaskX |
| otXXoYYYR | Model | String | N/A | N/A | Cask Matching | Used to hold the destination for the CaskOnRail object after joining a cask load and CaskXX |
| otXXR | Model | String | N/A | N/A | Cask Matching | Used to hold the destination for the CaskOnRail object after joining a cask load and CaskXX |
| otCHF | Model | String | N/A | N/A | GROA, WPfill | Used to pass the ObjectType to VB |
| otDTF1 | Model | String | N/A | N/A | | Not used in V6. |
| otDTF2 | Model | String | N/A | N/A | | Not used in V6. |
| otFHF | Model | String | N/A | N/A | | Not used in V6. |
| otTADLB | Model | String | N/A | N/A | TAD Cask matching | Used to hold the destination for the CaskOnRail object after joining a cask load and Cask253 (TAD shell) |
| otTADLP | Model | String | N/A | N/A | TAD Cask matching | Used to hold the destination for the CaskOnRail object after joining a cask load and Cask253 (TAD shell) |
| otTADSB | Model | String | N/A | N/A | TAD Cask matching | Used to hold the destination for the CaskOnRail object after joining a cask load and Cask208 (TAD shell) |
| otTADSP | Model | String | N/A | N/A | TAD Cask matching | Used to hold the destination for the CaskOnRail object after joining a cask load and Cask208 (TAD shell) |
| QUIT_ACTION | Model | String | Pause/quit | Varies with case | GROA | Pause – indicates that the model will pause when the quit condition is met Quit – indicates that the model will stop the simulation when the quit condition is met (not recommended for use) |
| radGROA_CRCFX | Model | Double | Person-rem | N/A | GROA, CRCF | Doses from CRCFX operations used to analyze facility doses |
| radGROA_IHF | Model | Double | Person-rem | N/A | GROA, CRCF | Doses from IHF operations used to analyze facility doses |
| radGROA_RF | Model | Double | Person-rem | N/A | GROA, RF | Doses from the RF operations used to analyze facility doses |
| radGROA_WHF | Model | Double | Person-rem | N/A | GROA, WHF | Doses from WHF operations used to analyze facility doses |
| radGROAcum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of all GROA operations |
| radGROADPCDisp | Model | Double | person-rem | 0.15 | DPC Open processes | Dose associated with DPC disposal |
| radGROADPCDispCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of DPC disposal |
| radGROAfromAge | Model | Double | person-rem | N/A | Aging return processes | Dose accumulated in the current quarter as a result of returning casks from Aging |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| radGROAfromAgeCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of returning casks from Aging |
| radGROAReceipt | Model | Double | person-rem | N/A | BufferDistribute | Dose accumulated in the current quarter as a result of GROA cask receipt |
| radGROAReceiptCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of GROA cask receipt |
| radGROAtoAge | Model | Double | person-rem | N/A | TAD to aging | Dose accumulated in the current quarter as a result of sending casks to Aging |
| radGROAtoAgeCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of sending casks to Aging |
| radGROAWP | Model | Double | person-rem | N/A | WP fill | Dose accumulated in the current quarter as a result of filling WP |
| radGROAWPCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of filling WP |
| radGROAWPEmplace | Model | Double | person-rem | N/A | MGREmplace | Dose accumulated in the current quarter as a result of WP Emplacement |
| radSiteCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of WP Emplacement |
| radSiteDPCLoad | Model | Double | person-rem | .94 | DPC Cask matching | Dose associated with filling DPC at reactor sites |
| radSiteDPCLoadCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of filling DPC at reactor sites |
| radSiteDPCShip | Model | Double | person-rem | .26 | DPC shipping | Not Used in TSM V6.0 |
| radSiteDPCShipCum | Model | Double | person-rem | N/A | Quarterly data collection | Total Dose accumulated as a result of shipping DPC from reactor sites |
| radSiteRailCum | Model | Double | person-rem | N/A | | Not Used in TSM V6.0 |
| radSiteRailLoad | Model | Double | person-rem | .33 | Rail cask matching | Dose associated with creating a rail shipment |
| radSiteRailShip | Model | Double | person-rem | .7 | Rail cask matching | Dose associated with shipping rail casks |
| radSiteTADLoad | Model | Double | person-rem | .87 | TAD cask matching | Dose associated with filling TAD canisters at reactor sites |
| radSiteTADLoadCum | Model | Double | person-rem | N/A | Quarterly data collection | Total dose from loading TAD canisters at reactor sites. |
| radSiteTADShip | Model | Double | person-rem | .26 | N/A | Not Used in TSM V6.0 |
| radSiteTADShipCum | Model | Double | person-rem | N/A | N/A | Not Used in TSM V6.0 |
| radSiteTruckCum | Model | Double | person-rem | N/A | N/A | Not Used in TSM V6.0 |
| radSiteTruckLoad | Model | Double | person-rem | .22 | Truck cask matching | Dose associated with loading truck casks |
| radSiteTruckship | Model | Double | person-rem | .45 | Truck Sites | Dose associated with shipping truck casks |
| radSiteTSCLoad | Model | Double | person-rem | .29 | TSC Cask matching | Dose associated with loading TSC |
| radSiteTSCLoadCum | Model | Double | person-rem | N/A | TSC Cask matching | Total dose from loading TSC |
| radSiteTSCShip | Model | Double | person-rem | .26 | N/A | Not Used in TSM V6.0 |
| radSiteTSCShipCum | Model | Double | person-rem | N/A | N/A | Not Used in TSM V6.0 |
| radTransCum | Model | Double | person-rem | N/A | Cask matching | Total dose from transportation operations (includes dose at time of shipment departure from sites: loading at sites is in radSitecum). |
| ReprMTUCum | Model | Double | MT | N/A | Reprocessing | Not used in TSM V6.0 |
| ReprMTUMax | Model | Double | MT | N/A | Reprocessing | Not used in TSM V6.0 |
| ReprMTUperHLW | Model | Double | MT | N/A | Reprocessing | Not used in TSM V6.0 |
| Scenario_ID | Model | String | N/A | Varies with case | TSMCC control | Label for scenario or case |
| Shipments_Last | Model | Double | timesteps | Varies with case | GROA | Date of last shipment, used to determine if model can be halted |
| Shipments_Num | Model | Double | None | Varies with case | GROA | Total number of shipments, used to determine if model can be halted |

| VARIABLE GLOSSARY | | | | | | |
|---|---|---|---|---|---|---|
| **Variable Name** | **Context** | **Type** | **Units** | **Input Value** | **Where used** | **Description** |
| Shipments_Rows | Model | Double | timesteps | Varies with case | GROA | Rows in IS file - used to load the IS automatically |
| Site_ID | Object | String | N/A | Various as set in IS | Cask load join processes | Identifies process destination following cask and cask load join |
| Study_Name | Model | String | N/A | Varies with case | TSMSS control | Label for the overall study, e.g. CD-1 |
| templnt | Model | Integer | N/A | Varies | GROA Fill stations | Temporary value to indicate assembly heat bin |
| tempStr | Model | String | N/A | Varies | GROA, DummyEnd1 | Used to make a diagnostic message to indicate routing error |
| TotalHeat | Object | Double | watts | Varies | GROA | Assessed in GROA lines to see if the total heat is too high for emplacement. Set by IS file. |
| Waste_Type | Object | String | N/A | Various as set in IS | GROA | Determines the type of WP for the cask load. Set in IS file. |
| WHF_TAD_ID | Model | Integer | N/A | Varies with case | GROA, WHF | Unique identifier applied to TAD canister |
| WHFTruckDPCRatio | Model | Integer | N/A | Varies with case | GROA, WHF | From TSMC, specifies number of trucks preferentially processed to one DPC being processed. |
| WP_ID | Model | Integer | N/A | N/A | GROA | Identifier for WP process line destination |
| WP_maxHeat | Model | Long | watts | Varies with case | WP fill, TADHeatok, Aging Return | Maximum heat for WP emplacement |
| zShipment_ID | Model | String | N/A | Varies with case | GROA | Unique identifier for each shipment |

| TRIGGER GLOSSARY | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Trigger Generic Name** | **Typical Name** | **Type** | **xx** | **yy** | **Origin Process** | **Triggered Process** | **Description** |
| trXXXYYY | tr202200 | AutoEvent | Overpack | Bare Cask | Bare Cask matching | Overpack distribution | Requests an overpack 202) be released to accompany the cask load (200). |
| tr208TADSB | tr208TADSB | AutoEvent | N/A | N/A | Small TAD BWR matching | Cask 208 distribute | Releases small TAD overpack |
| tr208TADSP | tr208TADSP | AutoEvent | N/A | N/A | Small TAD PWR matching | Cask 208 distribute | Releases small TAD overpack |
| tr253TADLB | tr253TADLB | AutoEvent | N/A | N/A | Large TAD BWR matching | Cask 253 distribute | Releases large TAD overpack |
| tr253TADLP | tr253TADLP | AutoEvent | N/A | N/A | Large TAD PWR matching | Cask 253 distribute | Releases large TAD overpack |
| tr2XXYY_INS | tr2XX44_INS | AutoEvent | Overpack | DOE basket Cask | DOE Cask matching | Overpack 2XX distribution | Requests an overpack 2XX) be released to accompany the cask load (44). Note 1 |
| trBuyRCB | trBuyRCB | AutoEvent | N/A | N/A | RCB Distribute | BuyRCB | Purchases a buffer rail car |
| trBuyRCP | trBuyRCP | AutoEvent | N/A | N/A | RCP Distribute | BuyRCP | Purchases a security rail car |
| trBuyXXX | trBuyCask1 | AutoEvent | Cask number | N/A | CaskDistribute | BuyCask | Buys Cask if distribute process queue is empty and cask limit is not reached. |
| trBuyXXX_INS | trBuyCask44_INS | AutoEvent | Cask number | N/A | CaskDistribute for DOEOV | BuyCaskin DOEOV | Buys Cask if distribute process queue is empty and cask limit is not reached. |
| trBuyYYY | trBuyLoco | AutoEvent | Rolling stock item | N/A | Rolling stock distribute processes | Buy rolling stock | Triggers buy of loco rolling stock and trucks |
| trCaskRelDPCXC | trCaskRelDPCBC | AutoEvent | B (BWR) or P (PWR) | N/A | GROA Facilities | Facility Unload processes | Release cask from DPCBWRCrit or DPCPWRCrit buffer |
| trCaskRelDPCXCmon | trCaskRelDPCBCmon | Event | B (BWR) or P (PWR) | N/A | GROA Facilities | Facility Unload processes | Monitor variable for trCaskRelDPCXC |
| trCaskRelDPCXmon | trCaskRelDPCBmon | Event | B (BWR) or P (PWR) or S (STP) | N/A | GROA Facilities | Facility Unload processes | Monitor variable for trCaskRelDPCXXX |
| trCaskRelDPCXXX | trCaskRelDPCBWR | AutoEvent | BWR or PWR or STP | N/A | GROA Facilities | Facility Unload processes | Release cask from DPCBWR or DPCPWR or DPCSTP buffer |

| TRIGGER GLOSSARY | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Trigger Generic Name** | **Typical Name** | **Type** | **xx** | **yy** | **Origin Process** | **Triggered Process** | **Description** |
| trCaskRelTruckXmon | trCaskRelTruckBmon | Event | B (BWR) or P (PWR) | N/A | GROA Facilities | Facility Unload processes | Monitor variable for trCaskRelTruckXXX |
| trCaskRelTruckXXX | trCaskRelTruckBWR | AutoEvent | BWR or PWR | N/A | GROA Facilities | Facility Unload processes | Release cask from BWRTruck or PWRTruck buffer |
| trCaskRelXC | trCaskRelPC | AutoEvent | B (BWR)or P (PWR) | N/A | GROA Facilities | Facility Unload processes | Release cask from BWRCrit or PWRCrit buffer |
| trCaskRelXCmon | trCaskRelBCmon | Event | B (BWR)or P (PWR) | N/A | GROA Facilities | Facility Unload processes | Monitor variable for trCaskRelXC |
| trCaskRelXXX | trCaskRelBWR | AutoEvent | Waste Type | N/A | GROA Facilities | Facility Unload processes | Release cask from buffer |
| trCaskRelXXXmon | trCaskRelBWRmon | Event | Waste Type | N/A | GROA Facilities | Facility Unload processes | Monitor variable for trCaskRelXXX |
| trCaskTADLXMon | trCaskTADLBMon | Event | B (BWR) or P (PWR) | | TADLargeX | 253Dist | Monitor variable for trCaskTADLXRel |
| trCaskTADLXRel | trCaskTADLBRel | AutoEvent | B (BWR) or P (PWR) | N/A | 253Dist | 253Dist | Releases Cask253 |
| trCaskTADSXMon | trCaskTADSBMon | Event | B (BWR) or P (PWR) | N/A | TADSmallX | 208Dist | Monitor variable for trCaskTADSXRel |
| trCaskTADSXRel | trCaskTADSBRel | AutoEvent | B (BWR) or P (PWR) | N/A | 208Dist | 208Dist | Releases Cask208 |
| trCaskXXX | trCask200 | AutoEvent | Cask number | N/A | CaskDistribute | CaskXXXDistribute | Requests a cask be sent to the join process |
| trCaskXXX_INS | trCask44_INS | AutoEvent | Cask number | N/A | CaskDistribute | CaskXXXDistribute | Requests a cask be sent to the join process |
| trCaskXX_INSMon | trCask44_INSMon | Event | Cask number | N/A | CaskDistribute | CaskXXXDistribute | Monitor variable for trCaskXXX_INS |
| trCaskXX_INSRel | trCask44_INSRel | AutoEvent | Cask number | N/A | CaskDistribute | CaskXXXDistribute | Releases casks to load process to make caskonrail or caskontruck |
| trCaskXX_INSReturn | trCask44_INSReturn | AutoEvent | Cask number | N/A | GROA Unload processes | Cask Hold processes in RailUnbatch Department | Releases casks held to measure GROA residence time |
| trCaskXX_INSReturnMon | trCask44_INSReturnMon | Event | Cask number | N/A | GROA Unload processes | Cask Hold processes in RailUnbatch Department | Monitors that return trigger was acted upon |
| trCaskXXXMon | trCask102Mon | Event | Cask number | N/A | CaskDistribute | CaskXXXDistribute | Monitor variable for trCaskXXX |
| trCaskXXXRel | trCask102Rel | AutoEvent | Cask number | N/A | CaskDistribute | CaskXXXDistribute | Releases casks to load process to make caskonrail or caskontruck |

| TRIGGER GLOSSARY | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Trigger Generic Name** | **Typical Name** | **Type** | **xx** | **yy** | **Origin Process** | **Triggered Process** | **Description** |
| trCaskXXXReturn | trCask1Return | AutoEvent | Cask number | N/A | GROA Unload processes | Cask Hold processes in RailUnbatch Department | Releases casks held to measure GROA residence time |
| trCaskXXXReturnMon | trCask1ReturnMon | Event | Cask number | N/A | GROA Unload processes | Cask Hold processes in RailUnbatch Department | Monitors that return trigger was acted upon |
| trDPCRetRel | trDPCRetRel | AutoEvent | N/A | N/A | VB code, called from WHFDPC | DPCReturnBuffer | Releases DPC for Processing |
| trRail | trRail | Event | N/A | N/A | Waste Sites | Rolling Stock Distribute1 | Monitor variable for trRailRel (no mon on name) |
| trRailRel | trRailRel | AutoEvent | N/A | N/A | Rolling Stock Distribute1 | DistLoco | Release Rolling Stock to waste site |
| trReprCaskRel | Model | Integer | None | N/A | Reprocessing | Not used in TSM V6.0 | |
| trReprHLWRel | Model | Integer | None | N/A | Reprocessing | Not used in TSM V6.0 | |
| trTADRel | trTADRel | AutoEvent | None | N/A | TADP | TADP | WHF triggers release of TADP canister |
| trTADRelmon | trTADRelmon | Event | None | N/A | WHFTADFill | TADP | Mon event for TADRel |
| trTruck | trTruck | Event | N/A | N/A | Waste Sites | Rolling Stock Distribute1 | Monitor variable for trTruckRel |
| trTruckRel | trTruckRel | AutoEvent | N/A | N/A | Rolling Stock Distribute1 | DistTruck | Release Truck |
| trTSCRetRel | trTSCRetRel | AutoEvent | N/A | N/A | GROA Facilities | TSCReturnBuffer | Release returned TSC. Not used in V6.0. |
| trTSCRetRelmon | trTSCRetRelmon | Event | N/A | N/A | TSCReturn Buffer | TSCReturnBuffer | Monitor variable for trTSCRetRel |
| trWPRelXXX | trWPRelTAD | AutoEvent | WP Type | N/A | GROA Facilities | WP and MSC start processes | Release WP into WP_TAD_Router |
| trWPRelXXXmon | trWPRelCodispmon | Event | WP Type | N/A | GROA Facilities | Facility WP fill processes | Monitor variable for trWPRelXXX |
| trWHFTAD_rel | trWHFTAD_rel | AutoEvent | N/A | N/A | GROA WHF | WHF TAD fill | Release TAD canister from TAD fill |
| trXXXXXCask_Rel | trCRCF1Cask_Rel | AutoEvent | Facility ID | N/A | GROA Facilities | Facility Unload processes | Release cask from facility XXXXX unload |
| trXXXXXWP_Rel | trCRCF1WP_Rel | AutoEvent | Facility ID | N/A | GROA Facilities | Facility WP fill processes | Release WP from facility XXXXX WP fill |

Note 1: 2XX is not a “wildcard,” it is the DOE OV cask name.

INTENTIONALLY LEFT BLANK

# 5. SITE GLOSSARY

"Site" means the reactor sites and DOE sites where wastes will be accepted into the CRWMS mission for disposal. The sites are a key element of the TSM and 2-4 letter designators are used to identify the sites. As shown in the Object Glossary, the site designator can be used with a leading "T", "R", or "D" to make a truck, rail, or DPC object type for the SNF involved. So, the site designator is used for many purposes in the TSM. The Sites Glossary lists the site designator and also provides other pertinent information on the site characteristics:

*Site Designator*: The 2-4 letter designator used in TSM for shorthand of the site identification.

*Site Name*: The commonly used site name.

*TSM Map*: Refers to the transportation map department that shows the site. There are five departments for truck routes and five for rail routes.

*Transportation Method*: The current methods for transportation (rail, truck, heavy haul to rail, barge to rail) used in the TSM. The methods shown are the capability for the site. The transportation method may use some or all of these methods depending on the scenario being analyzed.

*Waste Types*: The types of wastes that may be shipped from the sites: BWR, PWR, HLW, or DOE. DOE includes HLW, DOE SNF, or Naval fuels.

On a more detailed level, sites have other characteristics such as pool information that is important for a detailed analysis by the TSM PreProcessor (TSMPP). The Sites Glossary is intended to be a basic overview of site information including the designator. For more detailed information on pools refer to the TSMPP Users Manual (BSC 2007e).

| Site Glossary | | | | |
|---|---|---|---|---|
| **Site Designator** | **Site Name** | **TSM Map** | **Transportation Methods[1]** | **Waste Types** |
| ANO | ARK NUCLEAR | SW | R | PWR |
| BF | BROWNS FERRY | SE | B, R | BWR |
| BRA | BRAIDWOOD | MW | R | PWR |
| BRP | BIG ROCK | MW | HH, R | BWR |
| BRU | BRUNSWICK | SE | R | BWR, PWR |
| BV | BEAVER VALLEY | NE | HH, R | PWR |
| BYR | BYRON | MW | R | PWR |
| CAL | CALLAWAY | MW | HH, R | PWR |
| CAT | CATAWBA | SE | R | PWR |
| CC | CALVERT CLF | NE | B, R | PWR |
| CGS | COLUMBIA | NW | R | BWR |
| CLI | CLINTON | MW | R, T | BWR |
| CP | COMANCHE PK | SW | R | PWR |
| CPR | COOPER STN | NW | B, R, T | BWR |
| CRY | CRYSTAL RVR | SE | R, T | PWR |
| DB | DAVIS-BESSE | MW | R | PWR |
| DC | DIABLO CANYON | SW | HH, R | PWR |
| DCC | COOK | MW | R, T | PWR |
| DRE | DRESDEN | MW | R | BWR |
| DUA | DUANE ARNOLD | MW | R | BWR |
| FAR | FARLEY | SE | R | PWR |
| FC | FORT CALHOUN | NW | HH, R, T | PWR |
| FER | ENRICO FERMI | MW | R | BWR |
| FIT | FITZPATRICK | NE | R | BWR |
| FSV | FORT ST VRAIN | NW | Not Used in V4 | Not Used in V4 |
| GG | GRAND GULF | SE | B, R | BWR |
| GIN | GINNA | NE | HH, R, T | PWR |
| HAD | HADDAM NECK | NE | B, R | PWR |
| HAN | HANFORD | NW | R, T | PWR, BWR, DOE |
| HAR | HARRIS | SE | R | BWR, PWR |
| HAT | HATCH | SE | R | BWR |
| HC | HOPE CREEK | NE | B, R | BWR |
| HUM | HUMBOLDT BAY | NW | B, R | BWR |
| INL | INEEL-DOE | NW | R, T | PWR, BWR, DOE |
| IP | INDIAN PT 1&2 | NE | HH, R, T | PWR |
| KEW | KEWAUNEE | MW | HH, R | PWR |
| LAC | LACROSSE | MW | R, T | BWR |
| LIM | LIMERICK | NE | R | BWR |
| LS | LASALLE | MW | R | BWR |
| MCG | MCGUIRE | SE | R | PWR |
| MIL | MILLSTONE | NE | R, T | PWR, BWR |
| MO | MORRIS | MW | R | BWR, PWR |
| MON | MONTICELLO | NW | R, T | BWR |

| Site Glossary | | | | |
|---|---|---|---|---|
| **Site Designator** | **Site Name** | **TSM Map** | **Transportation Methods[1]** | **Waste Types** |
| MY | MAINE YANKEE | NE | R | PWR |
| NA | NORTH ANNA | NE | R | PWR |
| NMP | NINE MILE PT | NE | R | BWR |
| OC | OYSTER CRK | NE | B, R | BWR |
| OCO | OCONEE | SE | HH, R | PWR |
| PAL | PALISADES | MW | HH, R, T | PWR |
| PEA | PEACHBOTTOM | NE | HH, R | BWR |
| PER | PERRY | MW | R | BWR |
| PI | PRAIRIE ISL | MW | R | PWR |
| PIL | PILGRIM | NE | B, R, T | BWR |
| POI | POINT BEACH | MW | HH, R | PWR |
| PV | PALO VERDE | SW | R | PWR |
| QC | QUAD CITIES | MW | R | BWR |
| RB | RVR BEND | SE | R | BWR |
| ROB | ROBINSON | SE | R | PWR |
| RS | RANCHO SECO | NW | R | PWR |
| SAL | SALEM | NE | B, R | PWR |
| SEA | SEABROOK | NE | R | PWR |
| SEQ | SEQUOYAH | SE | R | PWR |
| SL | ST LUCIE | SE | B, R, T | PWR |
| SO | SAN ONOFRE | SW | R | PWR |
| SRS | SAV RIVER-DOE | SE | R | DOE |
| STP | SOUTH TEXAS | SW | R | PWR |
| SUM | SUMMER | SE | R | PWR |
| SUR | SURRY | NE | B, R | PWR |
| SUS | SUSQUEHANNA | NE | R | BWR |
| TMI | THREE MILE ISL | NE | R | PWR |
| TP | TURKEY PT | SE | B, R, T | PWR |
| TRO | TROJAN | NW | R | PWR |
| VOG | VOGTLE | SE | R | PWR |
| VY | VT YANKEE | NE | R | BWR |
| WAT | WATERFORD | SE | R | PWR |
| WB | WATTS BAR | SE | R | PWR |
| WC | WOLF CREEK | SW | R | PWR |
| WV | WVDP | NE | R | PWR, BWR, DOE |
| YR | YANKEE-ROWE | NE | HH, R | PWR |
| ZIO | ZION | MW | R | PWR |

Note 1: B=Barge, HH=Heavy Haul, R=Rail, T=Truck

INTENTIONALLY LEFT BLANK

# 6. RESOURCE GLOSSARY

In typical SimCAD™ use, resources are people or equipment needed to perform processes or move objects through connectors. Resources are defined in the Flow Properties dialog box and there may be a limited number available during the simulation. Resources are listed in the "Resources" tab of the Flow Properties dialog box and are also listed in the .simdata output tables.

Processes and connectors must compete for the resources needed to perform tasks, and if a required resource is not available, then the process and activity will pause until the resource is available. In the TSM, the number of resources is used to show the impacts on waste acceptance and other system parameters if the resources are limited. For example, reducing the number of rail crews can delay a shipment because if the resources are not available for a completed railshipment batch, the batch will remain at the waste site origin until resources are available. Limiting the resources allows studies for system effects and to establish the required number of resources. However, in TSM V6.0 and the analyses reported to date, the resources available have been very large to ensure resources did not impede mission progress and "hide" other system impediments of more interest such as GROA processing adequacy.

In the TSM the resources can also be the basis for cost estimates. Costs are estimated by assessing the resources in use at a time step and using the associated unit cost per time step.

Resources are one of the key parameters where using maximum values during a data-recording interval are a useful parameter to understand the resource needs (see the discussion for the Variables Glossary for more information on "max" values).

Resources that include people are indicated by the TSM by small man-like figures. The state line crossing charges are indicated by a dot. See the Flow Properties tab "Resources" for the images used for resources.

The columns in the Resource Glossary provide information on:

*Resource Name*: The TSM resource name.

*Where Applied*: Processes and locations in the TSM where the resources are required and used.

*Description*: The resources are abstractions of equipment and people that are needed to enable processing or material flow. The description states the items that are abstracted.

*Costs Estimated*: The cost item that is influenced or based on the resources use. Cost estimate details are in the Cost Estimating Routines description (BSC 2007d).

| RESOURCE GLOSSARY | | | |
|---|---|---|---|
| **Resource Name** | **Where used** | **Description** | **Costs Estimated** |
| Bargeresource | Barge sites | Abstraction for the heavy haul equipment and workers | Not used in TSM V6.0 for costs. The estimate is accomplished with variables only. |
| HHresource | HH sites | Abstraction for the barge equipment and workers | Not used in TSM V6.0 for costs. The estimate is accomplished with variables only. |
| Railresource | On rail routes as a shipment is made | Abstraction for the security crews and operators for a rail shipment | Rail security crew costs |
| Truckdemurrage | Truck sites | Abstraction for the resources to support truck waiting time at the waste acceptance sites | Not used in TSM V6.0 for costs. The estimate is accomplished with variables only. |
| Truckresource | On truck routes as a shipment is made | Abstraction for the security crews and operators for a truck shipment | Truck security crew costs |
| costStLineR | On rail routes as a shipment is made | Represents the number of state lines crossed in a route | Not used in TSM V6.0 for costs. The estimate is accomplished with variables only. |
| costStLineT | On truck routes as a shipment is made | Represents the number of state lines crossed in a route | Not used in TSM V6.0 for costs. The estimate is accomplished with variables only. |

# 7. REFERENCES

## 7.1 DOCUMENTS CITED

BSC (Bechtel SAIC Company, LLC) 2007a. *User Manual for the Total System Model Version 6.0*, 50040-UM-01-6.0-00 REV 00, Bechtel SAIC Company, LLC, Washington, D.C. ACC: Submit to RPC.

BSC 2007b. *Total System Model Version 6.0 Transportation Design and Bases*, 50040-DD-02-6.0-00 REV 00, Bechtel SAIC Company, LLC, Washington, D.C. ACC: Submit to RPC.

BSC 2007c. *Total System Model Version 6.0 GROA Department Design and Bases*, 50040-DD-1-6.0-00 REV 00, Bechtel SAIC Company, LLC, Washington, D.C. ACC: Submit to RPC.

BSC 2007d. *Total System Model Version 6.0 Cost Estimating Routines*, 50040-DD-03-6.0-00 REV 00, Bechtel SAIC Company, LLC, Washington, D.C. ACC: Submit to RPC.

BSC 2007e. *User Manual for the Total System Model Version 6.0 Preprocessor*, 50040-UM-02-6.0-00 REV 00, Bechtel SAIC Company, LLC, Washington, D.C. ACC: Submit to RPC.

BSC 2007f. *Total System Model Version 6.0 Dose Estimating Routines Design and Bases*, 50040-DD-04-6.0-00, Bechtel SAIC Company, LLC, Washington, D.C. ACC: Submit to RPC.

BSC 2007g. *Configuration Management and Maintenance Plan Total System Model. 50040-CMMP-01*. Washington, DC: BSC. ACC: Submit to RPC

CaS 2006. *SimCAD Process Simulator User Manual*, V 7.1, Create-a-Soft™, Chicago, Illinois, January 2006. ACC: MOV.20071016.0003.

## 7.2 CODES, STANDARDS, REGULATIONS, AND PROCEDURES

AP-ENG-006 REV 1 ICN 0. *Total System Model (TSM) – Changes to Configuration Items and Base Case*. Washington, DC: BSC. ACC: Submite to RPC.

INTENTIONALLY LEFT BLANK