

# ***Transportation Storage Logistics (TSL) Model Data Management Manual***

**Fuel Cycle Research & Development**

***Prepared for  
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## **SUMMARY**

The Transportation Storage Logistics (TSL) Model Data Management Manual describes the SQL Server database that is used by the TSL model to house reference data as well as the scenario data. The manual is a reference document, subject to change as the model evolves.



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# TRANSPORTATION STORAGE LOGISTICS MODEL DATA MANAGEMENT MANUAL

## 1. Canister

### Definition:

Information about canisters. In TOM, a canister is something that stores assemblies, but needs an overpack to be transported.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	canisterTypeID	int	canister type ID number
	canisterName	nvarchar	canister name
	transportationCaskTypeID	int	cask type ID number of transportation overpack
	assemblyCapacity	int	number of assemblies
	fuelType	char	fuel type (B = BWR, P = PWR)
	capitalCost	float	acquisition cost to purchase (\$)
	calvinCaskID	int	cask ID number in CALVIN database

## 2. Cask

### Definition:

Information about the casks. In TOM, a cask is a container that does not require a transportation overpack

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	caskTypeID	int	cask type ID number
	caskName	nvarchar	cask name
	description	nvarchar	cask description
	mode	char	usage mode (R = rail transportation, T = truck transportation, S = storage)
	isOverpack	bit	true if cask is an overpack
	fuelType	char	fuel type (B = BWR, P = PWR, H = ?, X = ?)
	assemblyCapacity	int	number of assemblies
	emptyWeight	float	empty cask weight (in pounds)
	loadedWeight	float	fully loaded cask weight (in pounds)
	capitalCost	float	acquisition cost to purchase (\$)
	standardInspectionTime	smallint	inspection time after each trip (hours)
	standardInspectionCost	float	inspection cost after each trip (\$)
	annualInspectionTime	smallint	annual inspection time (hours)
	annualInspectionCost	float	annual inspection cost (\$)
	calvinCaskID	int	cask ID number in CALVIN database
	loadTime	int	time to load cask (hours)

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unloadTime	int	time to unload cask (hours)
lifetime	int	usable life of cask (years)
decommissioningCost	float	cost to dispose of cask (\$)

### 3. Cost

#### Definition:

Information about the costs in the system. Fields exist for specifying the costs as a function of different attributes of transportation. Any or all of these can be used.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	mode	nvarchar	transportation mode (H = highway, L = local, R = rail)
<b>X</b>	detail	nvarchar	cost description
	year	int	calendar year of cost (used in inflation calculations)
	tripCost	float	cost per trip
	carCost	float	cost per car
	mileageCost	float	cost per mile
	mileageSquaredCost	float	cost per mile squared
	monthlyCost	float	cost per month
	dailyCost	float	cost per day
	hourlyCost	float	cost per hour
	weightCost	float	cost per ton
	weightMileCost	float	cost per ton mile
	weightMileSquaredCost	float	cost per ton mile squared
	minCost	float	minimum cost
	otherCost	float	other cost
	otherDescription	nvarchar	other cost description

## 4. Equipment

### Definition:

Information about the equipment available to use.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	equipmentDescription	nvarchar	description
	speed	smallint	speed of equipment (mph)

## 5. Inflation

### Definition:

Information about the yearly inflation rate.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	year	int	calendar year
	inflationRate	float	yearly inflation rate (as a percent, so e.g., 5.2% = 5.2)

## 6. Job

### Definition:

The job queue for TOM runs. The users place jobs into the queue, and an automatic process picks up the job and runs it.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	userName	nvarchar	user who added job to queue
	queued	datetime	date job was added to the queue
	started	datetime	date job was started
	completed	datetime	date job was completed
	status	nvarchar	job status (queued, started, finished)

## 7. PickupSchedule

### Definition:

The pickup schedules generated by CALVIN.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	scheduleID	int	schedule ID number
	scheduleName	nvarchar	schedule name
	owner	nvarchar	owner (user who input schedule)
	loadDate	datetime	date that schedule was loaded

## 8. PickupScheduleCanister

### Definition:

Canister pickup demands that were generated by CALVIN.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	scheduleID	int	schedule ID number
X	origin	nvarchar	pickup location (either reactor site ID number, or ISF)
X	year	int	calendar year
X	destination	nvarchar	destination location (either ISF or MGR)
X	canisterTypeID	int	canister type ID number
X	alreadyInCanister	bit	true of fuel is in a canister
X	location	nvarchar	location of fuel (P = pool, D = dry storage)
	numOfCanisters	int	number of canisters to be picked up

## 9. PickupScheduleCask

### Definition:

Cask pickup demands generated by CALVIN.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	scheduleID	int	schedule ID number
X	origin	nvarchar	pickup location (either reactor site ID number, or ISF)
X	year	int	calendar year
X	destination	nvarchar	destination location (either ISF or MGR)
X	caskTypeID	int	cask type ID number
X	alreadyInCanister	bit	true of fuel is in a canister
X	alreadyInCask	bit	true if fuel is in a cask
X	location	nvarchar	location of fuel (P = pool, D = dry storage)
	numOfCasks	int	number of casks to be picked up

## 10. PickupSchedulePermission

### Definition:

Permission set used to restrict users from accessing, modifying, or deleting other users' data.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	scheduleID	int	schedule ID number
<b>X</b>	userName	nvarchar	user name
	canRead	bit	true if user has read permission
	canWrite	bit	true if user has write permission

## 11. Scenario

### Definition:

Information about a TOM run. Contains non-site-specific information, as well as default site information.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
	name	nvarchar	run name
	owner	nvarchar	owner (user who created the run)
	startYear	int	analysis start year
	endYear	int	analysis end year
	scheduleID	int	schedule ID number
	caskMaintFacility	int	site ID of cask maintenance facility
	railcarMaintFacility	int	site ID of railcar maintenance facility
	trailerMaintFacility	int	site ID of truck trailer maintenance facility
	repositorySiteID	int	site ID of repository
	defaultConsistSize	int	default consist size (can be overridden by consistSize field in the ScenarioSite table)
	costYear	int	base year for cost inflation (set to current year to inflate past years' costs to current dollars)
	runRequested	bit	true if a run request has been made
	runCompleted	bit	true if the run has completed
	runDate	datetime	date of the last run
	runMode	nvarchar	run mode for scheduling program (Q = quick, O = optimized)



## 12. ScenarioAcquisition

### Definition:

Contains run results on the acquisition of assets, both cask and vehicles.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	acquisitionDate	datetime	date acquired
<b>X</b>	equipmentType	nvarchar	category of equipment (CASK or VEHICLE)
<b>X</b>	equipmentTypeID	int	equipment type ID number (cask ID number for CASK assets, and vehicle ID number of VEHICLE assets)
<b>X</b>	equipmentID	int	equipment ID number (sequential number for the individual assets used for tracking)

### 13. ScenarioCaskMaintenance

**Definition:**

Contains run results on the cask maintenance performed.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	caskTypeID	int	cask type ID number
<b>X</b>	caskID	int	cask ID number (internal ID number assigned to an individual cask to facilitate tracking through shipments)
<b>X</b>	maintenanceDate	datetime	date of maintenance
	maintenanceType	nvarchar	type of maintenance (standard or annual)

## 14. ScenarioCost

### Definition:

Contains run results on the yearly costs incurred in the transportation process.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	runID	int	run ID number
X	calendarYear	int	calendar year
X	costCategory	nvarchar	cost category (Capital, Maintenance, or Operations)
X	costDetail	nvarchar	cost detail
	cost	float	cost (\$)

## 15. ScenarioErrorLog

### Definition:

Contains any error messages generated during the TOM run.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	problemID	int	problem ID number (sequential ID for run)
	description	nvarchar	problem description

## 16. ScenarioISF

### Definition:

Contains the site IDs of the ISFs designated for a run. Currently the interface allows for the specification of one ISF per run, but the TOM model allows multiple ISFs.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	runID	int	run ID number
X	siteID	int	site ID number

## 17. ScenarioPermission

### Definition:

Permission set used to restrict users from accessing, modifying, or deleting other users' data.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	userName	nvarchar	user name
	canRead	bit	true if user has read permission
	canWrite	bit	true if user has write permission

## 18. ScenarioSite

### Definition:

Site-specific information for a run. Allows user to override the default consist size specified in the Scenario table.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	siteID	int	site ID number
	maxConsistSize	int	maximum consist size (overwrites defaultConsistSize from the Scenario table)

## 19. ScenarioVehicleMaintenance

### Definition:

Run results on the vehicle maintenance performed during the transportation process.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	vehicleTypeID	int	vehicle type ID number
<b>X</b>	vehicleID	int	vehicle ID number (internal ID number assigned to an individual vehicle to facilitate tracking through shipments)
<b>X</b>	maintenanceDate	datetime	maintenance date
	maintenanceType	nvarchar	type of maintenance (standard or mileage)

## 20. SimScenario

### Definition:

Information on the simulation scenarios. Simulations were run to develop times for at-reactor operations involving ancillary equipment, such as cranes and heavy haul trucks.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	simScenarioID	smallint	simulation scenario ID number
	simScenarioName	nvarchar	simulation scenario name

## 21. SimulationOutput

### Definition:

Simulation results that describe the times needed for at-reactor operations for ancillary equipment, based on transportation scenario and size of consist.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	simScenarioID	smallint	simulation scenario ID number
<b>X</b>	numCasks	smallint	consist size
	craneOperationTime	float	time crane is in use (hours)
	craneOnsiteTime	float	time crane is onsite (hours)
	heavyHaulOperationTime	float	time HH is in operation (hours)
	heavyHaulOnsiteTime	float	time HH is onsite (hours)
	bargeLoadingTime	float	time to load barges (hours)
	bargeUnloadingTime	float	time to unload barges (hours)
	bargeWaitTime	float	time barges are waiting (hours)
	securityTime	float	time before departure that security must be present (hours)
	totalTime	float	total time for loading operation (minus loading fuel into casks and/or canisters) (hours)

## 22. SimulationTransferTime

### Definition:

Broad level information on times needed to transfer a cask from one mode to another. This table is included for reference purposes. It is not being accessed by TSL.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	fromMode	nvarchar	mode from which the cask is transferred
<b>X</b>	toMode	nvarchar	mode to which the cask is transferred
<b>X</b>	isLoaded	bit	true if the cask is loaded
	transferTime	float	transfer time (hours)

## 23. Site

### Definition:

Site information that is common to all scenarios. Users may add sites to the system, but are not allowed to modify existing site information.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	siteID	int	site ID number
	simScenarioID	smallint	simulation scenario ID number
	siteName	nvarchar	site name
	latitude	float	latitude (degrees)
	longitude	float	longitude (degrees)
	originalSimScenarioID	int	<unused>

## 24. SiteDistance

### Definition:

Site-to-site distance and travel time information, broken down by mode. Note that the rail mode may include water travel (by barge) and highway travel (by heavy haul).

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	fromSiteID	int	site ID number
X	toSiteID	int	site ID number
X	optionID	int	routing option ID number
X	mode	nvarchar	overall mode of travel (H = highway, R = rail)
X	leg	int	leg number
	distance	float	leg distance (miles)
	travelTime	float	leg travel time (hours)
	legMode	nvarchar	mode for leg (H = highway, R = rail, W = waterway)
	stateList	nvarchar	FIPS codes of states traversed
	derivation	nvarchar	source of data (C = CTA network, E = estimate, T = TRAGIS)
	includesShortline	bit	true if shortline rail is included in route

## 25. SiteNickname

### Definition:

Nicknames for sites. Is provided to eliminate duplicate sites in the database, and is generally used for alternate spellings or abbreviations of site names. Entries are added during the schedule load process.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	siteNickName	nvarchar	site nickname
	siteID	int	site ID number

## 26. SiteNode

### Definition:

The transportation locations associate with each site. These may include road access, rail access, waterway access, and mode transfer locations.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	siteID	int	site ID number
X	optionID	int	routing option ID number
X	nodeType	nvarchar	node type (road, water dock, rail, water rail, rail siding)
	latitude	float	latitude (degrees)
	longitude	float	longitude (degrees)

## 27. SiteTransportationOption

### Definition:

Transportation options for sites. Currently all sites have only one mode for access. This table (and in general, the transportation optionID field) is included to allow the analyst to investigate how the transportation plan and requirements change as site access modes improve or deteriorate.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	siteID	int	site ID number
<b>X</b>	optionID	int	routing option ID number
	name	nvarchar	routing option name

## 28. Trip

### Definition:

Contains run results on the trips generated by TOM.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	tripNumber	int	trip number (internal)
	origin	nvarchar	origin location (either reactor site ID number or ISF)
	destination	nvarchar	destination location (either ISF or MGR)

## 29. TripCaskXref

### Definition:

Contains run results on the casks involved in each trip.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	runID	int	run ID number
X	tripNumber	int	trip number (internal)
X	caskTypeID	int	cask type ID number
X	caskID	int	cask ID number (internal ID number assigned to an individual cask to facilitate tracking through shipments)

### 30. TripCost

**Definition:**

Contains run results on the cost of each trip.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	runID	int	run ID number
X	tripNumber	int	trip number (internal)
X	costCategory	nvarchar	cost category (Capital, Maintenance, or Operations)
X	costDetail	nvarchar	cost detail
	cost	float	cost (\$)

## 31. TripTime

### Definition:

Contains run results on the timing of each activity during a trip.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	tripNumber	int	trip number (internal)
<b>X</b>	activity	nvarchar	activity (CM = cask maintenance, FM = fleet maintenance, LD = load, TC = travel to cask maintenance, TF = travel to fleet maintenance, TR = travel to reactor, TS = travel to storage, UL = unload)
	startDate	datetime	start date
	endDate	datetime	end date

## 32. TripVehicleXref

### Definition:

Contains run results on the vehicles used on each trip.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	runID	int	run ID number
<b>X</b>	tripNumber	int	trip number (internal)
<b>X</b>	vehicleTypeID	int	vehicle type ID number
<b>X</b>	vehicleID	int	vehicle ID number (internal ID number assigned to an individual vehicle to facilitate tracking through shipments)

### 33. TSLUser

**Definition:**

The users of the TSL system.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
X	userName	nvarchar	user name

### 34. VehicleType

**Definition:**

Information on the vehicles used in TOM.

<i>Primary Key</i>	<i>Column Name</i>	<i>Type</i>	<i>Description</i>
<b>X</b>	vehicleTypeID	int	vehilce type ID number
	vehicleType	nvarchar	vehicle type (R-Rail, T-Truck)
	description	nvarchar	vehicle description
	capitalCost	float	acquisition cost to purchase (\$)
	standardInspectionTime	smallint	inspection time after each trip (hours)
	standardInspectionCost	float	inspection cost after each trip (\$)
	mileageInspectionTime	smallint	mileage inspection time (hours)
	mileageInspectionCost	float	mileage inspection cost (\$)

**35. Field: acquisitionDate**

**Description:**

date acquired

**Tables:**

ScenarioAcquisition

**36. Field: activity**

**Description:**

activity (CM = cask maintenance, FM = fleet maintenance, LD = load, TC = travel to cask maintenance, TF = travel to fleet maintenance, TR = travel to reactor, TS = travel to storage, UL = unload)

**Tables:**

TripTime

**37. Field: alreadyInCanister**

**Description:**

true if fuel is in a canister

**Tables:**

PickupScheduleCanister, PickupScheduleCask

**38. Field: alreadyInCask**

**Description:**

true if fuel is in a cask

**Tables:**

PickupScheduleCask

**39. Field: annualInspectionCost**

**Description:**

annual inspection cost (\$)

**Tables:**

Cask

**40. Field: annualInspectionTime**

**Description:**

annual inspection time (hours)

**Tables:**

Cask

**41. Field: assemblyCapacity****Description:**

number of assemblies

**Tables:**

Canister, Cask

**42. Field: bargeLoadingTime****Description:**

time to load barges (hours)

**Tables:**

SimulationOutput

**43. Field: bargeUnloadingTime****Description:**

time to unload barges (hours)

**Tables:**

SimulationOutput

**44. Field: bargeWaitTime****Description:**

time barges are waiting (hours)

**Tables:**

SimulationOutput

**45. Field: calendarYear****Description:**

calendar year

**Tables:**

ScenarioCost

**46. Field: calvinCaskID****Description:**

cask ID number in CALVIN database

**Tables:**

Canister, Cask

**47. Field: canisterName**

**Description:**

canister name

**Tables:**

Canister

**48. Field: canisterTypeID**

**Description:**

canister type ID number

**Tables:**

Canister, PickupScheduleCanister

**49. Field: canRead**

**Description:**

true if user has read permission

**Tables:**

PickupSchedulePermission, ScenarioPermission

**50. Field: canWrite**

**Description:**

true if user has write permission

**Tables:**

PickupSchedulePermission, ScenarioPermission

**51. Field: capitalCost**

**Description:**

acquisition cost to purchase (\$)

**Tables:**

Canister, Cask, VehicleType

**52. Field: carCost**

**Description:**

cost per car

**Tables:**

Cost

**53. Field: caskID**

**Description:**

cask ID number (internal ID number assigned to an individual cask to facilitate tracking through shipments)

**Tables:**

ScenarioCaskMaintenance, TripCaskXref

**54. Field: caskMaintFacility**

**Description:**

site ID of cask maintenance facility

**Tables:**

Scenario

**55. Field: caskName**

**Description:**

cask name

**Tables:**

Cask

**56. Field: caskTypeID**

**Description:**

cask type ID number

**Tables:**

Cask, PickupScheduleCask, ScenarioCaskMaintenance, TripCaskXref

**57. Field: completed**

**Description:**

date job was completed

**Tables:**

Job

**58. Field: cost**

**Description:**

cost (\$)

**Tables:**

ScenarioCost, TripCost

## 59. Field: costCategory

### Description:

cost category (Capital, Maintenance, or Operations)

### Tables:

ScenarioCost, TripCost

## 60. Field: costDetail

### Description:

cost detail

### Tables:

ScenarioCost, TripCost

## 61. Field: costYear

### Description:

base year for cost inflation (set to current year to inflate past years' costs to current dollars)

### Tables:

Scenario

## 62. Field: craneOnsiteTime

### Description:

time crane is onsite (hours)

### Tables:

SimulationOutput

## 63. Field: craneOperationTime

### Description:

time crane is in use (hours)

### Tables:

SimulationOutput

## 64. Field: dailyCost

### Description:

cost per day

### Tables:

Cost

**65. Field: decommissioningCost****Description:**

cost to dispose of cask (\$)

**Tables:**

Cask

**66. Field: defaultConsistSize****Description:**

default consist size (can be overridden by consistSize field in the ScenarioSite table)

**Tables:**

Scenario

**67. Field: derivation****Description:**

source of data (C = CTA network, E = estimate, T = TRAGIS)

**Tables:**

SiteDistance

**68. Field: description****Description:**

cask description

**Tables:**

Cask

**69. Field: description****Description:**

problem description

**Tables:**

ScenarioErrorLog

**70. Field: description****Description:**

vehicle description

**Tables:**

VehicleType

## 71. Field: destination

### Description:

destination location (either ISF or MGR)

### Tables:

PickupScheduleCanister, PickupScheduleCask, Trip

## 72. Field: detail

### Description:

cost description

### Tables:

Cost

## 73. Field: distance

### Description:

leg distance (miles)

### Tables:

SiteDistance

## 74. Field: emptyWeight

### Description:

empty cask weight (in pounds)

### Tables:

Cask

## 75. Field: endDate

### Description:

end date

### Tables:

TripTime

## 76. Field: endYear

### Description:

analysis end year

### Tables:

Scenario

**77. Field: equipmentDescription****Description:**

description

**Tables:**

Equipment

**78. Field: equipmentID****Description:**

equipment ID number (sequential number for the individual assets used for tracking)

**Tables:**

ScenarioAcquisition

**79. Field: equipmentType****Description:**

category of equipment (CASK or VEHICLE)

**Tables:**

ScenarioAcquisition

**80. Field: equipmentTypeID****Description:**

equipment type ID number (cask ID number for CASK assets, and vehicle ID number of VEHICLE assets)

**Tables:**

ScenarioAcquisition

**81. Field: fromMode****Description:**

mode from which the cask is transferred

**Tables:**

SimulationTransferTime

**82. Field: fromSiteID****Description:**

site ID number

**Tables:**

SiteDistance

**83. Field: fuelType**

**Description:**

fuel type (B = BWR, P = PWR)

**Tables:**

Canister

**84. Field: fuelType**

**Description:**

fuel type (B = BWR, P = PWR, H = ?, X = ?)

**Tables:**

Cask

**85. Field: heavyHaulOnsiteTime**

**Description:**

time HH is onsite (hours)

**Tables:**

SimulationOutput

**86. Field: heavyHaulOperationTime**

**Description:**

time HH is in operation (hours)

**Tables:**

SimulationOutput

**87. Field: hourlyCost**

**Description:**

cost per hour

**Tables:**

Cost

**88. Field: includesShortline**

**Description:**

true if shortline rail is included in route

**Tables:**

SiteDistance

**89. Field: inflationRate****Description:**

yearly inflation rate (as a percent, so e.g., 5.2% = 5.2)

**Tables:**

Inflation

**90. Field: isLoaded****Description:**

true if the cask is loaded

**Tables:**

SimulationTransferTime

**91. Field: isOverpack****Description:**

true if cask is an overpack

**Tables:**

Cask

**92. Field: latitude****Description:**

latitude (degrees)

**Tables:**

Site, SiteNode

**93. Field: leg****Description:**

leg number

**Tables:**

SiteDistance

**94. Field: legMode****Description:**

mode for leg (H = highway, R = rail, W = waterway)

**Tables:**

SiteDistance

**95. Field: lifetime**

**Description:**

usable life of cask (years)

**Tables:**

Cask

**96. Field: loadDate**

**Description:**

date that schedule was loaded

**Tables:**

PickupSchedule

**97. Field: loadedWeight**

**Description:**

fully loaded cask weight (in pounds)

**Tables:**

Cask

**98. Field: loadTime**

**Description:**

time to load cask (hours)

**Tables:**

Cask

**99. Field: location**

**Description:**

location of fuel (P = pool, D = dry storage)

**Tables:**

PickupScheduleCanister, PickupScheduleCask

**100. Field: longitude**

**Description:**

longitude (degrees)

**Tables:**

Site, SiteNode

**101.Field: maintenanceDate****Description:**

date of maintenance

**Tables:**

ScenarioCaskMaintenance

**102.Field: maintenanceDate****Description:**

maintenance date

**Tables:**

ScenarioVehicleMaintenance

**103.Field: maintenanceType****Description:**

type of maintenance (standard or annual)

**Tables:**

ScenarioCaskMaintenance

**104.Field: maintenanceType****Description:**

type of maintenance (standard or mileage)

**Tables:**

ScenarioVehicleMaintenance

**105.Field: maxConsistSize****Description:**

maximum consist size (overwrites defaultConsistSize from the Scenario table)

**Tables:**

ScenarioSite

**106.Field: mileageCost****Description:**

cost per mile

**Tables:**

Cost

### **107.Field: mileageInspectionCost**

**Description:**

mileage inspection cost (\$)

**Tables:**

VehicleType

### **108.Field: mileageInspectionTime**

**Description:**

mileage inspection time (hours)

**Tables:**

VehicleType

### **109.Field: mileageSquaredCost**

**Description:**

cost per mile squared

**Tables:**

Cost

### **110.Field: minCost**

**Description:**

minimum cost

**Tables:**

Cost

### **111.Field: mode**

**Description:**

overall mode of travel (H = highway, R = rail)

**Tables:**

SiteDistance

### **112.Field: mode**

**Description:**

transportation mode (H = highway, L = local, R = rail)

**Tables:**

Cost

**113.Field: mode****Description:**

usage mode (R = rail transportation, T = truck transportation, S = storage)

**Tables:**

Cask

**114.Field: monthlyCost****Description:**

cost per month

**Tables:**

Cost

**115.Field: name****Description:**

routing option name

**Tables:**

SiteTransportationOption

**116.Field: name****Description:**

run name

**Tables:**

Scenario

**117.Field: nodeType****Description:**

node type (road, water dock, rail, water rail, rail siding)

**Tables:**

SiteNode

**118.Field: numCasks****Description:**

consist size

**Tables:**

SimulationOutput

### **119.Field: numOfCanisters**

**Description:**

number of canisters to be picked up

**Tables:**

PickupScheduleCanister

### **120.Field: numOfCasks**

**Description:**

number of casks to be picked up

**Tables:**

PickupScheduleCask

### **121.Field: optionID**

**Description:**

routing option ID number

**Tables:**

SiteDistance, SiteNode, SiteTransportationOption

### **122.Field: origin**

**Description:**

origin location (either reactor site ID number or ISF)

**Tables:**

Trip

### **123.Field: origin**

**Description:**

pickup location (either reactor site ID number, or ISF)

**Tables:**

PickupScheduleCanister, PickupScheduleCask

### **124.Field: originalSimScenarioID**

**Description:**

<unused>

**Tables:**

Site

**125. Field: otherCost****Description:**

other cost

**Tables:**

Cost

**126. Field: otherDescription****Description:**

other cost description

**Tables:**

Cost

**127. Field: owner****Description:**

owner (user who created the run)

**Tables:**

Scenario

**128. Field: owner****Description:**

owner (user who input schedule)

**Tables:**

PickupSchedule

**129. Field: problemID****Description:**

problem ID number (sequential ID for run)

**Tables:**

ScenarioErrorLog

**130. Field: queued****Description:**

date job was added to the queue

**Tables:**

Job

### 131. Field: railcarMaintFacility

**Description:**

site ID of railcar maintenance facility

**Tables:**

Scenario

### 132. Field: repositorySiteID

**Description:**

site ID of repository

**Tables:**

Scenario

### 133. Field: runCompleted

**Description:**

true if the run has completed

**Tables:**

Scenario

### 134. Field: runDate

**Description:**

date of the last run

**Tables:**

Scenario

### 135. Field: runID

**Description:**

run ID number

**Tables:**

Job, Scenario, ScenarioAcquisition, ScenarioCaskMaintenance, ScenarioCost, ScenarioErrorLog, ScenarioISF, ScenarioPermission, ScenarioSite, ScenarioVehicleMaintenance, Trip, TripCaskXref, TripCost, TripTime, TripVehicleXref

### 136. Field: runMode

**Description:**

run mode for scheduling program (Q = quick, O = optimized)

**Tables:**

Scenario

**137.Field: runRequested**

**Description:**

true if a run request has been made

**Tables:**

Scenario

**138.Field: scheduleID**

**Description:**

schedule ID number

**Tables:**

PickupSchedule, PickupScheduleCanister, PickupScheduleCask, PickupSchedulePermission, Scenario

**139.Field: scheduleName**

**Description:**

schedule name

**Tables:**

PickupSchedule

**140.Field: securityTime**

**Description:**

time before departure that security must be present (hours)

**Tables:**

SimulationOutput

**141.Field: simScenarioID**

**Description:**

simulation scenario ID number

**Tables:**

SimScenario, SimulationOutput, Site

**142.Field: simScenarioName**

**Description:**

simulation scenario name

**Tables:**

SimScenario

### 143. Field: siteID

**Description:**

site ID number

**Tables:**

ScenarioISF, ScenarioSite, Site, SiteNickname, SiteNode, SiteTransportationOption

### 144. Field: siteName

**Description:**

site name

**Tables:**

Site

### 145. Field: siteNickName

**Description:**

site nickname

**Tables:**

SiteNickname

### 146. Field: speed

**Description:**

speed of equipment (mph)

**Tables:**

Equipment

### 147. Field: standardInspectionCost

**Description:**

inspection cost after each trip (\$)

**Tables:**

Cask, VehicleType

### 148. Field: standardInspectionTime

**Description:**

inspection time after each trip (hours)

**Tables:**

Cask, VehicleType

**149.Field: startDate****Description:**

start date

**Tables:**

TripTime

**150.Field: started****Description:**

date job was started

**Tables:**

Job

**151.Field: startYear****Description:**

analysis start year

**Tables:**

Scenario

**152.Field: stateList****Description:**

FIPS codes of states traversed

**Tables:**

SiteDistance

**153.Field: status****Description:**

job status (queued, started, finished)

**Tables:**

Job

**154.Field: toMode****Description:**

mode to which the cask is transferred

**Tables:**

SimulationTransferTime

### **155.Field: toSiteID**

**Description:**

site ID number

**Tables:**

SiteDistance

### **156.Field: totalTime**

**Description:**

total time for loading operation (minus loading fuel into casks and/or canisters) (hours)

**Tables:**

SimulationOutput

### **157.Field: trailerMaintFacility**

**Description:**

site ID of truck trailer maintenance facility

**Tables:**

Scenario

### **158.Field: transferTime**

**Description:**

transfer time (hours)

**Tables:**

SimulationTransferTime

### **159.Field: transportationCaskTypeID**

**Description:**

cask type ID number of transportation overpack

**Tables:**

Canister

### **160.Field: travelTime**

**Description:**

leg travel time (hours)

**Tables:**

SiteDistance

**161.Field: tripCost**

**Description:**

cost per trip

**Tables:**

Cost

**162.Field: tripNumber**

**Description:**

trip number (internal)

**Tables:**

Trip, TripCaskXref, TripCost, TripTime, TripVehicleXref

**163.Field: unloadTime**

**Description:**

time to unload cask (hours)

**Tables:**

Cask

**164.Field: userName**

**Description:**

user name

**Tables:**

PickupSchedulePermission, ScenarioPermission, TSLUser

**165.Field: userName**

**Description:**

user who added job to queue

**Tables:**

Job

**166.Field: vehicleID**

**Description:**

vehicle ID number (internal ID number assigned to an individual vehicle to facilitate tracking through shipments)

**Tables:**

ScenarioVehicleMaintenance, TripVehicleXref

### **167.Field: vehicleType**

**Description:**

vehicle type (R-Rail, T-Truck)

**Tables:**

VehicleType

### **168.Field: vehicleTypeID**

**Description:**

vehicle type ID number

**Tables:**

ScenarioVehicleMaintenance, TripVehicleXref

### **169.Field: vehicleTypeID**

**Description:**

vehilce type ID number

**Tables:**

VehicleType

### **170.Field: weightCost**

**Description:**

cost per ton

**Tables:**

Cost

### **171.Field: weightMileCost**

**Description:**

cost per ton mile

**Tables:**

Cost

### **172.Field: weightMileSquaredCost**

**Description:**

cost per ton mile squared

**Tables:**

Cost

**173. Field: year****Description:**

calendar year

**Tables:**

Inflation, PickupScheduleCanister, PickupScheduleCask

**174. Field: year****Description:**

calendar year of cost (used in inflation calculations)

**Tables:**

Cost