

APPENDIX B

UMR20-25 SIMULATION MODEL - HTML (NO ANIMATION)

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UMR20-25 BASIC MODEL LOCAL FIRST 105 EXIST (ROOT)***Closure Duration 22 (100)***

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
-
- lock22closed=1;
- **LaunchEffect:**

- **EndEffect:**

lock22closed=0;

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 2.4435;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Closure Duration 22 (100) -> Next Closure 22 (99)**
 - **DecisionCode:**
 -
 - return true;
- **StartingID:**

-
- 100
- **EndingID:**

99

- **Notes:**

- **Name:**

Closure Duration 22

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

100

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Next Closure 21 (101)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 313.868;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Next Closure 21 (101) -> Closure Duration 21 (102)**

- **DecisionCode:**
 -
 - return true;

- **StartingID:**

-

- 101

- **EndingID:**

102

- **Notes:**

- **Name:**

Next Closure 21

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

101

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Closure Duration 21 (102)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

lock21closed=1;

- **LaunchEffect:**

- **EndEffect:**

lock21closed=0;

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 2.06381;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Closure Duration 21 (102) -> Next Closure 21 (101)**

- **DecisionCode:**

-

- return true;

- **StartingID:**

-

- 102

- **EndingID:**

101

- **Notes:**

- **Name:**

Closure Duration 21

- **Visible:** True

- **Shape:** RoundedRectangle

- **SizeType:** FitToText

- **Width:** -1

- **Height:** -1

- **BackgroundType:** Image

- **ItemID:**

102

- **BackgroundColor:** Color [BlanchedAlmond]

- **BorderColor:** Color [Black]

- **TextColor:** Color [Black]

- **FontType:** Arial

- **FontSize:** 10

- **Notes:**

Next Closure 20 (103)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False

- **BeginEffect:**

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 180.153;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Next Closure 20 (103) -> Closure Duration 20 (104)**

- **DecisionCode:**

-

- return true;

- **StartingID:**

-

- 103

- **EndingID:**

104

- **Notes:**

- **Name:**

Next Closure 20

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

103

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Closure Duration 20 (104)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

lock20closed=1;

- **LaunchEffect:**

- **EndEffect:**

lock20closed=0;

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 1.9166;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Closure Duration 20 (104) -> Next Closure 20 (103)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 104

- **EndingID:**

103

- **Notes:**

- **Name:**

Closure Duration 20

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

104

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Filter 25 Tow Up (107)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Filter 25 Tow Up (107) -> Kill Tow 25 Up (108)**

- **DecisionCode:**

○

- return 1-

(tow_interarrival_time[0,0,6]/tow_interarrival_time[0,0,month]);

- **StartingID:**
-
- 107
- **EndingID:**

108

- **Notes:**

Filter 25 Tow Up (107) -> Lock 25 (13)

- **DecisionCode:**
-
- return tow_interarrival_time[0,0,6]/tow_interarrival_time[0,0,month];
- **StartingID:**

107

- **EndingID:**

13

- **Notes:**

- **Name:**

Filter 25 Tow Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

107

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Kill Tow 25 Up (108)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Name:**

Kill Tow 25 Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1

- **BackgroundType:** Image
- **ItemID:**

108

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Filter 20 Tow Down (109)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Filter 20 Tow Down (109) -> Lock 20 (40)**

- **DecisionCode:**

-

- return

- tow_interarrival_time[4,1,11]/tow_interarrival_time[4,1,month];

- **StartingID:**

-

- 109

- **EndingID:**

40

- **Notes:**

Filter 20 Tow Down (109) -> Kill 20 Tow Down (110)

- **DecisionCode:**

-

- return 1-(tow_interarrival_time[4,1,11]/tow_interarrival_time[4,1,month]);

- **StartingID:**

109

- **EndingID:**

110

- **Notes:**

- **Name:**

Filter 20 Tow Down

- **Visible:** True

- **Shape:** RoundedRectangle

- **SizeType:** FitToText

- **Width:** -1

- **Height:** -1

- **BackgroundType:** Image

- **ItemID:**

109

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Kill 20 Tow Down (110)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Name:**

Kill 20 Tow Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

110

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 25 (13)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** True
- **BeginEffect:**

```
lock25_avail=0;
last_dir[0]=Entity.Downbound;
```

- **LaunchEffect:**

```
lock_util[0]=lock_util[0]+Entity.Duration;
if (Entity.VesselType>0) tow_util25=tow_util25+Entity.Duration;
```

- **EndEffect:**

```
lock25_avail=1;
lockages_25++;
position[0]=0;
```

- **ReleaseCondition:**

```
return (lock25_avail==1 && lock25closed==0);
```

- **DataShaping1:**

```

a=0;
if (position[0]==0) {pexchange=0; pturnback=0;};
if( position[0]==1) {pexchange=0; pturnback=1; a=0.1545;};
if( position[0]==2) {pexchange=1; pturnback=0;};
if (Entity.Downbound==0 && Entity.VesselType==0) mean_lock25=0.2652847676 +(-
0.042333948)*apr +(-0.047268881)*may +(-0.088064153)*jun +(-0.072645357)*jul;
if (Entity.Downbound==1 && Entity.VesselType==0) mean_lock25=0.2410647049 +(-
0.066981957)*apr +(-0.046685314)*may +(-0.064379823)*jun +(-0.058783827)*jul
+(0.0180170445)*sep +(0.1093451312)*dec;
if (Entity.Downbound==0 && Entity.VesselType==1) mean_lock25=0.4355659662
+(0.1190725418)*feb +(-0.093283848)*apr +(-0.092626575)*may +(-0.109366007)*jun
+(-0.088485574)*jul +(-0.046806036)*aug +(-0.050273728)*pturnback +(-
0.040052663)*pexchange;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_lock25=0.4384080094
+(0.1989604789)*feb +(-0.094623233)*jun +(-0.0696205)*jul +(0.0836600402)*sep
+(0.1218879565)*dec +(-0.072875913)*pturnback;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_lock25=1.9499533804
+(0.4225651193)*feb +(-0.109008906)*may +(-0.157569369)*jun +(-0.134505841)*jul
+(0.1550721341)*sep +(0.1686208678)*oct +(-0.171993721)*dec +(-
0.324719544)*pturnback;
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_lock25=2.3568545432 +(-
0.44450039)*feb +(-0.181390157)*may +(-0.182878515)*jun +(-0.196795356)*jul +(-
0.061522608)*aug +(0.0844954485)*sep +(-0.440342924)*pturnback +(-
0.289471349)*pexchange;
return mean_lock25+a;

```

- **DataShaping2:**

```

if (Entity.Downbound==0 && Entity.VesselType==0) sd_lock25=0.0971032647;
if (Entity.Downbound==1 && Entity.VesselType==0) sd_lock25=0.0956381594;
if (Entity.Downbound==0 && Entity.VesselType==1) sd_lock25=0.2401460939;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_lock25=0.2522357923;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_lock25=0.5426940701;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_lock25=0.4820660212;
return sd_lock25;

```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** Sorted
- **QueuePriorityCode:**

```
return prior25[Entity.VesselType,Entity.Downbound,last_dir[0]];
```

- **QueueEnteringEffect:**

```
Queue_Length[0]++;
Sum_Queue++;
wait_time[Entity.Tag]=Clock;
```

- **QueueDepartingEffect:**

```
Queue_Length[0]--;
Sum_Queue--;
if (Entity.Downbound==last_dir[0]) {position[0]=1;};
if (Entity.Downbound!=last_dir[0]) {position[0]=2;};
wait_time[Entity.Tag]=Clock - wait_time[Entity.Tag];
total_wait25=total_wait25 + wait_time[Entity.Tag];
if (Entity.VesselType>0)
{tow_wait25=tow_wait25+wait_time[Entity.Tag];}
```

- **Lock 25 (13) -> Lock 25 Upbound Tow Terminate Decision (76)**

- **DecisionCode:**

-

- return Entity.Downbound==0 & Entity.VesselType>0;

- **StartingID:**

-

- 13

- **EndingID:**

76

- **Notes:**

Lock 25 (13) -> Lock 25 Downbound Tow Terminate Decision (77)

- **DecisionCode:**

-

- return Entity.Downbound==1 & Entity.VesselType>0;

- **StartingID:**

13

- **EndingID:**

77

- **Notes:**

Lock 25 (13) -> Lock 25 Terminate Vessel (16)

- **DecisionCode:**

-

- return Entity.VesselType<=0;
- **StartingID:**

13

- **EndingID:**

16

- **Notes:**

- **Name:**

Lock 25

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 93.78905
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

13

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Pool 25 (14)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**

```
if (Entity.VesselType>=1) {tow_miles=tow_miles+32.0;};
if (Entity.VesselType==1){tow_miles_small=tow_miles_small + 32.0;};
```

```
if (Entity.VesselType==2){tow_miles_large=tow_miles_large + 32.0;};
if (Entity.Downbound==0) {pool25up++;} else {pool25down++;};
```

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
if (Entity.Downbound==0 && Entity.VesselType==1) mean_pool25=5.2229786124;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_pool25=3.4931425164
+(0.9016491503)*feb;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_pool25=7.0676753349 +(-
0.424776144)*mar +(-0.295734835)*apr +(-0.361602181)*may +(0.3768815052)*sep
+(-0.400352103)*nov;
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_pool25=4.9853041363
+(1.1021958638)*feb +(-0.640737323)*mar +(-0.928863855)*apr +(-1.154933766)*may
+(-1.330414452)*jun +(-1.11692591)*jul +(-0.362544626)*aug +(-0.205220992)*oct +(-
0.440746889)*nov;
return mean_pool25;
```

- **DataShaping2:**

```
if (Entity.Downbound==0 && Entity.VesselType==1) sd_pool25=1.6430264845;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_pool25=1.1800809478;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_pool25=1.7098079693;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_pool25=1.1032233257;
return sd_pool25;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Pool 25 (14) -> Lock 25 (13)**

- **DecisionCode:**

-

- return Entity.Downbound>0;

- **StartingID:**

-
- 14
- **EndingID:**

13

- **Notes:**

Pool 25 (14) -> Lock 24 (15)

- **DecisionCode:**
-
- return Entity.Downbound==0;
- **StartingID:**

14

- **EndingID:**

15

- **Notes:**

- **Name:**

Pool 25

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 92.38932
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

14

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 24 (15)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** True
- **BeginEffect:**

```
lock24_avail=0;
last_dir[1]=Entity.Downbound;
```

- **LaunchEffect:**

```
lock_util[1]=lock_util[1]+Entity.Duration;
if (Entity.VesselType>0) tow_util24=tow_util24+Entity.Duration;
```

- **EndEffect:**

```
lock24_avail=1;
lockages_24++;
position[1]=0;
```

- **ReleaseCondition:**

```
return (lock24_avail==1 && lock24closed==0);
```

- **DataShaping1:**

```
a=0;
if (position[1]==0) {pexchange=0; pturnback=0;};
if (position[1]==1) {pexchange=0; pturnback=1; a=0.1501;};
if (position[1]==2) {pexchange=1; pturnback=0;};
if (Entity.Downbound==0 && Entity.VesselType==0) mean_lock24=0.2258960822
+(0.0600716202)*aug +(0.0407520608)*sep +(0.0509112276)*oct;
if (Entity.Downbound==1 && Entity.VesselType==0) mean_lock24=0.2083671482
+(0.0357497212)*aug +(0.067589136)*sep +(0.0555856976)*oct +(0.0631678742)*nov;
if (Entity.Downbound==0 && Entity.VesselType==1) mean_lock24=0.5837877881 +(-
0.056489451)*mar +(-0.095058384)*apr +(-0.127780044)*may +(-0.096598065)*jun
+(-0.10209369)*jul +(-0.10842217)*pturnback +(-0.097978404)*pexchange;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_lock24=0.5522851465 +(-
0.161275925)*apr;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_lock24=1.78036695
+(0.0836196008)*mar +(0.0535144991)*apr +(0.1258876067)*aug
+(0.2355990249)*sep +(0.2585929729)*oct +(0.2276301143)*nov
+(0.1575408491)*dec +(-0.216687279)*pturnback;
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_lock24=2.1524597677 +(-
0.140621674)*may +(-0.189190123)*jun +(-0.130666007)*jul +(0.1151065072)*sep
+(0.130026092)*oct +(0.1862778743)*dec +(-0.158015933)*pturnback;
return mean_lock24+a;
```

- **DataShaping2:**

```
if (Entity.Downbound==0 && Entity.VesselType==0) sd_lock24=0.0951147555;
```

```

if (Entity.Downbound==1 && Entity.VesselType==0) sd_lock24=0.089182895;
if (Entity.Downbound==0 && Entity.VesselType==1) sd_lock24=0.1789729486;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_lock24=0.6525186475;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_lock24=0.4048105248;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_lock24=0.6004034192;
return sd_lock24;

```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** Sorted
- **QueuePriorityCode:**

```
return prior24[Entity.VesselType,Entity.Downbound,last_dir[1]];

```

- **QueueEnteringEffect:**

```

Queue_Length[1]++;
Sum_Queue++;
wait_time[Entity.Tag]=Clock;

```

- **QueueDepartingEffect:**

```

Queue_Length[1]--;
Sum_Queue--;
if (Entity.Downbound==last_dir[1]) {position[1]=1;};
if (Entity.Downbound!=last_dir[1]) {position[1]=2;};
wait_time[Entity.Tag]=Clock - wait_time[Entity.Tag];
total_wait24=total_wait24 + wait_time[Entity.Tag];
if (Entity.VesselType>0)
{tow_wait24=tow_wait24 + wait_time[Entity.Tag];}

```

- **Lock 24 (15) -> Lock 24 Terminate Vessel (24)**

- **DecisionCode:**
-
- return Entity.VesselType<=0;

- **StartingID:**

-

- 15

- **EndingID:**

24

- **Notes:**

Lock 24 (15) -> Lock 24 Upbound Tow Terminate Decision (79)

- **DecisionCode:**
-
- return Entity.Downbound==0 & Entity.VesselType>0;
- **StartingID:**

15

- **EndingID:**

79

- **Notes:**

Lock 24 (15) -> Lock 24 Downbound Tow Terminate Decision (80)

- **DecisionCode:**
-
- return Entity.Downbound==1 & Entity.VesselType>0;
- **StartingID:**

15

- **EndingID:**

80

- **Notes:**

- **Name:**

Lock 24

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 93.78905
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

15

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 25 Terminate Vessel (16)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
Entity.EndTime=Clock;
if(Entity.VesselType==0) {local25++;}
else {tow_time=tow_time+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType==1) {small25++;
tow_time_small=tow_time_small+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType>=2) {large25++;
tow_time_large=tow_time_large+Entity.EndTime-Entity.StartTime;};
```

- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return 0.0;
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Name:**

Lock 25 Terminate Vessel

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 201.0677
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

16

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 25 Local Up (17)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=0;
```

- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return local_interarrival_time[0,0,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 25 Local Up (17) -> Generate 25 Local Up (17)**

- **DecisionCode:**
 -
 - return true;

- **StartingID:**

•

- 17

- **EndingID:**

17

- **Notes:**

Generate 25 Local Up (17) -> Lock 25 (13)

- **DecisionCode:**
-
- return true;

- **StartingID:**

17

- **EndingID:**

13

- **Notes:**

- **Name:**

Generate 25 Local Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 177.2982
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

17

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 25 Local Down (21)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=1;
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

return local_interarrival_time[0,1,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 25 Local Down (21) -> Generate 25 Local Down (21)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

•

- 21

- **EndingID:**

21

- **Notes:**

Generate 25 Local Down (21) -> Lock 25 (13)

- **DecisionCode:**

•

- return true;

- **StartingID:**

21

- **EndingID:**

13

- **Notes:**

- **Name:**

Generate 25 Local Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 194.3424
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

21

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 24 Local Up (23)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=0;
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

return local_interarrival_time[1,0,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential

- **DecisionType:** Multiple

- **QueueType:** None

- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 24 Local Up (23) -> Generate 24 Local Up (23)**

- **DecisionCode:**

-

- return true;

- **StartingID:**

-

- 23

- **EndingID:**

23

- **Notes:**

Generate 24 Local Up (23) -> Lock 24 (15)

- **DecisionCode:**

-

- return true;

- **StartingID:**

23

- **EndingID:**

15

- **Notes:**

- **Name:**

Generate 24 Local Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 177.2982
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

23

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 24 Terminate Vessel (24)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
Entity.EndTime=Clock;
if(Entity.VesselType==0) {local24++;}
else {tow_time=tow_time+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType==1) {small24++;
tow_time_small=tow_time_small+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType>=2) {large24++;
tow_time_large=tow_time_large+Entity.EndTime-Entity.StartTime;};
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Name:**

Lock 24 Terminate Vessel

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 201.0677
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

24

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 24 Local Down (25)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=1;
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return local_interarrival_time[1,1,month];
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 24 Local Down (25) -> Generate 24 Local Down (25)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-
- 25
- **EndingID:**

25

- **Notes:**

Generate 24 Local Down (25) -> Lock 24 (15)

- **DecisionCode:**
-
- return true;
- **StartingID:**

25

- **EndingID:**

15

- **Notes:**

- **Name:**

Generate 24 Local Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 194.3424
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

25

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 22 Local Up (26)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=0;
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return local_interarrival_time[2,0,month];;
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 22 Local Up (26) -> Generate 22 Local Up (26)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-
- 26
- **EndingID:**

26

- **Notes:**

Generate 22 Local Up (26) -> Lock 22 (29)

- **DecisionCode:**
-
- return true;
- **StartingID:**

26

- **EndingID:**

29

- **Notes:**

- **Name:**

Generate 22 Local Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 177.2982
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

26

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Pool 24 (28)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

- **LaunchEffect:**

- **EndEffect:**

```
if (Entity.VesselType>=1) {tow_miles=tow_miles+27.8;};
if (Entity.VesselType==1){tow_miles_small=tow_miles_small + 27.8;};
if (Entity.VesselType==2){tow_miles_large=tow_miles_large + 27.8;};
if (Entity.Downbound==0) {pool24up++;} else {pool24down++};
```

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
if (Entity.Downbound==0 && Entity.VesselType==1) mean_pool24=4.1171814672;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_pool24=3.1269406393 +(-
0.447178735)*jun;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_pool24=5.0740118101
+(0.9226548566)*feb +(0.2677552582)*sep +(-0.245361672)*nov;
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_pool24=4.0585625933 +(-
0.240920996)*apr +(-0.482877985)*may +(-0.670996977)*jun +(-0.481120879)*jul
+(0.4398527072)*sep +(0.2380331514)*dec;
```

```
return mean_pool24;
```

- **DataShaping2:**

```
if (Entity.Downbound==0 && Entity.VesselType==1) sd_pool24=1.4047327027;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_pool24=0.8764974014;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_pool24=1.3635615401;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_pool24=1.0138466099;
return sd_pool24;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Pool 24 (28) -> Lock 22 (29)**

- **DecisionCode:**

-

- return Entity.Downbound==0;

- **StartingID:**

-

- 28

- **EndingID:**

29

- **Notes:**

Pool 24 (28) -> Lock 24 (15)

- **DecisionCode:**

-

- return Entity.Downbound>0;

- **StartingID:**

28

- **EndingID:**

15

- **Notes:**

- **Name:**

Pool 24

- **Visible:** True

- **Shape:** RoundedRectangle

- **SizeType:** FitToText

- **Width:** 92.38932

- **Height:** 21.09114

- **BackgroundType:** Image

- **ItemID:**

28

- **BackgroundColor:** Color [BlanchedAlmond]

- **BorderColor:** Color [Black]

- **TextColor:** Color [Black]

- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 22 (29)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** True
- **BeginEffect:**

```
lock22_avail=0;
last_dir[2]=Entity.Downbound;
```

- **LaunchEffect:**

```
lock_util[2]=lock_util[2]+Entity.Duration;
if (Entity.VesselType>0) tow_util22=tow_util22+Entity.Duration;
```

- **EndEffect:**

```
lock22_avail=1;
lockages_22++;
position[2]=0;
```

- **ReleaseCondition:**

```
return (lock22_avail==1 && lock22closed==0);
```

- **DataShaping1:**

```
a=0;
if (position[2]==0) {pexchange=0; pturnback=0;};
if( position[2]==1) {pexchange=0; pturnback=1; a=0.1094;};
if( position[2]==2) {pexchange=1; pturnback=0;};
if (Entity.Downbound==0 && Entity.VesselType==0) mean_lock22=0.2410553124
+(0.0398686816)*may;
if (Entity.Downbound==1 && Entity.VesselType==0) mean_lock22=0.2730230809 +(-
0.030110402)*jul +(-0.024053282)*pturnback +(-0.038504786)*pexchange;
if (Entity.Downbound==0 && Entity.VesselType==1) mean_lock22=0.7991751418
+(0.5059343674)*feb +(-0.384372463)*pturnback +(-0.31154075)*pexchange;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_lock22=0.844840487 +(-
0.288234417)*pturnback +(-0.341522243)*pexchange;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_lock22=2.1958998794
+(0.2649362794)*feb +(-0.091691914)*jun +(-0.08655735)*jul +(0.2492828655)*sep
+(0.202025939)*oct +(-0.458316672)*pturnback +(-0.117801277)*pexchange;
```

```

if (Entity.Downbound==1 && Entity.VesselType>=2) mean_lock22=2.4866955284 +(-
0.118100143)*jun +(-0.110942874)*jul +(0.1021783282)*oct +(-
0.498554122)*pturnback +(-0.360057324)*pexchange;
return mean_lock22+a;

```

- **DataShaping2:**

```

if (Entity.Downbound==0 && Entity.VesselType==0) sd_lock22=0.1147618777;
if (Entity.Downbound==1 && Entity.VesselType==0) sd_lock22=0.0865846418;
if (Entity.Downbound==0 && Entity.VesselType==1) sd_lock22=0.6169176852;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_lock22=0.7030949166;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_lock22=0.558075946;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_lock22=0.619722608;
return sd_lock22;

```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** Sorted
- **QueuePriorityCode:**

```
return prior22[Entity.VesselType,Entity.Downbound,last_dir[2]];

```

- **QueueEnteringEffect:**

```

Queue_Length[2]++;
Sum_Queue++;
wait_time[Entity.Tag]=Clock;

```

- **QueueDepartingEffect:**

```

Queue_Length[2]--;
Sum_Queue--;
if (Entity.Downbound==last_dir[2]) {position[2]=1;};
if (Entity.Downbound!=last_dir[2]) {position[2]=2;};
wait_time[Entity.Tag]=Clock - wait_time[Entity.Tag];
total_wait22=total_wait22 + wait_time[Entity.Tag];
if (Entity.VesselType>0)
{tow_wait22=tow_wait22 + wait_time[Entity.Tag];}
    • Lock 22 (29) -> Lock 22 Terminate Vessel (30)

```

- **DecisionCode:**
-
- return Entity.VesselType<=0;

- **StartingID:**
-
- 29
- **EndingID:**

30

- **Notes:**

Lock 22 (29) -> Lock 22 Upbound Tow Terminate Decision (83)

- **DecisionCode:**
-
- return Entity.Downbound==0 & Entity.VesselType>0;
- **StartingID:**

29

- **EndingID:**

83

- **Notes:**

Lock 22 (29) -> Lock 22 Downbound Tow Terminate Decision (84)

- **DecisionCode:**
-
- return Entity.Downbound==1 & Entity.VesselType>0;
- **StartingID:**

29

- **EndingID:**

84

- **Notes:**

- **Name:**

Lock 22

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 93.78905
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

29

- **BackgroundColor:** Color [BlanchedAlmond]

- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Fill Interarrival Time Arrays (3)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_interarrival_time[0,0,1]=595.200;
local_interarrival_time[0,0,2]=595.200;
local_interarrival_time[0,0,3]=595.200;
local_interarrival_time[0,0,4]=64.000;
local_interarrival_time[0,0,5]=30.061;
local_interarrival_time[0,0,6]=18.701;
local_interarrival_time[0,0,7]=11.810;
local_interarrival_time[0,0,8]=9.185;
local_interarrival_time[0,0,9]=12.361;
local_interarrival_time[0,0,10]=38.154;
local_interarrival_time[0,0,11]=180.000;
local_interarrival_time[0,0,12]=496.000;
local_interarrival_time[0,1,1]=744.000;
local_interarrival_time[0,1,2]=744.000;
local_interarrival_time[0,1,3]=744.000;
local_interarrival_time[0,1,4]=151.579;
local_interarrival_time[0,1,5]=47.238;
local_interarrival_time[0,1,6]=20.000;
local_interarrival_time[0,1,7]=10.744;
local_interarrival_time[0,1,8]=9.508;
local_interarrival_time[0,1,9]=9.536;
local_interarrival_time[0,1,10]=15.030;
local_interarrival_time[0,1,11]=55.385;
local_interarrival_time[0,1,12]=372.000;
local_interarrival_time[1,0,1]=425.143;
local_interarrival_time[1,0,2]=425.143;
local_interarrival_time[1,0,3]=425.143;
local_interarrival_time[1,0,4]=92.903;
local_interarrival_time[1,0,5]=40.216;
local_interarrival_time[1,0,6]=20.870;
local_interarrival_time[1,0,7]=14.308;
```

local_interarrival_time[1,0,8]=11.063;
local_interarrival_time[1,0,9]=16.271;
local_interarrival_time[1,0,10]=48.787;
local_interarrival_time[1,0,11]=288.000;
local_interarrival_time[1,0,12]=744.00;
local_interarrival_time[1,1,1]=2232.223;
local_interarrival_time[1,1,2]=2232.223;
local_interarrival_time[1,1,3]=2232.223;
local_interarrival_time[1,1,4]=144.000;
local_interarrival_time[1,1,5]=63.319;
local_interarrival_time[1,1,6]=26.916;
local_interarrival_time[1,1,7]=13.227;
local_interarrival_time[1,1,8]=12.000;
local_interarrival_time[1,1,9]=11.383;
local_interarrival_time[1,1,10]=16.719;
local_interarrival_time[1,1,11]=52.364;
local_interarrival_time[1,1,12]=318.862;
local_interarrival_time[2,0,1]=992.000;
local_interarrival_time[2,0,2]=992.000;
local_interarrival_time[2,0,3]=992.000;
local_interarrival_time[2,0,4]=120.000;
local_interarrival_time[2,0,5]=45.091;
local_interarrival_time[2,0,6]=25.946;
local_interarrival_time[2,0,7]=17.928;
local_interarrival_time[2,0,8]=15.420;
local_interarrival_time[2,0,9]=21.985;
local_interarrival_time[2,0,10]=102.621;
local_interarrival_time[2,0,11]=180.000;
local_interarrival_time[2,0,12]=180.000;
local_interarrival_time[2,1,1]=744.000;
local_interarrival_time[2,1,2]=744.000;
local_interarrival_time[2,1,3]=744.000;
local_interarrival_time[2,1,4]=308.576;
local_interarrival_time[2,1,5]=99.200;
local_interarrival_time[2,1,6]=30.968;
local_interarrival_time[2,1,7]=16.086;
local_interarrival_time[2,1,8]=13.972;
local_interarrival_time[2,1,9]=17.246;
local_interarrival_time[2,1,10]=20.245;
local_interarrival_time[2,1,11]=80.000;
local_interarrival_time[2,1,12]=446.391;
local_interarrival_time[3,0,1]=595.200;
local_interarrival_time[3,0,2]=595.200;
local_interarrival_time[3,0,3]=595.200;
local_interarrival_time[3,0,4]=110.769;
local_interarrival_time[3,0,5]=39.158;

local_interarrival_time[3,0,6]=24.615;
local_interarrival_time[3,0,7]=15.914;
local_interarrival_time[3,0,8]=14.104;
local_interarrival_time[3,0,9]=21.654;
local_interarrival_time[3,0,10]=114.462;
local_interarrival_time[3,0,11]=540.014;
local_interarrival_time[3,0,12]=540.014;
local_interarrival_time[3,1,1]=558.014;
local_interarrival_time[3,1,2]=558.014;
local_interarrival_time[3,1,3]=558.014;
local_interarrival_time[3,1,4]=205.714;
local_interarrival_time[3,1,5]=69.209;
local_interarrival_time[3,1,6]=24.615;
local_interarrival_time[3,1,7]=13.466;
local_interarrival_time[3,1,8]=11.810;
local_interarrival_time[3,1,9]=15.738;
local_interarrival_time[3,1,10]=19.325;
local_interarrival_time[3,1,11]=75.789;
local_interarrival_time[3,1,12]=496.000;
local_interarrival_time[4,0,1]=744.000;
local_interarrival_time[4,0,2]=744.000;
local_interarrival_time[4,0,3]=744.000;
local_interarrival_time[4,0,4]=144.000;
local_interarrival_time[4,0,5]=48.000;
local_interarrival_time[4,0,6]=31.304;
local_interarrival_time[4,0,7]=18.484;
local_interarrival_time[4,0,8]=15.581;
local_interarrival_time[4,0,9]=29.691;
local_interarrival_time[4,0,10]=129.391;
local_interarrival_time[4,0,11]=720.000;
local_interarrival_time[4,0,12]=744.000;
local_interarrival_time[4,1,1]=744.000;
local_interarrival_time[4,1,2]=744.000;
local_interarrival_time[4,1,3]=744.000;
local_interarrival_time[4,1,4]=431.991;
local_interarrival_time[4,1,5]=129.391;
local_interarrival_time[4,1,6]=34.699;
local_interarrival_time[4,1,7]=15.107;
local_interarrival_time[4,1,8]=12.400;
local_interarrival_time[4,1,9]=16.552;
local_interarrival_time[4,1,10]=21.257;
local_interarrival_time[4,1,11]=90.000;
local_interarrival_time[4,1,12]=186.000;
tow_interarrival_time[0,0,1]=99.200;
tow_interarrival_time[0,0,2]=21.000;
tow_interarrival_time[0,0,3]=4.357;

tow_interarrival_time[0,0,4]=4.168;
tow_interarrival_time[0,0,5]=4.307;
tow_interarrival_time[0,0,6]=3.487;
tow_interarrival_time[0,0,7]=3.586;
tow_interarrival_time[0,0,8]=4.197;
tow_interarrival_time[0,0,9]=5.009;
tow_interarrival_time[0,0,10]=4.351;
tow_interarrival_time[0,0,11]=4.180;
tow_interarrival_time[0,0,12]=10.744;
tow_interarrival_time[0,1,1]=228.923;
tow_interarrival_time[0,1,2]=77.535;
tow_interarrival_time[0,1,3]=28.893;
tow_interarrival_time[0,1,4]=33.488;
tow_interarrival_time[0,1,5]=42.514;
tow_interarrival_time[0,1,6]=29.691;
tow_interarrival_time[0,1,7]=29.760;
tow_interarrival_time[0,1,8]=28.615;
tow_interarrival_time[0,1,9]=36.923;
tow_interarrival_time[0,1,10]=37.671;
tow_interarrival_time[0,1,11]=37.403;
tow_interarrival_time[0,1,12]=64.696;
tow_interarrival_time[1,0,1]=124.000;
tow_interarrival_time[1,0,2]=168.000;
tow_interarrival_time[1,0,3]=53.143;
tow_interarrival_time[1,0,4]=51.429;
tow_interarrival_time[1,0,5]=57.231;
tow_interarrival_time[1,0,6]=35.122;
tow_interarrival_time[1,0,7]=37.671;
tow_interarrival_time[1,0,8]=43.130;
tow_interarrival_time[1,0,9]=35.556;
tow_interarrival_time[1,0,10]=45.785;
tow_interarrival_time[1,0,11]=20.719;
tow_interarrival_time[1,0,12]=40.216;
tow_interarrival_time[1,1,1]=74.400;
tow_interarrival_time[1,1,2]=58.435;
tow_interarrival_time[1,1,3]=20.245;
tow_interarrival_time[1,1,4]=16.552;
tow_interarrival_time[1,1,5]=22.892;
tow_interarrival_time[1,1,6]=20.282;
tow_interarrival_time[1,1,7]=20.524;
tow_interarrival_time[1,1,8]=23.619;
tow_interarrival_time[1,1,9]=19.073;
tow_interarrival_time[1,1,10]=19.077;
tow_interarrival_time[1,1,11]=22.857;
tow_interarrival_time[1,1,12]=33.818;
tow_interarrival_time[2,0,1]=124.000;

tow_interarrival_time[2,0,2]=134.400;
tow_interarrival_time[2,0,3]=22.718;
tow_interarrival_time[2,0,4]=20.000;
tow_interarrival_time[2,0,5]=24.595;
tow_interarrival_time[2,0,6]=15.401;
tow_interarrival_time[2,0,7]=16.533;
tow_interarrival_time[2,0,8]=17.103;
tow_interarrival_time[2,0,9]=17.561;
tow_interarrival_time[2,0,10]=16.533;
tow_interarrival_time[2,0,11]=12.522;
tow_interarrival_time[2,0,12]=28.893;
tow_interarrival_time[2,1,1]=93.000;
tow_interarrival_time[2,1,2]=70.737;
tow_interarrival_time[2,1,3]=22.545;
tow_interarrival_time[2,1,4]=18.113;
tow_interarrival_time[2,1,5]=29.465;
tow_interarrival_time[2,1,6]=23.040;
tow_interarrival_time[2,1,7]=28.615;
tow_interarrival_time[2,1,8]=24.000;
tow_interarrival_time[2,1,9]=22.857;
tow_interarrival_time[2,1,10]=21.882;
tow_interarrival_time[2,1,11]=26.667;
tow_interarrival_time[2,1,12]=39.680;
tow_interarrival_time[3,0,1]=212.571;
tow_interarrival_time[3,0,2]=183.256;
tow_interarrival_time[3,0,3]=22.892;
tow_interarrival_time[3,0,4]=20.719;
tow_interarrival_time[3,0,5]=22.209;
tow_interarrival_time[3,0,6]=20.870;
tow_interarrival_time[3,0,7]=19.840;
tow_interarrival_time[3,0,8]=21.723;
tow_interarrival_time[3,0,9]=19.726;
tow_interarrival_time[3,0,10]=15.581;
tow_interarrival_time[3,0,11]=12.152;
tow_interarrival_time[3,0,12]=23.070;
tow_interarrival_time[3,1,1]=82.667;
tow_interarrival_time[3,1,2]=67.200;
tow_interarrival_time[3,1,3]=14.588;
tow_interarrival_time[3,1,4]=14.257;
tow_interarrival_time[3,1,5]=22.044;
tow_interarrival_time[3,1,6]=18.228;
tow_interarrival_time[3,1,7]=19.077;
tow_interarrival_time[3,1,8]=16.086;
tow_interarrival_time[3,1,9]=15.401;
tow_interarrival_time[3,1,10]=13.527;
tow_interarrival_time[3,1,11]=14.328;

tow_interarrival_time[3,1,12]=26.105;
tow_interarrival_time[4,0,1]=126.008;
tow_interarrival_time[4,0,2]=126.008;
tow_interarrival_time[4,0,3]=15.830;
tow_interarrival_time[4,0,4]=17.669;
tow_interarrival_time[4,0,5]=21.106;
tow_interarrival_time[4,0,6]=17.455;
tow_interarrival_time[4,0,7]=15.830;
tow_interarrival_time[4,0,8]=14.733;
tow_interarrival_time[4,0,9]=14.049;
tow_interarrival_time[4,0,10]=11.857;
tow_interarrival_time[4,0,11]=10.868;
tow_interarrival_time[4,0,12]=20.245;
tow_interarrival_time[4,1,1]=744.000;
tow_interarrival_time[4,1,2]=126.008;
tow_interarrival_time[4,1,3]=7.573;
tow_interarrival_time[4,1,4]=5.152;
tow_interarrival_time[4,1,5]=5.767;
tow_interarrival_time[4,1,6]=4.097;
tow_interarrival_time[4,1,7]=4.005;
tow_interarrival_time[4,1,8]=4.402;
tow_interarrival_time[4,1,9]=5.275;
tow_interarrival_time[4,1,10]=4.746;
tow_interarrival_time[4,1,11]=3.789;
tow_interarrival_time[4,1,12]=8.576;

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None

- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Fill Interarrival Time Arrays (3) -> Fill Tow Size Distribution Arrays (93)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

•

- 3

- **EndingID:**

93

- **Notes:**

- **Name:**

Fill Interarrival Time Arrays

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 199.095
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

3

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 22 Terminate Vessel (30)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
Entity.EndTime=Clock;
if(Entity.VesselType==0) {local22++;}
else {tow_time=tow_time+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType==1) {small22++;
tow_time_small=tow_time_small+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType>=2) {large22++;
tow_time_large=tow_time_large+Entity.EndTime-Entity.StartTime;};
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**
return true;
- **DataShaping1:**
return 0.0;
- **DataShaping2:**
return 0.0;
- **DataShaping3:**
return 0.0;
- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**
- **QueueEnteringEffect:**
return 0.0;
- **QueueDepartingEffect:**
- **Name:**

Lock 22 Terminate Vessel

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 201.0677
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

30

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Pool 21 (31)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**

```
if (Entity.VesselType>=1) {tow_miles=tow_miles+18.3;};
if (Entity.VesselType==1){tow_miles_small=tow_miles_small + 18.3;};
if (Entity.VesselType==2){tow_miles_large=tow_miles_large + 18.3;};
if (Entity.Downbound==0) {pool21up++;} else {pool21down++;};
```

- **ReleaseCondition:**

return true;

- **DataShaping1:**

```
if (Entity.Downbound==0 && Entity.VesselType==1) mean_pool21=3.701015873;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_pool21=1.9663369963;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_pool21=3.5723418882 +(-
0.212181069)*jun +(0.3727832765)*sep +(0.4310945379)*oct;
```

```
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_pool21=2.5456509772 +(-
0.145349772)*mar +(-0.253561425)*apr +(-0.427072546)*may +(-0.48566461)*jun +(-
0.328652965)*jul +(0.177461002)*sep +(0.1795542774)*dec;
return mean_pool21;
```

- **DataShaping2:**

```
if (Entity.Downbound==0 && Entity.VesselType==1) sd_pool21=1.5705730036;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_pool21=1.120163182;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_pool21=1.2656452725;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_pool21=0.6616754758;
return sd_pool21;
```

- **DataShaping3:**

return 0.0;

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Pool 21 (31) -> Lock 20 (40)**

- **DecisionCode:**
-
- return Entity.Downbound==0;

- **StartingID:**

-
- 31

- **EndingID:**

40

- **Notes:**

Pool 21 (31) -> Lock 21 (36)

- **DecisionCode:**
-
- return Entity.Downbound>0;

- **StartingID:**

31

- **EndingID:**

36

- **Notes:**

- **Name:**

Pool 21

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 92.38932
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

31

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 21 Local Up (32)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=0;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return local_interarrival_time[3,0,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 21 Local Up (32) -> Generate 21 Local Up (32)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 32

- **EndingID:**

32

- **Notes:**

Generate 21 Local Up (32) -> Lock 21 (36)

- **DecisionCode:**
-
- return true;

- **StartingID:**

32

- **EndingID:**

36

- **Notes:**

- **Name:**

Generate 21 Local Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 177.2982
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

32

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 22 Local Down (33)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=1;
```

- **LaunchEffect:**

;

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return local_interarrival_time[2,1,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 22 Local Down (33) -> Generate 22 Local Down (33)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

•

- 33

- **EndingID:**

33

- **Notes:**

Generate 22 Local Down (33) -> Lock 22 (29)

- **DecisionCode:**

•

- return true;
- **StartingID:**

33

- **EndingID:**

29

- **Notes:**

- **Name:**

Generate 22 Local Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 194.3424
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

33

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 21 Local Down (34)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=1;
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return local_interarrival_time[3,1,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 21 Local Down (34) -> Generate 21 Local Down (34)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 34

- **EndingID:**

34

- **Notes:**

- **Generate 21 Local Down (34) -> Lock 21 (36)**

- **DecisionCode:**

-
- return true;
- **StartingID:**

34

- **EndingID:**

36

- **Notes:**

- **Name:**

Generate 21 Local Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 194.3424
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

34

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 20 Local Up (35)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=0;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return local_interarrival_time[4,0,month];;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 20 Local Up (35) -> Generate 20 Local Up (35)**

- **DecisionCode:**

○

- return true;

- **StartingID:**

•

- 35

- **EndingID:**

35

- **Notes:**

Generate 20 Local Up (35) -> Lock 20 (40)

- **DecisionCode:**
-
- return true;
- **StartingID:**

35

- **EndingID:**

40

- **Notes:**

- **Name:**

Generate 20 Local Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 177.2982
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

35

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 21 (36)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** True
- **BeginEffect:**

```
lock21_avail=0;
last_dir[3]=Entity.Downbound;
```

- **LaunchEffect:**

```
lock_util[3]=lock_util[3]+Entity.Duration;
if (Entity.VesselType>0) tow_util21=tow_util21+Entity.Duration;
```

- **EndEffect:**

```
lock21_avail=1;
lockages_21++;
position[3]=0;
```

- **ReleaseCondition:**

```
return (lock21_avail==1 && lock21closed==0);
```

- **DataShaping1:**

```
a=0;
if (position[3]==0) {pexchange=0; pturnback=0;};
if (position[3]==1) {pexchange=0; pturnback=1; a=0.0899;};
if (position[3]==2) {pexchange=1; pturnback=0;};
if (Entity.Downbound==0 && Entity.VesselType==0) mean_lock21=0.2240269136 +(-
0.025075517)*jun +(-0.028607515)*jul +(-0.01770518)*pturnback +(-
0.022100831)*pexchange;
if (Entity.Downbound==1 && Entity.VesselType==0) mean_lock21=0.2236061249 +(-
0.041090323)*may +(-0.032259254)*jul +(0.0309310832)*oct +(-
0.025827117)*pturnback +(-0.019050613)*pexchange;
if (Entity.Downbound==0 && Entity.VesselType==1) mean_lock21=0.5373875086
+(0.3990850209)*feb +(0.0619646789)*sep +(0.0579901965)*oct +(-
0.185017664)*pturnback +(-0.128481003)*pexchange;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_lock21=0.5509708738 +(-
0.146755417)*pturnback +(-0.12041379)*pexchange;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_lock21=1.9200142881
+(0.4351291002)*feb +(0.071296819)*aug +(0.1893185748)*sep +(0.1824631616)*oct
+(-0.406577338)*pturnback +(-0.059674274)*pexchange;
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_lock21=2.1722989271
+(1.3326625368)*feb +(-0.054500659)*jun +(0.1256772406)*oct +(0.0748230574)*nov
+(0.1670637403)*dec +(-0.399018216)*pturnback +(-0.294288019)*pexchange;
return mean_lock21+a;
```

- **DataShaping2:**

```
if (Entity.Downbound==0 && Entity.VesselType==0) sd_lock21= 0.0704973627;
if (Entity.Downbound==1 && Entity.VesselType==0) sd_lock21=0.0811232375;
if (Entity.Downbound==0 && Entity.VesselType==1) sd_lock21=0.229564;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_lock21=0.2509064508;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_lock21=0.4795210823;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_lock21=0.437372541;
return sd_lock21;
```

- **DataShaping3:**

return 0.0;

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** Sorted
- **QueuePriorityCode:**

return prior21[Entity.VesselType,Entity.Downbound,last_dir[3]];

- **QueueEnteringEffect:**

Queue_Length[3]++;

Sum_Queue++;

wait_time[Entity.Tag]=Clock;

- **QueueDepartingEffect:**

Queue_Length[3]--;

Sum_Queue--;

if (Entity.Downbound==last_dir[3]) {position[3]=1;};

if (Entity.Downbound!=last_dir[3]) {position[3]=2;};

wait_time[Entity.Tag]=Clock - wait_time[Entity.Tag];

total_wait21=total_wait21 + wait_time[Entity.Tag];

if (Entity.VesselType>0)

{tow_wait21=tow_wait21 + wait_time[Entity.Tag];}

- **Lock 21 (36) -> Lock 21 Terminate Vessel (37)**

- **DecisionCode:**

○

- return Entity.VesselType<=0;

- **StartingID:**

•

- 36

- **EndingID:**

37

- **Notes:**

Lock 21 (36) -> Lock 21 Upbound Tow Terminate Decision (87)

- **DecisionCode:**

•

- return Entity.Downbound==0 & Entity.VesselType>0;

- **StartingID:**

36

- **EndingID:**

87

- **Notes:**

Lock 21 (36) -> Lock 21 Downbound Tow Terminate Decision (88)

- **DecisionCode:**
 -
 - return Entity.Downbound==1 & Entity.VesselType>0;
- **StartingID:**

36

- **EndingID:**

88

- **Notes:**

- **Name:**

Lock 21

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 93.78905
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

36

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 21 Terminate Vessel (37)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

Entity.EndTime=Clock;
if(Entity.VesselType==0) {local21++;}
else {tow_time=tow_time+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType==1) {small21++;}
tow_time_small=tow_time_small+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType>=2) {large21++;}
tow_time_large=tow_time_large+Entity.EndTime-Entity.StartTime;};

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return 0.0;
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Name:**

```
Lock 21 Terminate Vessel
```

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 201.0677
- **Height:** 21.09114
- **BackgroundType:** Image

- **ItemID:**

37

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Pool 22 (38)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**

```
if (Entity.VesselType>=1){tow_miles=tow_miles+23.7;};
if (Entity.VesselType==1){tow_miles_small=tow_miles_small + 23.7;};
if (Entity.VesselType==2){tow_miles_large=tow_miles_large + 23.7;};
if (Entity.Downbound==0) {pool22up++;} else {pool22down++;};
```

- **ReleaseCondition:**

return true;

- **DataShaping1:**

```
if (Entity.Downbound==0 && Entity.VesselType==1) mean_pool22=4.3454206603
+(3.750412673)*feb;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_pool22=2.398324515
+(0.6392945326)*aug +(1.7350088183)*dec;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_pool22=4.6892197774
+(1.1161373654)*feb +(-0.26672369)*mar +(-0.251962677)*apr +(-0.358143389)*nov;
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_pool22=3.1991191947 +(-
0.20103307)*mar +(-0.393398474)*apr +(-0.53143401)*may +(-0.752439878)*jun +(-
0.467902737)*jul +(0.231611536)*sep +(0.2023533622)*dec;
return mean_pool22;
```

- **DataShaping2:**

```

if (Entity.Downbound==0 && Entity.VesselType==1) sd_pool22=2.1336278568;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_pool22=1.2429231235;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_pool22=1.2594958675;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_pool22=0.8268192241;
return sd_pool22;

```

- **DataShaping3:**

return 0.0;

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Pool 22 (38) -> Lock 21 (36)**

- **DecisionCode:**

○

- return Entity.Downbound==0;

- **StartingID:**

•

- 38

- **EndingID:**

36

- **Notes:**

Pool 22 (38) -> Lock 22 (29)

- **DecisionCode:**

•

- return Entity.Downbound>0;

- **StartingID:**

38

- **EndingID:**

29

- **Notes:**

- **Name:**

Pool 22

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 92.38932
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

38

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 20 (40)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** True
- **BeginEffect:**

```
lock20_avail=0;
last_dir[4]=Entity.Downbound;
```

- **LaunchEffect:**

```
lock_util[4]=lock_util[4]+Entity.Duration;
if (Entity.VesselType>0) tow_util20=tow_util20+Entity.Duration;
```

- **EndEffect:**

```
lock20_avail=1;
lockages_20++;
position[4]=0;
```

- **ReleaseCondition:**

```
return (lock20_avail==1 && lock20closed==0);
```

- **DataShaping1:**

```

a=0;
if (position[4]==0) {pexchange=0; pturnback=0;};
if ( position[4]==1) {pexchange=0; pturnback=1; a=0.1309;};
if ( position[4]==2) {pexchange=1; pturnback=0;};
if (Entity.Downbound==0 && Entity.VesselType==0) mean_lock20=0.2097609811;
if (Entity.Downbound==1 && Entity.VesselType==0) mean_lock20=0.2346537858 +(-
0.030005396)*jul +(-0.030373991)*pturnback +(-0.033383326)*pexchange;
if (Entity.Downbound==0 && Entity.VesselType==1) mean_lock20=0.4783398117
+(1.0434363844)*feb +(-0.114263734)*pturnback;
if (Entity.Downbound==1 && Entity.VesselType==1) mean_lock20=0.4639962044
+(0.4272109491)*feb +(0.0908795269)*nov +(-0.080434989)*pturnback;
if (Entity.Downbound==0 && Entity.VesselType>=2) mean_lock20=1.8627836912 +(-
0.058573742)*jun +(0.212260242)*sep +(0.1742146381)*oct +(-
0.310980269)*pturnback;
if (Entity.Downbound==1 && Entity.VesselType>=2) mean_lock20=1.950407782
+(1.8200840214)*feb +(-0.074505424)*jun +(0.2285343483)*dec +(-
0.169382757)*pturnback +(-0.087207964)*pexchange;
return mean_lock20+a;

```

- **DataShaping2:**

```

if (Entity.Downbound==0 && Entity.VesselType==0) sd_lock20=0.3461933123;
if (Entity.Downbound==1 && Entity.VesselType==0) sd_lock20=0.0666102758;
if (Entity.Downbound==0 && Entity.VesselType==1) sd_lock20=0.4470557949;
if (Entity.Downbound==1 && Entity.VesselType==1) sd_lock20=0.3716008544;
if (Entity.Downbound==0 && Entity.VesselType>=2) sd_lock20=0.4634774546;
if (Entity.Downbound==1 && Entity.VesselType>=2) sd_lock20=0.603738298;
return sd_lock20;

```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Lognormal
- **DecisionType:** Tactical
- **QueueType:** Sorted
- **QueuePriorityCode:**

```
return prior20[Entity.VesselType,Entity.Downbound,last_dir[4]];

```

- **QueueEnteringEffect:**

```

Queue_Length[4]++;
Sum_Queue++;
wait_time[Entity.Tag]=Clock;

```

- **QueueDepartingEffect:**

```

Queue_Length[4]--;
Sum_Queue--;

```

```

if (Entity.Downbound==last_dir[4]) {position[4]=1;};
if (Entity.Downbound!=last_dir[4]) {position[4]=2;};
wait_time[Entity.Tag]=Clock - wait_time[Entity.Tag];
total_wait20=total_wait20 + wait_time[Entity.Tag];
if (Entity.VesselType>0)
{tow_wait20=tow_wait20 + wait_time[Entity.Tag];}
    • Lock 20 (40) -> Lock 20 Terminate Vessel (41)

```

- **DecisionCode:**
-
- return Entity.VesselType<=0;
- **StartingID:**
-
- 40
- **EndingID:**

41

- **Notes:**

Lock 20 (40) -> Lock 20 Upbound Tow Terminate Decision (91)

- **DecisionCode:**
-
- return Entity.Downbound==0 & Entity.VesselType>0;
- **StartingID:**

40

- **EndingID:**

91

- **Notes:**

Lock 20 (40) -> Lock 20 Downbound Tow Terminate Decision (92)

- **DecisionCode:**
-
- return Entity.Downbound==1 & Entity.VesselType>0;
- **StartingID:**

40

- **EndingID:**

92

- **Notes:**

- **Name:**

Lock 20

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 93.78905
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

40

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 20 Terminate Vessel (41)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
Entity.EndTime=Clock;
if(Entity.VesselType==0) {local20++;}
else {tow_time=tow_time+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType==1) {small20++;
tow_time_small=tow_time_small+Entity.EndTime-Entity.StartTime;};
if (Entity.VesselType>=2) {large20++;
tow_time_large=tow_time_large+Entity.EndTime-Entity.StartTime;};
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Name:**

Lock 20 Terminate Vessel

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 201.0677
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

41

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 20 Local Down (42)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
local_total++;
system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.VesselType=0;
prior[Entity.Tag]=0;
Entity.Downbound=1;
```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return local_interarrival_time[4,1,month];
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 20 Local Down (42) -> Generate 20 Local Down (42)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-
- 42
- **EndingID:**

42

- **Notes:**

Generate 20 Local Down (42) -> Lock 20 (40)

- **DecisionCode:**
-
- return true;
- **StartingID:**

42

- **EndingID:**

40

- **Notes:**

- **Name:**

Generate 20 Local Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 194.3424
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

42

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 25 Tow Up (44)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[0,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.8827) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9431) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return tow_interarrival_time[0,0,6];
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

```
return 0.0;
```

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 25 Tow Up (44) -> Generate 25 Tow Up (44)**

- **DecisionCode:**
 -
 - return true;
- **StartingID:**
-
- 44
- **EndingID:**

44

- **Notes:**

Generate 25 Tow Up (44) -> Filter 25 Tow Up (107)

- **DecisionCode:**
-
- return true;
- **StartingID:**

44

- **EndingID:**

107

- **Notes:**

- **Name:**

Generate 25 Tow Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 170.5338
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

44

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 25 Tow Down (45)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[0,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.9826) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9857) Entity.SmallType++;

```
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

```

return true;

```
- **DataShaping1:**

```

return tow_interarrival_time[0,1,month];

```
- **DataShaping2:**

```

return 0.0;

```
- **DataShaping3:**

```

return 0.0;

```
- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**
- **QueueEnteringEffect:**

```

return 0.0;

```

- **QueueDepartingEffect:**

- **Generate 25 Tow Down (45) -> Generate 25 Tow Down (45)**

- **DecisionCode:**
 -
 - return true;

- **StartingID:**

- - 45

- **EndingID:**

45

- **Notes:**

Generate 25 Tow Down (45) -> Lock 25 (13)

- **DecisionCode:**
-
- return true;

- **StartingID:**

45

- **EndingID:**

13

- **Notes:**

- **Name:**

Generate 25 Tow Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 187.5781
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

45

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]

- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 24 Tow Up (46)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[1,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.9930) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9960) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return tow_interarrival_time[1,0,month];
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None

- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 24 Tow Up (46) -> Generate 24 Tow Up (46)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 46

- **EndingID:**

46

- **Notes:**

- Generate 24 Tow Up (46) -> Lock 24 (15)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

46

- **EndingID:**

15

- **Notes:**

- **Name:**

Generate 24 Tow Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 170.5338
- **Height:** 21.09114
- **BackgroundType:** Image

- **ItemID:**

46

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 24 Tow Down (47)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[1,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.8807) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.8807) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return tow_interarrival_time[1,1,month];
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 24 Tow Down (47) -> Generate 24 Tow Down (47)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 47

- **EndingID:**

47

- **Notes:**

Generate 24 Tow Down (47) -> Lock 24 (15)

- **DecisionCode:**
-
- return true;

- **StartingID:**

47

- **EndingID:**

15

- **Notes:**

- **Name:**

Generate 24 Tow Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 187.5781
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

47

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 22 Tow Up (48)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[2,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.9789) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9829) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```

return true;

```

- **DataShaping1:**

return tow_interarrival_time[2,0,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential

- **DecisionType:** Multiple

- **QueueType:** None

- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 22 Tow Up (48) -> Generate 22 Tow Up (48)**

- **DecisionCode:**

-

- return true;

- **StartingID:**

-

- 48

- **EndingID:**

48

- **Notes:**

Generate 22 Tow Up (48) -> Lock 22 (29)

- **DecisionCode:**

-

- return true;

- **StartingID:**

48

- **EndingID:**

29

- **Notes:**

- **Name:**

Generate 22 Tow Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 170.5338
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

48

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 21 Tow Up (49)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[3,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.9920) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9939) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return tow_interarrival_time[3,0,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 21 Tow Up (49) -> Generate 21 Tow Up (49)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 49

- **EndingID:**

49

- **Notes:**

Generate 21 Tow Up (49) -> Lock 21 (36)

- **DecisionCode:**
-
- return true;

- **StartingID:**

49

- **EndingID:**

36

- **Notes:**

- **Name:**

Generate 21 Tow Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 170.5338
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

49

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Set Priorities (5)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```
prior25[0,0,0]=10;
prior25[0,1,0]=10;
prior25[1,0,0]=9;
prior25[1,1,0]=9;
prior25[2,0,0]=9;
prior25[2,1,0]=9;
prior25[0,0,1]=10;
prior25[0,1,1]=10;
prior25[1,0,1]=9;
```

```
prior25[1,1,1]=9;
prior25[2,0,1]=9;
prior25[2,1,1]=9;
prior24[0,0,0]=10;
prior24[0,1,0]=10;
prior24[1,0,0]=9;
prior24[1,1,0]=9;
prior24[2,0,0]=9;
prior24[2,1,0]=9;
prior24[0,0,1]=10;
prior24[0,1,1]=10;
prior24[1,0,1]=9;
prior24[1,1,1]=9;
prior24[2,0,1]=9;
prior24[2,1,1]=9;
prior22[0,0,0]=10;
prior22[0,1,0]=10;
prior22[1,0,0]=9;
prior22[1,1,0]=9;
prior22[2,0,0]=9;
prior22[2,1,0]=9;
prior22[0,0,1]=10;
prior22[0,1,1]=10;
prior22[1,0,1]=9;
prior22[1,1,1]=9;
prior22[2,0,1]=9;
prior22[2,1,1]=9;
prior21[0,0,0]=10;
prior21[0,1,0]=10;
prior21[1,0,0]=9;
prior21[1,1,0]=9;
prior21[2,0,0]=9;
prior21[2,1,0]=9;
prior21[0,0,1]=10;
prior21[0,1,1]=10;
prior21[1,0,1]=9;
prior21[1,1,1]=9;
prior21[2,0,1]=9;
prior21[2,1,1]=9;
prior20[0,0,0]=10;
prior20[0,1,0]=10;
prior20[1,0,0]=9;
prior20[1,1,0]=9;
prior20[2,0,0]=9;
prior20[2,1,0]=9;
prior20[0,0,1]=10;
```

prior20[0,1,1]=10;
 prior20[1,0,1]=9;
 prior20[1,1,1]=9;
 prior20[2,0,1]=9;
 prior20[2,1,1]=9;
 • **LaunchEffect:**

• **EndEffect:**

• **ReleaseCondition:**

return true;

• **DataShaping1:**

return 0.0;

• **DataShaping2:**

return 0.0;

• **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

• **QueueEnteringEffect:**

• **QueueDepartingEffect:**

• **Set Priorities (5) -> Start Tows (7)**

- **DecisionCode:**
-
- return true;

• **StartingID:**

•

• 5

• **EndingID:**

- **Notes:**

Set Priorities (5) -> Start Local Traffic (6)

- **DecisionCode:**
 -
 - return true;
- **StartingID:**

5

- **EndingID:**

6

- **Notes:**

Set Priorities (5) -> Start Impairment Tasks (94)

- **DecisionCode:**
 -
 - return true;
- **StartingID:**

5

- **EndingID:**

94

- **Notes:**

- **Name:**

Set Priorities

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 115.4883
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

5

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]

- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 22 Tow Down (50)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[2,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.9756) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9777) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```
return true;
```

- **DataShaping1:**

```
return tow_interarrival_time[2,1,month];
```

- **DataShaping2:**

```
return 0.0;
```

- **DataShaping3:**

```
return 0.0;
```

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None

- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 22 Tow Down (50) -> Generate 22 Tow Down (50)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

•

- 50

- **EndingID:**

50

- **Notes:**

- Generate 22 Tow Down (50) -> Lock 22 (29)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

50

- **EndingID:**

29

- **Notes:**

- **Name:**

Generate 22 Tow Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 187.5781
- **Height:** 21.09114
- **BackgroundType:** Image

- **ItemID:**

50

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 21 Tow Down (51)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[3,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.9743) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9763) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return tow_interarrival_time[3,1,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 21 Tow Down (51) -> Generate 21 Tow Down (51)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 51

- **EndingID:**

51

- **Notes:**

Generate 21 Tow Down (51) -> Lock 21 (36)

- **DecisionCode:**
-
- return true;

- **StartingID:**

51

- **EndingID:**

36

- **Notes:**

- **Name:**

Generate 21 Tow Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 187.5781
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

51

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 20 Tow Up (52)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=0;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[4,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.9863) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9882) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

```

return true;

```

- **DataShaping1:**

return tow_interarrival_time[4,0,month];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential

- **DecisionType:** Multiple

- **QueueType:** None

- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 20 Tow Up (52) -> Generate 20 Tow Up (52)**

- **DecisionCode:**

-

- return true;

- **StartingID:**

-

- 52

- **EndingID:**

52

- **Notes:**

Generate 20 Tow Up (52) -> Lock 20 (40)

- **DecisionCode:**

-

- return true;

- **StartingID:**

52

- **EndingID:**

40

- **Notes:**

- **Name:**

Generate 20 Tow Up

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 170.5338
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

52

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Generate 20 Tow Down (53)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

system_total++;
Entity.Tag=system_total;
Entity.Downbound=1;
Entity.SmallType=0;
Entity.StartTime=Clock;
if (Model.Random()<=small_tow_prob[4,Entity.Downbound,month])
{Entity.VesselType=1; small_tows_created++;}
else {Entity.VesselType=2; large_tows_created++;};
b=0;
if (Entity.VesselType==1) b=Model.Random();
if (Entity.VesselType==1 && b>= 0.8665) Entity.SmallType++;
if (Entity.VesselType==1 && b>= 0.9204) Entity.SmallType++;

```

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return tow_interarrival_time[4,1,11];

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Generate 20 Tow Down (53) -> Generate 20 Tow Down (53)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 53

- **EndingID:**

53

- **Notes:**

Generate 20 Tow Down (53) -> Filter 20 Tow Down (109)

- **DecisionCode:**
-
- return true;

- **StartingID:**

53

- **EndingID:**

109

- **Notes:**

- **Name:**

Generate 20 Tow Down

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 187.5781
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

53

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Start Local Traffic (6)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Start Local Traffic (6) -> Generate 25 Local Up (17)**

- o **DecisionCode:**
- o
- o return true;

- **StartingID:**

-

- 6

- **EndingID:**

17

- **Notes:**

Start Local Traffic (6) -> Generate 25 Local Down (21)

- **DecisionCode:**
-
- return true;

- **StartingID:**

6

- **EndingID:**

21

- **Notes:**

Start Local Traffic (6) -> Generate 24 Local Up (23)

- **DecisionCode:**
 -
 - return true;
- **StartingID:**

6

- **EndingID:**

23

- **Notes:**

Start Local Traffic (6) -> Generate 22 Local Up (26)

- **DecisionCode:**
 -
 - return true;
- **StartingID:**

6

- **EndingID:**

26

- **Notes:**

Start Local Traffic (6) -> Generate 24 Local Down (25)

- **DecisionCode:**
 -
 - return true;
- **StartingID:**

6

- **EndingID:**

25

- **Notes:**

Start Local Traffic (6) -> Generate 22 Local Down (33)

- **DecisionCode:**
-
- return true;
- **StartingID:**

6

- **EndingID:**

33

- **Notes:**

Start Local Traffic (6) -> Generate 21 Local Up (32)

- **DecisionCode:**
-
- return true;
- **StartingID:**

6

- **EndingID:**

32

- **Notes:**

Start Local Traffic (6) -> Generate 20 Local Up (35)

- **DecisionCode:**
-
- return true;
- **StartingID:**

6

- **EndingID:**

35

- **Notes:**

Start Local Traffic (6) -> Generate 21 Local Down (34)

- **DecisionCode:**
-

- return true;
- **StartingID:**

6

- **EndingID:**

34

- **Notes:**

Start Local Traffic (6) -> Generate 20 Local Down (42)

- **DecisionCode:**
-
- return true;
- **StartingID:**

6

- **EndingID:**

42

- **Notes:**

- **Name:**

Start Local Traffic

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 144.1471
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

6

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Start Tows (7)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Start Tows (7) -> Generate 25 Tow Up (44)**
 - **DecisionCode:**
 -
 - return true;
 - **StartingID:**
 -
 - 7

- **EndingID:**

44

- **Notes:**

Start Tows (7) -> Generate 25 Tow Down (45)

- **DecisionCode:**

-

- return true;

- **StartingID:**

7

- **EndingID:**

45

- **Notes:**

Start Tows (7) -> Generate 24 Tow Up (46)

- **DecisionCode:**

-

- return true;

- **StartingID:**

7

- **EndingID:**

46

- **Notes:**

Start Tows (7) -> Generate 24 Tow Down (47)

- **DecisionCode:**

-

- return true;

- **StartingID:**

7

- **EndingID:**

47

- **Notes:**

Start Tows (7) -> Generate 22 Tow Up (48)

- **DecisionCode:**
-
- return true;
- **StartingID:**

7

- **EndingID:**

48

- **Notes:**

Start Tows (7) -> Generate 22 Tow Down (50)

- **DecisionCode:**
-
- return true;
- **StartingID:**

7

- **EndingID:**

50

- **Notes:**

Start Tows (7) -> Generate 21 Tow Up (49)

- **DecisionCode:**
-
- return true;
- **StartingID:**

7

- **EndingID:**

49

- **Notes:**

Start Tows (7) -> Generate 21 Tow Down (51)

- **DecisionCode:**
-
- return true;
- **StartingID:**

7

- **EndingID:**

51

- **Notes:**

Start Tows (7) -> Generate 20 Tow Up (52)

- **DecisionCode:**
-
- return true;
- **StartingID:**

7

- **EndingID:**

52

- **Notes:**

Start Tows (7) -> Generate 20 Tow Down (53)

- **DecisionCode:**
-
- return true;
- **StartingID:**

7

- **EndingID:**

53

- **Notes:**

- **Name:**

Start Tows

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText

- **Width:** 103.3919
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

7

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 25 Upbound Tow Terminate Decision (76)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 25 Upbound Tow Terminate Decision (76) -> Pool 25 (14)**

- **DecisionCode:**

-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};
- pcontsame=0.954037529 +(-0.612658219)*psingle;
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
-

- **StartingID:**

-

- 76

- **EndingID:**

14

- **Notes:**

Lock 25 Upbound Tow Terminate Decision (76) -> Lock 25 Terminate Vessel (16)

- **DecisionCode:**

-

- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};
- pcontsame=1-(0.954037529 +(-0.612658219)*psingle);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
-

- **StartingID:**

76

- **EndingID:**

16

- **Notes:**

- **Name:**

Lock 25 Upbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 298.6523
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

76

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 25 Downbound Tow Terminate Decision (77)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 25 Downbound Tow Terminate Decision (77) -> Lock 25 Terminate Vessel (16)**

- **DecisionCode:**

○

- return true;

- **StartingID:**

•

- 77

- **EndingID:**

16

- **Notes:**

- **Name:**

Lock 25 Downbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 315.6966
- **Height:** 21.09114
- **BackgroundType:** Image

- **ItemID:**

77

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 24 Upbound Tow Terminate Decision (79)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 24 Upbound Tow Terminate Decision (79) -> Pool 24 (28)**

- **DecisionCode:**

- - if (Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
 - if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};
 - if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
 - if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
 - pcontsame=0.7447429182 +(0.0583689683)*mar +(-0.08952626)*dec +(-0.311825749)*psingle +(0.2335143917)*pjackknife +(0.1052009871)*pknockout;
 - if (pcontsame<=0) pcontsame=0;
 - return pcontsame;

- **StartingID:**

-

- 79

- **EndingID:**

28

- **Notes:**

Lock 24 Upbound Tow Terminate Decision (79) -> Lock 24 Terminate Vessel (24)

- **DecisionCode:**

-

- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
- pcontsame=1-(0.7447429182 +(0.0583689683)*mar +(-0.08952626)*dec +(-0.311825749)*psingle +(0.2335143917)*pjackknife +(0.1052009871)*pknockout);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;

- **StartingID:**

79

- **EndingID:**

24

- **Notes:**

- **Name:**

Lock 24 Upbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 298.6523
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

79

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 24 Downbound Tow Terminate Decision (80)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 24 Downbound Tow Terminate Decision (80) -> Pool 25 (14)**

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};
- pcontsame=0.9623582487 +(-0.059061037)*mar +(-0.368389505)*psingle;
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
-

- **StartingID:**

•

- 80

- **EndingID:**

14

- **Notes:**

Lock 24 Downbound Tow Terminate Decision (80) -> Lock 24 Terminate Vessel (24)

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
- pcontsame=1-(0.9623582487 +(-0.059061037)*mar +(-0.368389505)*psingle);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
-

- **StartingID:**

80

- **EndingID:**

24

- **Notes:**

- **Name:**

Lock 24 Downbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 319.2383
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

80

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 22 Upbound Tow Terminate Decision (83)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 22 Upbound Tow Terminate Decision (83) -> Pool 22 (38)**

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};
- pcontsame=0.8943231441 +(-0.591602056)*psingle;;

- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
- **StartingID:**
-
- 83
- **EndingID:**

38

- **Notes:**

Lock 22 Upbound Tow Terminate Decision (83) -> Lock 22 Terminate Vessel (30)

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
- pcontsame=1-(0.8943231441 +(-0.591602056)*psingle);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
- **StartingID:**

83

- **EndingID:**

30

- **Notes:**

- **Name:**

Lock 22 Upbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 298.6523
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

83

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 22 Downbound Tow Terminate Decision (84)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 22 Downbound Tow Terminate Decision (84) -> Pool 24 (28)**

- **DecisionCode:**

- - if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
 - if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
 - if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
 - if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};
 - pcontsame=0.8534987541 +(-0.071816332)*mar +(0.0517398326)*nov +(-0.343700716)*psingle +(0.1118309747)*pjackknife;
 - if (pcontsame<=0) pcontsame=0;
 - return pcontsame;

- **StartingID:**

-

- 84

- **EndingID:**

28

- **Notes:**

Lock 22 Downbound Tow Terminate Decision (84) -> Lock 22 Terminate Vessel (30)

- **DecisionCode:**

-

- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};
- pcontsame=1-(0.8534987541 +(-0.071816332)*mar +(0.0517398326)*nov +(-0.343700716)*psingle +(0.1118309747)*pjackknife);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;

-

- **StartingID:**

84

- **EndingID:**

30

- **Notes:**

- **Name:**

Lock 22 Downbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 315.6966
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

84

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 21 Upbound Tow Terminate Decision (87)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 21 Upbound Tow Terminate Decision (87) -> Pool 21 (31)**

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
- pcontsame=0.7494463179 +(-0.223419007)*feb + (0.0668068171)*jun + (0.0845970204)*jul + (-0.056750863)*oct + (-0.06719612)*nov + (-0.223922867)*dec + (-0.332115313)*psingle + (0.165032684)*pjackknife;
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;

- **StartingID:**

-

- 87

- **EndingID:**

31

- **Notes:**

Lock 21 Upbound Tow Terminate Decision (87) -> Lock 21 Terminate Vessel (37)

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
- pcontsame=1-(0.7494463179 +(-0.223419007)*feb +(0.0668068171)*jun +(0.0845970204)*jul +(-0.056750863)*oct +(-0.06719612)*nov +(-0.223922867)*dec +(-0.332115313)*psingle +(0.165032684)*pjackknife);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
- **StartingID:**

87

- **EndingID:**

37

- **Notes:**

- **Name:**

Lock 21 Upbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 298.6523
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

87

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 21 Downbound Tow Terminate Decision (88)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 21 Downbound Tow Terminate Decision (88) -> Pool 22 (38)**

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};

- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
- pcontsame=0.9144242097 +(-0.056700292)*apr +(-0.694298222)*psingle;
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
- **StartingID:**
-
- 88
- **EndingID:**

38

- **Notes:**

Lock 21 Downbound Tow Terminate Decision (88) -> Lock 21 Terminate Vessel (37)

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0;};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1;};
- pcontsame=1-(0.9144242097 +(-0.056700292)*apr +(-0.694298222)*psingle);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
- **StartingID:**

88

- **EndingID:**

37

- **Notes:**

- **Name:**

Lock 21 Downbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText

- **Width:** 315.6966
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

88

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 20 Upbound Tow Terminate Decision (91)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 20 Upbound Tow Terminate Decision (91) -> Lock 20 Terminate Vessel (41)**

- **DecisionCode:**

-

- return true;

- **StartingID:**

-

- 91

- **EndingID:**

41

- **Notes:**

- **Name:**

Lock 20 Upbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** 298.6523
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

91

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Lock 20 Downbound Tow Terminate Decision (92)

- **TaskDataCollectionEnabled:** True

- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Probabilistic
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Lock 20 Downbound Tow Terminate Decision (92) -> Pool 21 (31)**

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};

- pcontsame=0.8374939143 +(-0.416473123)*feb +(-0.127275034)*mar +(-0.049780559)*apr +(-0.103304285)*sep +(-0.06727403)*oct +(-0.406660935)*psingle +(0.1526545144)*pjackknife;
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
- **StartingID:**
-
- 92
- **EndingID:**

31

- **Notes:**

Lock 20 Downbound Tow Terminate Decision (92) -> Lock 20 Terminate Vessel (41)

- **DecisionCode:**
-
- if(Entity.VesselType>=2) {psingle=0; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==0) {psingle=1; pjackknife=0; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==1) {psingle=0; pjackknife=1; pknockout=0};
- if (Entity.VesselType==1 && Entity.SmallType==2) {psingle=0; pjackknife=0; pknockout=1};
- pcontsame=1-(0.8374939143 +(-0.416473123)*feb +(-0.127275034)*mar +(-0.049780559)*apr +(-0.103304285)*sep +(-0.06727403)*oct +(-0.406660935)*psingle +(0.1526545144)*pjackknife);
- if (pcontsame<=0) pcontsame=0;
- return pcontsame;
-
- **StartingID:**

92

- **EndingID:**

41

- **Notes:**

- **Name:**

Lock 20 Downbound Tow Terminate Decision

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText

- **Width:** 315.6966
- **Height:** 21.09114
- **BackgroundType:** Image
- **ItemID:**

92

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Fill Tow Size Distribution Arrays (93)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**

```

small_tow_prob[4,1,1]=1.000;
small_tow_prob[4,1,2]=0.963;
small_tow_prob[4,1,3]=0.441;
small_tow_prob[4,1,4]=0.272;
small_tow_prob[4,1,5]=0.216;
small_tow_prob[4,1,6]=0.187;
small_tow_prob[4,1,7]=0.201;
small_tow_prob[4,1,8]=0.244;
small_tow_prob[4,1,9]=0.339;
small_tow_prob[4,1,10]=0.298;
small_tow_prob[4,1,11]=0.222;
small_tow_prob[4,1,12]=0.305;
small_tow_prob[4,0,1]=1.000;
small_tow_prob[4,0,2]=0.796;
small_tow_prob[4,0,3]=0.463;
small_tow_prob[4,0,4]=0.369;
small_tow_prob[4,0,5]=0.339;
small_tow_prob[4,0,6]=0.455;
small_tow_prob[4,0,7]=0.543;
small_tow_prob[4,0,8]=0.391;
small_tow_prob[4,0,9]=0.599;
small_tow_prob[4,0,10]=0.471;
small_tow_prob[4,0,11]=0.633;
small_tow_prob[4,0,12]=0.894;

```

small_tow_prob[3,1,1]=0.824;
small_tow_prob[3,1,2]=0.770;
small_tow_prob[3,1,3]=0.629;
small_tow_prob[3,1,4]=0.523;
small_tow_prob[3,1,5]=0.448;
small_tow_prob[3,1,6]=0.441;
small_tow_prob[3,1,7]=0.351;
small_tow_prob[3,1,8]=0.379;
small_tow_prob[3,1,9]=0.393;
small_tow_prob[3,1,10]=0.422;
small_tow_prob[3,1,11]=0.420;
small_tow_prob[3,1,12]=0.409;
small_tow_prob[3,0,1]=0.917;
small_tow_prob[3,0,2]=0.875;
small_tow_prob[3,0,3]=0.686;
small_tow_prob[3,0,4]=0.598;
small_tow_prob[3,0,5]=0.581;
small_tow_prob[3,0,6]=0.645;
small_tow_prob[3,0,7]=0.651;
small_tow_prob[3,0,8]=0.767;
small_tow_prob[3,0,9]=0.767;
small_tow_prob[3,0,10]=0.763;
small_tow_prob[3,0,11]=0.794;
small_tow_prob[3,0,12]=0.946;
small_tow_prob[2,1,1]=0.833;
small_tow_prob[2,1,2]=0.962;
small_tow_prob[2,1,3]=0.721;
small_tow_prob[2,1,4]=0.553;
small_tow_prob[2,1,5]=0.563;
small_tow_prob[2,1,6]=0.627;
small_tow_prob[2,1,7]=0.604;
small_tow_prob[2,1,8]=0.715;
small_tow_prob[2,1,9]=0.647;
small_tow_prob[2,1,10]=0.592;
small_tow_prob[2,1,11]=0.585;
small_tow_prob[2,1,12]=0.680;
small_tow_prob[2,0,1]=0.950;
small_tow_prob[2,0,2]=0.452;
small_tow_prob[2,0,3]=0.276;
small_tow_prob[2,0,4]=0.199;
small_tow_prob[2,0,5]=0.226;
small_tow_prob[2,0,6]=0.361;
small_tow_prob[2,0,7]=0.310;
small_tow_prob[2,0,8]=0.367;
small_tow_prob[2,0,9]=0.428;
small_tow_prob[2,0,10]=0.329;

small_tow_prob[2,0,11]=0.564;
small_tow_prob[2,0,12]=0.829;
small_tow_prob[1,1,1]=0.667;
small_tow_prob[1,1,2]=0.694;
small_tow_prob[1,1,3]=0.628;
small_tow_prob[1,1,4]=0.491;
small_tow_prob[1,1,5]=0.442;
small_tow_prob[1,1,6]=0.374;
small_tow_prob[1,1,7]=0.337;
small_tow_prob[1,1,8]=0.389;
small_tow_prob[1,1,9]=0.453;
small_tow_prob[1,1,10]=0.366;
small_tow_prob[1,1,11]=0.340;
small_tow_prob[1,1,12]=0.342;
small_tow_prob[1,0,1]=0.900;
small_tow_prob[1,0,2]=0.700;
small_tow_prob[1,0,3]=0.571;
small_tow_prob[1,0,4]=0.713;
small_tow_prob[1,0,5]=0.502;
small_tow_prob[1,0,6]=0.677;
small_tow_prob[1,0,7]=0.593;
small_tow_prob[1,0,8]=0.705;
small_tow_prob[1,0,9]=0.757;
small_tow_prob[1,0,10]=0.741;
small_tow_prob[1,0,11]=0.878;
small_tow_prob[1,0,12]=0.981;
small_tow_prob[0,1,1]=0.917;
small_tow_prob[0,1,2]=0.900;
small_tow_prob[0,1,3]=0.895;
small_tow_prob[0,1,4]=0.780;
small_tow_prob[0,1,5]=0.683;
small_tow_prob[0,1,6]=0.770;
small_tow_prob[0,1,7]=0.680;
small_tow_prob[0,1,8]=0.742;
small_tow_prob[0,1,9]=0.759;
small_tow_prob[0,1,10]=0.774;
small_tow_prob[0,1,11]=0.640;
small_tow_prob[0,1,12]=0.831;
small_tow_prob[0,0,1]=0.752;
small_tow_prob[0,0,2]=0.296;
small_tow_prob[0,0,3]=0.278;
small_tow_prob[0,0,4]=0.273;
small_tow_prob[0,0,5]=0.253;
small_tow_prob[0,0,6]=0.299;
small_tow_prob[0,0,7]=0.267;
small_tow_prob[0,0,8]=0.347;

small_tow_prob[0,0,9]=0.360;
 small_tow_prob[0,0,10]=0.333;
 small_tow_prob[0,0,11]=0.492;
 small_tow_prob[0,0,12]=0.748;

- **LaunchEffect:**

- **EndEffect:**

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Fill Tow Size Distribution Arrays (93) -> Set Priorities (5)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

•

- 93

- **EndingID:**

5

- **Notes:**

- **Name:**

Fill Tow Size Distribution Arrays

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

93

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Start Impairment Tasks (94)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 0.0;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Normal
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Start Impairment Tasks (94) -> Next Closure 24 (97)**

- **DecisionCode:**
 -
 - return true;

- **StartingID:**

-

- 94

- **EndingID:**

97

- **Notes:**

Start Impairment Tasks (94) -> Next Closure 22 (99)

- **DecisionCode:**
-
- return true;

- **StartingID:**

94

- **EndingID:**

99

- **Notes:**

Start Impairment Tasks (94) -> Next Closure 21 (101)

- **DecisionCode:**

-
- return true;
- **StartingID:**

94

- **EndingID:**

101

- **Notes:**

Start Impairment Tasks (94) -> Next Closure 20 (103)

- **DecisionCode:**
-
- return true;
- **StartingID:**

94

- **EndingID:**

103

- **Notes:**

Start Impairment Tasks (94) -> Next Closure 25 (95)

- **DecisionCode:**
-
- return true;
- **StartingID:**

94

- **EndingID:**

95

- **Notes:**

- **Name:**

Start Impairment Tasks

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1

- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

94

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Next Closure 25 (95)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 68.994;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Next Closure 25 (95) -> Closure Duration 25 (96)**

- **DecisionCode:**
 -
 - return true;

- **StartingID:**

-

- 95

- **EndingID:**

96

- **Notes:**

- **Name:**

Next Closure 25

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

95

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Closure Duration 25 (96)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False

- **BeginEffect:**

lock25closed=1;

- **LaunchEffect:**

- **EndEffect:**

lock25closed=0;

- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 2.6678;

- **DataShaping2:**

return 13.004;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential

- **DecisionType:** Multiple

- **QueueType:** None

- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Closure Duration 25 (96) -> Next Closure 25 (95)**

- **DecisionCode:**

-

- return true;

- **StartingID:**

-

- 96

- **EndingID:**

95

- **Notes:**

- **Name:**

Closure Duration 25

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

96

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Next Closure 24 (97)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 100.926;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Next Closure 24 (97) -> Closure Duration 24 (98)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

•

- 97

- **EndingID:**

98

- **Notes:**

- **Name:**

Next Closure 24

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

97

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Closure Duration 24 (98)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
lock24closed=1;
- **LaunchEffect:**
- **EndEffect:**
lock24closed=0;
- **ReleaseCondition:**
return true;
- **DataShaping1:**
return 3.014;
- **DataShaping2:**
return 14.205;
- **DataShaping3:**
return 0.0;
- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**
return 0.0;
- **QueueEnteringEffect:**
- **QueueDepartingEffect:**
- **Closure Duration 24 (98) -> Next Closure 24 (97)**
 - **DecisionCode:**
 -
 - return true;

- **StartingID:**
-
- 98

- **EndingID:**

97

- **Notes:**

- **Name:**

Closure Duration 24

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

98

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

Next Closure 22 (99)

- **TaskDataCollectionEnabled:** True
- **QueueDataCollectionEnabled:** False
- **BeginEffect:**
- **LaunchEffect:**
- **EndEffect:**
- **ReleaseCondition:**

return true;

- **DataShaping1:**

return 144.099;

- **DataShaping2:**

return 0.0;

- **DataShaping3:**

return 0.0;

- **Distribution:** Exponential
- **DecisionType:** Multiple
- **QueueType:** None
- **QueuePriorityCode:**

return 0.0;

- **QueueEnteringEffect:**

- **QueueDepartingEffect:**

- **Next Closure 22 (99) -> Closure Duration 22 (100)**

- **DecisionCode:**
-
- return true;

- **StartingID:**

-

- 99

- **EndingID:**

100

- **Notes:**

- **Name:**

Next Closure 22

- **Visible:** True
- **Shape:** RoundedRectangle
- **SizeType:** FitToText
- **Width:** -1
- **Height:** -1
- **BackgroundType:** Image
- **ItemID:**

99

- **BackgroundColor:** Color [BlanchedAlmond]
- **BorderColor:** Color [Black]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

- **Name:**

UMR20-25 Basic Model Local First 105 Exist

- **Visible:** True
- **ItemID:**

Root

- **BackgroundColor:** Color [PowderBlue]
- **BorderColor:** Color [Blue]
- **TextColor:** Color [Black]
- **FontType:** Arial
- **FontSize:** 10
- **Notes:**

VARIABLES

- **a**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Chamber Turnback Time
- **Animator**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **Animator3D**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **apr**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **aug**
 - **Type:**FloatingPoint

- **Initial Value:**0
 - **Notes:**
- **b**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
- **BackIDHash**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **Clock**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **color**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **Communication**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **dec**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **Distributions**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **Entity**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **feb**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **gicon**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **IDHash**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**

- **jan**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **jul**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **jun**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **large_tows**
 - **Type:**Integer
 - **Initial Value:**300
 - **Notes:**
Number of Large Tow Tags to be created
- **large_tows_created**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of number of Large Tow Tags
- **large20**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Large Lockages at Lock 20
- **large21**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Large Lockages at Lock 21
- **large22**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Large Lockages at Lock 22
- **large24**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Large Lockages at Lock 24
- **large25**
 - **Type:**Integer
 - **Initial Value:**0

- **Notes:**
Count of Large Lockages at Lock 25
- **last_dir**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Direction of Last Lockage at Lock (Down=1)
- **local_interarrival_time**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
Interarrival times for Local Lock Traffic
- **local_total**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Total number Local Vessel Tags Generated
- **local20**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Local Lockages at Lock 20
- **local21**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Local Lockages at Lock 21
- **local22**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Local Lockages at Lock 22
- **local24**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Local Lockages at Lock 24
- **local25**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Local Lockages at Lock 25
- **lock_util**
 - **Type:**FloatingPoint
 - **Initial Value:**0

- **Notes:**
Total Utilization Time of the Locks
- **lock20_avail**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
1 Indicates Lock 20 is available
- **lock20closed**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **lock21_avail**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
1 Indicates Lock 21 is available
- **lock21closed**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **lock22_avail**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
1 Indicates Lock 22 is available
- **lock22closed**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **lock24_avail**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
1 Indicates Lock 24 is available
- **lock24closed**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **lock25_avail**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
1 Indicates Lock 25 is available
- **lock25closed**
 - **Type:**Integer
 - **Initial Value:**0

- **Notes:**
- **lockages_20**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Total Lockages Completed at Lock 20
- **lockages_21**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Total Lockages Completed at Lock 21
- **lockages_22**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Total Lockages Completed at Lock 22
- **lockages_24**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Total Lockages Completed at Lock 24
- **lockages_25**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Total Lockages Completed at Lock 25
- **mar**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **may**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **mean_lock20**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **mean_lock21**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **mean_lock22**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**

- **mean_lock24**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **mean_lock25**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **mean_pool21**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **mean_pool22**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **mean_pool24**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **mean_pool25**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **MicroSaintGlobal**
 - **Type:**Arbitrary
 - **Initial Value:**0.0
 - **Notes:**
- **Model**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **month**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
Indicates Simulation Month
- **nov**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **objective**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
System Variable

- **oct**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **pcontsame**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **pexchange**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **pjackknife**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **pknockout**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **pool_transit_time**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
Mean Times for Pool Transits
- **pool21down**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **pool21up**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **pool22down**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **pool22up**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **pool24down**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **pool24up**

- **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **pool25down**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **pool25up**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **position**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
0 Indicates an empty lock
- **prior**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
Queue Priority Indicator
- **prior20**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **prior21**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **prior22**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **prior24**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **prior25**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **psingle**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **pturnback**

- **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **Queue_Length**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Numbers of Vessels in the Lock Queues
- **run**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
System Variable
- **sd_lock20**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **sd_lock21**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **sd_lock22**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **sd_lock24**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **sd_lock25**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **sd_pool_transit_time**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
Std. Dev. of Pool Transit Times
- **sd_pool21**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **sd_pool22**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**

- **sd_pool24**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **sd_pool25**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **seed**
 - **Type:**Integer
 - **Initial Value:**1
 - **Notes:**
System Variable
- **sep**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **small_tow_prob**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **small_tows**
 - **Type:**Integer
 - **Initial Value:**200
 - **Notes:**
Limit on the Number of Small Tows
- **small_tows_created**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Number of Small Tow Tags Created
- **small20**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Small Lockages at Lock 20
- **small21**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Small Lockages at Lock 21
- **small22**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Small Lockages at Lock 22

- **small24**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Small Lockages at Lock 24
- **small25**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Count of Small Lockages at Lock 25
- **Sum_Queue**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
Total Number of Vessels in All Lock Queues
- **system_total**
 - **Type:**Integer
 - **Initial Value:**0
 - **Notes:**
- **Task**
 - **Type:**Arbitrary
 - **Initial Value:**0
 - **Notes:**
- **total_wait20**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Accumulated Wait Time at Lock 20
- **total_wait21**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Accumulated Wait Time at Lock 21
- **total_wait22**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Accumulated Wait Time at Lock 22
- **total_wait24**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Accumulated Wait Time at Lock 24
- **total_wait25**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000

- **Notes:**
Total Accumulated Wait Time at Lock 25
- **tow_interarrival_time**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
Interarrival times for Large Tow Lock Traffic
- **tow_miles**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **tow_miles_large**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **tow_miles_small**
 - **Type:**FloatingPoint
 - **Initial Value:**0.0
 - **Notes:**
- **tow_time**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **tow_time_large**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **tow_time_small**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
- **tow_util20**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Utilization Time for Tows at Lock 20
- **tow_util21**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Utilization Time for Tows at Lock 21
- **tow_util22**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Utilization Time for Tows at Lock 22

- **tow_util24**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Utilization Time for Tows at Lock 24
- **tow_util25**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Utilization Time for Tows at Lock 25
- **tow_wait20**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Wait Time for Tows at Lock 20
- **tow_wait21**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Wait Time for Tows at Lock 21
- **tow_wait22**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Wait Time for Tows at Lock 22
- **tow_wait24**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Wait Time for Tows at Lock 24
- **tow_wait25**
 - **Type:**FloatingPoint
 - **Initial Value:**0.00000
 - **Notes:**
Total Wait Time for Tows at Lock 25
- **wait_time**
 - **Type:**FloatingPoint
 - **Initial Value:**0
 - **Notes:**
Amount of Time That a Tow Has Waited

Functions

- **abort (int)**
 - **task (int)**
 - **Name:**

- - task
 - **Type:** Integer
 - **isArray:** False
- **ArrayDimensions:**
-
-
- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

abort

- **FunctionCode:**

```
string[] keys = {"ID", "Tag"};
object[] values = {IDHash[task.ToString()], tag};
return Model.Abort(keys, values);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**

-

- tag

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **abortAll (int)**

- **task (int)**

- **Name:**

-

- task

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

abortAll

- **FunctionCode:**

```
return Model.Abort("ID", IDHash[task.ToString()]);
```

- **task (int)**

- **Name:**

-

- task

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **abortGroupTag (int)**

- **task (int)**

- **Name:**
-
- task
- **Type:** Integer
- **isArray:** False

• **ArrayDimensions:**

• **ArbitraryType:**

• **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

• **ArbitraryType:**

• **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

• **ArbitraryType:**

• **Notes:**

- **Name:**

abortGroupTag

- **FunctionCode:**

```
object[] keys = { "ID", "Group", "Tag" };
object[] values = { IDHash[task.ToString()], group, tag };
return Model.Abort(keys, values);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**

- - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **abortTags (int)**
 - **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer
 - **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

- abortTags
- **FunctionCode:**

```
return Model.Abort("ID", IDHash[task.ToString()]);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **abortTasks (int)**
 - **tag (int)**
 - **Name:**
 -
 - tag
 - **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**

- **Notes:**

- **Name:**

abortTasks

- **FunctionCode:**

return Model.Abort("Tag", tag);

- **tag (int)**
 - **Name:**
 -
 - tag
 - **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **abortTasksGroupTag (int)**
 - **group (int)**
 - **Name:**
 -
 - group
 - **Type:** Integer
 - **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
 -
 - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

abortTasksGroupTag

- **FunctionCode:**

```
object[] keys = { "Group", "Tag" };  
object[] values = { group, tag };  
return Model.Abort(keys, values);
```

- **group (int)**
 - **Name:**
 -
 - group
 - **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
 -
 - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **abortTasksWithGroup (int)**

- **group (int)**
 - **Name:**
 -
 - group
 - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

abortTasksWithGroup

- **FunctionCode:**

return Model.Abort("Group", group);

- **group (int)**
 - **Name:**
 -
 - group
- **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **abortTaskWithGroups (int)**
 - **group (int)**
 - **Name:**
 -
 - group
 - **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Name:**

abortTaskWithGroups

- **FunctionCode:**

```
return Model.Abort("Group", group);
```

- **group (int)**
 - **Name:**
 -
 - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

- **abortWithGroup (int)**
 - **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

abortWithGroup

- **FunctionCode:**

```
string[] keys = {"ID", "Group"};
object[] values = {IDHash[task.ToString()], group};
return Model.Abort(keys, values);
```

- **task (int)**
 - **Name:**

-
- task
- **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **resume (int)**

- **task (int)**
 - **Name:**
 -

- task
 - **Type:** Integer
 - **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Name:**

resume

- **FunctionCode:**

```
string[] keys = {"ID", "Tag"};
object[] values = {IDHash[task.ToString()], tag};
return Model.Resume(keys, values);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**

-

- tag

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **resumeAll (int)**

- **task (int)**

- **Name:**

-

- task

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

resumeAll

- **FunctionCode:**

```
return Model.Resume("ID", IDHash[task.ToString()]);
```

- **task (int)**

- **Name:**

-

- task

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **resumeGroupTag (int)**

- **task (int)**

- **Name:**
-
- task
- **Type:** Integer
- **isArray:** False

• **ArrayDimensions:**

• **ArbitraryType:**

• **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

• **ArbitraryType:**

• **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

• **ArbitraryType:**

• **Notes:**

- **Name:**

resumeGroupTag

- **FunctionCode:**

```
object[] keys = { "ID", "Group", "Tag" };  
object[] values = { IDHash[task.ToString()], group, tag };  
return Model.Resume(keys, values);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**

- - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **resumeTags (int)**
 - **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer
 - **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

- resumeTags
- **FunctionCode:**

```
return Model.Resume("ID", IDHash[task.ToString()]);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **resumeTasks (int)**
 - **tag (int)**
 - **Name:**
 -
 - tag
 - **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**

- **Notes:**

- **Name:**

resumeTasks

- **FunctionCode:**

return Model.Resume("Tag", tag);

- **tag (int)**
 - **Name:**
 -
 - tag
 - **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **resumeTasksGroupTag (int)**
 - **group (int)**
 - **Name:**
 -
 - group
 - **Type:** Integer
 - **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

resumeTasksGroupTag

- **FunctionCode:**

```
object[] keys = { "Group", "Tag" };
object[] values = { group, tag };
return Model.Resume(keys, values);
```

- **group (int)**
 - **Name:**
 -
 - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
 -
 - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **resumeTasksWithGroup (int)**

- **group (int)**
 - **Name:**
 -
 - group
 - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

resumeTasksWithGroup

- **FunctionCode:**

return Model.Resume("Group", group);

- **group (int)**

- **Name:**
-
- group

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **resumeTaskWithGroups (int)**

- **group (int)**
 - **Name:**
 -
 - group
- **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Name:**

resumeTaskWithGroups

- **FunctionCode:**

```
return Model.Resume("Group", group);
```

- **group (int)**
 - **Name:**
 -
 - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

- **resumeWithGroup (int)**
 - **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer
 - **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Name:**

resumeWithGroup

- **FunctionCode:**

```
string[] keys = {"ID", "Group"};
object[] values = {IDHash[task.ToString()], group};
return Model.Resume(keys, values);
```

- **task (int)**
 - **Name:**

-
- task
- **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **start (bool)**

- **task (int)**
 - **Name:**
 -

- task
 - **Type:** Integer
 - **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Name:**

start

- **FunctionCode:**

```

 IEntity entity = CreateEntity();
 entity.Tag = tag;
 entity.ID = (string)IDHash[task.ToString()];
 if(Model.Executor.Document.FindObject(entity.ID) is MAAD.Network.Network)
 entity.ID += "_1";
 return Model.Start(entity);

```

- **task (int)**
 - **Name:**
 -
 - task

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
 -
 - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Boolean
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

startGroupTag (bool)

- **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

group (int)

- **Name:**
 -
 - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

tag (int)

- **Name:**
 -
 - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**

- **Name:**

startGroupTag

- **FunctionCode:**

```
return Model.Start(IDHash[task.ToString()].ToString(), group, tag);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Boolean
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **startWithGroup (bool)**

- **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer
 - **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

startWithGroup

- **FunctionCode:**

```
IEntity entity = CreateEntity();
entity.Group = group;
entity.ID = IDHash[task.ToString()].ToString();
return Model.Start(entity);
```

- **task (int)**

- **Name:**

-

- task

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**

-

- group

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Boolean
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **stop (int)**

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stop

- **FunctionCode:**

```
string[] keys = {"ID", "Tag"};
object[] values = {IDHash[task.ToString()], tag};
return Model.Stop(keys, values);
```

- **task (int)**

- **Name:**
-
- task

- **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
-
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **stopAll (int)**
 - **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stopAll

- **FunctionCode:**

```
return Model.Stop("ID", IDHash[task.ToString()]);
```

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **stopGroupTag (int)**

- **task (int)**
 - **Name:**
 -
 - task
- **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
-
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
 -
 - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stopGroupTag

- **FunctionCode:**

```
object[] keys = { "ID", "Group", "Tag" };
object[] values = { IDHash[task.ToString()], group, tag };
return Model.Stop(keys, values);
```

- **task (int)**
 - **Name:**
 -
 - task
 - **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

group (int)

- **Name:**
 -
 - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

tag (int)

- **Name:**
 -
 - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **stopTags (int)**
 - **task (int)**

- **Name:**
 -
 - task
 - **Type:** Integer
 - **isArray:** False
 - **ArrayDimensions:**
 - **ArbitraryType:**
 - **Notes:**
 - **Name:**
- stopTags
- **FunctionCode:**
- ```
return Model.Stop("ID", IDHash[task.ToString()]);
```
- **task (int)**
    - **Name:**
    - 
    - task
  - **Type:** Integer
  - **isArray:** False
  - **ArrayDimensions:**
  - **ArbitraryType:**
  - **Notes:**
  - **Type:** Integer
  - **isArray:** False
  - **ArrayDimensions:**
  - **ArbitraryType:**

- **Notes:**

- **stopTasks (int)**

- **tag (int)**

- **Name:**

- 

- tag

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stopTasks

- **FunctionCode:**

return Model.Stop("Tag", tag);

- **tag (int)**

- **Name:**

- 

- tag

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
  
- **ArbitraryType:**
  
- **Notes:**
  
- **stopTasksGroupTag (int)**
  - **group (int)**
    - **Name:**
    - 
    - group
  - **Type:** Integer
  - **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

### **tag (int)**

- **Name:**
- 
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stopTasksGroupTag

- **FunctionCode:**

```
object[] keys = { "Group", "Tag" };
object[] values = { group, tag };
return Model.Stop(keys, values);
```

- **group (int)**

- **Name:**
- 
- group

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**tag (int)**

- **Name:**

- 

- tag

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**
- **Notes:**
- **stopTasksWithGroup (int)**
  - **group (int)**
    - **Name:**
    - 
    - group
  - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stopTasksWithGroup

- **FunctionCode:**

```
return Model.Stop("Group", group);
```

- **group (int)**
  - **Name:**
  - 
  - group
- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **stopTaskWithGroups (int)**

- **group (int)**
  - **Name:**
  - 
  - group
  - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stopTaskWithGroups

- **FunctionCode:**

```
return Model.Stop("Group", group);
```

- **group (int)**
  - **Name:**
  - 
  - group
- **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **stopWithGroup (int)**

- **task (int)**
  - **Name:**
    - 
    - task
  - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**group (int)**

- **Name:**
  - 
  - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

stopWithGroup

- **FunctionCode:**

```
string[] keys = {"ID", "Group"};
object[] values = {IDHash[task.ToString()], group};
return Model.Stop(keys, values);
```

- **task (int)**
  - **Name:**
  - 
  - task
- **Type:** Integer

- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**group (int)**

- **Name:**
- 
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **suspend (int)**

- **task (int)**
  - **Name:**
    - 
    - task
  - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**tag (int)**

- **Name:**
  - 
  - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

suspend

- **FunctionCode:**

```
string[] keys = {"ID", "Tag"};
object[] values = {IDHash[task.ToString()], tag};
return Model.Suspend(keys, values);
```

- **task (int)**

- **Name:**

- 

- task

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**tag (int)**

- **Name:**

- 

- tag

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray**: False
- **ArrayDimensions**:
- **ArbitraryType**:
- **Notes**:
- **suspendAll (int)**
  - **task (int)**
    - **Name**:
    - 
    - task
  - **Type**: Integer
- **isArray**: False

- **ArrayDimensions**:

- **ArbitraryType**:

- **Notes**:

- **Name**:

suspendAll

- **FunctionCode**:

```
return Model.Suspend("ID", IDHash[task.ToString()]);
```

- **task (int)**
  - **Name**:
  - 
  - task
- **Type**: Integer
- **isArray**: False
- **ArrayDimensions**:

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **suspendGroupTag (int)**

- **task (int)**
  - **Name:**
  - 
  - task
  - **Type:** Integer
  - **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**group (int)**

- **Name:**
- 
- group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

### tag (int)

- **Name:**
  - 
  - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

### suspendGroupTag

- **FunctionCode:**

```
object[] keys = { "ID", "Group", "Tag" };
object[] values = { IDHash[task.ToString()], group, tag };
return Model.Suspend(keys, values);
```

- **task (int)**
  - **Name:**
    - 
    - task
  - **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**group (int)**

- **Name:**
  - 
  - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
  
- **ArbitraryType:**
  
- **Notes:**

**tag (int)**

- **Name:**
  - 
  - tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
  
- **ArbitraryType:**
  
- **Notes:**
  
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
  
- **ArbitraryType:**
  
- **Notes:**
  
- **suspendTags (int)**

- **task (int)**
  - **Name:**
  - 
  - task
  - **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Name:**

suspendTags

- **FunctionCode:**

```
return Model.Suspend("ID", IDHash[task.ToString()]);
```

- **task (int)**
  - **Name:**
  - 
  - task
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**
- **Notes:**
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
- **ArbitraryType:**

- **Notes:**

- **suspendTasks (int)**

- **tag (int)**
  - **Name:**
  - 
  - tag
  - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

suspendTasks

- **FunctionCode:**

return Model.Suspend("Tag", tag);

- **tag (int)**
  - **Name:**
  - 
  - tag
- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
  
- **ArbitraryType:**
  
- **Notes:**
  
- **suspendTasksGroupTag (int)**
  - **group (int)**
    - **Name:**
    - 
    - group
  - **Type:** Integer
  - **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

#### **tag (int)**

- **Name:**
- 
- tag
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**
  
- **ArbitraryType:**
  
- **Notes:**

- **Name:**

suspendTasksGroupTag

- **FunctionCode:**

```
object[] keys = { "Group", "Tag" };
object[] values = { group, tag };
return Model.Suspend(keys, values);
```

- **group (int)**

- **Name:**

- 

- group

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**tag (int)**

- **Name:**

- 

- tag

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**
- **Notes:**
- **suspendTasksWithGroup (int)**
  - **group (int)**
    - **Name:**
    - 
    - group
  - **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

suspendTasksWithGroup

- **FunctionCode:**

```
return Model.Suspend("Group", group);
```

- **group (int)**
  - **Name:**
  - 
  - group
- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **suspendTaskWithGroups (int)**

- **group (int)**
  - **Name:**
  - 
  - group
- **Type:** Integer
- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

suspendTaskWithGroups

- **FunctionCode:**

```
return Model.Suspend("Group", group);
```

- **group (int)**
  - **Name:**
  - 
  - group
- **Type:** Integer

- **isArray**: False
- **ArrayDimensions**:
  
- **ArbitraryType**:
  
- **Notes**:
  
- **Type**: Integer
- **isArray**: False
- **ArrayDimensions**:
  
- **ArbitraryType**:
  
- **Notes**:
  
- **suspendWithGroup (int)**
  - **task (int)**
    - **Name**:
    - 
    - task
  - **Type**: Integer
  - **isArray**: False
  
- **ArrayDimensions**:
  
- **ArbitraryType**:
  
- **Notes**:

#### **group (int)**

- **Name**:
- 
- group
- **Type**: Integer
- **isArray**: False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Name:**

suspendWithGroup

- **FunctionCode:**

```
string[] keys = {"ID", "Group"};
object[] values = {IDHash[task.ToString()], group};
return Model.Suspend(keys, values);
```

- **task (int)**

- **Name:**

- 

- task

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

**group (int)**

- **Name:**

- 

- group

- **Type:** Integer

- **isArray:** False

- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

- **Type:** Integer
- **isArray:** False
- **ArrayDimensions:**

- **ArbitraryType:**

- **Notes:**

### Snapshots

- **data1**
  - **Name:**
  - 
  - data1
- **TriggerType:** EndOfRun

- **TriggerID:**

- **TriggerAtTime:** 100
- **Repeating:** True
- **RepeatingInterval:** 10
- **Stop:** True
- **StopTime:** 200
  - **Model.RunNumber**
    - **Name:**
    - 
    - Model.RunNumber
  - **Notes:**
  - 
  -

### lockages\_20

- **Name:**
- 
- lockages\_20
- **Notes:**

**lockages\_21**

- **Name:**
  - 
  - lockages\_21
- **Notes:**

**lockages\_22**

- **Name:**
  - 
  - lockages\_22
- **Notes:**

**lockages\_24**

- **Name:**
  - 
  - lockages\_24
- **Notes:**

**lockages\_25**

- **Name:**
  - 
  - lockages\_25
- **Notes:**

**local20**

- **Name:**
  - 
  - local20
- **Notes:**

**local21**

- **Name:**
-

- local21
- **Notes:**

**local22**

- **Name:**
- 
- local22
- **Notes:**

**local24**

- **Name:**
- 
- local24
- **Notes:**

**local25**

- **Name:**
- 
- local25
- **Notes:**

**lock\_util[4]**

- **Name:**
- 
- lock\_util[4]
- **Notes:**

**lock\_util[3]**

- **Name:**
- 
- lock\_util[3]
- **Notes:**

**lock\_util[2]**

- **Name:**
- 
- lock\_util[2]
- **Notes:**

**lock\_util[1]**

- **Name:**
- 
- lock\_util[1]
- **Notes:**

**lock\_util[0]**

- **Name:**
- 
- lock\_util[0]
- **Notes:**

**tow\_util20**

- **Name:**
- 
- tow\_util20
- **Notes:**

**tow\_util21**

- **Name:**
- 
- tow\_util21
- **Notes:**

**tow\_util22**

- **Name:**
- 
- tow\_util22
- **Notes:**

**tow\_util24**

- **Name:**
- 
- tow\_util24
- **Notes:**

**tow\_util25**

- **Name:**
- 
- tow\_util25
- **Notes:**

**total\_wait20**

- **Name:**
- 
- total\_wait20
- **Notes:**

**total\_wait21**

- **Name:**
- 
- total\_wait21
- **Notes:**

**total\_wait22**

- **Name:**
- 
- total\_wait22
- **Notes:**

**total\_wait24**

- **Name:**
- 
- total\_wait24
- **Notes:**

**total\_wait25**

- Name:
  - 
  - total\_wait25
- Notes:

**tow\_wait20**

- Name:
  - 
  - tow\_wait20
- Notes:

**tow\_wait21**

- Name:
  - 
  - tow\_wait21
- Notes:

**tow\_wait22**

- Name:
  - 
  - tow\_wait22
- Notes:

**tow\_wait24**

- Name:
  - 
  - tow\_wait24
- Notes:

**tow\_wait25**

- Name:
-

- tow\_wait25
- **Notes:**

**system\_total**

- **Name:**
- 
- system\_total
- **Notes:**

**local\_total**

- **Name:**
- 
- local\_total
- **Notes:**

**small\_tows\_created**

- **Name:**
- 
- small\_tows\_created
- **Notes:**

**large\_tows\_created**

- **Name:**
- 
- large\_tows\_created
- **Notes:**

**tow\_miles**

- **Name:**
- 
- tow\_miles
- **Notes:**

**tow\_miles\_large**

- **Name:**
- 
- tow\_miles\_large
- **Notes:**

**tow\_miles\_small**

- **Name:**
- 
- tow\_miles\_small
- **Notes:**

**tow\_time\_small**

- **Name:**
- 
- tow\_time\_small
- **Notes:**

**tow\_time\_large**

- **Name:**
- 
- tow\_time\_large
- **Notes:**

**tow\_time**

- **Name:**
- 
- tow\_time
- **Notes:**

**pool25up**

- **Name:**
- 
- pool25up
- **Notes:**

**pool25down**

- Name:
  - 
  - pool25down
- Notes:

**pool24up**

- Name:
  - 
  - pool24up
- Notes:

**pool24down**

- Name:
  - 
  - pool24down
- Notes:

**pool22up**

- Name:
  - 
  - pool22up
- Notes:

**pool22down**

- Name:
  - 
  - pool22down
- Notes:

**pool21up**

- Name:
  - 
  - pool21up
- Notes:

**pool21down**

- **Name:**
- 
- pool21down
- **Notes:**

- **Notes:**

- **data2**

- **Name:**
- 
- data2
- **TriggerType:** Clock
- **TriggerID:**

- **TriggerAtTime:** 730
- **Repeating:** True
- **RepeatingInterval:** 730
- **Stop:** True
- **StopTime:** 8760
  - **Model.RunNumber**
    - **Name:**
    - 
    - Model.RunNumber
- **Notes:**
- 
- 

**Clock**

- **Name:**
- 
- Clock
- **Notes:**

**Sum\_Queue**

- **Name:**

- 
- Sum\_Queue
- **Notes:**

### **Queue\_Length[0]**

- **Name:**
- 
- Queue\_Length[0]
- **Notes:**

### **Queue\_Length[1]**

- **Name:**
- 
- Queue\_Length[1]
- **Notes:**

### **Queue\_Length[2]**

- **Name:**
- 
- Queue\_Length[2]
- **Notes:**

### **Queue\_Length[3]**

- **Name:**
- 
- Queue\_Length[3]
- **Notes:**

### **Queue\_Length[4]**

- **Name:**
- 
- Queue\_Length[4]
- **Notes:**

### **lock\_util[0]**

- **Name:**
- 
- lock\_util[0]
- **Notes:**

**lock\_util[1]**

- **Name:**
- 
- lock\_util[1]
- **Notes:**

**lock\_util[2]**

- **Name:**
- 
- lock\_util[2]
- **Notes:**

**lock\_util[3]**

- **Name:**
- 
- lock\_util[3]
- **Notes:**

**lock\_util[4]**

- **Name:**
- 
- lock\_util[4]
- **Notes:**

- **Notes:**

**• QueueDataCollection**

- **Name:**
- 
- QueueDataCollection

- **TriggerType:** None
- **TriggerID:**
  
- **TriggerAtTime:** 0
- **Repeating:** False
- **RepeatingInterval:** 0
- **Stop:** False
- **StopTime:** 0
- **Notes:**
  
- **TaskDataCollection**
  - **Name:**
  - 
  - TaskDataCollection
- **TriggerType:** None
- **TriggerID:**
  
- **TriggerAtTime:** 0
- **Repeating:** False
- **RepeatingInterval:** 0
- **Stop:** False
- **StopTime:** 0
- **Notes:**

## SCENARIO EVENTS

- **ScenarioEvent1**
  - **Name:**
  - 
  - ScenarioEvent1
- **StartTime:** 0
  
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

```
month=1;
jan=1;
feb=0;
```

mar=0;  
apr=0;  
may=0;  
jun=0;  
jul=0;  
aug=0;  
sep=0;  
oct=0;  
nov=0;  
dec=0;

- **Notes:**

- **ScenarioEvent10**

- **Name:**
  - 
  - ScenarioEvent10
- **StartTime:** 6552
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

month=10;  
jan=0;  
feb=0;  
mar=0;  
apr=0;  
may=0;  
jun=0;  
jul=0;  
aug=0;  
sep=0;  
oct=1;  
nov=0;  
dec=0;

- **Notes:**

- **ScenarioEvent11**

- **Name:**
  - 
  - ScenarioEvent11

- **StartTime:** 7296
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

```
month=11;
jan=0;
feb=0;
mar=0;
apr=0;
may=0;
jun=0;
jul=0;
aug=0;
sep=0;
oct=0;
nov=1;
dec=0;
```

- **Notes:**

- **ScenarioEvent12**

- **Name:**
  - 
  - ScenarioEvent12

- **StartTime:** 8016
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

```
month=12;
jan=0;
feb=0;
mar=0;
apr=0;
may=0;
jun=0;
jul=0;
aug=0;
sep=0;
oct=0;
```

nov=0;

dec=1;

• **Notes:**

• **ScenarioEvent13**

• **Name:**

•

• ScenarioEvent13

• **StartTime:** 8760.001

• **Repeating:** False

• **RepeatingInterval:** 1

• **Stop:** True

• **StopTime:** 1000

• **Code:**

Model.Halt();

• **Notes:**

• **ScenarioEvent2**

• **Name:**

•

• ScenarioEvent2

• **StartTime:** 744

• **Repeating:** False

• **RepeatingInterval:** 1

• **Stop:** True

• **StopTime:** 1000

• **Code:**

month=2;

jan=0;

feb=1;

mar=0;

apr=0;

may=0;

jun=0;

jul=0;

aug=0;

sep=0;

oct=0;

nov=0;

dec=0;

- **Notes:**

- **ScenarioEvent3**

- **Name:**
  - 
  - ScenarioEvent3
- **StartTime:** 1416
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

```
month=3;
jan=0;
feb=0;
mar=1;
apr=0;
may=0;
jun=0;
jul=0;
aug=0;
sep=0;
oct=0;
nov=0;
dec=0;
```

- **Notes:**

- **ScenarioEvent4**

- **Name:**
  - 
  - ScenarioEvent4
- **StartTime:** 2160
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

```
month=4;
jan=0;
```

feb=0;  
mar=0;  
apr=1;  
may=0;  
jun=0;  
jul=0;  
aug=0;  
sep=0;  
oct=0;  
nov=0;  
dec=0;

- **Notes:**

- **ScenarioEvent5**

- **Name:**
  - ScenarioEvent5
- **StartTime:** 2880
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

month=5;  
jan=0;  
feb=0;  
mar=0;  
apr=0;  
may=1;  
jun=0;  
jul=0;  
aug=0;  
sep=0;  
oct=0;  
nov=0;  
dec=0;

- **Notes:**

- **ScenarioEvent6**

- **Name:**

- - ScenarioEvent6
- **StartTime:** 3624
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

```
month=6;
jan=0;
feb=0;
mar=0;
apr=0;
may=0;
jun=1;
jul=0;
aug=0;
sep=0;
oct=0;
nov=0;
dec=0;
```

- **Notes:**

- **ScenarioEvent7**

- **Name:**
  - 
  - ScenarioEvent7
- **StartTime:** 4344
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

```
month=7;
jan=0;
feb=0;
mar=0;
apr=0;
may=0;
jun=0;
jul=1;
aug=0;
```

sep=0;  
oct=0;  
nov=0;  
dec=0;

- **Notes:**

- **ScenarioEvent8**

- **Name:**
  - 
  - ScenarioEvent8
- **StartTime:** 5088
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000
- **Code:**

month=8;  
jan=0;  
feb=0;  
mar=0;  
apr=0;  
may=0;  
jun=0;  
jul=0;  
aug=1;  
sep=0;  
oct=0;  
nov=0;  
dec=0;

- **Notes:**

- **ScenarioEvent9**

- **Name:**
  - 
  - ScenarioEvent9
- **StartTime:** 5832
- **Repeating:** False
- **RepeatingInterval:** 1
- **Stop:** True
- **StopTime:** 1000

- **Code:**

```
month=9;
jan=0;
feb=0;
mar=0;
apr=0;
may=0;
jun=0;
jul=0;
aug=0;
sep=1;
oct=0;
nov=0;
dec=0;
```

- **Notes:**

## ENTITY ATTRIBUTES

- **Downbound**
  - **Type:**Integer
  - **Initial Value:**0
  - **Notes:**
- **Duration**
  - **Type:**FloatingPoint
  - **Initial Value:**0.0
  - **Notes:**
- **EndTime**
  - **Type:**FloatingPoint
  - **Initial Value:**0
  - **Notes:**
- **Event**
  - **Type:**Arbitrary
  - **Initial Value:**EEventType.BeginningEffect
  - **Notes:**
- **Group**
  - **Type:**Integer
  - **Initial Value:**0
  - **Notes:**
- **ID**
  - **Type:**String
  - **Initial Value:**0
  - **Notes:**
- **SmallType**
  - **Type:**Integer

- **Initial Value:**0
  - **Notes:**
- **StartTime**
  - **Type:**FloatingPoint
  - **Initial Value:**0
  - **Notes:**
- **Tag**
  - **Type:**Integer
  - **Initial Value:**0
  - **Notes:**
- **Time**
  - **Type:**FloatingPoint
  - **Initial Value:**0.0
  - **Notes:**
- **Type**
  - **Type:**Arbitrary
  - **Initial Value:**EEntityType.StandardBegin
  - **Notes:**
- **VesselType**
  - **Type:**Integer
  - **Initial Value:**0
  - **Notes:**

## Entity Functions

### Charts

#### EXECUTION SETTINGS

- **NumberOfRuns:** 100
- **RandomSeed:** 1
- **InitializationCode:**
- **NetworkBackgroundColor:** Color [Info]
- **RealTime:** False
- **EnableLineByLine:** False
- **ExtraReferences:**
- **ExtraNamespaceAliases:**
- **EnableTaskInformationCollection:** True
- **EnableQueueInformationCollection:** True
- **EnableSnapshots:** True
- **EnableLayoutChange:** False

- **SpeedFactor:** 8
- **HaltOnError:** False
- **SignificantFigures:** 7
- **RandomizeSeed:** False
- **StartID:**

3

- **PrintZoomLevel:** 0.8
- **PrintHeaderText:**

- **Notes:**