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# UKCMS WORKED TUTORIALS

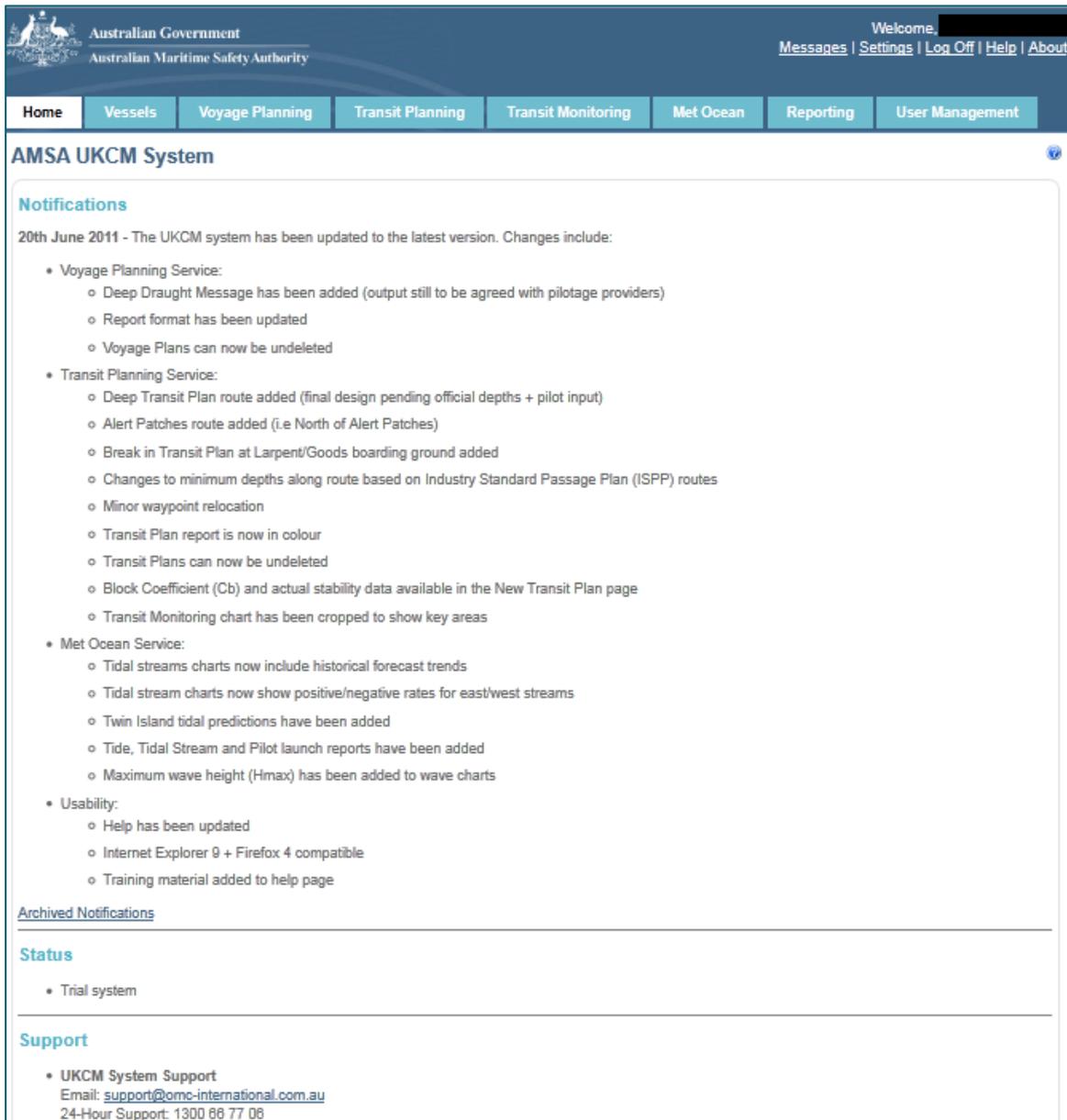
June 2012

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# INTRODUCTION

This document contains a number of worked tutorials for the user to work through at his/her own pace. The tutorials cover a range of typical activities in the UKCMS and complement the online user manual and help. Before getting on to the exercises, let us get familiar with the links and tabs.



The screenshot displays the AMSA UKCM System interface. At the top, there is a header with the Australian Government and Australian Maritime Safety Authority logos on the left, and a user welcome message and navigation links (Messages, Settings, Log Off, Help, About) on the right. Below the header is a navigation menu with tabs for Home, Vessels, Voyage Planning, Transit Planning, Transit Monitoring, Met Ocean, Reporting, and User Management. The main content area is titled 'AMSA UKCM System' and contains a 'Notifications' section. The notification is dated 20th June 2011 and lists updates for three services: Voyage Planning, Transit Planning, and Met Ocean, along with usability improvements. Below the notification are sections for 'Archived Notifications', 'Status' (showing a trial system), and 'Support' (providing contact information for UKCM System Support).

The tabs at the top of the page can take you to the various sections of the UKCMS.

Every page has a number of links, the most common ones being [New](#), [Search](#), [Edit](#), and [Delete](#). When these links are greyed out and unavailable, it means that you do not have the permissions to perform those particular actions.

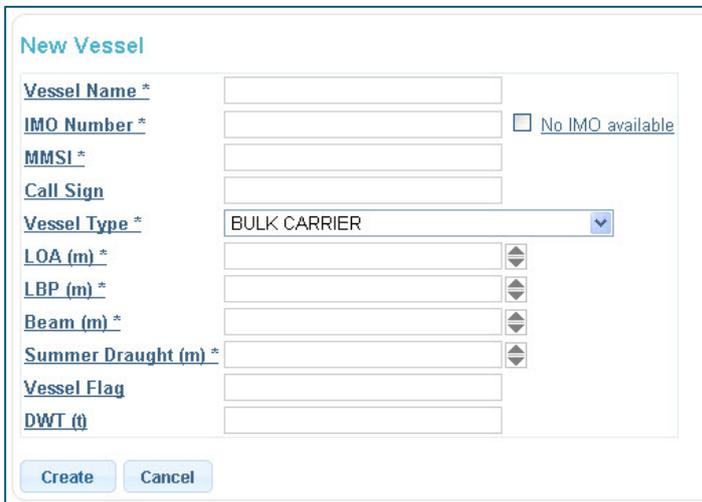
In each page, you will see a number of icons in the top right hand corner, depending on what options are available, such as printing or saving to pdf. Every page has a  symbol in the top right hand corner. Click on this to view the help specifically for the page you are on. Alternatively, you can click on the Help tab.

## EXERCISE 1: CREATING A NEW VESSEL

In this exercise, you will create a new vessel to be used in the UKCMS. You will learn how to edit your vessel, and how to delete it if it is no longer needed.

You are going to the Vessels tab. Once in the vessels page, you can create a new vessel.

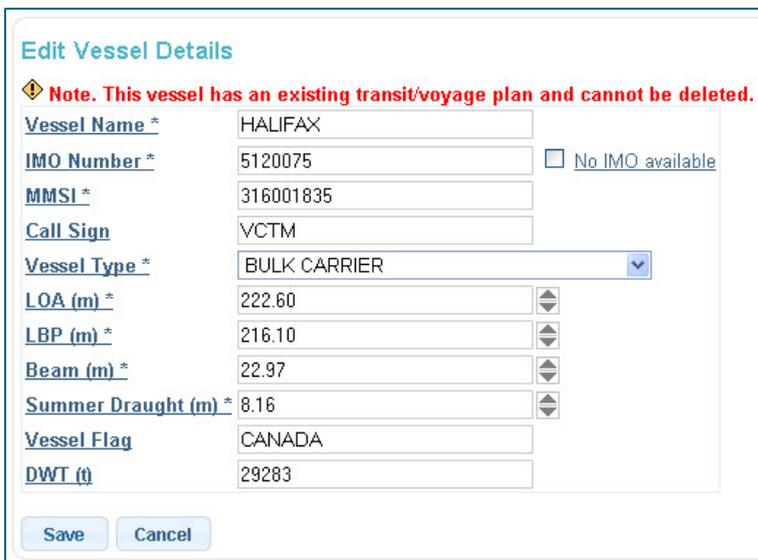
1. Click on the [New](#) link.



**New Vessel**

Vessel Name *	<input type="text"/>	
IMO Number *	<input type="text"/>	<input type="checkbox"/> No IMO available
MMSI *	<input type="text"/>	
Call Sign	<input type="text"/>	
Vessel Type *	BULK CARRIER	▼
LOA (m) *	<input type="text"/>	▲▼
LBP (m) *	<input type="text"/>	▲▼
Beam (m) *	<input type="text"/>	▲▼
Summer Draught (m) *	<input type="text"/>	▲▼
Vessel Flag	<input type="text"/>	
DWT (t)	<input type="text"/>	

2. Enter the details of your vessel. All fields marked with \* are compulsory.
3. Click on
4. Now you have created a vessel.
5. In case you entered the wrong details, click [Edit](#). Now you can update your vessel details.



**Edit Vessel Details**

⚠ **Note. This vessel has an existing transit/voyage plan and cannot be deleted.**

Vessel Name *	HALIFAX	
IMO Number *	5120075	<input type="checkbox"/> No IMO available
MMSI *	316001835	
Call Sign	VCTM	
Vessel Type *	BULK CARRIER	▼
LOA (m) *	222.60	▲▼
LBP (m) *	216.10	▲▼
Beam (m) *	22.97	▲▼
Summer Draught (m) *	8.16	▲▼
Vessel Flag	CANADA	
DWT (t)	29283	

6. If you decide not to use this vessel, you can delete it from the system. Click on [Delete](#) to go to the Confirm Delete page. From here you can cancel or confirm delete of your vessel.

**Confirm Delete Vessel**

Vessel Name	A. BEDEVI	LOA (m)	114.70	Source	ShipSys
IMO Number	6923709	LBP (m)	106.50	Last Update	27May2011 1110
MMSI	271000057	Beam (m)	16.67	Updated by	-
Call Sign	TCJZ	Summer Draught (m)	6.41		
Vessel Flag	TURKEY	DWT (t)	6450		
Vessel Type	GENERAL CARGO/MULTI-PURPOSE SHIP				

7. Now you have a vessel created, you can continue on to make a voyage plan or a transit plan.

### **Troubleshooting**

**Q:** I entered the wrong vessel details, what do I do?

**A:** You can fix the details by clicking on the [Edit](#) link when in the vessel details page.

**Q:** A vessel with my IMO already exists in the database. How do I override this?

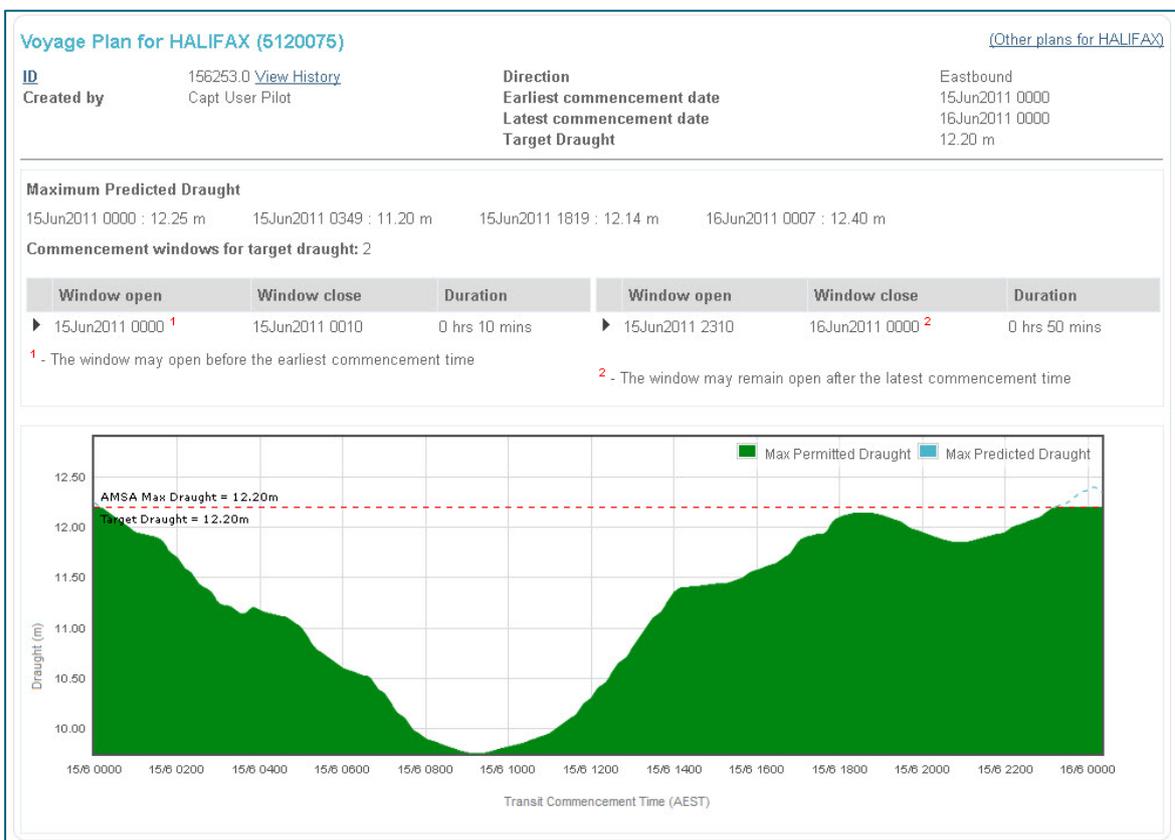
**A:** You can delete the other vessel using the [Delete](#) link if you are sure the previous vessel entry with the same IMO number is wrong.

## EXERCISE 2: CREATE A NEW VOYAGE PLAN

In this exercise, you will create a new voyage plan to be used in the UKCMS. A voyage plan can be created for a sailing time greater than 3 days from now. You will learn how to edit your plan and how to delete it if it is no longer needed.

You are going to the Voyage Planning tab. Once in the voyage planning page, you can create a new voyage plan.

1. Click on the [New](#) link.
2. Select the direction of your voyage. Enter the target draught for your vessel. Enter the time frame for your vessel to sail.
3. Click on [Save and Calculate](#)
4. Now you have created a voyage plan.



5. This voyage plan shows you the results of the calculation. These results can be printed by clicking on the icon in the top right hand corner and saved to pdf using the icon in the top right hand corner.

### Troubleshooting

**Q:** I entered the wrong voyage details, what do I do?

**A:** You can fix the details by clicking on the [Edit](#) link when in the voyage details page

## EXERCISE 3: CREATE A NEW TRANSIT PLAN

In this exercise, you will create a new transit plan to be used in the UKCMS. A transit plan can be created for a sailing time 5 days and less from now. You will learn how to edit your plan, and how to delete it if it is no longer needed.

You are going to the Transit Planning tab. Once in the transit planning page, you can create a new transit plan.

1. Click on the [New](#) link.
2. Enter stability data for your vessel. All fields are compulsory.

### New Transit Plan

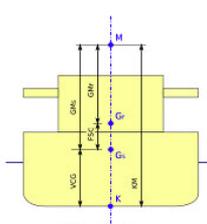
#### Vessel

 Type part of a Vessel Name or IMO Number to find a vessel.

Vessel Name	-	LOA (m)	-	Source	-
IMO Number	-	LBP (m)	-	Last Update	-
MMSI	-	Beam (m)	-	Updated by	-
Call Sign	-	Summer Draught (m)	-		
Vessel Flag	-	DWT (t)	-		
Vessel Type	-		-		

#### Stability Data

Condition	(select)	KM (m)	
Draught FWD (m)		- VCG (m)	
Draught Amidships (m)		GMs (m)	
Draught AFT (m)		- FSC (m)	
Displacement (t)		GMf (m)	
Water dens (t/m <sup>3</sup> )	1.025		



Click to enlarge [Actual Stability Data \(PDF\)](#)

#### Status

DRAFT

#### Transit

Origin	(select)
Destination	(select)
Transit commencement (local time)	
Transit plan comments (Optional)	

Max Characters: 256

[Save](#) [Calculate](#) [Reset](#) [Cancel](#)

3. Enter the transit details.
4. Click on [Calculate](#)
5. Now you have created a transit plan.

Now we will explain a little about the transit plan report:

The first section shows the status of your transit plan report, as well as the transit plan id, transit details and load state.

Transit Plan for HALIFAX (9810932) 17Jun2011 0000				(Other plans for HALIFAX)
<b>ID</b>	174520.2 <a href="#">View History</a>	<b>Transit</b>	Varzin Passage to Herald Patches, commencing at 17Jun2011 0000	
<b>Created by</b>	Capt User Pilot	<b>Stability Data</b>	Disp:30000t KM:11.60m VCG:8.00m GMs:3.60m FSC:0.30m GMf:3.30m Cb:0.63	
<b>Status</b>	DRAFT <a href="#">Change Status</a>	<b>Draughts</b>	F:11.50m M:11.50m A:11.50m	
<b>Comment</b>	This is a comment.			

The next section shows the windows available, as well as the expected squat, tide and UKC for a given commencement time and speed profile. You can adjust the speeds by clicking the  up down arrows.

**The Transit Plan was successfully calculated.** Calculated: 16Jun2011 1353

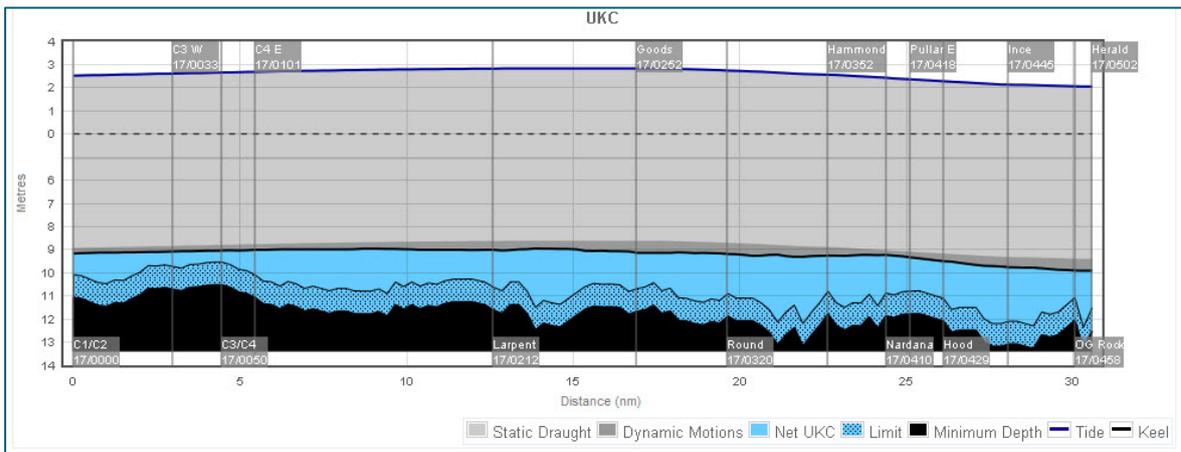
**Available Windows:** 16/1800\* to 17/0344 (\* Window is open at the start or end of the scanned period)

**Transit Commencement:** 17Jun2011 0000

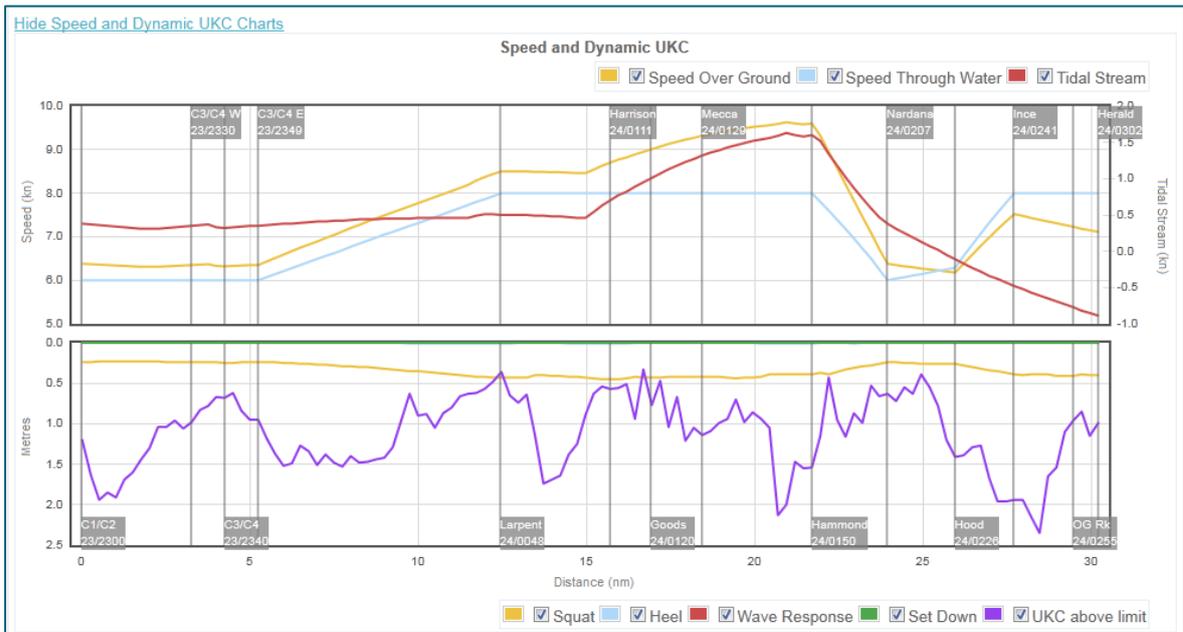
	C1/C2	C3 W	C3/C4	C4 E	Larport	Goods	Round	Hammond	Nardana	Pullar E	Hood	Ince	OG Rock	Herald
STW (kn)	6	6	6	6	8	8	8	8	6	6	6.44	8	8	8
Time (AEST)	17/0000	17/0033	17/0050	17/0101	17/0212	17/0252	17/0320	17/0352	17/0410	17/0418	17/0429	17/0445	17/0458	17/0502
Squat (m)	0.19	0.19	0.19	0.20	0.33	0.47	0.43	0.32	0.16	0.20	0.28	0.39	0.46	0.46
Heel (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Tide (m)	2.52	2.61	2.66	2.68	2.82	2.83	2.74	2.56	2.43	2.36	2.28	2.13	2.06	2.05
UKC-L (m)	0.91	0.64	0.49	1.07	1.62	1.55	1.71	1.53	1.64	1.46	1.59	2.34	1.17	1.60

[Recalculate](#)

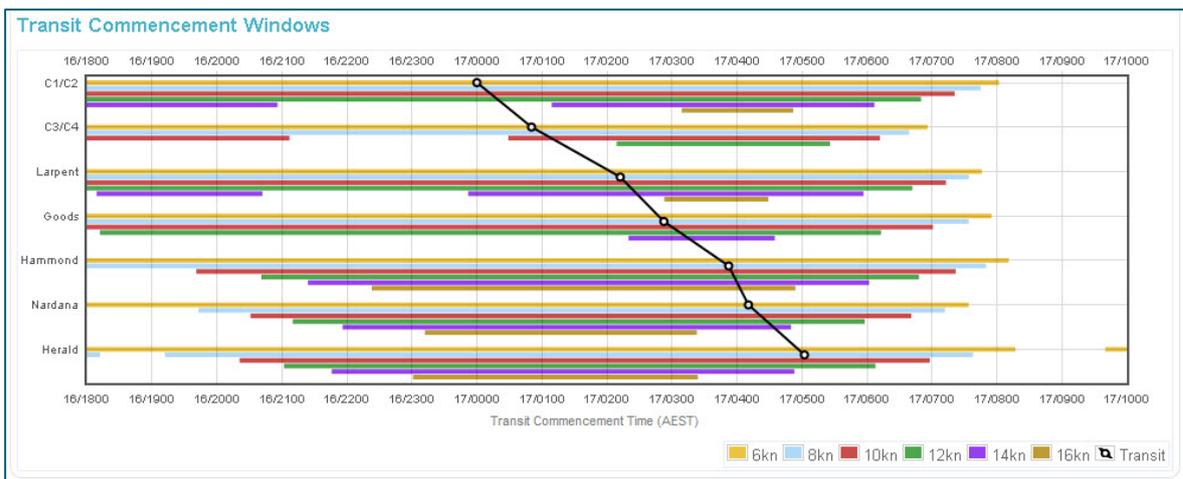
The following is a UKC chart for the transit. Each colour represents a different factor, and is detailed in the legend below the chart.



The following are speed and Dynamic UKC<sup>®</sup> charts. These can be shown or hidden using the toggle link [Hide Speed and Dynamic UKC Charts / Show Speed and Dynamic UKC Charts](#).



The following shows the available tidal windows for the transit. The different lines represent the windows available at each waypoint for a range of speeds, from 6 to 16 knots.

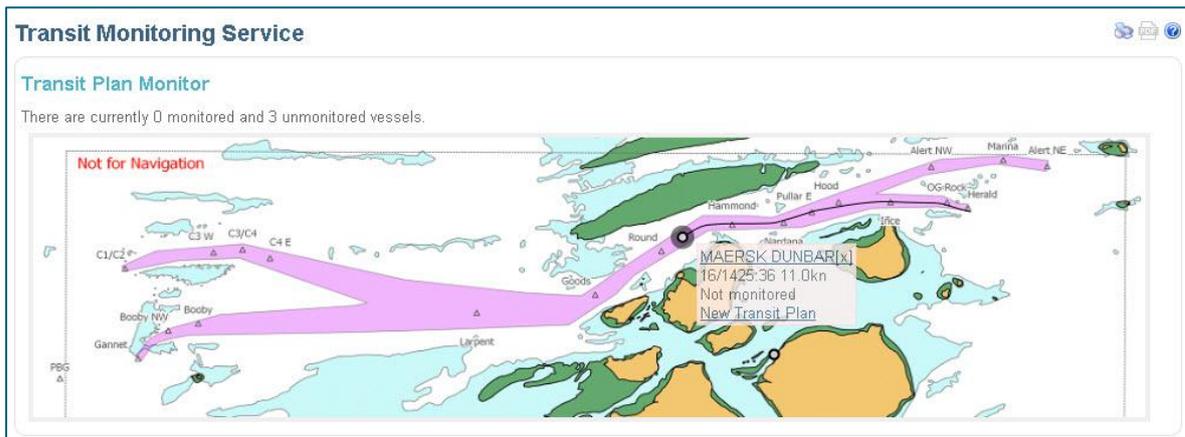


- In the Transit Plan display, there is a status. You are going to change this status to active. To do this, click on [Change Status](#) and change the status to ACTIVE in the drop down menu. Click [Save](#) and this will return you to the Transit Plan view. Please note that it is not possible to change the transit plan status to ACTIVE if the UKCMS predicts a breach. Exercise 4 below illustrates how to manage a UKC breach in the UKCMS.

The screenshot shows the "Transit Planning Service" interface. At the top, there are navigation links: Current | Search | Edit | New | Delete. Below this is a "Change Status" section with a dropdown menu currently set to "DRAFT". There are "Save" and "Cancel" buttons below the dropdown. In the top right corner, there are icons for printing and saving to PDF.

- This transit plan shows you the results of the calculation. Once you are happy with the plan, these results can be printed by clicking on the icon in the top right hand corner, and saved to pdf using the icon in the top right hand corner.

8. **Optional:** Once your transit is underway, you can monitor your vessels progress by clicking on the [Monitoring](#) link at the top/bottom of the page. This shows you a map of vessels currently in the Torres Strait, and whether each vessel is currently being monitored or not.



### **Troubleshooting**

**Q:** I entered the wrong transit details, what do I do?

**A:** You can fix the details by clicking on the [Edit](#) link when in the transit details page.

**Q:** The UKCMS indicates that 'The Transit Plan calculation indicated that UKC constraints could not be satisfied for the intended transit'. What does this mean?

**A:** This means that somewhere along the planned passage the UKCMS predicts that the UKC will be less than AMSA's UKC limit for this vessel. Exercise 4 illustrates how this can be resolved.

## EXERCISE 4: RESOLVE A BREACH IN UKC

In this exercise, you will resolve a predicted breach in UKC in a transit plan. A breach in UKC means that the UKCMS predicts that somewhere along the planned passage that the UKC will be below AMSA's minimum required UKC. Insufficient UKC (also referred to as a 'breach' in UKC) is usually the result of:

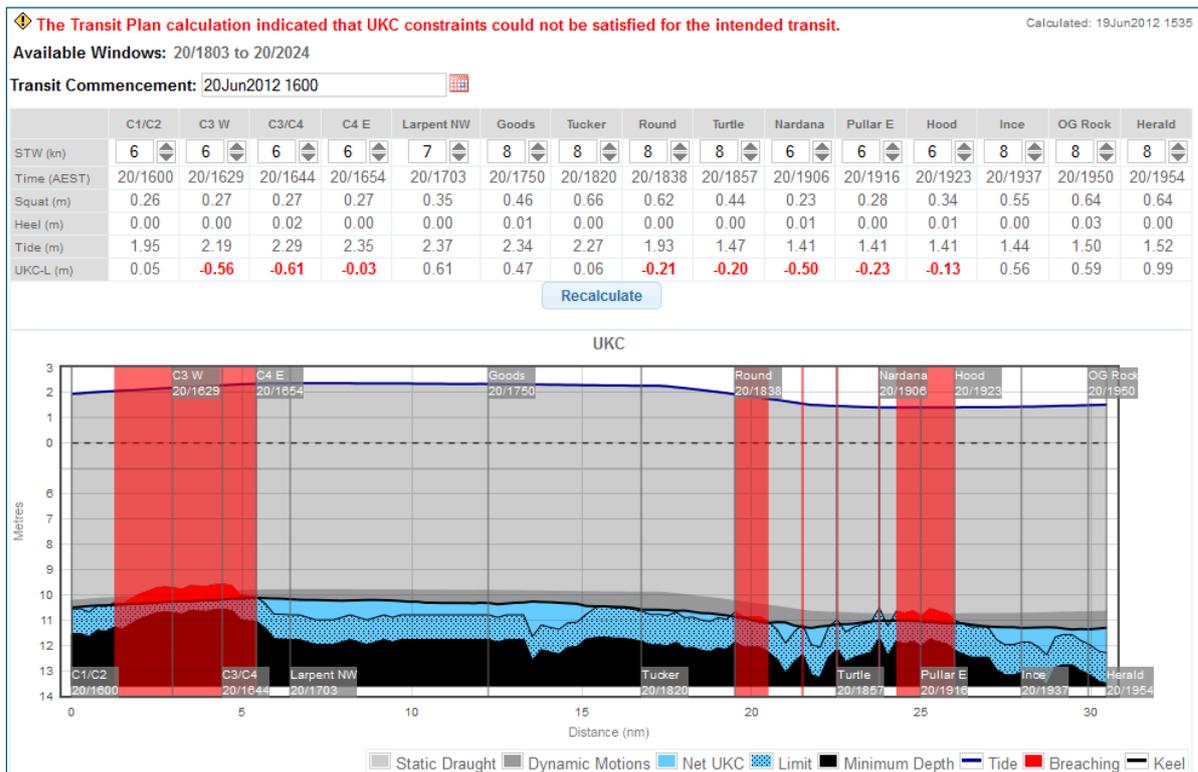
1. Insufficient tide to pass all points along the route at the nominated vessel draughts and speeds.
2. Large dynamic vessel motions (such as squat).

A breach due to insufficient tide can be resolved by changing the transit commencement to a time when there will be sufficient tide along the transit. A breach due to vessel squat can be resolved by reducing the planned vessel speed. Both these examples are shown in the exercise below.

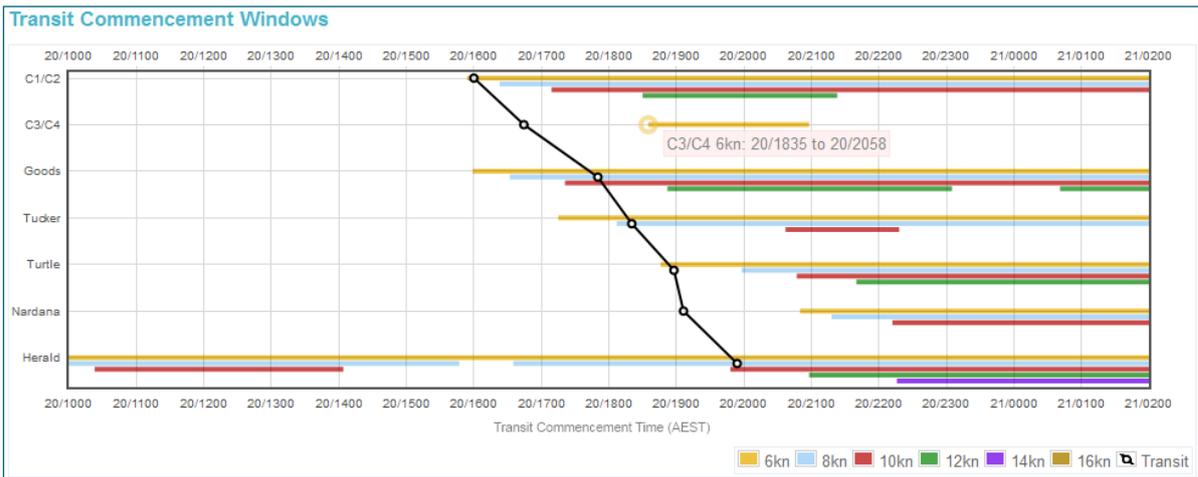
### 4.1 RESOLVE A UKC BREACH DUE TO INSUFFICIENT TIDE

For this exercise it is assumed that you already have created a transit plan that is predicted to breach AMSA's UKC limit. The figure below shows a typical example of what a breaching transit plan in the UKCMS.

In this instance a 12.2m draught tanker planned to sail from Varzin to Herald Patches at 1600 on the 20<sup>th</sup> of June. The red bands in the graph indicate the region where the UKCMS predicts that the UKC will be less than AMSA's minimum required UKC. This is referred to as a 'breach' in UKC.



The UKCMS will also show 'transit commencement windows' for a selected number of waypoints along the route. These windows represent the times between which the UKCMS predicts that it is safe to pass these points at the nominated vessel draught. The transit commencement windows for the above breaching transit plan are shown in the figure below.



1. Change the transit commencement time by typing in a new time. From the transit commencement windows it is obvious that changing the transit commencement time from 1600 to 1900 should make it possible to transit the Torres Strait with sufficient UKC. Type in the new time.

**The Transit Plan calculation indicated that UKC constraints could not be satisfied for the intended transit.** Calculated: 19Jun2012 1535

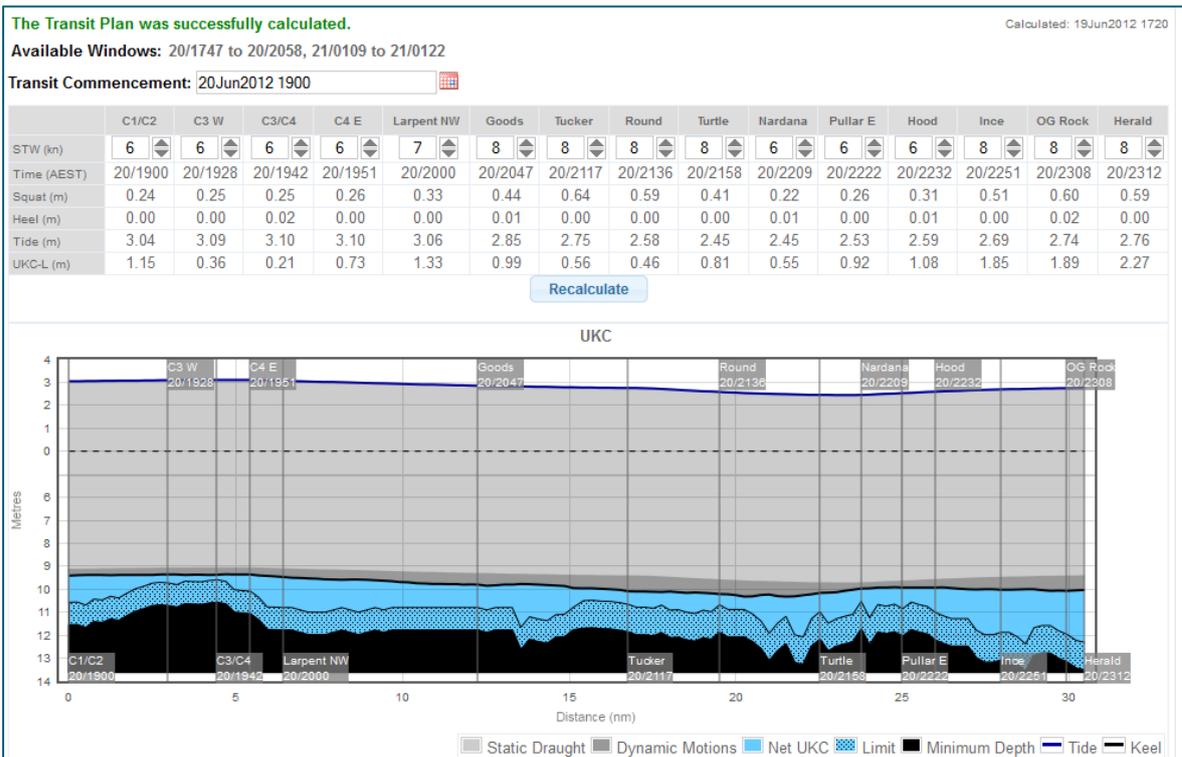
Available Windows: 20/1803 to 20/2024

Transit Commencement: 20Jun2012 1600

	C1/C2	C3 W	C3/C4	C4 E	Larport NW	Goods	Tucker	Round	Turtle	Nardana	Pullar E	Hood	Ince	OG Rock	Herald
STW (kn)	6	6	6	6	7	8	8	8	8	6	6	6	8	8	8
Time (AEST)	20/1600	20/1629	20/1644	20/1654	20/1703	20/1750	20/1820	20/1838	20/1857	20/1906	20/1916	20/1923	20/1937	20/1950	20/1954
Squat (m)	0.26	0.27	0.27	0.27	0.35	0.46	0.66	0.62	0.44	0.23	0.28	0.34	0.55	0.64	0.64
Heel (m)	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.03	0.00
Tide (m)	1.95	2.19	2.29	2.35	2.37	2.34	2.27	1.93	1.47	1.41	1.41	1.41	1.44	1.50	1.52
UKC-L (m)	0.05	-0.56	-0.61	-0.03	0.61	0.47	0.06	-0.21	-0.20	-0.50	-0.23	-0.13	0.56	0.59	0.99

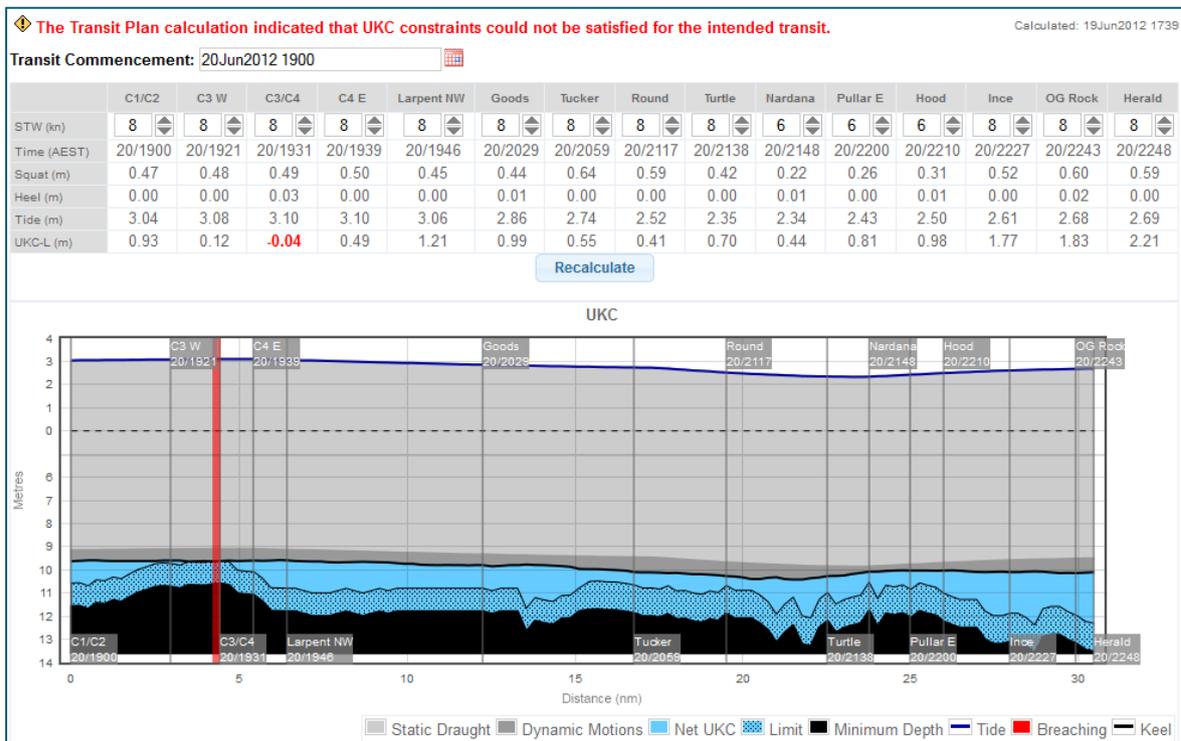
Recalculate

2. Click on the 'Recalculate' button to have the UKCMS update the UKC advice. In this example, the change in transit commencement time resolved the breach. See the updated UKC graph below.

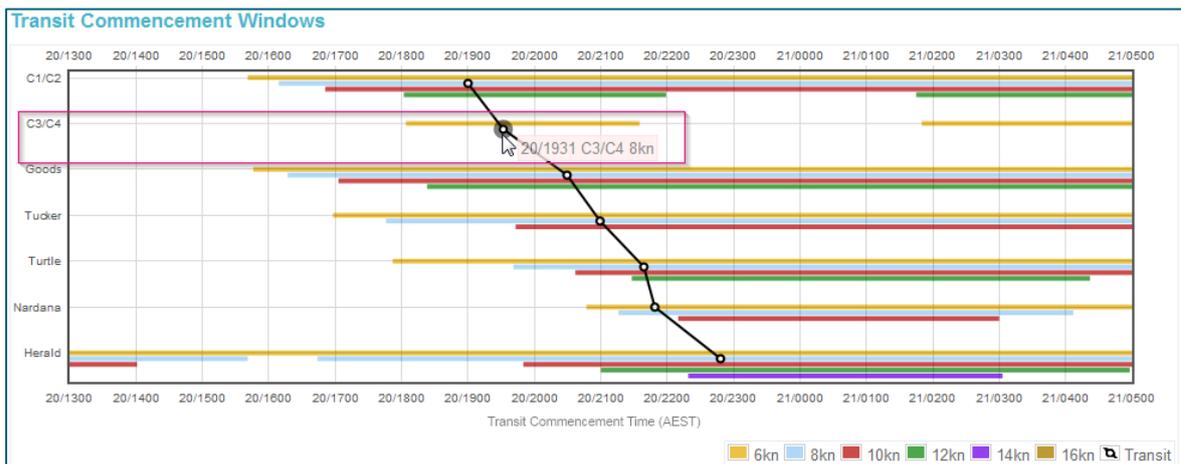


## 4.2 RESOLVE A UKC BREACH DUE TO VESSEL SQUAT

In this exercise the same vessel and transit from the previous exercise are used. This time, the user has opted to change the planned vessel speeds through Varzin Passage to 8 knots through the water. As a result of this, the UKCMS predicts that for this vessel in this instance there is insufficient UKC at C3/C4. This is shown in the figure below.



The UKC graph shows a red band at C3/C4. This indicates that there is insufficient UKC at this location. The table above the graph shows that the UKCMS predicts that at C3/C4 the UKC will be 0.04m below AMSA's limit. From the transit commencement windows graph it is also clear that it is not possible to safely pass C3/C4 at a speed of 8 knots for this vessel in this instance. At C3/C4 there is no light blue horizontal bar to indicate there is a window to pass C3/C4 at 8 knots. See also the figure below.



To resolve the issue do the following:

1. In the speed table, reduce the speed in the area of insufficient UKC. The transit commencement window graph indicates that a speed of 6 knots through the water is possible past C3/C4.
2. Click on 'Recalculate' to have the UKCMS reassess the transit plan. If the plan still shows breaches, change the speeds again to reduce vessel squat.

The image below shows the final transit plan without any predicted UKC breaches.

The Transit Plan was successfully calculated.

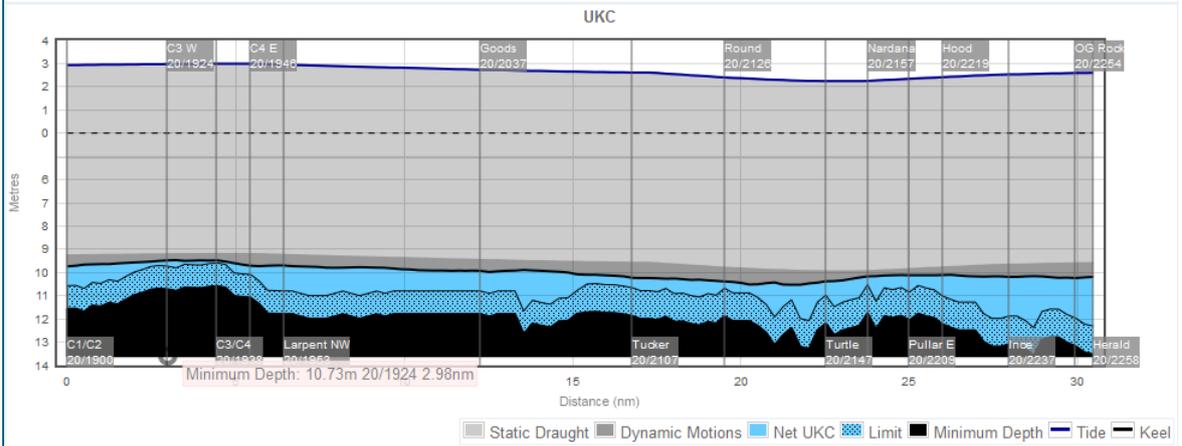
Calculated: 20Jun2012 0906

Available Windows: 20/1815 to 20/2028

Transit Commencement: 20Jun2012 1900

	C1/C2	C3 W	C3/C4	C4 E	Larpent NW	Goods	Tucker	Round	Turtle	Nardana	Pullar E	Hood	Ince	OG Rock	Herald
STW (kn)	8	6	6	8	8	8	8	8	8	6	6	6	8	8	8
Time (AEST)	20/1900	20/1924	20/1938	20/1946	20/1953	20/2037	20/2107	20/2126	20/2147	20/2157	20/2209	20/2219	20/2237	20/2254	20/2258
Squat (m)	0.47	0.25	0.26	0.50	0.45	0.45	0.65	0.60	0.42	0.22	0.26	0.31	0.52	0.60	0.59
Heel (m)	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.00
Tide (m)	2.93	2.98	2.99	2.99	2.95	2.73	2.61	2.40	2.24	2.25	2.34	2.41	2.53	2.59	2.60
UKC-L (m)	0.82	0.25	0.10	0.37	1.10	0.87	0.42	0.28	0.60	0.35	0.72	0.89	1.68	1.73	2.11

Recalculate



## EXERCISE 5: MONITOR A TRANSIT PLAN

The UKCMS has the capability of monitoring the UKC of vessels in near real-time based on the broadcast AIS positions. The UKCMS transit planning and monitoring services are designed to set up transit plans prior to the vessel entering the Torres Strait. To set up monitoring for a transit plan prior to the vessel refer to exercise 3. If a vessel is already in the Torres Strait and the user wants to monitor a transit plan the following work around can be used:

1. Create a new transit plan and set the transit commencement time to the time now plus 10 minutes. Click on 'Calculate'. This will give you 10 minutes to set up a plan and make it ACTIVE.  
*Note: The transit commencement time needs to be set into the future; it cannot be set into the past. For example, if a vessel travels eastbound and has already passed Varzin Passage then it is not possible to set the transit commencement time to actual time of passing C1/C2.*

**Transit Plan for OMC DEMO TANKER (-1000588) 20Jun2012 1900** (Other plans for OMC DEMO TANKER)

ID: 174764.11 [View History](#)    Transit: Varzin Passage (Deep) to Herald Patches (Deep), commencing at 20Jun2012 1900  
 Created by: Mr Chris Hens    Stability Data: Disp:110000t KM:18.00m VCG:13.00m GMs:5.00m FSC:1.00m GMf:4.00m Cb:0.86  
 Status: DRAFT [Change Status](#)    Draughts: F:12.20m M:12.20m A:12.20m

**The Transit Plan was successfully calculated.** Calculated: 20Jun2012 1053

Available Windows: 20/1818 to 20/2037

Transit Commencement: 20Jun2012 1900

	C1/C2	C3 W	C3/C4	C4 E	Larpent NW	Goods	Tucker	Round	Turtle	Nardana	Pullar E	Hood	Ince	OG Rock	Herald
STW (kn)	8	6	6	8	8	8	8	8	8	6	6	6	8	8	8
Time (AEST)	20/1900	20/1924	20/1937	20/1946	20/1953	20/2036	20/2105	20/2124	20/2145	20/2154	20/2206	20/2216	20/2233	20/2249	20/2253
Squat (m)	0.47	0.25	0.25	0.50	0.45	0.45	0.65	0.60	0.42	0.22	0.26	0.31	0.52	0.60	0.60
Heel (m)	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.00
Tide (m)	2.95	3.00	3.01	3.02	2.97	2.74	2.61	2.39	2.21	2.22	2.32	2.39	2.51	2.57	2.59
UKC-L (m)	0.84	0.27	0.13	0.40	1.12	0.88	0.41	0.27	0.57	0.32	0.70	0.87	1.67	1.71	2.10

2. If required update the planned speeds through water and click on 'Recalculate'.  
*Note: To resolve a breach refer to exercise 4.*
3. Once you are happy with the plan, click on "Change Status" and change the status to "ACTIVE". See the figure below. The UKCMS will now perform one last assessment of the UKC and if no breaches are predicted the transit plan will be monitored.  
*Note:*
  - The monitoring will not initiate before the planned commencement time (which was set at the now time plus 10 minutes in step 1 above).
  - The monitoring UKC graph will appear 'chopped off' as the UKCMS cannot compute UKC for the area the vessel passed prior to setting up the transit plan.