

Certificate of Local Knowledge Newcastle

Study Guide for Applicants

Applicants for the issue of a new or applicants renewing their Certificate of Local Knowledge Newcastle should consider the following charted data as the basis on which exam questions will be asked.

Bearing and distance of the 3 Pilot Boarding Grounds

PBG Alpha, Bravo and Charlie

Names of prominent points and channel names

- Northern Breakwater
- Southern Breakwater
- Nobbys Head
- Horseshoe Beach
- Pirate Point
- Stockton Ferry Wharf
- Dyke Point
- Mereweather Street Wharf
- The Horse Shoe
- Steelworks Channel
- Steelworks Channel Swinging Basin
- Stockton Crossing
- Stockton Channel

Navigation Marks including buoys, leading marks, lights characteristics including heights, arcs of visibility, arcs of increased intensity and arcs of obscurity.

- Entrance Special Mark
- Entrance Data Buoys
- Entrance Buoy
- Offshore Special Mark (Bearing and Distance from Southern Breakwater)
- Southern Breakwater
- Northern Breakwater
- 265 Leading lights
- Nobbys Head

- Channel Buoys, Hunter River and Stockton Channel.
- 102.7 Leading Lights
- 236 Leading lights
- Basin Cut Leading Lights
- Steelworks Channel Leading lights and reciprocal
- Stockton Crossing Leads
- NCIG Channel Leads
- Stockton Bridge Lights

Depth Contours

Clearly show the 5 and 10 m contours within the harbour and the off lying danger to the north of the harbour entrance less than 10 m.

The transition depths from buoys #1 and #3 to the harbour entrance.

Berth numbers, locations and maintained depth

Number each berth pocket and state the maintained depth.

Speed Restrictions and Areas of Application

Know the speed limits and the areas of application within the harbour.

Basic Tidal Information

Know the direction of flood and ebb tide flow within the harbour

Magnetic Variation

Know the current magnetic variation for Newcastle and where to find it.

Cable and Pipeline Areas

Clearly show on the chart the cable and pipeline areas within the harbour.

VHF channels in the port and specific uses. (08, 10, 09,11, 16, 72, 77)

VHF channel 10 is used by harbour pilots to communicate with the pilot transfer helicopter as well as the pilot cutter. No one else should use this channel.

VHF channel 09 is the normal calling/working channel for Newcastle Harbour (VTS). It is used for communications between ships and the VTs and by harbour pilots to communicate certain information to the VTS. Small vessels may call VTS on 09 to advise of their movement and activities on the harbour.

VHF channels 08, 11, 72, 77 are all working channels for harbour pilots and tugs whilst a ship is under pilotage. No one else should use this channel.

VHF channel 16 is the emergency / distress channel used by anyone.

Operations around shipping, holding positions.

Operators of smaller vessels on the harbour and on the harbour approaches should always be mindful of large commercial shipping operating in the port. It is important to not impair ships that are under pilotage or

approaching the pilot boarding grounds. With regards to a smaller vessels draught and available depth of water, it may be prudent to stay well clear of a ship by staying clear of the main designated buoyed channel in the vicinity of ships that are manoeuvring in the port.

Dangers of tug wake etc, particularly at night.

Harbour tugs are large vessels and are often transiting the harbour at speeds up to 10 kts. As such they create significant wake waves which are quite short and steep. Operators of small vessel should be mindful of this, particularly at night when it is particularly difficult to visually assess waves on the harbour.

What does 'flashing', 'Isophase' and 'occulting' mean for lights.

The various lights on the harbour used for navigation include the above types. A 'flashing' light is one where the length of light exhibited is shorter than the length of darkness exhibited for the period of the light. A 'Isophase' light is one where the length of light and darkness exhibited is the same. An 'Occluding' light is one where the length of light exhibited is longer than the length of darkness exhibited for the period of the light.

Harbour speed limits (past #4, #9, past yacht club etc).

There are specific speed limitations for large commercial shipping operating on the harbour. Generally, ships enter the harbour at speeds of up to 9-10 kts. Ship speeds past buoys 3 and 4 are < 8kts when inbound and past buoy 9 is <6kts when inbound. Specific other speed limitations for ships are specified in Harbour Master operational instructions. In general, these speed limits do not apply to small vessels which should be guided by Roads and Maritime information. When specific operations are taking place within the harbour such as diving operations, the VTS broadcast this information on VHF channel 09 on a regular basis.

<http://www.rms.nsw.gov.au/documents/maritime/usingwaterways/maps/boating-maps/7c-newcastle-harbour.pdf>

Operations in restricted visibility and fog.

Restricted visibility on the harbour and approaches due to heavy rain and fog is not uncommon and small vessels should take all appropriate precautions in the prevailing conditions. Such actions would include exhibiting required navigation lights, sounding required sound signals, keeping a good lookout by sight and hearing and all other available means appropriate and manoeuvring at a safe speed appropriate to the conditions. It should be noted that other vessels may be operating on the harbour in restricted visibility including large ships, tugs, lines boats and recreational boating and kayaks etc.

Sound signals used on the harbour including emergency long blast by pilot during berthing.

There are a number of Colreg 72 sound signals used by commercial shipping on the harbour. These include a long blast when entering the harbour, departing the harbour prior to rounding the Horseshoe and when entering and leaving the Basin Cut as well as standard manoeuvring sound signals.

During the manoeuvring of a ship into or out of a berthing box and should radio communications breakdown between the pilot and the attending tugs, the pilot will sound a continuous blast on the ship's whistle. This is an emergency signal to advise the attending tugs that communications have failed and the ship is to be positioned by the tugs to a position of safety. If you hear this signal stay well clear of the ship in question.

Importance of operating in the channel only and areas where can go aground (east of channel into north Arm).

In general, all smaller vessels should operate within the designated channel. In some circumstances, it may be necessary by smaller vessels to manoeuvre close to the channel boundaries or slightly outside the

designated buoyed channel. The important thing is to be aware of the available water and draught for your area of operation. Be aware of the depth contours outside of the buoyed channel. Don't take any shortcuts going up the North Arm of the river. It is important to follow the leads in this area.

Tidal effects in the harbour (flood and ebb). Where to find tidal info for the day.

The tidal effects within the harbour can be significant at times and particularly so after heavy rain events. In spring tides, the tidal range can exceed 2m.



Current rates after heavy rain events can exceed 3-4 kts particularly on an ebb tide.

Normal daily tidal information can be found in appropriate hydrographic publications and on the Port Authority NSW web site <http://www.bom.gov.au/australia/tides/#!/nsw-newcastle>

Cardinal marks and meaning. How do you pass the east cardinal buoy?

You should pass the East Cardinal buoy at Dyke Point (Birubi buoy) to the east of the buoy.

Use of leading marks.

There are a number of leading marks within the harbour. As per normal, to regain the lead line, head for the lower lead mark.

Variation in the port currently.

Currently the magnetic variation in the port is 12.2°E

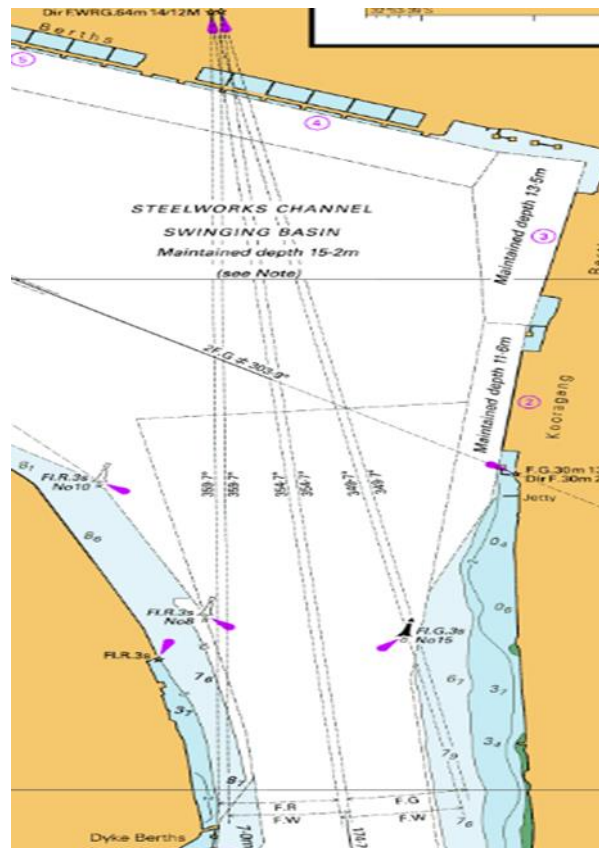
Passage up to Eglo, (best way to go).

Follow the Stockton leads (039° 38') starting between buoys 9 and 11. Keep close to the Stockton southern bank and follow the buoys as appropriate. It is important to check the appropriate harbour chart and Roads and Maritime information if unfamiliar with the North Arm.

Any relevant notices promulgated by HM.

Notices promulgated by the Harbour Master are normally for large commercial ship operations under pilotage. Various other Marine Notices are issued by Transport for NSW [Marine notices | NSW Government](#)

Distance between white sectors on laser leads (10m), distance between NCIG leads (20m). How the coloured sectors are achieved with the Kooragang laser lights?



Procedure when navigating at night in harbour (instruments on and pilot with seat belt).

It is important to take all normal precautions when operating at night. Appropriate navigation lights should be exhibited, and a good lookout should always be kept for commercial shipping, small vessels, tug wash, recreational vessels and floating debris that is common after heavy rain events.

Ferry operations and responsibilities around them

Newcastle Transport – Keolis Downer operate the ferry service in Newcastle Port. The ferries operate approximately:

- Monday to Saturday – 0500 hrs to 0000 hrs
- Sunday and Public Holidays – 0840 hrs to 2210 hrs

Responsibilities on the waterways around ferry services can be found on the Transport for NSW website:

[Giving way, overtaking and avoiding collisions on the water | NSW Government](#)

Precautions after river flood conditions (trees, objects tidal runs etc)

After heavy rain events, there is extensive water flow down both the north and south arms of the river. This flow brings a lot of debris including large trees etc. The water flow can dramatically alter the expected tidal rates and set within the harbour and all appropriate precautions should be taken.

Tug positioning off the port and reasons for this.

Tugs provide passive escort to ships that enter the harbour. The tugs are positioned approximately 0.5 miles off the port entrance. Small vessels should stay well clear of tugs waiting in this area.

Tide Types and rates in the harbour

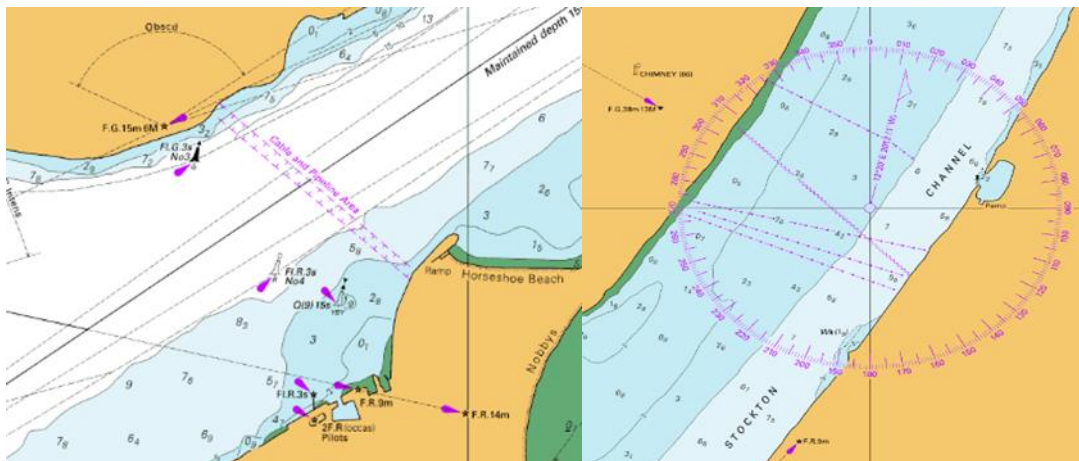
Newcastle has semi-diurnal tides (2 highs and 2 lows every day). The rates of the tides can vary significantly particularly after heavy rain events.

Communications with ships

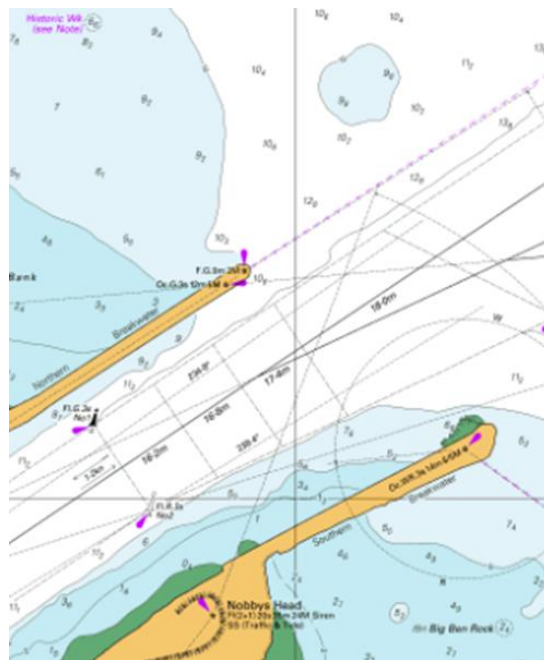
In most circumstances, small vessel should not be contacting ships under pilotage but if in an emergency (i.e., cannot stay clear of the ship for some reason) the pilot can be contacted on VHF channel 09. If necessary, contact the VTS on channel 09 and have them contact the pilot as required.

Cable and pipeline areas (East of buoy 3 and 4)

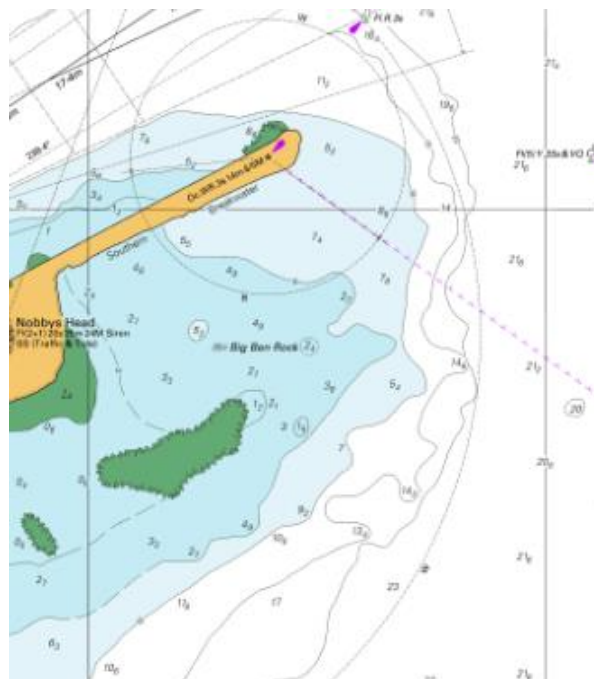
Cable and pipeline areas exist in the harbour.



Q: Can you turn north at north breakwater? (depth approx. 10m)



Q: Can you turn south at south breakwater? (No- run aground)



Q: If you have an incident on the harbour, what do you do?

Depending on the severity of the incident, take all steps to deal with the incident on board (first aid, fire, rescue etc). If you require external emergency assistance e.g. police or ambulance, contact Newcastle VTS on VHF channel 09.