

GOVERNMENT OF RAS AL KHAIMAH RAK PORTS

RULING DEPTH & UNDER KEEL CLEARANCES

- Saqr Port Inner Harbour
- Saqr Port Deep-Water Bulk Terminal
- RAK Maritime City
- Stevin Rock Harbour
- Ras Al Khaimah Port
- Al Jazeera Port
- Al Jeer Port

RAK PORTS INTEGRATED MANAGEMENT SYSTEM

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The controlled current version is available on the website <https://www.rakports.ae/management/ISMS/UKAS.pdf>*

Document Owner: Harbour Master, RAK Ports

Revision History:

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Orig.	05-12-2016	Initial Release	HM
1	02-04-2018	Second Release	HM
2	10-10-2018	Third Release	HM
3	14-10-2019	Fourth Release	HM
4*	13-05-2020	Fifth Release	HM

* This issue supersedes all previous versions

RAK PORTS MEMBERS



SAQR PORT

One the world’s leading bulk ports operating to highest international standards, the port is adjacent to the largest limestone quarry in the world. The port has established a reputation for efficient service and fast turnaround of vessels – just one of the value added services that sets Saqr Port apart from other ports in the region. Fast, efficient cargo handling and reliable distribution are the key elements to Saqr Port’s reputation for quality. Saqr Port is handling bulk cargoes such as aggregates, coal, oil, gypsum, clay and other bulk materials for local factories. It has a good commercial and warehousing property portfolio which supports a thriving business community.

Deep-Water Bulk Terminal: Situated adjacent to the main lee breakwater of Saqr Port Inner Harbour, the new facility is the largest bulk terminal in the Gulf region and accommodates large cape-size vessels.



RAK MARITIME CITY

The 6 million square metres land and waterfront free zone development. RMCFZA is reinforcing RAK’s global business footprint. RMCFZA’s harbour has 5 km of quay wall, with private jetties and common users berths and a draft alongside of 6.5m.



RAS AL KHAIMAH PORT

A unique city centre port offering a range of modern cargo handling facilities and services. The port also has a passenger/cruise terminal catering for the increasing interest in the leisure activities available in this northern emirate.



AL JAZEERA PORT

The port offers a full range of cargo handling services on 960 metres of quay wall in addition to a dry docking and ship repairing facility. This 50,000 square metres Dry Dock and Ship Lifting System has 12 dry berths – 8 berths are 67.5m long x 30m wide and 4 berths are 77.5m long x 30m wide. The lifting dock has a synchronised lifting capacity of 1,100 tonnes and can accommodate vessels up to 55m in length x 18m wide.



AL JEER PORT

Located at the RAK border with the Musandam, Oman. The port area is mostly for private tenants to berth layby vessels with a small area for leisure vessels.

Retention	@ Office	@ Archives
	0-2 years	3-5 years

GENERAL INTRODUCTION

The 'Ruling Depth and Under Keel Clearances' are intended to provide basic guidance on determination of ship's minimum under keel clearance (UKC) to provide safe navigation within RAK Ports and Stevin Rock Harbour with restricted available depth of water and thus enhancing safety of shipping and protection of environment. Nothing in this document shall prejudice the rights of masters to act accordingly in the distress and emergency situations or any other extenuating circumstances in order to ensure the safety of life at sea, safety of the ship and protection of the environment.

CONTACT PORT

The Harbour Master's Office is located in the Marine Department, Saqr Port. The Harbour Master's Office co-ordinates the statutory compliance for navigational safety across all RAK Ports.

All operational marine matters are dealt with by respective ports.

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WEBSITE OF THE PORT

www.rakports.ae

WEBSITE OF THIS DOCUMENT

<http://www.rakports.ae/marine/RD&UKC.pdf>

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DISTRIBUTION

The ‘Ruling Depth & Under Keel Clearances’ will be distributed as follows:

1. One copy will be posted on the company website and the following will be notified when there are any changes or amendments:
 - a. Harbour Master
 - b. Chief Executive Officer
 - c. Deputy Harbour Master
 - d. Pilots, Tug Masters and Port Control
 - e. All Ports’ Managers
 - f. HSEQ Manager
2. One PDF copy shall be filed in the Integrated Management System as an Internal Document.

AMENDMENTS

Proposed amendments are to be sent to the Document Owner, Harbour Master, who will maintain a record of changes in accordance with the Control of Documents and Records Procedure.

DOCUMENTS AND RECORDS

The definition of documents and records is defined below:

- **Documents:** Documents may be in any form or type of medium such as paper, magnetic, electronic, photos and templates. They are designed to capture information on activities or results.
- **Records:** Records provide evidence that activities have been performed or results have been achieved. They always record the past.

REFERENCE DOCUMENTS
Document Title
International Safety Management Code (ISM)
UK Port Marine Safety Code (PMSC)
SOLAS Conventions
RAK Ports Regulations
Hydrographic & bathymetric data and charts
Tidal Information and data

SECTION ONE Introduction

General

1. Ruling depths and under keel clearance criteria are specified in the tables below. Vessel operators who require increased under keel clearance margins, over and above those published must ensure that these requirements are specified in advance of booking the vessel's arrival / departure. This is to ensure that vessels are booked for the correct height of tide, and to ensure that delays/impacts to the shipping schedule are avoided.

Agents are advised to ascertain vessel specific under keel clearance requirements prior to making arrival/departure bookings.

The following Ruling Depths apply to the berths and approach channels. The depths indicated are the least depth in the channel or on the berth. Deeper water may be available in certain parts of the channel and conversely shallower water may exist just outside of the channel. In order to prepare a detailed passage plan, a close examination of the latest navigation or sounding charts should be used.

For areas not included in the tables below, an under keel clearance of 10% of the vessels maximum draft with a minimum under keel clearance of 0.5m should be used.

Data based on a broad interpretation of current surveys and is only intended as a general guide. Original surveys should always be consulted; especially for detailed operational planning.

All depths quoted are in metres.

Minimum Under Keel Clearance

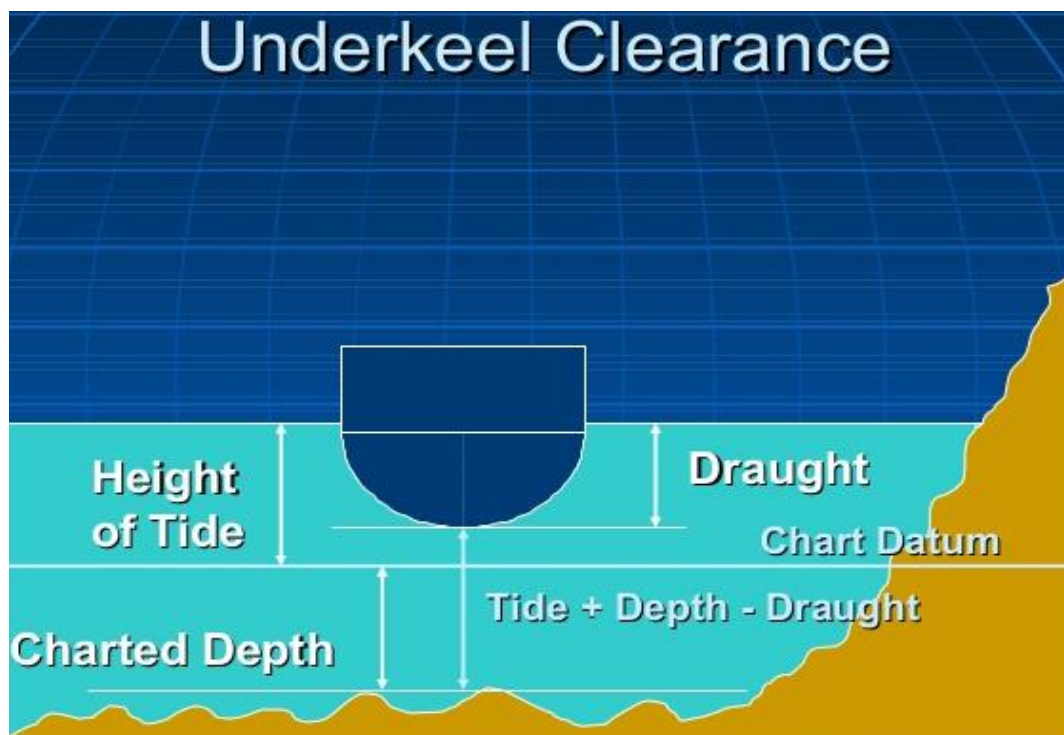
2. This guidance for the minimum UKC apply only during normal weather for RAK Ports. Severe weather or other abnormal conditions may demand case-by-case evaluation. Masters and pilots shall use prudent seamanship at all times when piloting vessels in RAK Ports and approaches.

Ruling Depth

3. Ruling depth refers to the depth of water below Chart Datum (referred to in the below diagram as 'Charted Depth').

What is Under Keel Clearance?

4. Under-keel clearance (UKC) means the distance allowed between the bottom of a Vessel and the seabed to ensure that a Vessel remains afloat. It is mainly influenced by a vessel's draught (depth of the submerged part of a vessel), which varies according to the vessel's load condition, speed, and other environmental factors.



UKC = (Charted Depth of Water + Height of Tide) – (Draft)

The Master and Pilot

5. The UKC is the responsibility of the Master who must ensure that the vessel remains afloat at all times.
6. In RAK Ports, actual tide heights do not normally vary significantly from predicted tide heights.
7. However, the master and pilot should discuss and agree the passage plan including the anticipated UKC. ("Passage Plan" – A written/chart/schematic containing all information relevant to the passage from pilot station to berth).

8. Following factors should be taken into consideration when estimating sufficient water depth:
 - a. The maximum draught of the ship.
 - b. If the ship does not have an even-keel draught, the maximum draught at the bow or stern should be used.
 - c. Vessel movement through the water and “Squat Effect”
 - d. Also possible list should be taken into consideration, and the following:
 - (1) Chart Datum;
 - (2) Water Density;
 - (3) Vessel's trim and list characteristics;
 - (4) Depth of the transit area;
 - (5) Depth at the facility or anchorage;
 - (6) Tide and current conditions;
 - (7) Weather impact on water depth (winds and swell waves).

Alongside

9. A minimum UKC whilst alongside, must be noted in the Cargo Handling Plan. This must include instructions outlining maximum draft, trim and list.

SECTION TWO

SAQR PORT INNER HARBOUR

General

1. Maximum ship size normally accepted at Saqr Port: 260m x 42m. Vessels out-with these dimensions will be dealt with on a case-by-case basis.
2. Average height of quay above Chart Datum is 4.2m.
3. Mean spring tide range is 2.0m and neap tide range 1.0m.
4. Distance between fenders varies between 10 and 12m.

Berth Structures, Ruling Depth & UKC

5. Berth Structures

Berth	Length (m)	Quay Length	Remarks
1 (bollards 66 to 74)	207m	599m	Hutchison Ports: Height of Container Gantry Crane Boom is 34m above ACD
2 (bollards 74 to 82)	181m		Hutchison Ports : Container
3 (bollards 82 to 91)	211m		Hutchison Ports : Container
4 (bollards 92 to 99)	159m	218m	Hutchison Ports : Ro-Ro at either end
5 (bollards 1 to 10)	217m	827m	Conveyor
6 (bollards 10 to 19)	203m		Tankers pipeline for EMARAT
7 (bollards 19 to 27)	180m		
8 (bollards 27 to 34)	227m		
9 (bollards 35 to 42)	216m	793m	
10 (bollards 42 to 50)	222m		
11 (bollards 50 to 59)	202m		Tanker pipeline for ADNOC
12 (bollards 59 to 65)	173m		Coal: 15m clearance required from b'water

6. Ruling Depth & UKC (Inner Harbour)

Berth / Location	UKC	RD	Remarks
Approach Channel	1.2m	12.2 m	
Turning Basin	1.2m	12.2 to 13m	
Berth 1	0.3m	12.2m	Max draft 12.0m
Berth 2	0.3m	12.2m	Max draft 12.0m
Berth 3	0.3m	12.2m	Max draft 12.0m. Reduces to 9.5 in corner
Berth 4	0.3m	12.2m	Max draft 12.0m
Berth 5	0.3m	11.8m*	Max draft 12.0m *Temporary reduction
Berth 6	0.3m	12.2m	Max draft 12.0m
Berth 7	0.3m	12.2m	Max draft 12.0m
Berth 8	0.3m	12.2m	Max draft 12.0m. Depths reduce in corner
Berth 9	0.3m	12.2m	Max draft 12.0m
Berth 10	0.3m	12.2m	Max draft 12.2m on application.
Berth 11	0.3m	12.2m	Max draft 12.0m
Berth 12	0.3m	12.2m	Max draft 12.0m

UKC = Under keel clearance

RD = Ruling Depth

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SECTION THREE

SAQR PORT DEEP-WATER BULK TERMINAL

General

1. Maximum ship size normally accepted at Deep-Water Bulk Terminal is 295m LOA without beam restriction. Larger ships on application (ships >295m LOA will be assessed on a case by case basis).
2. Average height of quay above Chart Datum is +6.0 metres.
3. Mean spring tide range is 2.0m and neap tide range 1.0m.
4. Distance between fenders is 21.6m in accordance with BS 6349-part 4.
5. Max Draft: Variable according to tidal conditions and required UKC.

Berth Structures, Ruling Depth & UKC

6. Berth Structures

Berth	Length (m)	Quay Length	Remarks
14	230m	685m	Berth No. 14 Bollard No. 1 to 12
15	215m		Berth No. 15 Bollard No. 12 to 22
16	240m		Berth No. 16 Bollard No. 22 to 33

7. Ruling Depth & UKC (Deep-Water Bulk Terminal)

Berth / Location	UKC	RD	Remarks
Access Channel	1.75m	18-25m	From turning basin entrance buoys to pilot station.
Turning Basin	1.75m	18.0m	
Berth 14	0.8m	18.0m	UKC whilst manoeuvring = 1.75m
Berth 15	0.8m	18.0m	UKC whilst manoeuvring = 1.75m
Berth 16	0.8m	18.0m	UKC whilst manoeuvring = 1.75m

UKC = Under keel clearance

RD = Ruling Depth

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SECTION FOUR RAK MARITIME CITY

General

1. Maximum ship size normally accepted at RMC: 125m x 32m & draft 6.5m. Vessels outside these dimensions will be dealt with on a case-by-case basis.
2. Average height of quay above Chart Datum is 4.25m.
3. Mean spring tide range is 2.0m and neap tide range 1.0m.
4. Distance between fenders varies between 3 and 6m.

Berth Structures, Ruling Depth & UKC

5. Berth Structures

Berth	Length (m)	Quay Length	Remarks
Shin Yang	300m	Quay 2	1a
Air Liquide	455m	Quay 2	2 – 4
BAM	200m	Quay 2	5 – 6
Geo Offshore	116m	Quay 2	7
Geo Offshore	100m	Quay 2	8
	179m	Quay 3	9 – 11
Eversendai	505m	Quay 3	12 – 17
Eversendai	50m	Quay 4	18
	220m	Quay 4	18
	129m	Quay 5	19
Knauf	223m	Quay 5	20
Common User	291m	Quay 5	
Archirodon	87m	Quay 5	29
Archirodon	263m	Quay 6	29
Archirodon	300m	Quay 7	29
Boskalis	200m	Quay 7	30
APT Global	90m	Quay 7	31
Van Oord	428m	Quay 8	32 – 33
Raymond Jetty 1	220m	Quay 9	34 (RAK Gas & Stevin Rock)
Raymond Jetty 2	180m		35c (Gulf RAK Oil)
Raymond Jetty 3	220m		36
Coastguard			

6. Ruling Depth & UKC (RMC)

Berth / Location	UKC	RD	Remarks
Approach channel	1.0m	7.0m	
Approaches to Raymond Jetties		7.0m	
RMC channel		6.8m	Channel area beyond SR reduces to 6.8m
Raymond Jetty 1	0.3m	6.0m	
Raymond Jetty 2	0.3m	5.0m	
Raymond Jetty 3	0.3m	6.3m	
Shin Yang	0.3m	6.8m	
Air Liquide	0.3m	6.8m	
BAM	0.3m	6.8m	
Geo Offshore	0.3m	6.8m	
Eversendai	0.3m	6.8m	
Knauf	0.3m	6.8m	
Common User	0.3m	6.8m	
Archirodon	0.3m	6.8m	
Boskalis	0.3m	6.8m	
APT Global	0.3m	6.8m	
Van Oord	0.3m	6.8m	

UKC = Under keel clearance

RD = Ruling Depth

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SECTION FIVE STEVIN ROCK HARBOUR

General

1. Maximum barge size normally accepted at SRH: 144m x 40m & draft 7.50m. Vessels outside these dimensions will be dealt with on a case-by-case basis.
2. Average height of quay above Chart Datum is 2.80m.
3. Mean spring tide range is 2.0m and neap tide range 1.0m.

Berth Structures, Ruling Depth & UKC

4. Berth Structures

Berth	Length (m)	Quay Length	Remarks
Fishing Pontoons			
Stevin Rock 1	130m	638m	<i>Berth equipped with Hydraulic Loading Ramp.</i>
Stevin Rock 2	144m		<i>Berth equipped with Hydraulic Loading Ramp.</i>
Stevin Rock 3	103m		<i>Berth equipped with Hydraulic Loading Ramp.</i>
Stevin Rock 4	124m		
Stevin Rock 5	137m		
Stevin Rock 6	147m	147m	
Stevin Rock 7 (A & B)	208m	208m	<i>Tipping Conveyor berth.</i>

5. Ruling Depth & UKC (SRH)

Berth / Location	UKC	RD	Remarks
Approach channel	1.0m	7.0m	
Approaches to Stevin Rock berths	1.0m	7.0m	
Stevin Rock 1	0.5m	6.5m	<i>Max. Sailing Draft of 7.2m, 0.5m UKC maintained during LW by halting loading ops. (Loading completion and sailing at High Water)</i>
Stevin Rock 2	0.5m	6.5m	<i>Max. Sailing Draft of 7.2m, 0.5m UKC maintained during LW by halting loading ops. (Loading completion and sailing at High Water) Drafts in excess of 7.2m can be achieved on a case-by-case basis following risk assessment.</i>
Stevin Rock 3	0.5m	6.5m	<i>Max. Sailing Draft of 7.2m, 0.5m UKC maintained during LW by halting loading ops. (Loading completion and sailing at High Water)</i>
Stevin Rock 4	0.5m	7.0m	
Stevin Rock 5	0.5m	7.0m	
Stevin Rock 6	0.5m	6.0m	
Stevin Rock 7 (A & B)	0.5m	6.5m	<i>Max. Sailing Draft of 7.2m, 0.5m UKC maintained during LW by halting loading ops. (Loading completion and sailing at High Water)</i>

UKC = Under keel clearance

RD = Ruling Depth

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SECTION SIX RAS AL KHAIMAH PORT

General

1. Maximum ship size for turning in harbour: 140m x draft 6.9m. Cruise vessels up to 210m and 6.9m draft and other vessels will be dealt with on a case-by-case basis.
2. Average height of quay above Chart Datum is 3.7m.
3. Mean spring tide range is 2.0m and neap tide range 1.0m.
4. Distance between fenders varies between 8-10m.

Berth Structures, Ruling Depth & UKC

5. Berth Structures

Berth	Length (m)	Quay Length	Remarks
Jetty 1	95m	190m	Free Port Location (Outside ISPS)
Jetty 2	95m		Free Port Location (Outside ISPS)
Jetty 3	120m	137m	
Jetty 3 (Ro/Ro)	17m		
Jetty 4	125m	380m	Cruise berth
Jetty 5	125m		Cruise berth
Jetty 6	130m		Cruise berth
Jetty 7	25m	40m	Floating Pontoon
Jetty 8	180m	180m	Cruise berth

6. Ruling Depth & UKC (Ras Al Khaimah Port)

Berth / Location	UKC	RD	Remarks
Approach Channel	1.0m	6.9m	
Jetty 1	0.3m	8.3m	Depth of 4.9m 120m from corner. Bank 30m off quayside 5.1m
Jetty 2	0.3m	8.3m	Depth of 4.9m 120m from corner. Bank 30m off quayside 5.1m
Jetty 3	0.3m	8.3m	8.3m available but restricted due to channel. Bank 40m off quayside 6.0m
Jetty 3 (Ro/Ro)	0.3m	7.1m	
Jetty 4	0.3m	7.5m	
Jetty 5	0.3m	7.5m	
Jetty 6	0.3m	7.5m	
Jetty 7	0.3m	8.2m	
Jetty 8	0.3m	7.5m	Depths reduce to 6.5m at berth extremities. Fenders may be required for vessels over 130m

UKC = Under keel clearance

RD = Ruling Depth

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SECTION SEVEN AI JAZEERA PORT

General

1. Maximum ship size normally accepted at Al Jazeera: 120m x 32m & draft 5.50m. Vessels out-with these dimensions will be dealt with on a case-by-case basis.
2. Average height of quays above Chart Datum are as follows:
 - a. Quay No. 1, 2, 5, 6 and 7 is 4.60m.
 - b. Quay No. 8, 9 and Bunker is 3.80m.
 - c. Quay No. 3 and 4 is 3.10m.
3. Mean spring tide range is 1.3m and neap tide range 0.8m.

Berth Structures, Ruling Depth & UKC

4. Berth Structures

Berth	Length (m)	Remarks
Jetty 1A Distance between bollards (all distances from left hand edge of jetty) (1) 3.5m (2) 16.9m (3) 10.5m (4) 14.7m (5) 14.75m (6) 6.2m	66.65m	Located to the left of ship lift facility.
Jetty 1B (1) 5.3m (2) 16.9m (3) 10.55 (4) 14.75m (5) 6.45m	53.95m	Located to right side of ship lift facility.
Jetty 2 (1) 5.7m (2) 14.75m (3) 14.75m (4) 16.85m (5) 6.4m (6) 9.9m to end of jetty	68.35m	Fresh water point right end of jetty
Jetty 3 (1) 12.5m (2) 16.2m (3) 28.03m (4) 27.41m (5) 1 m to end of jetty	85.14m	Shore power supply left end of jetty
Jetty 4 (1) 1.25m (2) 27.90m (3) 29.48m (4) 30m (5) 30.16m	118.79	Fresh water point left end of jetty
Jetty 5 (1) 30.30m (2) 29.90m (3) 30.10m (4) 29.88m (5) 29.92m	150.1m	Fresh water point left end of jetty
Jetty 6 (1) 30.0m (2) 30.08m (3) 30.27m (4) 30.20m (5) 1.4m to end of jetty	121.95	

Berth Structures AJZP (cont'd...)

Berth	Length (m)	Remarks
Jetty 7 (1) 1.4m (2) 28.7m (3) 29.5m	59.60m	Fresh water Point
Jetty 8 (1) 30.26m (2) 29.78m (3) 29.88m (4) 30.04m	119.96	
Jetty 9 (1) 30.07m (2) 31.45m (3) 30.05m (4) 29.25m	120.82	Fresh water point
Bunker Jetty (no longer used for bunkering)	57.36m	

5. Ruling Depth & UKC (AJZP)

Berth / Location	UKC	RD	Remarks
<i>Approach Channel</i>	1.0m	6.2m	
Jetty 1A	0.3m	4.5m to 6.0m	
Jetty 1B	0.3m	6.0m	
Jetty 2	0.3m	6.0m	
Jetty 3	0.3m	6.3m	
Jetty 4	0.3m	5.2m to 6.4m	Fendering may be required for deeper drafts
Jetty 5	0.3m	5.7m	At bollard 15 depth 5.7m at a distance of 3.5m from quay wall
Jetty 6	0.3m	7.7m	Deep Water box 25m x 170m. Fenders required if maximum draft. Dredging in progress to increase to 8.0m (contact port for update).
Jetty 7	0.3m	6.0m	
Jetty 8	0.3m	5.5m	Further reduced depth exist close to quay (Sept 19). Dredging to be undertaken.
Jetty 9	0.3m	5.0m	Further reduced depth exist close to quay (Sept 19). Dredging to be undertaken.
Bunker Jetty	0.3m	6.0m	No longer used for bunkering operations Depth shallows to 2m at Eastern end.

UKC = Under keel clearance

RD = Ruling Depth

- Southern end of port basin between Anchorage A and jetties 4 and 5 - depth of 5.1m
- Pilot boarding point is at the Fairway Buoy (Lat 25 44.78N, Long 055 48.00E)

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SECTION EIGHT AI JEER PORT

General

1. Maximum ship size normally accepted at Al Jeer Port: 50x15m & draft 3.0m. Vessels out-with these dimensions will be dealt with on a case-by-case basis. Layby vessels as per special arrangements.
2. Average height of quays (Marine Berths/Pontoons) above RAK Datum is 3.50m.
3. Mean spring tide range is 2.0m and neap tide range 1.0m.

Berth Structures, Ruling Depth & UKC

4. Berth Structures

Berth	Length (m)	Remarks
<u>ISPS Area</u>		
Berths	400 m	
<u>Non-ISPS Area</u>		
Pontoons	N/A	Short sections of floating pontoons

5. Ruling Depth & UKC

Berth / Location	UKC	RD	Remarks
Approach Channel – to breakwater	1.0m	4.5m	
Basin	0.5m	3.3m	
Berths and pontoons	0.3m	Varies between 3.3 & 4.0	

UKC = Under keel clearance

RD = Ruling Depth

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