14 June 2018

**HYDROGRAPHIC BILL [B17 - 2018]**

**ISSUES AND POSSIBLE QUESTIONS**

**CONTENTS**

[1. INTRODUCTION 2](#_Toc519162340)

[1.1 Background 2](#_Toc519162341)

[1.2 Hydrographic activities and Maritime Defence 2](#_Toc519162342)

[1.3 Acquisition of a new hydrographic vessel for the SA Navy: Project Hotel 3](#_Toc519162343)

[2. THE HYDROGRAPHIC BILL [B17 -2018]: COMMENTS / QUESTIONS ON SELECTED CLAUSES 4](#_Toc519162344)

[ Clause 1: Definitions 4](#_Toc519162345)

[ Clause 2: Objects of the Bill 5](#_Toc519162352)

[ Clause 3: Establishment of the Hydrographic Office 6](#_Toc519162364)

[ Clause 4: Functions of the Hydrographic Office 6](#_Toc519162365)

[ Clause 5: Appointments and conditions of service of the Hydrographic Office 7](#_Toc519162387)

[ Clause 7: Powers and duties of the Hydrographer 8](#_Toc519162389)

[ Clause 8: Submission of hydrographic data 8](#_Toc519162395)

[ Clause 9: Survey marks 8](#_Toc519162400)

[ Clause 10: Archiving 8](#_Toc519162405)

[ Clause 12: Limitation on civil liability 8](#_Toc519162414)

[ Clause 13: Funding of the Hydrographic Office 9](#_Toc519162422)

[ Clause 14: Co-operation Agreement 9](#_Toc519162432)

[ Clause 15: Submission of the Annual Report 9](#_Toc519162437)

[ Clause 16: Regulations 9](#_Toc519162443)

[ Clause 17: Transitional arrangements 9](#_Toc519162449)

[ Clause 18: Short title and commencement of the Act 10](#_Toc519162454)

[3. CONCLUSION 10](#_Toc519162455)

# **1. INTRODUCTION**

## **1.1 Background**

The Hydrographic Bill [B17 – 2018] was introduced in Parliament in May 2018, by the Department of Defence and Military Veterans. It was referred to the Portfolio Committee on Defence and Military Veterans (PCODMV) after being tagged as a Section 75 Bill by the Joint Tagging Mechanism.[[1]](#footnote-1) The Bill was published in the Government Gazette on 30 May 2018.[[2]](#footnote-2)

South Africa, as a member of the International Maritime Organisation (IMO) and International Hydrographic Organisation (IHO), is a signatory to International Conventions relating to the monitoring of maritime safety. The IMO and IHO are responsible for the monitoring and effective regulations of the safe navigation of ships and other modes of transport that are moving around the oceans or waterways of the member states. The Memorandum on the Objects of the Bill states that the Hydrographic Bill emanates from the need to recognise and grant legislative status to the Office of the Hydrographer that has been in existence within the SA Navy since 21 July 1954.

The Bill provides *inter alia* for the establishment of a Hydrographic Office and the appointment of a Hydrographer, and the related duties and responsibilities of this office to ensure safe navigation in the exclusive economic zone and internal waters of the Republic. The “***principal raison d’être*** *[own emphasis]* ***of any national Hydrographic Office*** *is the desire of a national government to execute in a safe and professional manner its responsibilities with regard to the safety of life at sea within its own waters.”[[3]](#footnote-3)* The **primary function** of a Hydrographic Office in its own national waters is to ensure that data is collected, processed and promulgated to navigators in a way that can easily inform the navigator’s decision-making process. It is also common for national Hydrographic Offices to have ancillary responsibilities related to lights and buoyage or military data requirements.[[4]](#footnote-4)

National government’s responsibilities for hydrography arise principally from Chapter V of the International Maritime Organisation's International Convention for the Safety of Life at Sea (SOLAS). Interestingly, the first version of SOLAS was adopted at a conference in London in 1914, following the sinking of the Titanicon her maiden voyage with huge loss of life.[[5]](#footnote-5)

## **1.2 Hydrographic activities and Maritime Defence**

Hydrographic activities resort under the SA Navy, which is funded from Programme 5: Maritime Defence of the annual Estimates of National Expenditure (ENE). The **purpose** **of this Programme** is to provide prepared and supported maritime defence capabilities for the defence and protection of South Africa. One of the outputs of the Programme is a hydrographic survey capability to ensure safe navigation by charting areas and to meet international obligations.[[6]](#footnote-6) For the FY 2018/19 the Maritime Defence programme’s allocation is R 6.4 billion, a decrease of R165.3 million in nominal terms compared to 2017/18. This translates to an 8.63 per cent reduction in real terms as adjusted for inflation.[[7]](#footnote-7)&[[8]](#footnote-8)

The **SA Hydrographer**’s activities included celebrating World Hydrographic Day[[9]](#footnote-9) and attending the 8th Hydrographic Services and Standards Committee meeting in Monaco.[[10]](#footnote-10)

## **1.3 Acquisition of a new hydrographic vessel for the SA Navy: Project Hotel**

**Currently, the SAS Protea, a vessel almost 50 years old, provides hydrographic services for the SA Navy and the wider maritime sector.** As early as 2010, the South African government stated that an investment in the order of R1.8 billion was needed to acquire a new hydrographic vessel for the SA Navy.[[11]](#footnote-11) This investment named ***Project Hotel*,** would be part of the second largest military acquisition in South Africa since democracy. A tender was published in July 2014 and submissions closed in June 2015, after an extension was granted due to the complexity of the tenders. However, a lack of funding put the brakes on the acquisition of the much-needed military equipment.[[12]](#footnote-12) The numerous delays in Project Hotel means that the SAS Protea would continue to provide hydrographic services for the SA Navy and the wider maritime sector.[[13]](#footnote-13)

Despite significant budget cuts for the FY 2018/19,[[14]](#footnote-14) funds was nevertheless allocated for the acquisition of a new hydrographic survey vessel (Project Hotel) and three new inshore patrol vessels (Project Biro). The purchase ties into the broader *Operation Phakisa****[[15]](#footnote-15)*** objectives to fast-track development of the ocean economy. Hopefully, the bulk of the locally sourced construction and supply chain will enable significant and sustainable technology transfer and job and skills creation.[[16]](#footnote-16) The Oceans Economy will be the first sector to implement Operation Phakisa and to capitalise on the rich potential of ocean industries. Detailed delivery plans were developed to harness the vast economic potential of the ocean.[[17]](#footnote-17)

Approvalfor four new hulls was given to the Durban-based Southern African shipyards, which successfully contracted for a replacement hydrographic vessel (Project Hotel). Further, the President stated during the Armed Forces Day in Kimberley in February 2018, that he expected the “rejuvenation” of the Simon’s Town naval dockyard to enhance the national shipbuilding sector, an integral component of the blue economy portion of Operation Phakisa. *“It will commence with the building of patrol and survey vessels for the SA Navy to rejuvenate the national shipbuilding industry.”[[18]](#footnote-18)*

# **2. THE HYDROGRAPHIC BILL [B17 -2018]: COMMENTS / QUESTIONS ON SELECTED CLAUSES**

### **Clause 1: Definitions**

Clause 1 defines “**NAVAREA-VII**” as “that particular area of the world ocean in respect of which the Republic, as a member of the International Maritime Organisation and the International Hydrographic Organisation, has been assigned by those organisations to assume the responsibility of coordinating, compiling and disseminating navigational warnings”. A **navigational warning** is “a broadcast message that conveys navigational information”.

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| **COMMENTS** “*NAVAREAs are the geographic areas in which various governments are responsible for navigation and weather warnings.”[[19]](#footnote-19)* The following NAVAREA co-ordinators websites were established and the map outlines the different NAVAREAS[[20]](#footnote-20) as well as the responsible country:*Image result for NAVAREA VII*

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| --- | --- | --- | --- | --- | --- |
| **AREA** | **COUNTRY** | **AREA** | **COUNTRY** | **AREA** | **COUNTRY** |
| NAVAREA I | [UNITED KINGDOM](http://www.ukho.gov.uk/RNW)[SWEDEN](http://www.sjofartsverket.se/baltico) Baltic Sea Sub-area | NAVAREA VIII | [INDIA](http://www.hydrobharat.nic.in/) | NAVAREA XV | [CHILI](http://www.shoa.mil.cl/) |
| NAVAREA II | [FRANCE](https://www.shom.fr/navarea/NavareaIIenVigueur.txt) | NAVAREA IX | [PAKISTAN](http://www.paknavy.gov.pk/hydro/index.asp) | NAVAREA XVI | [PERU](http://www.dhn.mil.pe/) |
| NAVAREA III | [SPAIN](http://www.armada.mde.es/ihm) | NAVAREA XI | [AUSTRALIA](http://www.amsa.gov.au/search-and-rescue/distress-and-safety-comms/msi/) | NAVAREA XVII | [CANADA](http://www.ccg-gcc.gc.ca/e0004476?todo=warning) |
| NAVAREA IV | [UNITED STATES](http://www.nga.mil/maritime/) | NAVAREA XI | [JAPAN](http://www1.kaiho.mlit.go.jp/jhd-E.html) | NAVAREA XVIII | [CANADA](http://www.ccg-gcc.gc.ca/e0004476?todo=warning) |
| NAVAREA V | [BRAZIL](http://www.mar.mil.br/dhn/dhn/index.html) | NAVAREA XII | [UNITED STATES](http://www.nga.mil/maritime/) | NAVAREA XIX | [NORWAY](http://www.navarea-xix.no/) |
| NAVAREA VI | [ARGENTINA](http://www.hidro.gov.ar/Nautica/radioav.asp) | NAVAREA XIII | RUSSIAN FEDERATION | NAVAREA XX | RUSSIAN FEDERATION |
| NAVAREA VII | [SOUTH AFRICA](http://www.sanho.co.za/) | NAVAREA XIV | [NEW ZEALAND](http://www.linz.govt.nz/hydro) | NAVAREA XXII | RUSSIAN FEDERATION |

*No website available for NAVAREA XIII, NAVAREA XX, NAVAREA XXI**Source:* [*https://en.wikipedia.org/wiki/NAVAREA#/media/File:NavareasUSCGMap.png*](https://en.wikipedia.org/wiki/NAVAREA#/media/File:NavareasUSCGMap.png)**QUESTIONS*****NAVAREA VII:**** How is cooperation between the managers of the different areas facilitated?
* How does the IMO and IHO coordinate their activities for optimal effectiveness of their services?
* Who are the frequent users of the Office’s products and services for NAVAREA-VII?
* ***Baselines***[[21]](#footnote-21) – How are the baselines determined for NAVAREA VII in relation to the Exclusive Economic Zone?
* ***Bodies of water***[[22]](#footnote-22) – What kind of bodies of water are found in NAVAREA-VII, and which one of these bodies of water receives the most attention or information are requested from?
* ***User:*** “*Navigators are not the only users of hydrographic products. They are often used for reference by legislators, planners and researchers, as the definitive documents for issues relating to national sea boundaries limits and jurisdiction, and such issues as the introduction of routing measures at sea.”[[23]](#footnote-23)\*
 |

### **Clause 2: Objects of the Bill**

The Objects of the Bill are to:

*“(a) provide for the establishment of the Hydrographic Office;*

*(b) provide for the safety of navigation in the exclusive economic zone and the internal waters of the Republic;*

*(c) ensure that hydrographic surveying is done in accordance with the**requirements of internationally accepted specifications and standards;*

*(d) provide for the appointment of the Hydrographer; and*

*(e) provide for the powers and duties of the Hydrographer.”[[24]](#footnote-24)*

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| **COMMENTS / QUESTIONS****Requirements of internationally accepted specifications and standards:** • Has the SA Hydrographer always adhered to the requirements of internationally accepted specifications and standards of survey products as required by the IHO and the IMO? If no, examples should be provided to illustrate the kind of standards and quality expected of the Hydrographer, if yes, how is it being kept abreast of the latest developments around Hydrographic activities?• The Department should explain provide an example of the requirements of internationally accepted specifications and standards of hydrographic surveying.**Powers and functions:** • Are the powers and functions of the Hydrographer in line with international best practices? If so, (a) who, (b) when and (c) how is compliance monitored in terms of these best practices? |

### **Clause 3: Establishment of the Hydrographic Office**

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| **QUESTIONS****Location:** **•** Where is the Hydrographic Office currently situated?• Is this an optimal location given the responsibilities of the Office?• Are there plans to move its location? |

### **Clause 4: Functions of the Hydrographic Office**

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| **COMMENTS / QUESTIONS****Charts**: “Hydrographic Offices have traditionally reproduced their products using their own printing facilities, other government printing capacity or under contracts with commercial printers”[[25]](#footnote-25) * Does the Hydrographer publish its own charts and other printing products, if yes, are these facilities still adequate?
* How is the costing done of the hydrographic products and services, is it profitable and easily accessible for the relevant users, in other words how are charts, navigational warnings, etc. “made available on a world-wide scale as timely, reliable and unambiguously as possible”?[[26]](#footnote-26)

**Quality of Products**: “Hydrographic Offices, being government agencies, accept legal liability for the quality of their products, be they paper or digital. It is also their responsibility to issue updates to their charts in order to satisfy the SOLAS requirement that charts should be “adequate and up-to-date for the intended voyage.”[[27]](#footnote-27)* What are the implications for government agencies, and in this case the Hydrographic Office, if they accept legal liability for the quality of their products?
* Has the quality of South Africa’s navigational products ever been questioned?

**Source Data**: “Hydrographic Offices need to hold large amounts of source data to fulfil their function and they have frequently become the repository not only for current but also historic sources which even now may still be the only source for some navigational information. They have thus become the national archive for hydrographic data. This involves them in all the disciplines of cataloguing, maintaining and storing millions of sources. Increasingly the data are being received in digital form but paper sources from the past will still need to be retained”[[28]](#footnote-28) * Given the above, how well are the sources protected against for instance fire, lighting, theft etc.?
* Are there sufficient and reliable storage capacity?
* Does the Hydrographic Office have sufficient personnel with the necessary skills and expertise as required?
* Are there succession plans in place to replace skilled employees should they exit the organisation?

***South Africa’s regional and international representation:*** * Is South Africa adequately represented at the IHO, IMO, regional and international fora, and are there any challenges in this regard?
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### **Clause 5: Appointments and conditions of service of the Hydrographic Office**

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| **COMMENTS / QUESTIONS*****Appointment:*** * Arethe provisions of the Defence Act sufficient to manage all the activities of the Office? If not, what kind of changes and/or improvements are foreseen?

***10-year experience:**** Are there enough hydrographic personnel to ensure that there is an adequate succession plan given that 10 years of experience is required to become the Hydrographer?
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### **Clause 7: Powers and duties of the Hydrographer**

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| **COMMENTS / QUESTIONS*****Entry to land, beach, enclosed places****:** The Hydrographer’s entry into places to erect a beacon relates to permission of the owner. Is there any legal sanction for refusal of such entry, for whatever reason?
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### **Clause 8: Submission of hydrographic data**

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| **COMMENTS / QUESTIONS*** (a) For what reasons would a person withhold information that pose a navigational danger and (b) can examples of such cases be provided?
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### **Clause 9: Survey marks**

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| **COMMENTS / QUESTIONS*** (a) Howwidely is it known that it is an offence to alter, move, disturb or destroy a navigational sign, and (b) are there relevant information/warning signs to alert the public to this prohibition?
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### **Clause 10: Archiving**

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| **COMMENTS / QUESTIONS*** Arethe minimum standardsthose prescribed by the IHO and IMO? If so, (i) how regularly are these updated and (ii) can examples be given of such standards?
* How is monitoring and evaluation of the archiving system done, given how crucial this function is?
* What plans are in place in the event of loss of nautical publications and other information - in other words is there a sufficient and reliable back-up system?
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### **Clause 12: Civil liability limitation**

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| **COMMENTS / QUESTIONS**Clause 12(2): *“No civil action may be instituted against the Hydrographic Office in respect of any cause of action arising out of or in connection with the content of any nautical publication and nautical chart, if such nautical publication and nautical chart has not been produced and sold by the Hydrographic Office.”** Can civil action be instituted if such nautical publication and/or chart has been produced and sold by the Hydrographic Office?
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### **Clause 13: Funding of the Hydrographic Office**

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| **COMMENTS / QUESTIONS*****Funding***: “*It is generally accepted that the existence of a national Hydrographic Office supports the wider public good. It is therefore, something for which the public should pay; though that approach is increasingly coming under intense scrutiny”. [[29]](#footnote-29)** Given the sentiments that *a national Hydrographic Office* is a public good, that the public should pay for it, and that monies appropriated by Parliament funds it, (a) does this imply a separate sub-programme in Programme 5: Maritime Defence of the Department of Defence’s Budget, or (b) is the current provision thereof, sufficient?
* The Department should indicate if it is running the Office at a loss, breaking even, or making a profit in order to determine the financial status of the Office.

***Income derived:*** * The Committee may also enquire whether or not such income reverts back to the Hydrographic Office.
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### **Clause 14: NAVAREA**

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| **COMMENTS / QUESTIONS*** Is this agreement in place / operating and if so, how is the current cooperation being regulated? If not yet in place, how soon after the Bill is enacted will it come into effect?
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### **Clause 15: Submission of the Annual Report**

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| **COMMENTS / QUESTIONS*** Has provision been made to submit the Office’s Annual Report to Parliament, which approves the funding allocation to it, or is the current reporting regime being viewed as adequate?
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### **Clause 16: Regulations**

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| **COMMENTS / QUESTIONS*** Are the Regulations or similar guidelines, in place and working effectively given that the South African Hydrographic Office has been in existence since 21 July 1954?
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### **Clause 17: Transitional arrangements**

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| **COMMENTS / QUESTIONS*** Clause 17 mainly provides for continuity in that the functions of the existing Hydrographer and staff of the Hydrographic Office, as well as all actions taken prior to the Act’s existence, are deemed to have been done under the new Act when it becomes operational.
* Nevertheless, the Committee should consider whether these transitional arrangements are sufficient to provide for all the eventualities in the event of the Bill’s enactment.
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### **Clause 18: Short title and commencement of the Act**

The Act will become operational on a date to be determined by the President by proclamation in the Gazette.

# **3. CONCLUSION**

The Hydrographic Bill is an important step to strengthen the legal position of the activities of the Hydrographic Office, given the centrality of the Hydrographic Office to secure the safety of life at sea within NAVAREA-VII. The Bill provides additional security and assurances to the international community that South Africa is serious about its international obligations, and will honour it accordingly.

The delay in implementing Project Hotel in order to replace the current aging hydrographic vessel is an issue that the Committee may want to follow up with the Department of Defence, especially against the background of the importance of the Ocean Economy and the contributions the Navy can make to Operation Phakisa.

While many of the questions posed above are of a clarity-seeking nature, it also provides an opportunity for the Committee to be informed and updated on the latest developments regarding the activities of the IHO, IMO and related sea-safety organisations. Some of the issues that the Committee should attend to include the legal liability of the Office, the allocation of funds, income derived and where it is deposited, as well as the securing of hydrographic information and data.

The Bill was finalised in consultation with relevant stakeholders such as the SA Maritime Safety Authority and Department of Transport. It served at the ESEID Cluster[[30]](#footnote-30) and the JCPS[[31]](#footnote-31) DGs Cluster. The DOD further had consultations with the Department of Agriculture Fisheries and Forestry, Department of Environmental Affairs, Department of International Relations and Cooperation, Department of Public Enterprise, Department of Rural Development and Land Reform, National Treasury, Department of Trading and Industry, Department of Small Business Development, the South African Police Services, and the Department of Tourism. The Committee should consider whether this was sufficient consultation.

Finally, the Memorandum states that the Bill will have no financial implications. The Committee should, however, inquire how the delays in implementing Operation Hotel to acquire a new hydrographic vessel would affect costs.

1. ATC No 74 of 2018.dated 1 June 2018. Fifth Session, Fifth Parliament [↑](#footnote-ref-1)
2. Government Gazette, 2018. Department of Defence. Notice 291 of 2018. Number 291 of 2018. Hydrographic Bill, 2018: Publication of explanatory summary of the Bill. Publication Of Explanatory Summary of the Hydrographic Bill, 2018. Previously, the Portfolio Committee dealt with Hydrographic matters in September 2009, to approve the Protocol of Amendments to the International Hydrographic Organisation Convention following a resolution to amend the Preamble and 19 articles of the 1967 version of the International Hydrographic Convention in accordance with Article XXI of the Convention. The objective of the Protocol of Amendments was to improve the scope, objectives, capacity and effect of the Convention. [↑](#footnote-ref-2)
3. Salmon WB. 1999. The role of the Hydrographic Office. International Hydrographic Review, Monaco, LXXVI(2), September 1999. [↑](#footnote-ref-3)
4. Salmon WB. 1999. [↑](#footnote-ref-4)
5. Salmon WB. 1999. [↑](#footnote-ref-5)
6. DOD, 2017. Annual Report of the Department of Defence FY2016/17. p.75. [↑](#footnote-ref-6)
7. ENE, 2018. Vote 19, Estimates of National Expenditure. Department of Defence. p. 393 [↑](#footnote-ref-7)
8. Janse van Rensburg, W. 2018. Vote 19: Analysis of the 2018/19 Budget Allocation of the Department of Defence. 23 April. Parliament of the RSA. [↑](#footnote-ref-8)
9. According to the 2016/17 Annual Report, this took place in Durban from 15 to 19 June 2016. [↑](#footnote-ref-9)
10. DOD, 2017. Annual Report of the Department of Defence FY2016/17. p.76. As part of its commitment to the International Maritime Organisation, the SA Navy successfully participated in various activities to celebrate World Hydrographic Day in Durban from 15 to 19 June 2016. This coincided with the SA Navy’s participation in the Transnet Port Festival. The SA Navy Hydrographer also participated in the National Marine Spatial Planning Working Group, an Op PHAKISA initiative, and provided marine spatial information to assist with the development of the National Marine Spatial Framework, which has been completed and gazetted for public comment. Inputs were provided to improve the Draft Marine Spatial Planning Bill. The SA Navy Hydrographer, as Chair of the Southern Africa and Islands Hydrographic Commission (SAIHC) under the auspices of the International Hydrographic Organisation, co-hosted and chaired the 13th SAIHC and 5th International Chart Coordinating Working Group meeting in Cape Town from 29 to 31 August 2016. The SA Navy Hydrographer was re-elected as Chair of the SAIHC. From 2 to 20 November 2016, two SA Navy members attended the 8th Hydrographic Services and Standards Committee meeting in Monaco. [↑](#footnote-ref-10)
11. defenceWeb, 2017. Armscor misses the boat on Project Hotel Accessed at <https://gosouth.co.za/new-navy-hydrographic-vessel-represents-r1-8-billion-investment/>. 19 October. [↑](#footnote-ref-11)
12. defenceWeb, 2016. Projects Biro and Hotel on hold for budget review. Accessed at http://www.defenceweb.co.za/index.php?option=com\_content&view=article&id=45557:projects-biro-and-hotel-on-hold-for-budget-review&catid=111:sa-defence. 14 October. [↑](#footnote-ref-12)
13. defenceWeb, 2017. Project Hotel still stalled in negotiations Accessed at <http://www.defenceweb.co.za/index.php?option=com_content&view=article&id=49385:project-hotel-still-stalled-in-negotiations&catid=51:Sea.27> September. [↑](#footnote-ref-13)
14. The 2018/19 ENE refers to Cabinet having approved baseline reductions of R2.7 billion in 2018/19 for the Department of Defence. ENE, 2018. Vote 19, Estimates of National Expenditure. Department of Defence. p. 380. [↑](#footnote-ref-14)
15. Operation Phakisa is a fast results delivery programme that we launched in July 2014 to help us implement the National Development Plan, with the ultimate goal of boosting economic growth and create jobs. Operation Phakisa is a cross-sector programme where various stakeholders engage to implement initiatives and concrete actions to address constraints to delivery in a prioritised focused area for public accountability and transparency. Accessed at <http://www.operationphakisa.gov.za/Pages/Home.aspx>. [↑](#footnote-ref-15)
16. defenceWeb, 2018. Navy looks backwards for future acquisitions Accessed at <http://www.defenceweb.co.za/index.php?option=com_content&view=article&id=51946:navy-looks-backwards-for-future-acquisitions&catid=32:military-art-a-science&Itemid=112>. 6 June. [↑](#footnote-ref-16)
17. Operations Phakisa for the Ocean Economy. Accessed at <https://www.gcis.gov.za/insight-newsletter-issue-24> <http://www.defenceweb.co.za/index.php?option=com_content&view=article&id=51242:simons-town-dockyard-consultations-still-underway&catid=7:Industry&Itemid=116>. 3 April. [↑](#footnote-ref-17)
18. defenceWeb, 2018. Simon’s Town dockyard – “consultations still underway” Accessed at . [↑](#footnote-ref-18)
19. Accessed at https://en.wikipedia.org/wiki/NAVAREA [↑](#footnote-ref-19)
20. Source: <https://en.wikipedia.org/wiki/NAVAREA#/media/File:NavareasUSCGMap.png> [↑](#footnote-ref-20)
21. The word baseline may refer to baseline (configuration management), the process of managing change. baseline (sea), the starting point for delimiting a coastal state's maritime zones. Like in “Baselines of the Chinese territorial sea.” <https://en.wikipedia.org/wiki/Baseline>. A baseline in IT management, is the expected values or conditions against which all performances are compared. A baseline is a fixed reference point. Accessed at https://www.techopedia.com/definition/6148/baseline. A baseline is a line that is a base for measurement or for construction. [↑](#footnote-ref-21)
22. A body of water or waterbody is any significant accumulation of water, generally on a planet's surface. The term most often refers to oceans, seas, and lakes, but it includes smaller pools of water such as ponds, wetlands, or more rarely, puddles. Body of water - the part of the earth's surface covered with water (such as a river or lake or ocean); "they invaded our territorial waters." Accessed at [https://www.thefreedictionary.com/body+of+water](https://www.thefreedictionary.com/body%2Bof%2Bwater). [↑](#footnote-ref-22)
23. Salmon WB. 1999. [↑](#footnote-ref-23)
24. Clause 2 of the Hydrographic Bill. [↑](#footnote-ref-24)
25. Salmon WB. 1999. [↑](#footnote-ref-25)
26. Clause 4 (d) of the Hydrographic Bill. [↑](#footnote-ref-26)
27. Salmon WB. 1999. [↑](#footnote-ref-27)
28. Salmon WB. 1999. [↑](#footnote-ref-28)
29. Salmon WB. 1999. [↑](#footnote-ref-29)
30. The Economic Sectors, Employment and Infrastructure Development Cluster [↑](#footnote-ref-30)
31. Justice, Crime Prevention and Security Cluster [↑](#footnote-ref-31)