

SOUTH AFRICAN NATIONAL WORKSHOP ON IMPLEMENTATION OF MARPOL ANNEX VI ON 0.50% SULPHUR LIMIT REGULATION

REPORT



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1. INTRODUCTION

The South African Maritime Safety Authority (SAMSA) as an authority charged with the responsibility of administering the maritime legislation of the Republic, invited all stakeholders to a national workshop aimed at establishing the state of the country readiness and the implementation roadmap to respond to the IMO deadline of 1 January 2020 on the implementation of Low Sulphur Fuel Regulations for Shipping. The workshop was held at the Pepperclub Luxury Hotel, Cape Town from the 24 -25 July 2019.

1.1 SAMSA Strategy Focus

SAMSA has set itself on strategic course to continue to reposition the organisation to improve our contribution to the development of the maritime sector. This requires a SAMSA that can fully engage with its stakeholders in order to progress the sector within the global regulatory maritime framework. The vision of being an authority championing South Africa's global maritime ambitions and the mission of ensuring maritime safety and environmental protection whilst promoting the maritime interest of the republic, requires taking and providing leadership by collaborating with all role players within the global, continental and national maritime space.

With South Africa being a signatory to numerous bilateral and multilateral agreements, SAMSA is expected to implement all instruments to which it is a state party. Many such instruments are developed and implemented under the leadership of International Maritime Organisation, which is a United Nations arm concerned with shipping matters and to which South Africa is a state party.

SAMSA's stated objective is to become an International Maritime Centre by 2030. To become a world class maritime administration requires that SAMSA is:

- Properly funded;
- Has adequate legal instruments to uphold International Treaties;

- Can influence discussions leading to International Treaties; and
- Has adequate human capacity.

South Africa has a Vibrant Maritime Sector which is supported by and built on:

- Marine Professional Services;
- Seaborne Local and Regional Cargo; and
- Strategic Geographic Position derived value.

SAMSA's Maritime Operations Programme has a strategic outcome-oriented goal of ensuring clean seas, safe people and property in South Africa's maritime environment. The responsibility of SAMSA is to ensure that all partners and stakeholders operating within the South African maritime environment responsibly observe the applicable maritime safety, security and pollution legislation, regulations and practices so as to effectively facilitate a maritime environment that is clean, safe, sustainable and economically viable.

Maritime Transport exhaust emissions have damaging consequences on both the marine and the shore-based environment as the health of people in coastal and harbour areas can be negatively affected by the operation of ships. The IMO states that a clean and sustainable maritime transportation system must minimise the environmental impact of shipping and activities of maritime industries. Environmental stewardship should be reflected in the development and implementation of global standards for pollution prevention and protection of the marine environment.

Reducing the risk of ship sourced pollution and degradation of the maritime environment is one of the priorities of SAMSA in the next 5 years. The workshop was delivered in support of this particular strategic priority and as part of South Africa's commitment of implementing Conventions which they are part of. Key to this, is the need to collaborate and partner with all stakeholders for the purpose of achieving the ambition of the Paris Agreement on Climate Change and assisting the shipping industry to contribute its fair share.

2. BACKGROUND

2.1 Global Sulphur Cap by 1 January 2020

The IMO took a decision to implement regulation 14.1.3 of MARPOL Annex VI related to ensuring that the sulphur content of marine fuel oils is capped to the maximum of 0.50%. This is in addition to fuel oils burned in the Emissions Control Areas which is already capped at 0.10% sulphur content. This regulation is one of the decisive approaches and interventions that the IMO took as part of their vision of promoting clean shipping and reducing the Greenhouse Gas Emissions by ships.

There are various options that have been adopted by the IMO to ensure that ship owners and operators comply with this regulation, chief of which is the use of the compliant 0.50% fuel oil. This includes amongst other options, usage of distillates, blended fuel oil and other cleaner fuels. IMO also adopted an option of installation of exhaust cleaning technology (Scrubber) and this will allow the continual burning of the high sulphur oil while removing the sulphur post the combustion chamber. All these options do come with positive and negative factors that need role players to carefully consider. To that effect, the IMO has developed guidelines to assist member States and the shipping industry in general on how to go about preparing and implementing this regulation.

2.2 Initial IMO Green House Gas (GHG) Strategy

The initial GHG strategy envisages, in particular, a reduction in carbon intensity of international shipping (to reduce CO₂ emissions per transport work, as an average across international shipping, by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008); and that total annual GHG emissions from international shipping should be reduced by at least 50% by 2050 compared to 2008.

The strategy includes a specific reference to “a pathway of CO₂ emissions reduction consistent with the Paris Agreement temperature goals”.

The initial strategy represents a framework for Member States, setting out the future vision for international shipping, the levels of ambition to reduce GHG emissions and guiding principles; and includes candidate short-, mid- and long-term further measures with possible timelines and their impacts on States. The strategy also identifies barriers and supportive measures including capacity building, technical cooperation and research and development (R&D).

The strategy envisages that a revised strategy will be adopted in 2023. Feeding in to the process towards the adoption of the revised Strategy in 2023 will be the data collection system on fuel oil consumption of ships over 5,000 gross tons, which began on 1 January 2019.

2.3 South Africa's participation at the IMO

South Africa participates at the IMO on various committees including the Marine Environment Protection Committee (MEPC) . In recent years, many global forums have intensively engaged on the subject of pollution and more specifically on climate change. MARPOL Annex VI aims to address air pollution from ships. With shipping being international and facilitating trade by handling at least 80% of trading goods between nations, the shipping industry under the leadership of the IMO is no exception. Such meetings require that member States actively engage in discussions that assist the IMO to direct and organize the industry to effectively deal with such topical issues on environmental protection including climate change.

SAMSA as an entity charged with the responsibility of preventing and combatting environmental pollution from ships, must provide leadership in progressing these matters by;

- Preparing for the country's participation at the respective forums including the IMO related activities,

- Guiding and directing the South African maritime industry on how to deal with outcomes and decisions emanating from the IMO engagements.

3. PROBLEM STATEMENT

IMO has provided leadership and guidance on how member countries should go about implementing the resolutions of the MEPC, related to addressing the issue of mitigating against the rising temperatures due to the changing climate. South Africa as an active member of the IMO has a responsibility to ensure that its maritime sector works hand in hand with the IMO and other Member States to progress programmes aimed at addressing climate change challenges. The recently adopted initial strategy on reducing GHG emissions from ships provide a comprehensive approach that the shipping industry must pursue in addressing its overall responsibility related to air pollution. To that effect, there are two urgent aspects that the shipping industry have to deal with, in the immediate period. This relates to the looming deadline of the sulphur cap as agreed to be the 1st of January 2020 and the energy efficiency requirements.

Countries that are big in ship building and designs, have to immediately put their focus on energy efficiency requirements especially the Energy Efficiency Design Index (EEDI), whilst all vessels must strive to meet the requirements as detailed in the Ship Energy Efficiency Management Plan (SEEMP). Whilst South Africa is not a major player in ship building, there are pockets of excellent work in building small vessels.

SAMSA continues to work on growing the South African Ship Registry by engaging with various stakeholders on ways of making the register more attractive. In preparing for the implementation of Sulphur Cap, SAMSA must ensure that vessels that are currently on the South African Ship Register, especially internationally trading Vessels are assisted to comply with the regulation.

Secondly, the adoption of the 1 January 2020 as the implementation date for vessels to use the 0.5% sulphur fuel oil becomes an urgent matter that the country has to immediately deal with. This also relates to the various compliance options that vessel owners and operators have to deal with. The above requires that enforcement capacity is also built to ensure that Flag and Port State inspections are properly undertaken. It is for this reason that a need arose to ensure that Port State Control Inspectors (Technical Officers) are capacitated to enforce compliance.

Thirdly, there is a need to unpack the initial GHG strategy in order to develop a national response on progressing the strategy. The energy efficiency requirements and the Sulphur Cap are viewed as part of the candidate measures (short and medium) which are necessary for shipping industry to show its strong willingness to address air pollution from ships.

The above is also in pursuance of the IMO vision which stresses the organisation's commitment to reducing GHG emissions from international shipping and, as a matter of urgency, aiming to phase them out as soon as possible in this century. The Initial Strategy identifies levels of ambition for the international shipping sector noting that technological innovation and the global introduction of alternative fuels and/or energy sources for international shipping will be integral to achieve the overall ambition.

4. WORKSHOP OBJECTIVES

The workshop was aimed at the specific national industry role players with the intention to achieve the following objectives:

- i. Create industry awareness on the work of the IMO in addressing the reduction of greenhouse gas emission from ships.
- ii. Determine and assess the readiness of the industry for compliance with MARPOL ANNEX VI on 0.50% sulphur limit.
- iii. Build the country's enforcement capacity in dealing with the looming deadline.
- iv. National strategy implementation for Annex VI (Under the GloMEEP Project)
- v. Initiate the development of a national response to the Initial IMO GHG Strategy on reducing greenhouse gas emissions from ships.
- vi. Determining the impact of this regulation on the South African economy and trade

5. PROCEEDINGS

5.1 Background to the UNFCCC and the IMO International Maritime Organisation (IMO)

Presenter: Dr John Calleya - Technical Officer IMO

The presentation titled ‘*The Regulatory Framework for International shipping and GHG emissions from ships*’ covered the background information relating to how the IMO is structured and functions. This covered the following areas:

- Introduction to IMO, structure and decision-making process
- Brief overview of the MARPOL Convention and its Annexes
- Role and responsibilities of Administrations
- Green House Gas (GHG) Emissions from International Shipping

Responding to climate change is one of the greatest challenges of our time. IMO has been putting a lot of effort in dealing with this challenge. In its role as the global regulator of international shipping, IMO has developed a raft of measures designed to control emissions from the shipping sector. IMO takes pride in that international shipping was the first global industry sector to be subject to mandatory, binding energy-efficiency regulations and standards designed to address GHG emissions throughout the industry. Currently and in the future, IMO will continue combatting

climate change by developing appropriate, ambitious and realistic solutions to minimize shipping's contribution to air pollution and its impact on climate change.

As part of the UN family, IMO will continue to actively work towards realization of the 2030 Agenda for Sustainable Development and the associated SDGs. It is of the view that most of the elements of the 2030 Agenda will only be realized with a sustainable transport sector supporting world trade and facilitating global economy.

The presenter also included a brief overview of how IMO is funded and the various programmes that exist to facilitate technical cooperation and capacity building for member States.

5.2 IMO Response to Air Pollution, Energy Efficiency and Reduction of GHG Emission from Ships

Presenter: Dr John Calleya - Technical Officer IMO

The Second Presentation Titled '*Air pollution, Energy Efficiency and Reduction of GHG Emission from Ships*' dealt with the following matters:

- Overview of IMO instruments to address GHG emissions from international shipping
- Initial IMO GHG Strategy
- MARPOL Annex VI Sulphur Regulations (Regulation 14)
- 2019 Port State Control (PSC) Guidelines for Port State Control under MARPOL Annex VI Chapter 3 compliance with 0.50% sulphur limit

Energy Efficiency Regulations for Ships is stipulated under Chapter 4 as added to MARPOL Annex VI (regulations 19 to 23) in 2011 and entered into force on 1 January 2013. This is the first ever mandatory global energy efficiency standard for international shipping.

The presenter dealt in detail with the requirements of Energy Efficiency Design Index (EEDI) for new ships and Ship Energy Efficiency Management Plan (SEEMP) for all ships. IMO has prepared guidelines on how to deal with both EEDI and SEEMP and also the process of data collection system which is covered under Regulation 22A – Collection and reporting of ship fuel oil consumption data (DCS).

The second part of the presentation introduced and dissected the Initial IMO Strategy on Reduction of GHG emissions from ships as adopted in April 2018. The vision and level of ambition of the initial strategy sends a clear message to the world of seriousness of IMO in dealing with climate change challenges.

A lot of effort was spent on MARPOL Annex VI, Regulation 14.1.3 of MARPOL Annex VI which deals with consistent implementation of 0.50% Sulphur limit. The last part dealt with the 2019 PSC Guidelines for Port State Control under MARPOL Annex VI Chapter 3 compliance with 0.50% sulphur limit as well as global view of the readiness of compliant fuel supply.

5.3 Country Readiness for Implementing Sulphur Regulation – Issues, Challenges and Opportunities

Presenter: Mr Sobantu Tilayi Acting CEO: SAMSA

This presentation set the tone and focus of the workshop by highlighting the different options that the IMO agreed to, on how the shipping industry will have to comply with the sulphur cap regulation. Depending on the chosen option, the shipping industry has to deal with the specific challenges in line with their choices. Refiners have a critical role to play in implementing this regulation by ensuring that the supply of compliant fuel oil is available.

Challenges and impacts highlighted include those related to cost, safety concerns, consistent availability, usage of scrubbers and investment decisions that all those who are concerned need to grapple with. This presentation dealt with compliance options, issues, challenges and opportunities that arise in preparing for the 01 January 2020 deadline.

5.4 Climate Change Bill – SA Response to Climate Change and the Maritime Transport Content

Presenter: Mashudu Mundalamo Deputy Director: Climate Change Mitigation Policy, Regulation and Planning - Department of Environment Affairs, Forestry and Fisheries

South Africa, under the leadership of the Department of Environment, Forestry and Fisheries is in the process of finalising the Climate Change Bill. This is a very important process as it showcases the importance that the country put in achieving the Sustainable Development Goals (SDG) of the Paris Agreement. The strategic focus of the climate change bill is to enable the alignment of policies that influence South Africa's climate change response, to ensure that South Africa's transition to a lower carbon and climate resilient economy and society is not constrained by contradictory policy directives; Furthermore, it seeks to enhance South Africa's ability and capacity over time to reduce greenhouse gas emissions, and build climate resilience, whilst also reducing the risk of job losses, and promoting opportunities for new job opportunities in the emerging green economy sectors;

The climate change bill will strengthen co-ordination between national sector departments, and provide policy setting and decision-making to enable South Africa to meet the commitments in its Nationally Determined Contribution. The bill provides guidance on how sector (e.g. transport) emission targets will be developed, implemented and monitored. The presentation was aimed at creating industry awareness on the work that lies ahead in addressing climate change and air pollution.

5.5 Clean Fuels Strategy and Energy Security

Presenter: Vania Mahotas: Deputy Director - Petroleum Regulations Department of Energy (DOE)

The implementation of the regulation brings about broader considerations which deals with fuel supply and security, environmental factors and the health impact. This ties up with the South African government's intention of improving the quality of transport fuels by adopting a cleaner fuels strategy. The Cleaner Fuels strategy presentation highlight most critical elements that impact on the global competitiveness and growth of economies.

South Africa will be migrating directly from the current fuel specifications and standards (CF1) which are compatible with Euro 2 emissions standards to the improved fuel specifications and standards which are equivalent to Euro 5 emissions standards (CF2). Discussion Document on the Review of Fuel Specifications and Standards for South Africa was published in 2011. The Amendment Regulations (referred to as CF2 Regulations), were promulgated on 23 June 2017. The South African cleaner fuels roadmap was highlighted including challenges that have been encountered in implementing the CF 2 Regulations. For purposes of clarity, this regulation is still government policy and a new date of its implementation will be announced in due course.

5.6 The Bunkering Industry - Perspective International Bunkering Industry Association (IBIA)

Presenter: Tahra Sergeant - Regional Manager Africa

This presentation provided the current and future Bunkering landscape of South Africa and detailed various role players including ports where operations will be taking place. It highlighted the current available and future compliant products that were recently announced by retailers in preparing for the 01 January 2020 implementation date. Many bunkering ports today import some or most of their products, so the 2020 change

means importing different products. The strategic location of South Africa, its refining capacity, competence and reliability and increasing economic activities make the South African Bunkering industry more attractive to the world. IBIA's call to action require industry to work together to improve standards and professionalism to keep the global marine fuels industry on course. The industry is hoping for a stable supply of services to the Southern African Region.

5.7 Local Energy Industry Perspective South African Petroleum Industry Association (SAPIA)

Presenter: Kevin Baart - Head of Projects

An overview of the South African refineries and their capacity was presented. South Africa has the largest refining capacity in Sub Saharan Africa. The presentation dealt with issues related to sulphur handling, fuel oil/bunker quality and how the local refiners are responding to ensure that South Africa can comply by 2020.

This included aspects that need attention such as fuel oil quality and the accompanying safety concerns. The presenter reiterated the need for cultural change especially of ship crews in order to handle new fuels and went on to provide the relevant important guidelines. The South African Refiners indicated its readiness to supply the required compliant fuel oils by 01 January 2020.

5.8 The Shipping Industry Perspective

Presenter: Andrew Millard - CEO Vuka Marine

According to the presenter, the exact cost of implementing the regulation will become clearer as we get closer to the deadline. At this moment, divergent estimates are being presented. What is clear is that the cost will be paid by various role players such as refiners, ship owners, freight

owners and governments. Shipping companies must make decisions on whether to invest in scrubbers versus opting for compliant fuels. This is not a simple decision as many considerations must be made including permissibility of open loop scrubbing in key ports, disposal of Sulphur sludge and the cost of new compliant fuel. Accordingly, Vuka Marine took a decision not to invest in scrubbers.

'The "right" side of the debate, in my view, embraces a future for shipping that minimises contamination of either the air or the oceans, and prioritises the health of seafarers – while remaining financially sustainable' Andrew Millard - CEO Vuka Marine

5.9 Cargo Owners Perspective

Presenter: Peter Lye - Head of Shipping Anglo American

The presenter provided an overview of their business and how the new regulation is affecting the business of cargo owners. He stated that the industry has been on the path of reducing Sulphur emissions for several years now, with some jurisdictions even speeding up the pace of change by setting up 'Sulphur emission control areas' (SECA). The shipping industry has been engaging about the timing of the legislation, availability of consistent and compliant fuel, the merits of Exhaust Gas Cleaning Systems (EGCS) and other considerations.

In summary cargo owners do believe that there is no excuse for not being prepared for 01 January 2020. They are generally concerned about compliance and enforcement as they do not want to be associated with breaking the laws. They are also concerned with vessels and fuel safety, reliability of fuel supply and of service from vessels, and how this regulation will impact on their overall costs.

5.10 Ship Building - Dealing with EEDI

Presenter: Bertrand Albert - DNVGL Classification

DNVGL Energy transition outlook predicts that;

- Trade will not reduce, and fleet size will increase by 35% by 2050.
- There will also be decrease in in the tanker fleet (crude 30%, product 8%).
- Shipbuilding is expected to match regulatory and trade demands.
- EEDI phase 2 will shift to phase 3 and possible phase 4 (Fuel consumption per tonne mile reduce to 30%).
- Introduction of new fuels such as LSFO, Hybrid Fuels, Biofuels, LNG, Battery Storage, Hydrogen and Nuclear Carbon capture and storage/re-utilization. There is an opportunity for the Cape to position itself as an LNG bunker destination. This is a need to explore this further.

EEDI for new ships is the single most important technical measure aimed at promoting the use of more energy efficient equipment and engines. EEDI will stimulate continued innovation and technical development of all the components influencing the fuel efficiency of a ship from its design phase. Hydrodynamic properties are very important for vessel energy efficiency.

There is a lot of focus on the hull. Hull optimization and hull-propeller interaction are the main components of hydrodynamic properties. DNVGL use cutting edge technology in research and development seeking hull optimization solutions. They are able to tap into data analytics from 20,000 hull shapes and there is also data exchange with existing CAD tools on the market. Vessel hulls will be made lighter.

5.11 Economic Impact on Shipping Costs

Presenter: Robert Steward - MD Petro Logistics

The presenter is of the view that it was a mistake to allow ships to install Exhaust Gas Cleaning Systems (EGCS) commonly known as scrubbers. He argues that the options given to vessels should have been of strictly complying by burning compliant fuel oil. This would have put a challenge to oil refiners to ensure availability of supply, knowing that the global fleet will use the new fuel. This would have averted the wait and see approach that has been experienced in the past years from both the shipping and oil industries. This would have ensured that investment decisions were taken with ease for the benefit of the industry.

The presenter predicts two economic shifts. First shift is a move from HFO to MGO. The elimination of HFO as a bunker fuel is going to have a major and immediate impact on marine shipping costs. This is likely to see increase the cost of doing business. The industry has in the past experienced shifts of this magnitude and had to pass on the costs to the users.

The second shift involves the future of heavy residue and its impact on the price of clean products. The relative global demand for clean product and heavy fuel oil is balanced on the available capacity to destroy heavy residue in the refineries, using residue-upgrading technologies such as cokers. The resultant value of the residue as Coker Feed sets the global price of heavy fuel oil at its maximum value. He predicts a different situation after 01 January 2020, with a large reduction in the value of refinery residue (the main component of Bunker Fuel Oil). The drop in the

value of the refinery residue will see the increase in break-even cost of production of clean fuels. The selling price of the clean fuels will increase. He concludes that he does not believe that scrubbers will be deployed to an extent that significantly reinstates the HSFO market

6. THE STATE OF READINESS

This session was aimed at having the participants to engage on the State of country readiness based on the discussions over the two days. This included the summation and synopsis of the workshop, which provided where the country is regarding implementation of the regulation. The following section provides the state of country readiness, with the last session focusing on the pathway that the country has to take.

6.1 Summary of the Workshop

1. The industry confirmed that South Africa will have compliant fuel oil (0.50% sulphur content). The challenge that could be experienced would generally be of supply, depending on demand. The workshop also noted the need to ensure consistent supply of quality compliant fuel within the Southern African Region.
 - i. Astron confirmed that ship owners and maritime operators will through the Port of Cape Town, be supplied with LSFO
 - ii. BP indicated that they will be able to provide a range of products to meet ships fuel requirements. This relates to HSFO/ VLSFO / MGO.
 - iii. Shell indicated that it will be able to provide MGO/ VLSFO/HSFO
 - iv. The industry confirmed that Bunker Delivery Notes are already compliant.
2. SAMSAs indicated that two marine notices were issued with the intention to prepare and update the industry.

3. The Department of Environment, Forestry and Fisheries indicated that Climate Change Bill is in the process of being promulgated. Industry is encouraged to assist the department with input needed in updating the Sectoral Emissions Targets.
4. The Department of Energy informed that the country is in the process of moving from EURO 2 to EURO 5 Standards. This process will require a huge capital investment.
5. South African Flagged Vessels Owners Vuka Marine indicated that they will be complying with the regulation. They took a business decision, not to fit scrubbers but rather utilise compliant fuel.
6. Based on the available data and studies, it is estimated that compliant fuel price is more likely to increase freight rates.
7. There is a need to have further industry and Academia engagements which are aimed at providing input, assistance, alignment and support regarding South Africa's international maritime engagements which include amongst other forums such as IMO and in initiatives such as MTCC- Africa.
8. South African Cargo Owners are interested in ensuring that there is compliance, safety, reliability and understand that this will have an impact on their costs.
9. There is a backlog related to legislation that is not up to date. South Africa has to finalise the domestication of MARPOL Annex VI to enable the country to enforce the new regulation.

7. THE IMPLEMENTATION ROADMAP - PRELIMINARY ACTION PLAN

Purpose:

The purpose of the below table is to provide a draft action plan that emanated from the National Workshop as held on the 24 – 25 July 2019.

NO.	REQUIRED ACTION	PARTIES	LEAD	TIMING
1	Commission and complete a study on the impact of Sulphur Cap on the South African trade and economy (distance and freight rates)	SAMSA, ANGLO AMERICAN	SAMSA	June 2020
2	Commission and complete a study on Open Loop scrubbing	SAMSA, DEFF	SAMSA	Dec 2019
3	Commissioning and complete a study on the economic and environmental impact of the bunkering sector	SAMSA	SAMSA	March 2020
4	Climate Change Bill – Industry input in populating of shipping sector emissions target	DEFF, DOT, SAMSA	DEFF	To be confirmed
5	EEDI Scientific validation	SAMSA, DNVGL	DNVGL	Ongoing
6	Establish the infrastructure requirements level 1. Reception and Testing Facilities 2. Improve the fuel testing turnaround time in case of PSI	SAMSA, TNPA, DOT, DMRE, OPERATORS	SAMSA/DOT	Dec 2019
7	Establish and ensure legislation readiness	SAMSA, DOT	DOT	January 2020
8	Determine the process and the need to have ECA in South Africa	DEFF, TNPA, SAMSA	SAMSA / DEFF	Continuous
9	Department of Mineral Resources and Energy is in the process of moving from Euro 2 to Euro 5 Standards. This will require a huge capital investment and engagement with Industry.	DMRE	DMRE	To be confirmed
10	Ensure the viscosity and compatibility of blends	OPERATORS, DMRE	DMRE	Ongoing

11	Ensure consistent supply of quality 0.5% sulphur content compliant fuel for the region.	OPERATORS, IBIA	OPERATORS/IBIA	Ongoing
12	Ensure enough capacity for de-bunkering vessels with HSFO	FFS, SAMSA, TNPA	FFS	Ongoing
13	Training of Technical Officers for Port State Inspections	SAMSA	SAMSA	Dec 2019
14	Continual support of the work of the Maritime Technology Cooperation Centre (MTCC- Africa) located in Nairobi, Kenya.	SAMSA, INDUSTRY, ACADEMIA	SAMSA	Ongoing
15	Continual input from Industry and Academia for international engagements	INDUSTRY, SAMSA	SAMSA	Continuous

DEFF – Department of Environment, Forestry and Fisheries

DMRE – Department of Minerals Resources and Energy

DOT – Department of Transport

IBIA – International Bunkering Industry Association

SAMSA – South African Maritime Safety Authority

TNPA – Transnet National Ports Authority

8. LIST OF ORGANISATIONS

1. African Chamber of Maritime Industries
2. AMSOL
3. Anglo American
4. Ankile Services
5. Aqualis Braemar
6. Astron Energy
7. Calulo Shipping
8. COLT AFRICA
9. Colt Africa
10. Colt/Masc
11. Damen
12. Department of Energy
13. Department of Environment Affairs Forestry & Fisheries
14. Department of Transport
15. DNG Marine
16. DNVGL
17. Engen
18. Fairfield Chemical Carrier
19. FFS Refiners

20. International Bunker Industry Association
21. International Maritime Organisation
22. Kepu Shipping
23. Linsen Nambi Bunker Services
24. Maritime Review
25. Mercuria Group
26. Minerals Council of South Africa
27. Minerva Bunkering Group
28. Mnambithi
29. Oceana Group
30. Odfjell
31. PetroLogistics
32. PIL South Africa
33. Sekelo Oil Trading
34. Shell
35. South African Bunker & Trading
36. South African Marine Fuels
37. South African Maritime Safety Authority
38. South African Petroleum Industry Association
39. Sturrock Grindrod
40. Sub-Tech group

41. South African Association of Ship Operators and Agents
42. Transnet National Ports Authority
43. uMoya-NILU Consulting
44. Unicorn Tankers
45. Vuka Marine
46. Webber Wentzel

About Us

The South African Maritime Safety Authority (SAMSA) was established in terms of the South African Maritime Safety Authority Act No. 5 of 1998, and has the objectives of ensuring safety of life and property at sea, to prevent and combat pollution of the marine environment by ships and to promote the Republic's maritime interests.

SAMSA would like to thank all organisations, presenters and participants who contributed in the successful delivery of this workshop.

Comments and queries related to this report should be addressed to SAMSA Corporate Communications at 012 366 6200

For other news and information, visit SAMSA www.samsa.org.za or <https://blog.samsa.org.za/>

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