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CLEAN FUELS DEBATE AT ARA WEEK 2017

13–17 MARCH 2017
WESTIN HOTEL, CAPE TOWN, SOUTH AFRICA

The recent international debate on improving African fuel specifications is a timely reminder that the 2020 target of reaching 50ppm for the ARA’s AFRI-4 diesel refining and import specifications, is approaching fast.

Recently, ARA Executive Secretary, Joël Dervain accompanied by Mark Elliott, ARA Consultant, and Olivier Rodondi, ARA legal advisor and Swiss representative visited the Public Eye office in Lausanne to meet some of the people who had contributed to their Report “Dirty Diesel”.

Mr. Dervain explained that the ARA has been working for nearly 10 years to persuade African governments to move their specifications up the AFRI road map but the results had been slow in coming. Now progress seems likely to accelerate and the Public Eye report had helped move the ARA towards its goal of having AFRI 4 implemented across Africa by 2020.

Prior to the meeting, the ARA had provided copies of their recently prepared report “A review of the relationship between sulphur level in diesel fuel and African air quality” (can be downloaded) in which it explained that the ARA advocated an integrated solution to achieving the final objective of clean air, involving fuels, vehicles and emissions testing. They stressed that improved fuel alone does not achieve the desired results. There was discussion about the recent Climate and Clean Air Coalition (CCAC) report and how the results compared with the 2009 World Bank/ARA Refining and Health study, which focussed on the following chart from the CCAC study:

It shows that (top line) without a higher quality vehicle fleet and regular emissions testing, sulphur reduction from 2000ppm to 50ppm only gave a decrease in PM2.5 particulates (the most harmful) of around 30%. The 2009 World Bank/ARA study showed this to be more like 10 to 15%. The need to combine fuel and vehicle programmes in tandem, alongside regulatory testing, was agreed.

Public Eye said they understood the difficulties faced by African refiners to make the investments needed to meet AFRI 4 by 2020. The ARA team outlined the challenge at each of its members’ refineries and discussed some of the options available.

ARA WEEK 2017

13–17 MARCH 2017

ARA WEEK 2017

The ARA highlighted that the ARA started its AFRI fuel specification road map back in 2007 in conjunction with the World Bank and the United Nations Environmental Program, and, now, as we approach the important 2020 milestone in the AFRI road map, the ARA has decided that the theme for this year’s conference will be:

“ACHIEVING CLEAN FUELS IN AFRICA”

Sessions will be held to discuss:

• The international and African market background to fuel quality evolution and its pricing
• The impact on African refining
• The impact of marine fuel quality evolution on African refining and the necessary investments required
• Raising the finance for any required investments in refining and import infrastructure
• Detailed diesel specifications and their impact on the environment and vehicle protection and performance
• How to achieve clean air – fuels and vehicles as one system
• The development of regional fuel specifications
• The role of energy regulators to encourage and reward investments in a safe, secure, sustainable, efficient and economic downstream supply chain
• The encouragement of indigenous labour and the need for training programmes.

CALL FOR PAPERS

The above topics are designed to attract a wide range of speakers and those wishing to address the conference are invited to send a brief outline of their proposed presentation to info@afrra.org by 16th January 2017.
The ARA Storage and Distribution Forum in Addis-Ababa, Ethiopia, on the 8–9 November 2016 was opened by the Hon Ata Motuma Mekasa, Ethiopian Minister of Mines, Petroleum and Natural Gas, Mr. Tadesse Tilahun, Chief Executive of the NOC Ethiopia and Mr. Joël Dervain, Executive Secretary of the ARA. They encouraged participants to work together to keep Africa supplied in petroleum products through a safe, efficient, economic and sustainable manner. Speakers included African companies NOC Ethiopia, Total, Puma, Engen, Oryx and Crossroads, as well as IFC, Standard Bank, Authentix, the Ethiopian Railway Company and the Kenyan Energy regulator.

At the end of the Forum members agreed that the growth in oil demand of 3 to 4% per year (10% per year in Ethiopia) represented a massive opportunity for the private sector. Whilst some of the opportunities, such as oil tankage and transport, were seen as uniquely private sector opportunities, the need for new investment in bulk distribution by pipeline, rail and ports requires African governments and regional organisations (SADC, ECOWAS etc.) to provide the enabling legislation for financing structures.

Presentations by IFC (the commercial arm of the World Bank) and Standard Bank, followed by discussion with Mauritius Commercial Bank, provided guidance on the requirements for such projects. Key success factors were considered to be realistic market expectations; construction cost control; competent sponsors (operations and commercial aspects); government commitment and robust financial structure. The key failure factors being: unrealised market expectations; over-supply leading to declining rates; financially weak sponsors; labour unions unrest; political events; government interference; and bad management.

A presentation by the Ethiopian Railway Company was followed by a short ride on the newly completed Djibouti-Addis Ababa railway. Chinese staff from the project team guided the journey. Whilst the railway will shortly be in commercial service, the connections to the oil terminals at Djibouti and Awash (near Addis Ababa) have yet to be completed, although the rail tank wagons have been acquired.

Road transport issues featured in the discussions. Trucking is always the fallback option in Africa, and compelling presentations by Puma and Total explained how high death and injury rates arising from truck accidents can be reduced by continuous training and the use of technology. The UN target of halving road traffic accidents was cited as the goal for Africa, as the continent has the highest global rate of road deaths per capita.

ARA’s plan for African governments to raise product specifications to AFRI 4 by 2020 and AFRI 5 by 2030 were discussed in depth, and methods to control fraud (smuggling, adulteration), as well as challenges arising from increasingly disjointed aviation fuel supply routes, featured in the discussions. The role of regulators also featured in the programme, with the Kenyan example being seen as a benchmark for Africa.
TURNAROUND MAINTENANCE AND INSPECTION SEMINAR

13–14 JULY 2016  DAKAR, SENEGAL

The Refining & HSEQ Work Group’s seminar on “Turnaround Maintenance and Inspection” took place on 13th and 14th July 2016 in Dakar (Senegal), bringing together 50 participants from Cameroon, China, Côte d’Ivoire, France, Gabon, Morocco and Senegal.

Many topics were discussed including: organising the maintenance department, legal and regulatory aspects of a metal units shutdown, preparing for a statutory unit turnaround, carrying out the work, restarting units after a shutdown, return of experience.

At the end of the seminar the participants made a series of recommendations to ARA members and suppliers, including:
• Conduct a comparative study of the different statutory requirements;
• On completion of this study, draw up a guide to best practices for Refinery Safety teams (of ARA members);
• Design a tool to help decision-making based on actual criteria (volume and type of work, availability of resources and skills, etc.);
• Create a database with available resources and skills as well as needs;
• Include specialist companies in the database;
• Create de referral committee for turnarounds within ARA (best practices, REX);
• Propose an ARA guide to good practice in turnarounds (guide to work, environmental analysis prior to shutdown, etc.);
• Organise a “peer review” with the turnaround managers and other specialists;
• Develop professional training for refinery staff by specialised companies;
• Refer to specialised companies to carry out and coordinate the work;
• Draw up ARA criteria for selecting contractors (including a system of performance control for contractors);
• Encourage contractors to acquire tools that are compliant and adequate to meet deadlines and safety requirements;
• Use specialist contractors for specialised equipment;
• Lock the process for prequalification of contractors and draft specifications.

The participants took part in a visit of the SAR refinery on the afternoon of Thursday 14th July 2016.

JOINT REFINING & HSEQ AND SPECIFICATIONS WORK GROUP MEETING

15 JULY 2016  DAKAR, SENEGAL

The joint Specifications and Refining & HSEQ Work Group meeting took place in Dakar on 15th July 2016, following the seminar on Turnaround Maintenance and Inspection.

The objective for each Work Group was to review these ongoing activities and discuss issues of common interest to the two groups.

Discussion focused mainly on the ARA fuel specification review and on the African vehicle fleet study.

Three points were raised about the ARA specifications:
• The realism of the targeted specifications: it was proposed to update the official AFRI specifications to align them with international standards and practices either to include the conventional designation of unleaded petrol, to modify the units (sulphur in mg / kg instead of % mass and lead in mg / l), include correct methods for cetane number, remove CEC lubricity test, include observations to ensure that the appropriate method is selected;
• The ability to meet these specifications given the current state of the units;
• Deadlines for implementation: the ARA specifications were drawn up several years ago. Should the deadlines be changed and new dates proposed? For some of them, yes but not for others. Given the costs involved the specifications should be implemented gradually;
• Investment resources: shareholders will be reluctant to accepting such investments, which have no economic grounds. Governments must be persuaded to provide the funding. The World Bank has already carried out a study, and the costs are known.

As for the study into the state of the vehicle fleet, the approach will be to consider the vehicle and its fuel as a single unit: the AFRI specifications will be implemented according to the age of the fleet and the evolution of the technology. The adequacy and accuracy of the vehicle fleet data is difficult to verify.
A seminar on “Information Technology” was held on 25th and 26th July 2016 in Libreville (Gabon) for IT staff from ARA Member companies. It brought together 20 participants from Cameroun, Côte d’Ivoire, France, Gabon, Senegal and Sudan.

In the course of the programme, many topics were explored including: technical assistance by external service provider (accompanying measures for a smooth transition without technical assistance), migration of IT infrastructure (challenges and solutions), computer security policy for each refinery (best practices), business performance management and intelligence systems(IS).

At the end of the seminar the participants made a series of recommendations to ARA members and suppliers, including:

- The necessity of having a platform for exchanging and sharing information on the choices made in information systems;
- Map the computer tools used by the members of ARA;
- Set up an ARA Work Group, which is provisionally proposed be coordinated by Claude Rousselot from SOGARA assisted by Eric Dogbo from SIR;
- Plan migration projects and define a medium-term plan for the maintenance of our information systems without technical assistance;
- Establish a list of good practices for the systems we;
- Bring the IT strategy in line with the company’s strategy;
- The need to monitor technology and have a strategy of adopting technology based on the benefits it brings, in particular for the Cloud, which is a major evolution for our IT systems;
- The need to anticipate future exchanges of computerised data between oil companies;
- Ensure that the skills of experts keep up with progress, through specialised training;
- Share experience on message systems and internet domains;
- Implementation of a common, standard approach to IS management;
- Implementation of IS cross-audits.
DISTILLATION UNITS, HDT AND GAS PLANT SEMINAR

25–26 OCTOBER 2016 CAIRO, EGYPT

The RHSEQ Work Group held a seminar on “Distillation, HDT and Gas Plant” on 25th and 26th October 2016 in Cairo (Egypt). It brought together 46 participants from Cameroun, Côte d’Ivoire, Egypt, France, Gabon, Italy, Morocco, Senegal and Soudan.

The topics were explored during the meeting included: follow-up of the state of the recommendations made at the seminar held on 25th and 26th October 2011, optimization of unit operation, utilities, changes to unit flow-diagrams, staff training, return on experience.

At the end of the seminar, the participants made a series of recommendations to ARA members and suppliers, including:

- Use of specialists to find niches and identify sources of earnings;
- Obtain diagnostic information on: energy efficiency, equipment reliability;
- Have more efficient catalysts;
- Implement Competency-Based Approach;
- Develop synergies between technical and commercial departments for crude choice;
- Implement the Inspection Criticality Matrix for the treatment of acid crudes, to anticipate possible changes;
- Increase commercial exchanges between ARA members (finished products, crudes);
- Improve the performance of ARA refineries;
- Draw up a standard form for crude specifications, for trading in the ARA area;
- Share REX on incidents in ARA refineries;
- Make databases available on the ARA website;
- Draw up an auditing standard for furnaces;
- Use the same mixture of combustibles on all burners;
- Perform a dry run, when necessary;
- Provide data to the licensor in order to obtain assistance.

REFINING & HSEQ WORK GROUP MEETING

26 OCTOBER 2016 CAIRO, EGYPT

A meeting of the Refining & HSEQ Work Group was held in Cairo on 26th October 2016, after the close of the Distillation, Hydrotreating (HDT) and Gas Plant seminar.

The objective of the meeting was to review all actions arising, completed or still to be programmed from group meetings (seminars, RHSEQ Work Group meetings, safety cross-audits, round-robin laboratory tests -2016 campaign-, ARA database and challenges).

- Two seminars have taken place: “Turnaround Maintenance and Inspection” on 13th and 14th July 2016 in Dakar (Senegal) and “Distillation, HDT and Gas plant” on 25th and 26th October 2016 in Cairo (Egypt);
- Two of the three Work Group meetings planned for the RHSEQ Work Group have taken place: a joint Specifications and Refining & HSEQ Work Group meeting held in Dakar (Senegal) on 15th July 2016 and a meeting of the Refining & HSEQ Work Group held in Cairo (Egypt) on 26th October 2016. The third meeting is programmed for 10th March 2017 in Cape Town (South Africa);
- The 2016 campaign of round-robin laboratory testing, jointly organised by SIR and SOGARA, is in progress. A review meeting is programmed to take place in the Cameroon in December 2016;
- Two of the three safety audits programmed have been completed: at CORAF in Congo-Brazzaville from 29th February – 4th March 2016 and at SONARA during the week of 25th–29th July 2016. The third audit will take place at SIR in Senegal from 21st–25th November 2016;
- For the ARA database, the next step is to contact the other Work Groups to collect their data;
- The main outstanding challenge for the Work Group is the group’s contribution to improving the quality of fuels in Africa. It is ARA’s responsibility to urge its members to move towards “clean” fuels, whilst respecting official Directives and guidelines. UNEP has proposed a joint seminar with the ARA on fundraising, to enable member refineries to adapt to the new AFRI 4/5 specifications. The RHSEQ Work Group asks that this program include both a study and assistance to member refineries to help them determine the type of work and the units that will need to be constructed to comply with these regulations. This is to ensure that refineries are both aware of the technological investments necessary and that they also have a strategic plan for their survival.
To follow up on the IT Seminar held in Libreville on 25th and 26th of July, ARA Member IT manager met on 21st and 22nd October 2016 in Abidjan (Côte d’Ivoire). The meeting, attended by 19 participants from Cameroon, Côte d’Ivoire, France, Gabon and Senegal focused on:

SAP ECC6 – Value-added features for the African refining, SAP services and support for African refining, shared SAP licensing within the ARA (current situation, challenges, opportunities and prospects for sharing), training and support of SAP key and end users (issues, training needs and tailored solutions), the basis for an ARA Information System competence centre (identifying and pooling of resources and needs, 3-5 year roadmap).

The participants made the following recommendations:

- The necessity of having an interim support contract during the implementation of new solutions;
- Present Template Light, a new-style licence and support from SAP French-speaking Africa, to the various departments of the refinery;
- Initiate a pooling scheme within ARA to benefit from the preferential rates for licences, software maintenance and support offered by SAP French-speaking Africa and its Oil & Gas certified partners;
- Take action to ensure that SOGARA signs a first SAP license agreement before the end of 2016, so that other members (SAR, SIR, TRADEx, etc.) can subsequently benefit from ARA preferential rates;
- With help from SAP French-speaking Africa and its partners, carry out a review of operational delays and give an overview of the operational and financial benefits of solutions dedicated to the refining business. This analytic report should be based on a return of experience for other refineries;
- Plan the implementation of new SAP projects with better coverage, integrating the benefits identified in the analytic report;
- Draw up an inventory of the various information systems and existing IT infrastructures in order to coordinate the actions by centre of competence;
- Using this inventory, define a work plan by area of technology so that there is a consistent approach to the application of standards and best practises for each centre of competence.

**REVIEW OF THE 2016 ROUND-ROBIN TESTING CAMPAIGN**

During the review meeting held on 5th December in Dakar it was agreed that the 2017 round-robin laboratory tests would be organised by SONARA (Cameroon). In the interim, and so that SONARA could take over the organisation, the 2016 campaign would be jointly run by SIR and SOGARA.

For this reason, a team of two staff from SONARA went to SIR from 20th–27th June 2016 to work with their colleagues from SIR on setting up a common methodology and strategy for technical operations (sampling, packaging, storage, coding and identifying products to be analysed, transportation, etc.).

The samples were sent out from SIR and SONARA laboratories in August 2016.

The following products were to be analysed: Gasoil, Gasoline and Fuel oil for SIR, Jet and Crude oil for SONARA.

The deadlines for each round of testing are as follows:

- Analysis of products upon reception: one month
- Compiling and interpretation of results: one month

For the 2016 campaign: Non-member laboratories will be asked to contribute to costs. This fee will be increased in 2017.

The number of participating laboratories will also be revised in function of the results obtained in 2016 and the lifting of non-conformities (equipment and procedures).
SPECIFICATIONS WORK GROUP MEETING

7 NOVEMBER 2016
ADDIS-ABABA, ETHIOPIA

A meeting of the Specifications Work Group took place on 7th November 2016 in Addis-Ababa in Ethiopia. There were 21 participants, from South Africa, Canada, Côte d’Ivoire, Ethiopia, France, Gabon, Ghana, Great Britain, Kenya, Nigeria and Togo.

The following items were discussed, in accordance with the agenda:

- Actions arising from the meeting of the Specifications Work Group held on 15th July 2016 in Dakar;
- Initial contact with the economic communities. Mr. Dervain reported that a second meeting took place in Abidjan in May 2016 in order to discuss the terms of reference set out by ECOWAS. The aim is to establish a regional framework for harmonizing vehicle emission specifications and limits. The terms of reference have been approved but funding remains to be finalized.
- Revising the terms of reference for the vehicle fleet and ensuring that the Specifications Work Group respect the recommendations issued by the Executive Committee. A potential new consultant highlighted concerns about the availability and credibility of data.
- The advisory reference document for fuel additives should be drawn up before the new meeting. The draft will be completed in the near future and distributed for revision prior to the next meeting.
- Update on product quality evolution in Ethiopia;
- Supply chain benefits of regional fuel specifications – an EAC case study (PIEA);
- Fuel additives guidance / reference document;
- ARA fuel specifications – feedback from the EC;
- African vehicle fleet study.

The next meeting of the group will take place on 11th March 2017 in Cape Town (South Africa).

REGULATION WORK GROUP MEETING

7 NOVEMBER 2016
ADDIS-ABABA, ETHIOPIA


The following items were discussed, in accordance with the agenda:

- Matters arising from the previous meeting:
  - Developments in ASD (Action for Sustainable Development) for downstream regulations,
  - Changes to BPS (Bulk Procurement System) in Tanzania,
  - Developments following deregulation in Ghana,
- Development of regulation in Zambia,
- Improvements in the quality of aviation fuels arising from complex supply chains,
- Changes in regulations in other countries by the regulators present
- On what subjects should governments and regional bodies focus?
- Feedback on recent developments in respective ARA member countries petroleum industries by regulators present.

The next meeting of the Work Group will take place on 11th March 2017 in Cape Town (South Africa).

NEW MEMBERS

The ARA is delighted to announce that Management Hydrocarbure (Togo) and Star Oil Group (Mauritania) have become Members of the ARA.

MANAGEMENT HYDROCARBURE
Togo

STAR OIL
MAURITANIA
UPCOMING EVENTS

# TECHNICAL SEMINARS

13–14 February 2017
Careers Day (Procurement)
Abidjan, Côte d’Ivoire

15 February 2017
"MASE" Information Day (Company Safety Improvement Manual)
Abidjan, Côte d’Ivoire

# WORK GROUP MEETINGS

11 March 2017
Specifications
Cape Town, South Africa

11 March 2017
Refining and HSEQ
Cape Town, South Africa

11 March 2017
Storage and Distribution
Cape Town, South Africa

12 March 2017
Regulation
Cape Town, South Africa

# MEETINGS

26 January 2017
Executive Committee
Geneva, Switzerland

12 March 2017
Executive Committee
Cape Town, South Africa

# ARA WEEK 2017

13–17 March 2017
Cape Town, South Africa

VISIT
WWW.AFRRA.ORG/UK/EVENTS
FOR MORE DETAILS

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