2018 HAULAGE OPERATORS STAKEHOLDERS' SUMMIT

ARTICULATED VEHICLE CRASHES IN NIGERIA: CONCRETE AND SUSTAINABLE MITIGATION MEASURES

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Introduction

Nigeria’s economy is heavily dependent on the oil and gas sector with upstream and downstream activities necessitating road transportation of petroleum products to consumers across the nation.

Petroleum Products Production and Demand in Nigeria

According to This Day Newspaper of 9 January 2018, Nigeria's daily crude oil production with condensates has increased to 2.25 million barrels per day (mbd), crude oil production alone standing at 1.8mbd.

NNPC declared –

- ❑Average 1,255 trucks laden with petroleum products dispatch daily
- ❑Equivalent of over 41 million litres per day to fuel stations nation wide.

Demand and supply chain concluded through the road transport mode.

https://www.thisdaylive.com/index.php/2018/01/09/nigerias-oil-production-hits-2-25mbd/

Source: http://www.nnpcgroup.com/PublicRelations/NNPCinthenews/tabid/92/articleType/ArticleView/articleId/75/FUEL-NNPC-Exceeds-National-Daily-Consumption-Level--Pumps-an-average-of-over-41-million-litresper-day-to-fuel-stations-Nation-Wide.aspx

Petroleum Products Transportation by Road: Enhancers

The road transport mode is mostly utilized in transporting petroleum products due to:

- ❑Great market demand and complex distribution network
- ❑Inadequate inter-modal transport system
- ❑Limited/inadequate pipe-line product conveyance

Yet product conveyance requires adequate logistics and careful handling as negligence often leads to catastrophic experiences, either arising from fire outbreak or collision

Trailer/Tanker Crashes in Nigeria

The country has recorded several cases of road traffic crashes involving tankers/ trailers for which several stakeholders' engagements have been held and preventive measures carried out.

Trailers/Tankers Road Traffic Crash Data: 2007-2017

FRSC Data shows that:

YEAR	NO. OF TRAILERS INVOLVED	NO. OF TANKERS INVOLVED	TOTAL RTCs	TOTAL PERSONS KILLED	TOTAL PERSONS INJURED	TOTAL CASUALTY
2007	703	273	607	805	269	1074
2008	1192	463	1229	1221	3891	5112
2009	1272	495	1213	1085	3714	4799
2010	1186	461	968	965	3220	4185
2011	464	180	1188	1090	4117	5207
2012	462	179	1194	1097	3935	5032
2013	1180	315	1222	1178	4006	5184
2014	727	271	934	1079	3206	4285
2015	761	331	876	979	3048	4027
2016	657	359	872	910	3516	4426
2017	624	308	779	737	2622	3359

Source: FRSC Road Traffic Crash Data; 2007;2017

Principal Causes Of Petroleum Tankers Crashes

These include:

- ❑Non-adherence to road traffic safety practices
- ❑Inadequate driver's training/certification and re-training leading to drivers' errors
- ❑Inadequate provision of tanker/trailers parks across the country
- ❑Non adherence to safe laden/haulage practices /standards (including vehicle's) by stakeholders; inspite of practice guidance
- ❑Non-functional weighbridges to assist in enforcement of axle load compliance, including overload with sundry goods e.g. Tomatoes, firewood)
- ❑Aging trucks and lack of fleet renewal programmes

Principal Causes Of Petroleum Tankers Crashes

- ❑Heady and non-cooperative attitude of drivers and other stakeholders
- ❑Security challenges and lack of clear-cut policy on tanker/truck transit in Nigeria
- ❑Non-adherence to standards by operators and by tank constructors
- ❑Alteration of original design value of truck heads and/or trailer
- ❑State of the nation's roads (though this is being tacked head-on currently)
- ❑Parking on unauthorized location along the road.
- ❑Failure to install Speed limiting Device
- ❑Lack of cooperation of private tank farm owners on Safe-To-Load programme.


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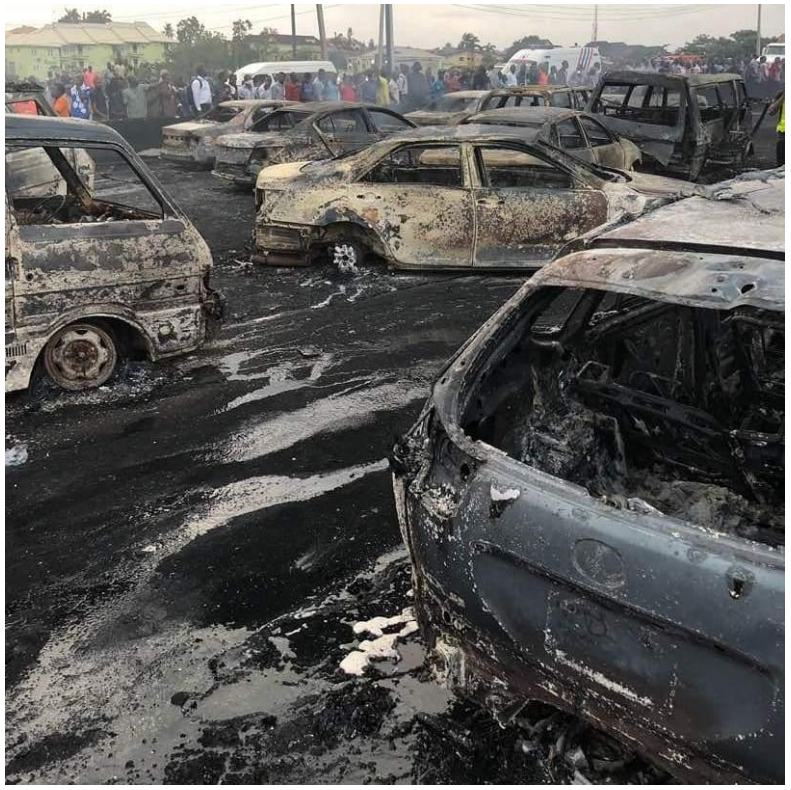
Role Of Security/Safety Agencies
HEADLINES
SWISS GOVERNMENT: NO MORE ABACHA LOOT IN SWITZERLAND
22:07



1. Original vehicle build


2. Vehicle after crash


3. Vehicle tanker after crash

AUTOVIN REPORT
Description of Car

1 M 1 A A 1 8 Y 3 X W 0 9 9 9 0 7

Nation of origin	-	USA
Manufacturer	-	Mack Trucks, Inc
Model	-	MACK CH613
Model year	-	1999
Assembly plant	-	Winnsboro, USA
Body	-	Truck
Engine E7-454	-	cc Diesel:425HP/
Transmission	-	6 X 4
Check digit	-	OK
Commentary Vehicle Type		-Complete
Truck Gross Vehicle Weight	-	33000 – LBS Gross
Vehicle Weight	-	14 959 Kg

Truck head was designed to carry a 15 tonne drilling load but was converted in Nigeria to a fuel tanker carrying 30 tonnes of fuel – twice its capacity

Source: ***www.autovinlive.com***
Lagos State Government

Detailed Vehicle History: Vehicle Overview

Technical VIN Decoding Information

VIN Check Report: 1M1AA18Y3XW099907

Mack Ch600 1999

Vehicle Specification	22 Record(s)
Accidental Record	View All Records
Lien Record	Records Found!
Theft Record	View Records
NHTSA Technical Service Bulletins	1 Record(s)
NHTSA Recalls	7 Record(s)

Year	1999
Make	Mack
Model	Ch600
Trim Level	-
Style	Tractor Truck
Made In	United States

Source: http://vinfreecheck.com/vin/1M1aa18Y3XW099907

DATE	MILEAGE	SOURCE	DETAILS
	-	original manufacturer	Manufactured in United States (Usa) by MACK TRUCKS, INC.
2002-09-06	-	MACK	**MACK issued recalls for CH 1999**
View NMVTIS Complete Vehicle History Records			

WMI/VDS/VIS	1M1
VDS	AA18Y3
VIS	XW099907
VIN Sequential Number	099907
Checksum Validation	PASSED
Data Accuracy	High
Error	-

Earlier Intervention Efforts by FRSC on Tanker/Trailers crashes

To forestall the unfortunate reccurrence and colossal human and material losses, including social and environmental degradation, several stakeholder meetings were convened culminating in that of Abuja on 15 June, 2015 during which discussion centered on:

S/N	Date	Location	Losses
1	19 January, 2015	Lagos-Abeokuta Expressway	Burnt tanker
2	3 March, 2015	Ogidi, Anambra State	5 Persons were killed
3	13 April, 2015	Zuba, FCT	4 Persons were killed
4	31 May, 2015	Onitsha, Anambra State	46 Persons were killed
5	3 June, 2015	Benin-Bypass, Edo State	4 Tankers were burnt

Source: FRSC Reports

Earlier Intervention Efforts by FRSC on Tanker/Trailers crashes

ECONOMIC COST OF TANKER CRASHES: Q1, 2018

No. Of RTCs Involving Tankers	No. Of Tankers Involved	Cost of Tankers Involved in RTC
1,120	116	Head @ = ₦ 50m Trailer @ = 7m Load @ = 4.7m Total @ = 61.7m **X 116 vehs. = 7,157.2b**

Note that the total cost does not include the following:

-People killed
-Cost of treatment for people injured
-Roads and road infrastructure damaged
-Environmental impacts that will require mitigation
-Other collateral damages (farm lands, houses, settlements displaced, other vehicles in collision with, other property e.t.c

Source: FRSC Reports

The Long Run Socio Economic Cost Is Dire For The Nation

Earlier Intervention Efforts by FRSC on Tanker/Trailers Crashes ii

All stakeholders resolved as follows:

- Enforcement of minimum safety standards for tankers and trailers operation.
- Compliance with permissible axle load.
- Fixing of retro-reflective tapes on truck to enhance visibility.
- Renewal of petroleum tankers through fleet acquisition renewal scheme.
- Implementation of standard speed limiters in all newly manufactured vehicles in Nigeria.
- Ensuring minimum standards by trucks that lift products.
- Training of tanker and trailer drivers.

Earlier Interventions on Trailer/Tanker Crashes in Nigeria…iii

As a step to further concretize the efforts, the Corps embarked upon:

- ❑Special enforcement coded "***Operation Scorpion***" that led to impoundments of 3,450 articulated vehicles and mobile court trials

- ❑ Safe-To-Load programme at Tank Farms, where FRSC Officers were deployed to ensure adherence to minimum vehicle and drivers' standard before loading.

Earlier Interventions on Trailer/Tanker Crashes in Nigeria…iii

SOME POSITIVE OUTCOMES OF EFFORTS MADE

As a result of the efforts put into tanker safety from 2015 to 2017, road traffic crashes involving the category of vehicles trended downwards in the three years

YEAR	NO. OF TRAILERS INVOLVED	NO. OF TANKERS INVOLVED	TOTAL RTCs	TOTAL PERSONS KILLED	TOTAL PERSONS INJURED	TOTAL CASUALTIES	Trend
2015	761	331	876	979	3048	4027	↓
2016	657	359	872	910	3516	4426	↓
2017	624	308	779	737	2622	3359	↓

Stakeholders' Growing Apathy & FRSC Negative Experiences at Sustainability

The Corps observed apathy on the side of stakeholders relating to upholding the resolutions and good practice and its attempt to discharge its own duties often met brick walls, some of which include:

- ❑Assault on personnel on duty
- ❑Abduction of operatives
- ❑Knock down/Maiming
- ❑Killing of operatives
- ❑Mob attacks on Commands and vandalism
- ❑Kidnapping
- ❑Ensuring non-conducive environment for proper duty discharge, where required.

Improper Vehicle Identification/Registration

Trailer tankers are mandatorily to affix three (3) Number Plates. In many instances drivers and operators swap one tanker head for another thereby making the vehicle carry double identity in the form of Number Plates. When FRSC operatives tried to verify ownership of such tankers in contravention of traffic regulations, it finds out such double identity and, this makes law enforcement and corrective measures difficult.

In some instances too, this category of vehicles do not bear Number Plates at all or owner indulge in improper registration by subscribing to the phased out vehicle registration system which does not enable vehicle data to be capture on the National Identification portal/data bank. These practices make such vehicles unsafe as they could easily be stolen without trace, they also constitute national security risk as such vehicles could be used for subversion purposes.

The Situation at Hand: The Michael Otedola bridge Tanker Inferno

The tanker crash which occurred on Michael Otedola bridge, Lagos State on 28 June, 2018 in which 54 cars were burnt and about 12 persons killed was avoidable if safety standards were adhered to and driver error avoided.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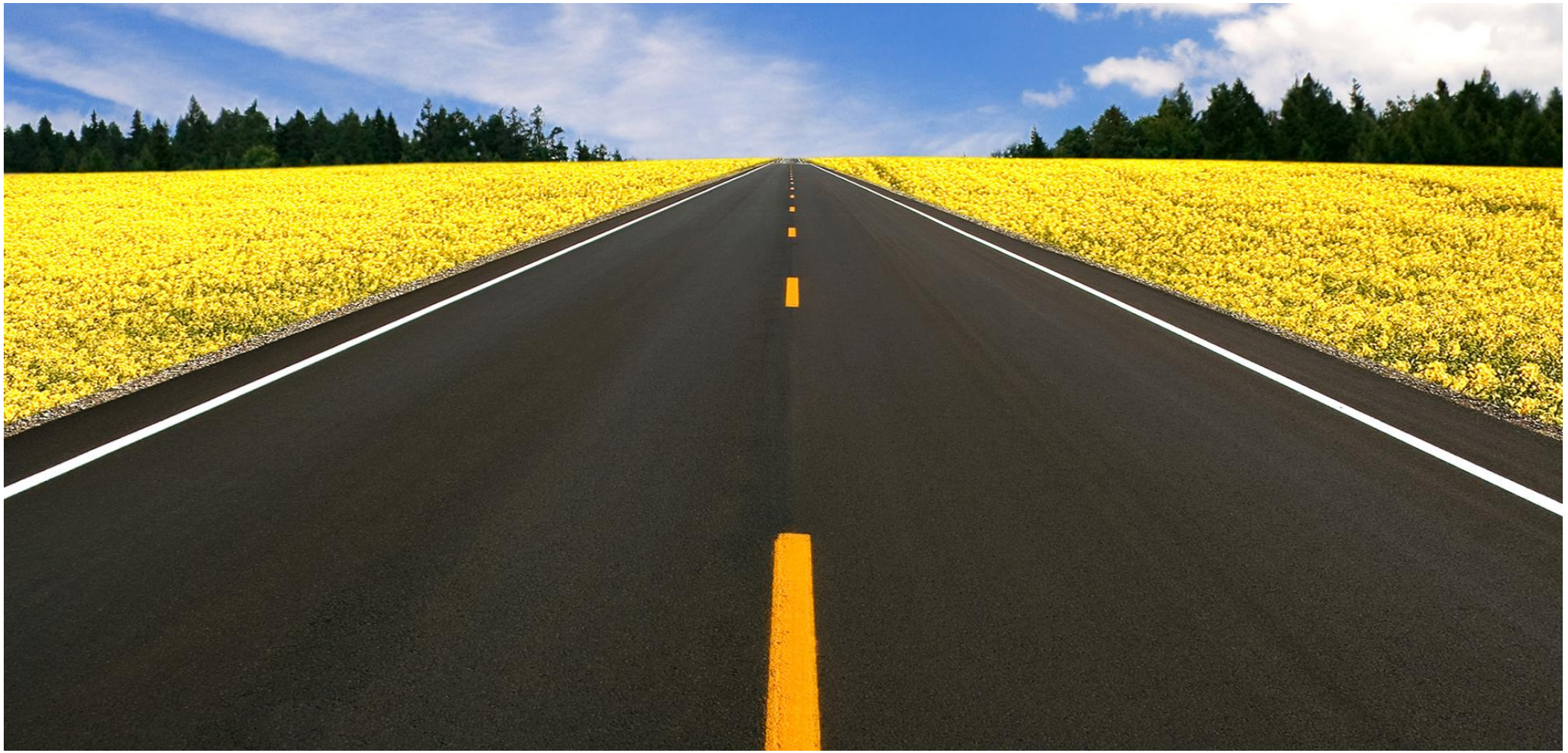
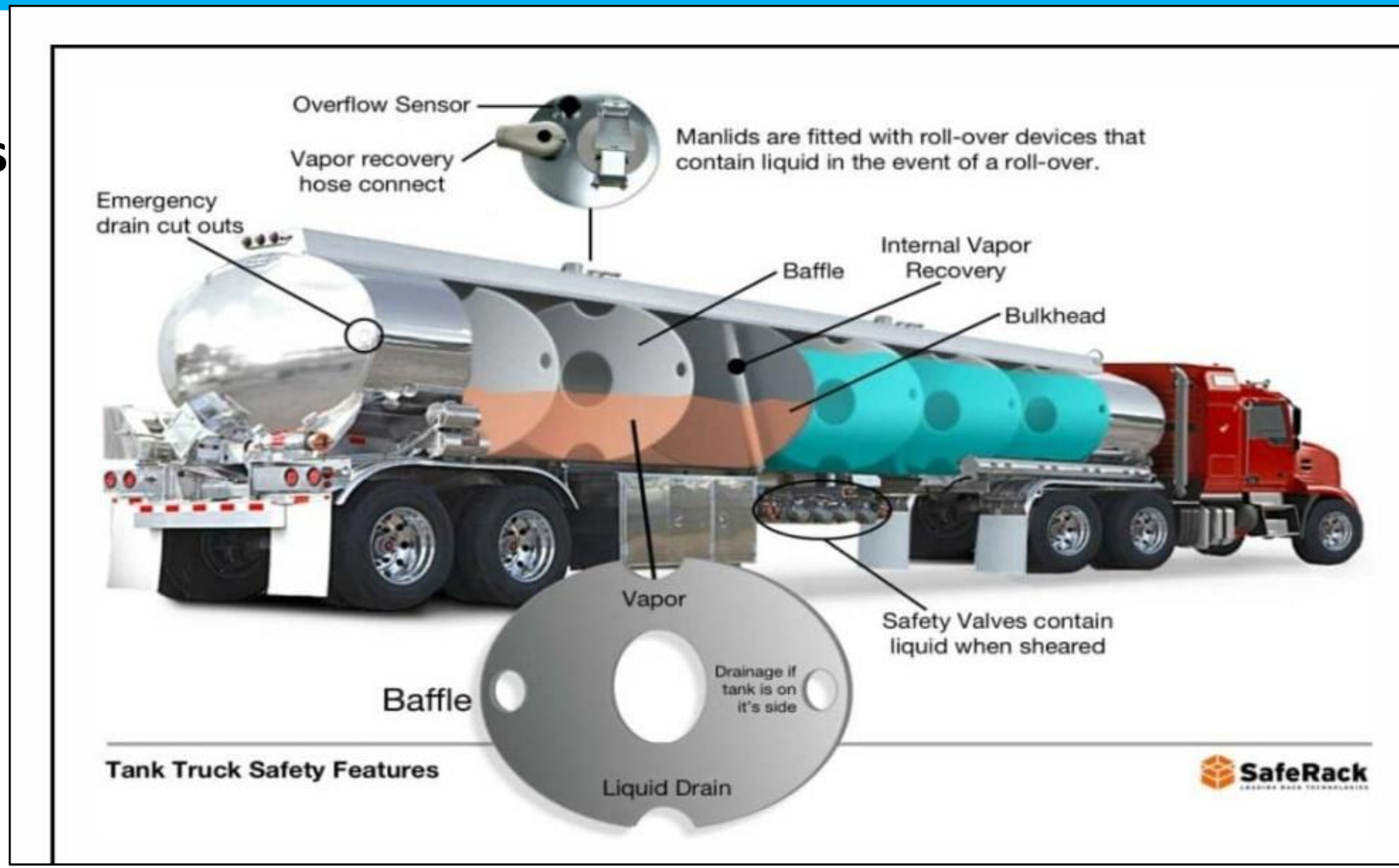
Moving Forward



Moving Forward

Operators' mandatory compliance to standards

SON has standards for construction of tanker bodies as well as specification of valves



reaches the right height, the whistle or alarm stops. The sensor in this case plays the role of a filling up alarm.

Oil vapor recovery valve: The oil gas from volatile can be recovered to the oil tank, which prevents leakage of the oil gas. Fusible links and nuts are found on cable-actuated systems, whereas fusible plugs and plastic air lines are used on air-actuated systems. In the event of a spill fire under or around the vehicle, the fusible device will melt, releasing cable tension or air pressure. Both fusible links and nuts are required to actuate at temperatures not greater than 121˚C.

Overturn Protection: Overturn rails or guards must be provided on tank trucks to protect all fill openings, manholes, inspection devices and relief devices from damage during rollover. These devices must withstand a vertical load twice the weight of a loaded.

Tanks to be visually inspected and leak tested at 80% of the tank design pressure of MAWP annually. Manhole and relief valves, look for evidence of seeping gaskets, corrosion or other problems. Visual examination of manholes and pressure-relief valves monthly is required. Other devices, including braking system

Moving Forward Improvement in vehicle inspection/certification

SAFETY FEATURES:

Apart from the construction method and material specifications, improvement in vehicle inspection to include:

Vacuum and Relief Valve Protection: Both Normal and emergency devices will usually be part of the integrated dome cover assembly. The cover has important components which keep the tank safe. Regulations require periodic testing of the cargo tank and its components -

-**Tanks** to be visually inspected and leak tested at 80% of the tank design pressure of MAWP annually.

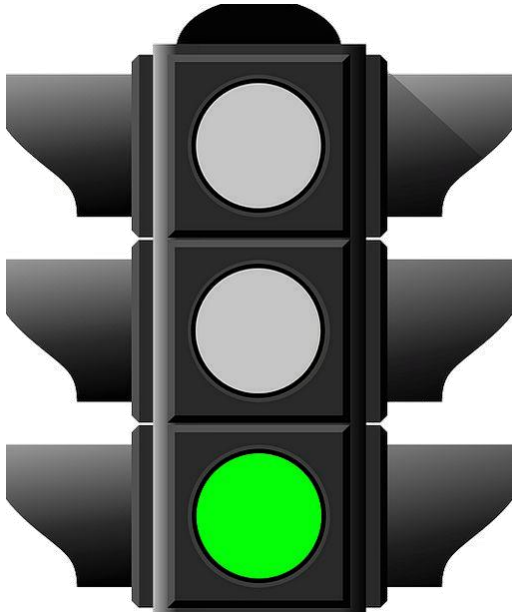
-**Manhole and relief valves** to be checked for evidence of seeping gaskets, corrosion or other problems

- Visual examination of manholes and pressure-relief valves periodically.

-**Air release/Relief valve: An -** important component of the manhole cover is the **respiration valve also Spill-Proof Sensor:** The alarm installed on the manhole cover. The sensor produces a sound or noise whenever the height of the liquid inside the tank changes quickly. When the liquid

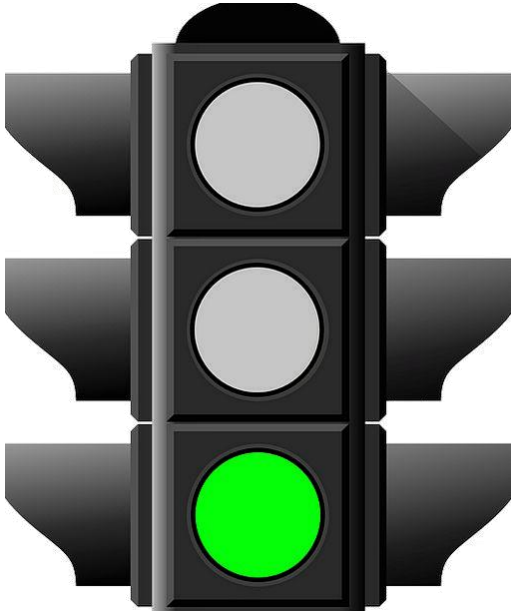
–**known as relief valve**. It adjusts pressure inside the tank automatically, within a certain range. The relief valve protects the tank and reduces the volatilization loss of volatile oil. DOT pressure requirements include:

Moving Forward



Addressing ageing trucks through Fleet Renewal facility

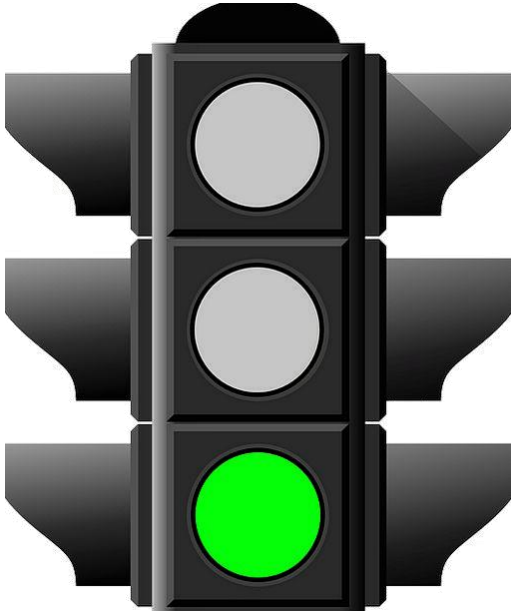
Moving Forward



Enhancement of drivers training/certification and Re-training.

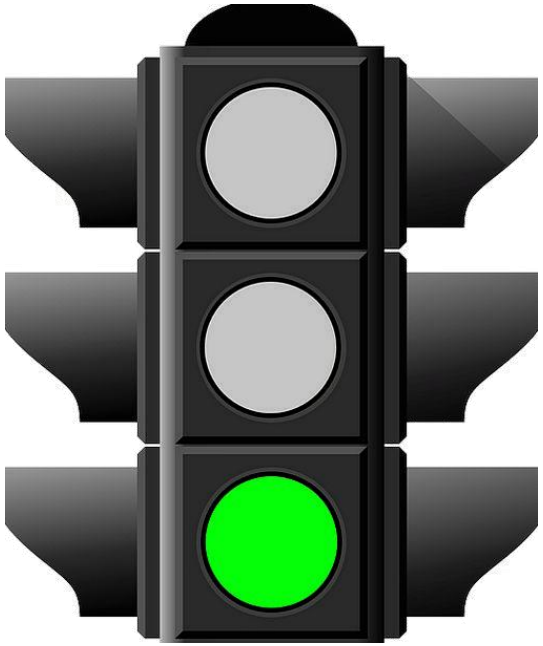
-There is need to engage the services of properly trained truck drivers from reputable specialist driving schools and ensure that their knowledge is constantly updated through re-training.

Moving Forward



Establishment of a jointly owned articulated vehicle drivers training institute.

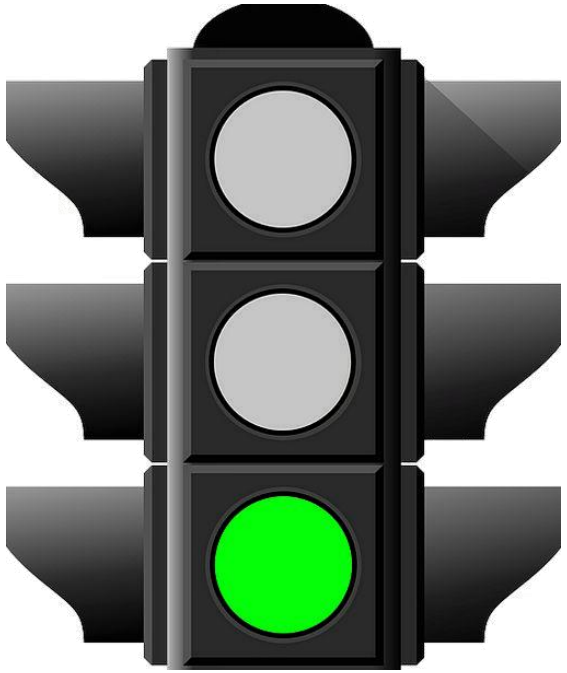
Moving Forward



Strengthening FRSC Safe-To-Load Programme to include enforcement of standards, including use of Safety Valves

-Standards will be fully enforced before loading, during loading, on transit and off-loading of petroleum products at all tank farms.

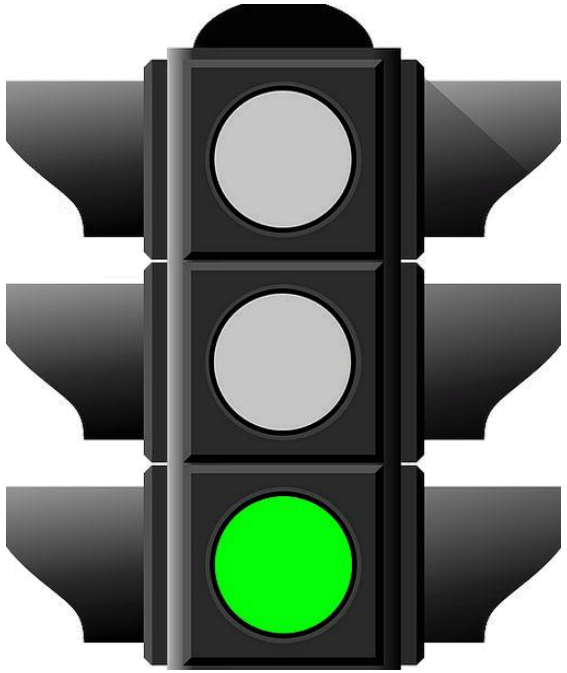
Moving Forward



Mandatory Use of Inflammable signs and retro-reflective tapes on Trucks to enhance visibility

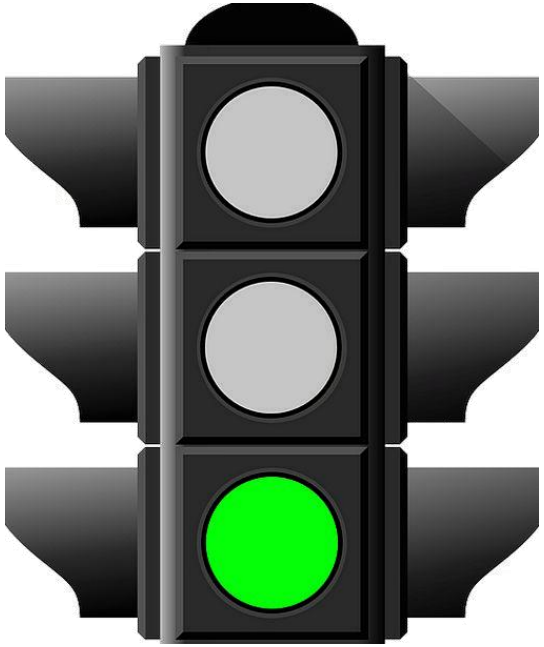
-All trucks with flammable contents must comply with the Agreement for Dangerous Roads (ADR) standards and fix necessary signs on trucks for recognition.

Moving Forward



Mandatory Use of Standard fire extinguishers (2 Nos. of 9Kg ABC fire extinguishers)

Moving Forward



Adherence to vehicle standards: Locally made tanks should meet material quality, tensile strength and other requirements

-There is need for SON, NADDC and relevant agencies to inspect, regulate and certify locally made tanks used for conveying fuel to ensure quality assurance and safety.

Moving Forward

Adherence to safety officers' advices and obedience to road traffic regulations, including cessation of assault, killing, abduction, maiming and kidnapping of operatives on lawful duty

Moving Forward

Speedy conclusion of the on-going upgrading and extension of the rail system to reduce product lifting by road considerably as well as extension and rehabilitation of the pipe line carriage system.

Moving Forward

Restoration of the Toll Gates to serve various advantages, including a Pin-Down Point for standards compliance and enforcement

Moving Forward

Compliance with the ECOWAS Protocol on regulation of Axle Load Domesticated as
The Federal Highway Permissible Weight & Weighbridges Regulation.

Restoration of the Weighbridges across the nation's road corridors to be deployed to assist enforcers to ascertain compliance with axle load permissibility.

Moving Forward

Harmonization of all safety regulations in all the Tank Farms, including MOMAN by NNPC, FRSC and DPR on weights and measures.

Moving Forward

1992 Series,
Commercial Vehicle

2014, Commercial Vehicle

Cessation of the practice of improper vehicle registration (use of old Number Plates) and swapping of tanker heads, one to another, thereby making a complete vehicle to carry two different Number Plates/identities

Moving Forward

Cessation of all forms of attacks on personnel, obedience to road traffic regulations, including traffic signs, markings and law enforcement officers.

Conclusion

Fleet owners/ operators are reminded that Road Safety is a collective responsibility more so as they are critical stakeholder who have tremendous investment in the road transport sector. Consequently, the following are required of them:

- Compliance to safety standards
  - -Vehicles safety standards
  - -Operators safety standards
  - -Drivers safety standards
- Commit to the Safe-To-Load and Speed Limiting Device installation programmes and cooperate fully with the FRSC in its enforcement.
- Install tracking devices in fleets to monitor drivers in transit.

Conclusion

- Ensure proper registration of all vehicles in fleet, proper placement of number plates and desist from number plate swapping.
- Ensure that drivers subject themselves to road traffic regulations and directives of traffic law enforcers as well as desist from killing and assaulting of law enforcement agents.
- Invest more in drivers training and re-training. Consideration should be given to the establishment of articulated vehicle drivers training institute.
- Ensure fixing of mandatory inflammable signs and retro-reflective tapes on all trucks.

Conclusion

- Adhere strictly to SON standards in local construction of petroleum tanks.
- Stakeholders should properly document safety standards and make it available to their drivers.

Conclusion

Tank Farm owners on their part are enjoined to:

- Ensure compliance to industry standards;

  -Provide conducive working environment for the Safe-to-Load (STL) enforcement Officers deployed to their farms.

  - Ensure that only drivers/vehicles that meet STL standards lift products from their farm.

  -Tank Farms, including MOMAN, FRSC and DPR to harmonize all regulations relating to weights and measures

Conclusion

Standards Regulators are also enjoined to :

- Take census of all locations where tankers are fabricated locally and ensure compliance with industry standards.

- Regulators to collaborate with FRSC in the enforcement of safety standards in the industry.

Conclusion

Government is enjoined to:

- Speedy completion of the rail system expansion.
- Re-introduction of the Toll-Gates and weigh bridges.
- Fast track rehabilitation of major road corridors.
- Assist operators in fleet renewal programme.
- Federal and State Government to ensure provision of adequate Truck Transit Parks (TTP).
- State governments to invest into digital vehicle testing and certification.

Conclusion

The FRSC urges all stakeholders to align with its programmes and commit more to actualizing them.

The Corps is equally ready to assist in capacity development of drivers and safety managers in its training institutions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you

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