



Blast of Innovation

**Fuel Security & Safety
Devices**

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TISS



TankSafe[®]

Fuel Loss Prevention



*TISS Ltd, double Queen's Award
winners in 2014 for International
Trade and 2018 for Innovation*

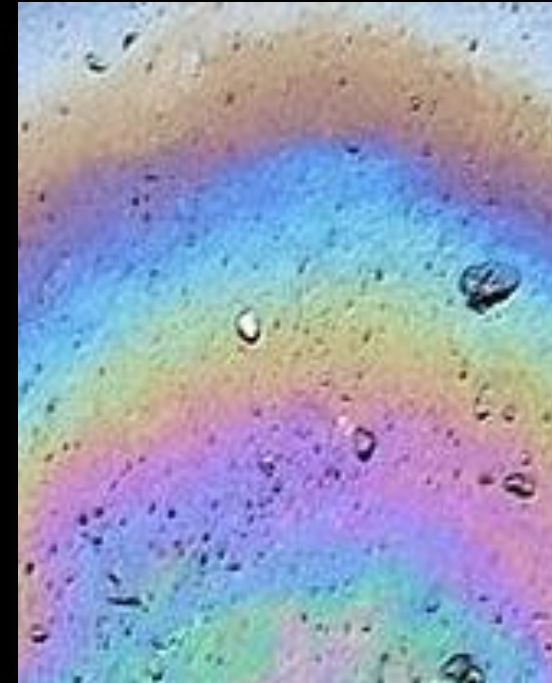
Three issues



Theft



Overfilling



Spillage

Theft

Visible



3rd Party Theft

- accounts for 1% of all fuel theft
- large quantities
- usually occurs when Trucks parked overnight

Invisible



'Skimming'

- accounts for 99% of all fuel theft
- regular theft of small quantities
- difficult to detect with fuel monitoring equipment

Anti-siphon devices – the issues

Restrict filling



Insecure Fitting



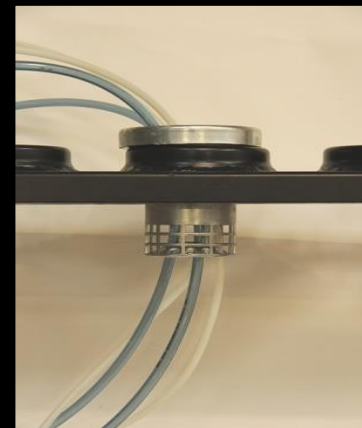
Vulnerable to attack



Skimming



Small siphoning tubes



TankSafe® 'Optimum' Device



1. Prevents Skimming and 3rd party theft
2. Prevents Overfilling
3. Prevents Spillages

What our fuel inspection is checking for:



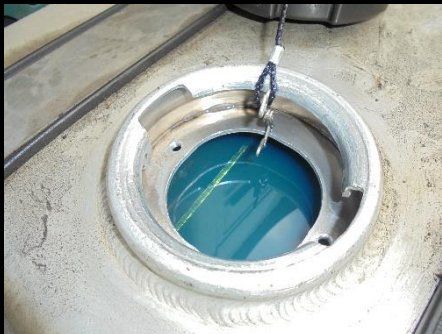
Poorly fitted caps or broken seals



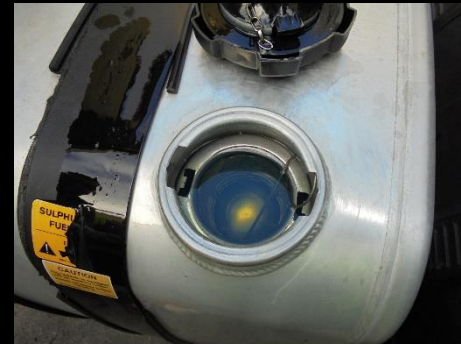
Damaged caps



Poorly fitted anti-siphons



No anti-siphon or spill mechanism



Brimmed fuel tank



Damaged anti-siphon

Fuel Tank Inspection Audit

REPORT

Compiled by: Rick Forster, TISS Technical Director 16/02/2019

Audit summary

Total fuel tanks inspected - 68

Number of truck fuel tanks inspected – 44

Number of Reefer trailer tanks inspected – 24

Principle Findings:

- 25% of Truck fuel tanks had no protection
- 75% of Truck filler necks were classified as either Advisory or Fail
- 65.9% of Truck fuel tanks had either damaged or no Anti-Spill Mechanism (ASM) fitted
- Evidence of fuel security devices removed from necks
- Evidence of drivers brimming tanks, increasing the risk of fuel theft and spillages
- No evidence of tampering of sender units
- No fuel security on refrigerated trailers

Tractor Units:

	FILTER NECK	ASM	FUEL CAP & CHAIN	SENDER UNIT	DRAINPLUG
	No. Protected / No. Produced	No. Protected / No. Produced	No. Protected / No. Produced	No. Protected / No. Produced	No. Protected / No. Produced
PAGE	9 22.8%	18 26.8%	18 30%	0 0%	0 0%
MIDWAY	11 67.7%	4 9.2%	18 31%	0 0%	0 0%
GUN	12 27.8%	18 38.8%	11 20%	44 100%	44 100%
SUB	2 4.2%	2 4.9%	1 2%		
TOTAL COUNT	44				

Reefer Trailers:

	Filler Neck	% Protected
PASS	0	0.0%
ADVISORY	0	0.0%
FAIL	24	100.0%
TOTAL TANKS	24	

Method of inspection:

Two inspectors from TISS carried out a visual inspection of the fuel tank, its fittings and any fuel security devices used on the tank. Photographic and written evidence was taken of the condition of the tank and its fittings for any indication of tampering or potential issues that an operator may wish to address.

Each truck's registration number, tank filler neck, fuel cap and sender unit were photographed

Audit results – Tractor Units

[illegible]

Provides piece of mind that your fleet is protected against fuel loss

OR

identifies possible areas for attention

Fuel Tank Inspection Findings

Threat level	Fuel tanks	%
Pass	285	23
Advisory	275	20
Fail	412	57
Total	972	100%

- 77% of tanks inspected at risk of fuel theft or spillages from filler neck
- Zero protection of sender units or drain plugs
- 68% of caps and/or chains broken and in need of replacing

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