

Third party vessels risk assessment key for safety, pollution prevention and charterer's reputation

Repsol Vetting



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1. Main influencing bodies controlling Vessel's Risk
2. Repsol Corporate Norm for Vessel Risk
 - Legal Framework
 - What is Repsol vetting?
 - What vetting does and what values promotes?

Main Influencing Bodies controlling Vessel's Risk

Owner
Management

Oil Majors
Vetting

Flag

PSC

Classification
Society

International & Industry
Standards (IMO, OCIMF,
SIGTTO, ICS, etc.)

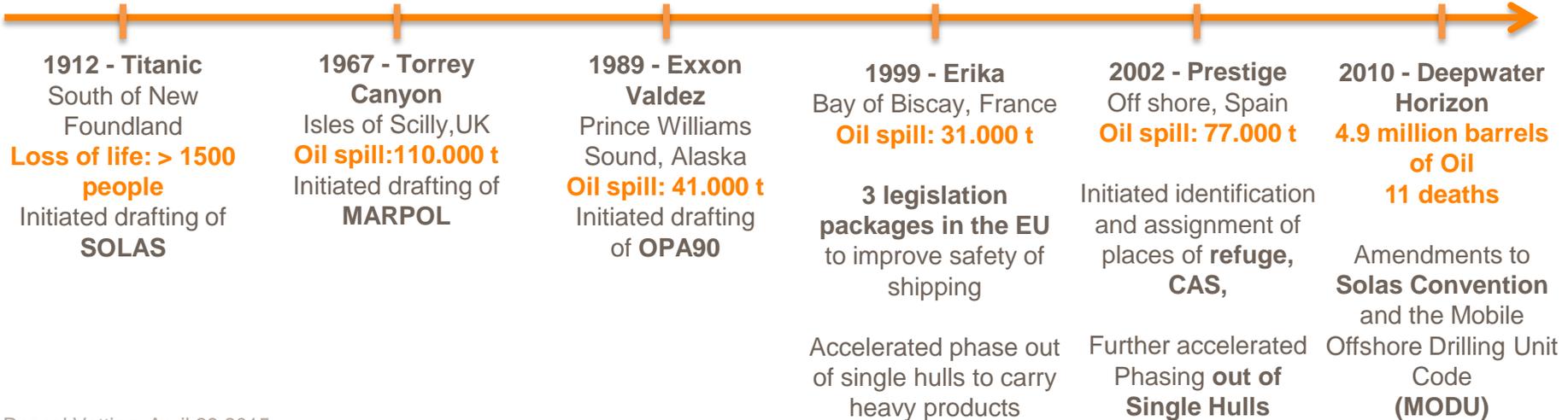
Repsol hasn't got own fleet, all the vessels used by the
Group are chartered by service, spot or time.

Main Influencing Bodies Controlling Vessel's Risk

- **Ship Owner** who has assumed the responsibility for the operation of the ship from the Owner; responsible for safe management, manning and maintenance; but in the majority of the cases, delegates these tasks in third parties.
- **Flag state** regulate the standards and has jurisdiction over the vessel and is responsible for inspecting that it is safe to sail and to check on the crew's working conditions.
- **Classification societies** set standards of construction and assess condition; they have found themselves playing in the middle, as Owners request their service but, in some cases, they act on behalf of the flag states and flags didn't conduct their own surveys.
- **Port state control** administrations inspect foreign vessels.

Main Influencing Bodies Controlling Vessel's Risk

Root Source of legislative measures: Accidents demonstrated need for change to the industry



Main Influencing Bodies Controlling Vessel's Risk

Despite Standards:



**Many of the requirements appear sufficient
However, sometimes there is a failure to apply and/or enforce them or the compliance is not mandatory because of the vessel's date of build or size**

Repsol Corporate Norm for Vessels Risk Control

Legal Framework

462 Norm Managing safety and environment in sea and river operations and/or transport

Object:

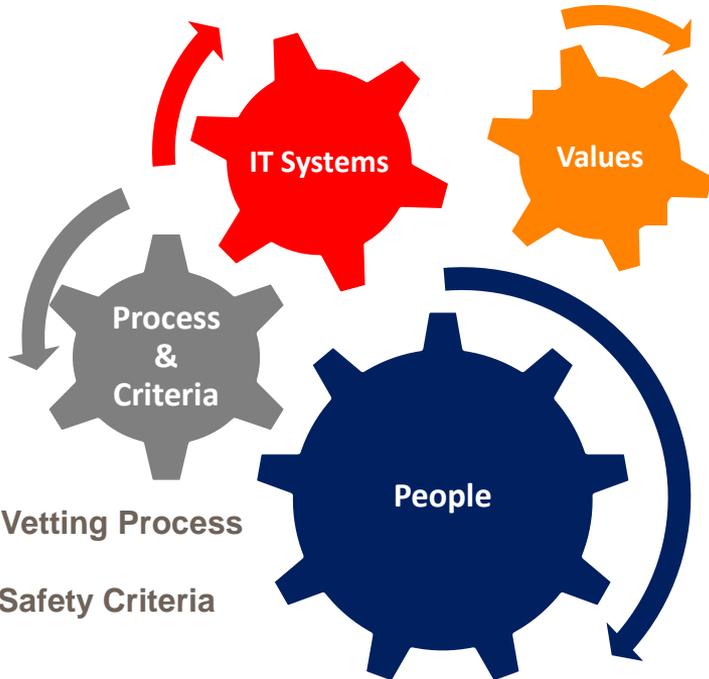
To establish basic guidelines for managing safety and environment in sea/river operations and/or transport within the Repsol Group, to minimize risks that may affect the safety of people, facilities and the environment.

Repsol Vetting:

Global technical unit responsible for establishing guidelines for the safety and environment assessment process for all vessel types operating in the Repsol system, monitoring compliance with applicable regulations and managing preliminary assessments and physical inspections of vessels when required.

Repsol Corporate Norm for Vessel Risk Control

What is Repsol vetting?



- Repsol Vetting Process
- Marine Safety Criteria

- ✓ Transparency
- ✓ Integrity
- ✓ Responsibility
- ✓ Flexibility
- ✓ Innovation

- ✓ **Analysis, evaluation and rating process** applied to a ship or company before it is contracted

- ✓ **Online database** to request the commercial interest on a vessel, check the vetting status, main particulars, load of Vessel's operability in Repsol Terminals
- ✓ **Active system** requires positive assessment

- ✓ **Safety and Technical** in house Department since 1993
- ✓ **Objective** is to determine whether an **operational risk** exists
- ✓ **Inspections** to ensure that all of the vital navigation, safety, firefighting, rescue, loading and unloading, mooring, main and auxiliary engine, etc. is well maintained.
- ✓ **Assessment of Acceptability** is done in Madrid not by the Inspector
- ✓ **Expertise based system**

Repsol Corporate Norm for Vessel Risk Control

What is Repsol vetting?: People



Repsol Corporate Norm for Vessel Risk Control

What is Repsol vetting?: People

Keys for Safety: Expertise system

- ✓ Every Vetting inspector holds **Master or Chief Engineer's licence** with a wide experience in navigation.
- ✓ They are all accredited by **OCIMF SIRE 1** to perform SIRE inspections in the 3 categories OIL/CHEMICAL/GAS.
- ✓ They have attended the **mandatory New Inspector course** and passed **OCIMF** audit
- ✓ In order to maintain the accreditation they must perform a **minimum number of inspections** per year.
- ✓ Every 3 years they must attend to a **refreshment course** and be re-audited.



Repsol Corporate Norm for Vessel Risk Control

What vetting does and what values promotes?

1.	Safeguard safety of human life	Use of Inert Gas
2.	Prevention of marine pollution	Use of double hull
3.	Prevention of Damage to People and enviromental impact	Examination of officer Experience Oil Spill prevention Condition Assesment Program (CAP)
4.	Reputation	Key for Safeguards charterer's reputation
5.	Values	Transparency & Integrity Flexibility & responsibility Innovation

1. Safeguard safety of human life

Accidents not leading to legislative measures

IMO to deliberate inert-gas systems for two more years

Adam Corbett London

Regulators have agreed that the mandatory application of inert-gas systems to new products and chemical tankers under 20,000 dwt would save lives but they have decided to deliberate over the matter for another two years.

A recent International Maritime Organisation (IMO) sub-committee meeting has agreed that the mandatory use of inert-gas systems on ships under 20,000 dwt carrying cargoes with a low flash point would "minimise the risk of fires and explosions". The move was initiated when dozens of seafarers lost their lives in a series of explosions five years ago.

Although the general mood is for the IMO to enforce the regulation, there is still some concern over whether inerting tanks would simply increase the risk of seafarers and surveyors dying from asphyxiation when accidentally entering inerted tanks.

This is of particular concern with chemical tankers, which require additional cargo-tank surveys to get approval from shippers. There is also the problem of additional turn-around

time in ports as a result of the inerting process.

As enclosed-space deaths have recently been raised as a major issue for the industry, the IMO has extended the deadline for the working group to conclude its review from 2009 to 2011. The IMO is also considering proposals for changing the size of ship to which it applies, such as one on the table from Japan for chemical tankers over 8,000 dwt.

Norway would like to see existing tankers retrofitted with inert-gas systems.

Norwegian chemical-tanker operator Odjfell, which has suffered explosions on its operated tankers in the past, has been operating ships with inerting systems on board since 2005 and says that operationally it is workable.

Odjfell vice-president for operational support Svend Foyr-Braun, who is working on the IMO sub-committee, tells TradeWinds that arranging surveys and purging tanks well ahead of loading could reduce the extra time needed for inerting. He adds that sampling rather than full inspection could reduce the need to enter cargo tanks, while a change to the loading process could also reduce risk.



ODJFELL: Has used inerting systems on its vessels since 2005. Photo: Odfell & Crisp

2004 M/T BOW MARINER	Explosion 50 miles off the Virginia coast,	21 deaths
M/T NCC MEKKA	Explosion after departing from Santos	2 deaths
M/T PANAMA SERENA	Explosion at Porto Torres	2 deaths

2006 IMO MARITIME SAFETY COMMITTEE 81st. Session Study on 35 incidents of explosions on chemical and product tankers during the past 25 years – None action followed

Since IMO doesn't legislate Repsol does it!

From 01.01.09 all the vessels, independently of age and size*, carrying volatile products for Repsol, products with flash points of 60 degrees Celsius or less, **must use the inert gas system** previous the loading, during transport and discharge.

1. Safeguard safety of human life

Use of Inert Gas System

2012 M/T BUNGA ALPINIA. Explosion at Labuan, Malaysia, Loss of 5 persons



*Currently, **IMO inerting requirements** are applicable to oil tankers and chemical tankers of **20000 tons of DWT and above**.

2014-IBC Code, SOLAS and FSS Code have been amended to lower the application **of the limit to 8000 dwt** for the oil and chemical tankers constructed on **after 01 January 2016**.

Repsol keeps on being ahead of IMO Legislation

2. Prevention of Marine Pollution

Use of double hull

MARPOL bans the carriage of Heavy Grade Oils in single-hull tankers of 600 tons DWT and above but Flags can allow their use in their coastal and internal waters.

REPSOL bans it in all the waters where operates.

1st January 2009: Repsol goes beyond IMO Regulations and **commits the use of double hull vessels** for the **transport** of any type of crude oil and the **storage** of crude and all type of oil products regardless of whether they are considered heavy or not.

REPSOL VETTING PROCESS AND CRITERIA

Hull design

1. Vessels carrying crude oil must always be **double hull**.
2. Vessels used as floating storage must be **double hull**.

POLLUTION PREVENTION

- a) A cargo pump room bilge high-level alarm, with at least two sensors (dual safety), located at port and starboard side preferably, is to be fitted and fully operational. If installation is not yet available it should be provided not later than vessel next dry dock.
- b) Storage and service bunker (fuel oil and gas oil) tanks must have high-level alarms.

3. Prevention of Damage to people and environmental impact

Examination of Officer Experience

OCIMF Officer Matrix is reviewed

- ✓ The maritime system is a **people system**, and human errors figure prominently in casualty situations. About 75-96% of marine casualties are caused, at least in part, by some form of human error

Officer's Crew Details- LNG

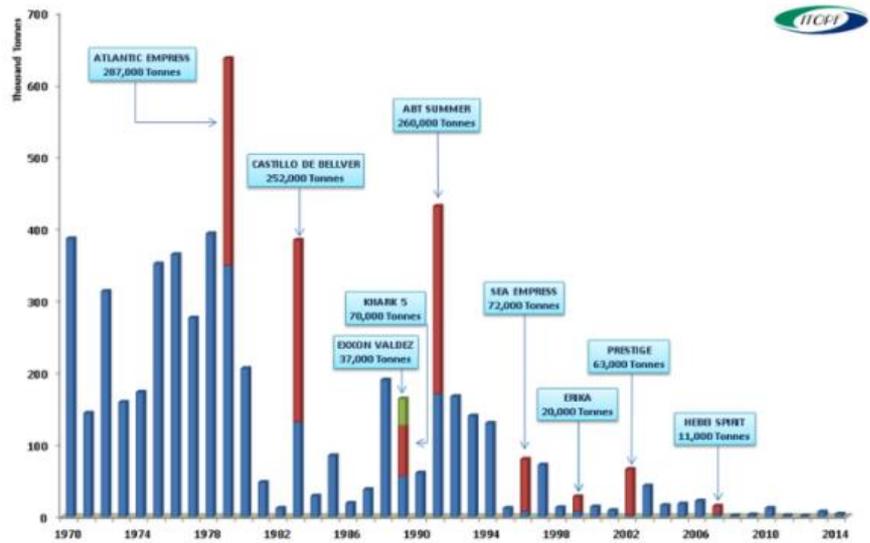
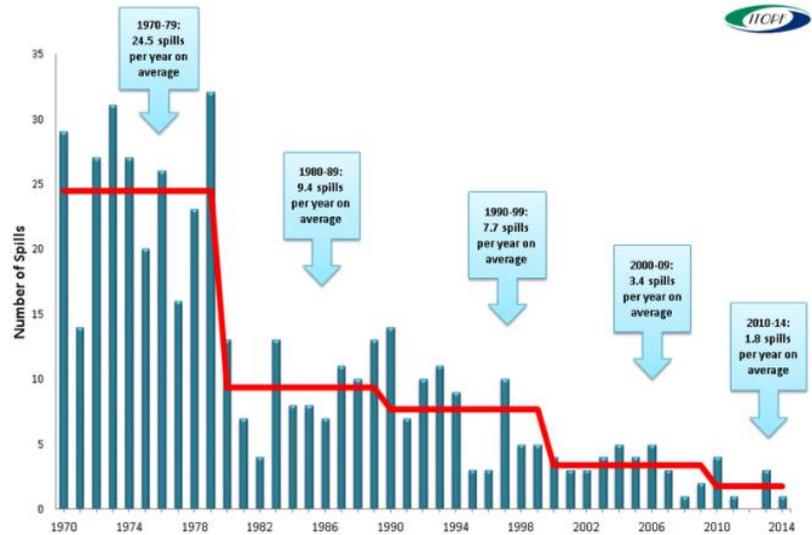
Rank	Nationality	Cert. comp.	Issuing country	Admin. accept	Tanker cert.	STCW V para.	Radio qual.	Operator	Rank	Tanker type	All types	Months tour
Master	Romanian	Class 1	Romania	Yes	Gas	Para 2	Yes	4	6	0.3	0.3	4.3
Chief Officer	Romanian	Class 1	Romania	Yes	Gas	Para 2	Yes	2	0.7	1.3	1.2	8.3

Vetting requires a minimum time of experience with Technical Operator, experience in rank and sailing experience on board the type of tanker in which Officers sail.

3. Prevention of Damage to people and enviromental impact

Oil Spill Prevention

The number of large spills has decreased significantly in the last 45 years



3. Prevention of Damage to people and enviromental impact

Oil Spill Prevention. ITOPF OIL Spill Statistics

Repsol does not appear on this statistics since 1992

Position	Shipname	Year	Location	Spill size (tonnes)
1	ATLANTIC EMPRESS	1979	Off Tobago, West Indies	287,000
2	ABT SUMMER	1991	700 nautical miles off Angola	260,000
3	CASTILLO DE BELLVER	1983	Off Saldanha Bay, South Africa	252,000
4	AMOCO CADIZ	1978	Off Brittany, France	223,000
5	HAVEN	1991	Genoa, Italy	144,000
6	ODYSSEY	1988	700 nautical miles off Nova Scotia, Canada	132,000
7	TORREY CANYON	1967	Scilly Isles, UK	119,000
8	SEA STAR	1972	Gulf of Oman	115,000
9	IRENES SERENADE	1980	Navarino Bay, Greece	100,000
10	URQUIOLA	1976	La Coruna, Spain	100,000
11	HAWAIIAN PATRIOT	1977	300 nautical miles off Honolulu	95,000
12	INDEPENDENTA	1979	Bosphorus, Turkey	94,000
13	JAKOB MAERSK	1975	Oporto, Portugal	88,000
14	BRAER	1993	Shetland Islands, UK	85,000
15	AEGEAN SEA	1992	La Coruna, Spain	74,000
16	SEA EMPRESS	1996	Milford Haven, UK	72,000
17	KHARK 5	1989	120 nautical miles off Atlantic coast of Morocco	70,000
18	NOVA	1985	Off Kharg Island, Gulf of Iran	70,000
19	KATINA P	1992	Off Maputo, Mozambique	67,000
20	PRESTIGE	2002	Off Galicia, Spain	63,000
35	EXXON VALDEZ	1989	Prince William Sound, Alaska, USA	37,000
131	HEBEI SPIRIT	2007	Taeon, Republic of Korea	11,000

ALYARMOUK

2015

11 nautical miles NE of Pedra Branca, Singapore

4.500



3. Prevention of Damage to people and enviromental impact

CAP : Condition Assesment Program

REPSOL was pioneer:

- Asking for CAP before CAS (Condition Assessment Scheme)
- Asking for CAPs in LNG Vessels

REPSOL VETTING PROCESS AND CRITERIA

VI.12. - Condition Assessment Program (CAP)

Vessels 20 years old, or more, and over 5000 MT SDWT, will need at least a CAP 2 (GOOD) rating for hull, machinery and cargo handling system with a validity of 3 years from the last date of CAP survey. Owners should allow sufficient time for renewing the CAP's certificates.

VI.13. - Hull Structural Fatigue Analysis

Vessels bigger than 150 m in length and older than 20 years will need a comprehensive fatigue analysis.

3. Prevention of Damage to people and enviromental impact

CAP : Condition Assessment Program

Report on THICKNESS MEASUREMENT OF MISCELLANEOUS STRUCTURAL MEMBERS

Ship's name : GITTA KOSAN		Class Identity N°: 38C113		Report N°: 10/NEWTECH/2013/BV	
Structural member	AIR PIPES AND VENTILATORS		between space DECK		
Structural Member description	AIR PIPES AND VENTILATORS		Repaired & space DECK		
Location of Structure	ON THE MAIN DECK (ALONG SUPERSTRUCTURE) see sketch s28				

N-Av Orig. Thk Not Available

Item	Description	Max Alwd Dim.	Orig. Thk	Max Alwd Dim.	Gauged		Diminution P		Diminution S	
					%	mm	mm	P	S	mm
	DIA ~ 70mm									
Point	Point no.1	25	8	2,0		6,2			1,8	22,5
Point	Point no.2	25	8	2,0		5,4			2,6	32,5
Point	Point no.3	25	8	2,0		6			2	25
Point	Point no.4	25	8	2,0		5,8			2,2	27,5
	PIPE F:									
	DIA ~ 70mm									
Point	Point no.1	25	8	2,0		6,7			1,3	16,3
Point	Point no.2	25	8	2,0		6,6			1,4	17,5
Point	Point no.3	25	8	2,0		6,8			1,2	15
Point	Point no.4	25	8	2,0		6,7			1,3	16,3
	PIPE G:									
	DIA ~ 70mm									
Point	Point no.1	25	8	2,0		6			3	37,5
Point	Point no.2	25	8	2,0		6,4			1,6	20
Point	Point no.3	25	8	2,0		6,2			1,8	22,5
Point	Point no.4	25	8	2,0		5,5			2,5	31,3
	PIPE H:									
	DIA ~ 100mm									
Point	Point no.1	25	8,8	2,2		7,3			1,5	17
Point	Point no.2	25	8,8	2,2		7,2			1,6	18,2
Point	Point no.3	25	8,8	2,2		7,5			1,3	14,8
Point	Point no.4	25	8,8	2,2		7,4			1,4	15,9
	PIPE I:									
	DIA ~ 90mm									

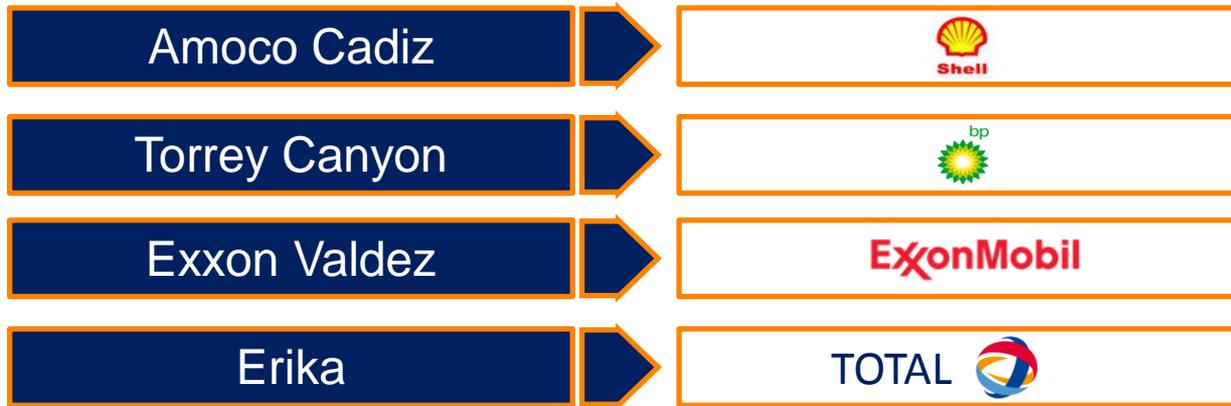


- ✓ CAP evaluates the condition of a vessel, comparing it with a new one in a scale that goes from 1 (very good) to 3,4,5 (poor); it depends on the Class Society.
- ✓ REPSOL requires a minimum CAP of 2 (good), a vessel with CAP1 or 2 can not have substantial corrosion.

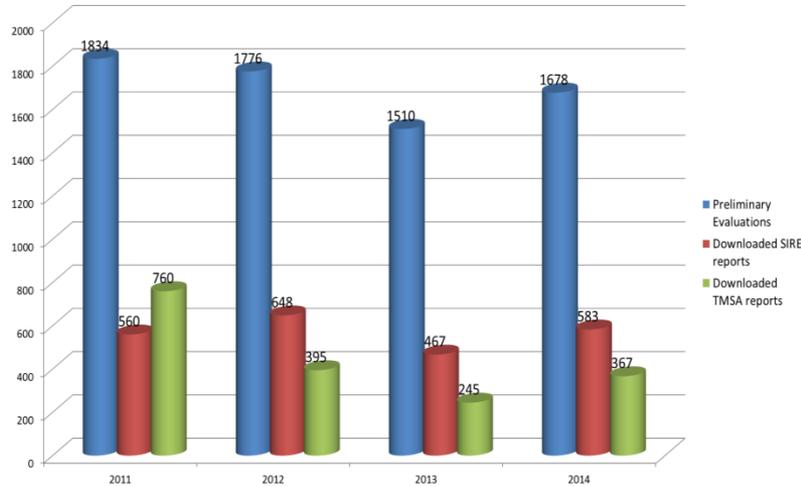
4. Key for Safeguard Charterer's Reputation



The charterer has now become linked, at least in the public mind, to the operator of the chartered vessel



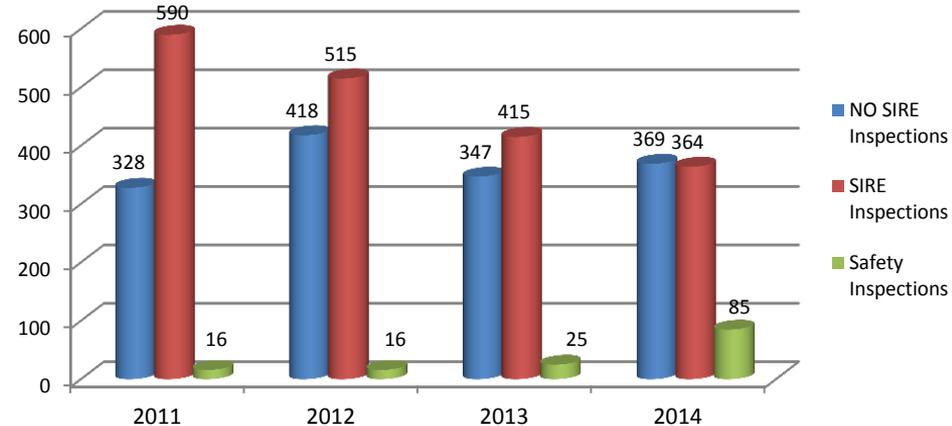
5. Values. Transparency & Integrity



Repsol Vetting participates in OCIMF's SIRE program, 49,6% of Repsol inspections (364) have been submitted to SIRE in 2014, 583 SIRE reports from another Oil Majors have been reviewed.



Repsol Vetting has fully participated in OCIMF's TMSA program. We have reviewed 367 Ship Operator's Self assessment files.



5. Values. Flexibility & Responsibility

	2011		2012		2013		2014	
Preliminary Evaluations	1834	1279 (70%)	1775	1117 (62%)	1509	807 (53%)	1678	1149 (68%)
		555 (30%)		659 (38%)		702 (47%)		529 (32%)
Vetting Inspections	918	782 (85%)	933	776 (83%)	762	651 (85%)	733	645 (88%)
		136 (15%)		157 (17%)		111 (15%)		88 (12%)
SIRE Inspections	590		515		415		364	
Safety Inspections	16		16		25		85	
Use of third party SIRE inspections	560		648		467		538	
TMSA Audits	0		0		0		9	

ACCEPTED

NON ACCEPTED

Repsol vetting processes and criteria evolves according to experience and lessons learned

5. Values. Innovation

Sire Report Risk Analysis

Question	Question text	Answer	Value	Chapter limit
1.22	Date of expiry of the Class Certificate	2015-02-06	6	17
5.45	<p>Are lifebuoys, lights, buoyant lines, quick release mechanisms and self-activating smoke floats in good order?</p> <p>Inspector observations : At random lifebuoys were checked and found the MOB and one on deck with a hole, most probably as per maker construction, which could lead to a loss of buoyancy.</p> <p>Operator first comments : Inspectors comment has been taken seriously into consideration. Indeed the subject hole was below the reflective tape giving no suspicion to identify same. Holes in question were effectively sealed after departure and reflective tape was replaced to ensure no loss of buoyance occurs. In addition rest lifebuoys have been examined and found in order. Case will be circulated to the fleet for awareness & compliance in order to avoid recurrence.</p>	N	1	7
5.56	<p>Are isolating valves in fire and foam system lines clearly marked and in good order?</p> <p>Inspector observations : A foam valve, fitted close to the PV breaker, found not working properly it was difficult to close by hand, the use of a spanner was necessary.</p> <p>Operator first comments : An isolated case, all fire & foam system valves where checked and found easy to operate. The valve in question was maintained as required upon sailing. A relevant meeting was held by the attending Superintendent who in turn strictly advised the crew regarding the matter and the potential hazards that could occur. Case will be circulated to the fleet for awareness & compliance in order to avoid recurrence.</p>	N	1	7
11.24	<p>Are hot surfaces, particularly diesel engines, free of any evidence of fuel, diesel and lubricating oil?</p> <p>Inspector comments : In general all engines, including Main Engine, observed in clean and dry.</p> <p>Inspector observations : Generator nr 1 observed with moderate lube oil leak from shaft seal.</p> <p>Operator first comments : As per Masters and Chief Engineers report, minor drops of oil form DG no 1 sealing ring have been eliminated. Source of drops leaks was the clogged drain hole of shaft sealing ring which was rectified on the day after. Case will be circulated to the fleet for awareness & compliance in order to avoid recurrence.</p>	N	1	8

Our system detects High Risk Observations from SIRE Reports and highlights them.

Vessels with more than 8 points are rejected by the system and assessed by our team.

THANK YOU



Third party vessels risk assessment key for safety, pollution prevention and charterer's reputation

Repsol Vetting

