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DECEMBER	2021



FLEET MAGAZINE

CHEMIKALIEN SEETRANSPORT GMBH

Super Slow Steaming Piracy
Crew List
Bunker Savings
Vision CST 2020

EDITORIAL



Welcome to this year's final edition of Fleet Magazine, the news magazine of Chemikalien Seetransport.

2012 is coming to an end and the challenges are not diminishing but remain high. Recovery in the shipping markets has not developed as forecasted and the predictions of the world economy have not been as anticipated. Freight levels are still unsatisfactory and the demands from the oil industry are increasing all the time. This will keep us all busy also in 2013.

Performance has become even more important over recent years.

Bunker prices are high and "speed & consumption" have resulted in lengthy discussions, both on the technical and on the commercial side. These areas are directly related to the income from the ships and we are constantly monitoring the various options to improve the ships' performance and employment alternatives.

The quality performance of the ship managers has also become more important. As the shipping crisis continues, obvious under-performance becomes apparent and financial partners evaluate their options more closely and critically. This year, our company has seen another addition to its fleet in the form of three new ships, two of which will strengthen our position in the gas segment. At the time of writing, the new building programme for the Krämer group has come to an end, and we are taking care of more than forty vessels.

Positioning Chemikalien Seetransport as the partner of choice is our prime target. We know that this target can only be achieved by good performance on land and at sea. We, as the management, are thankful for all your high-quality work and admirable performance during this year. We realise that the sea is rough and the demands from the Oil majors are constantly increasing and changing. As a dedicated ship manager for tankers, we care for the environment and are committed to achieving first-class results.

I'd like to thank all of you in the various offices and those on board our ships for your excellent work and I am confident that the year ahead will keep us busy but also holds some positive news. I wish you a peaceful Christmas and a happy and prosperous year 2013!!

Hoping you enjoy reading Fleet Magazine,

*Sincerely,
Ulrich Schitteck*

Inside CST

Changes to the management of CST



For those who have not yet received the information: On 19 October 2012, my colleague Dirk Lassen left the company and started his new position at the beginning of December in another Hamburg-based ship management company. I am personally very sorry about this development since we worked very closely together and trusted one another in the last few years. We jointly steered our company over the last seven years: the latter part of our journey took place under rough and heavy weather conditions. Dirk has left us in good spirits and, as we all know, you always meet twice in a lifetime.

Since his departure, we have implemented a new tier with four Division Managers who will be responsible for the operational business, have been with us for a long time and whom you know very well. The Managers are Matthias Behrens, Sven Romatowski, Joachim Müller and Thorsten Sohn. The technical division will be under the leadership of Thorsten Sohn and Joachim Müller. Furthermore, Nikoleta Grindaki and Matthias Behrens have been promoted to Managing Directors of our Crewing Company Chemtrans Crew Management.

I am confident that all of these changes will give us chances which we will take.

Vision CST 2020

New challenges come along every day and nothing is more constant than this permanent change. As a prudent and professional ship manager, we are constantly reviewing our position, evaluating where we stand and what can be improved. At present, we have a programme running which focuses on future business opportunities and the improvement of our day-to-day business. Where will we stand in 2020, how will the market look, and what demands will be placed on ship managers? These are the questions on which we are presently working.

That's why we have set up several initiatives.

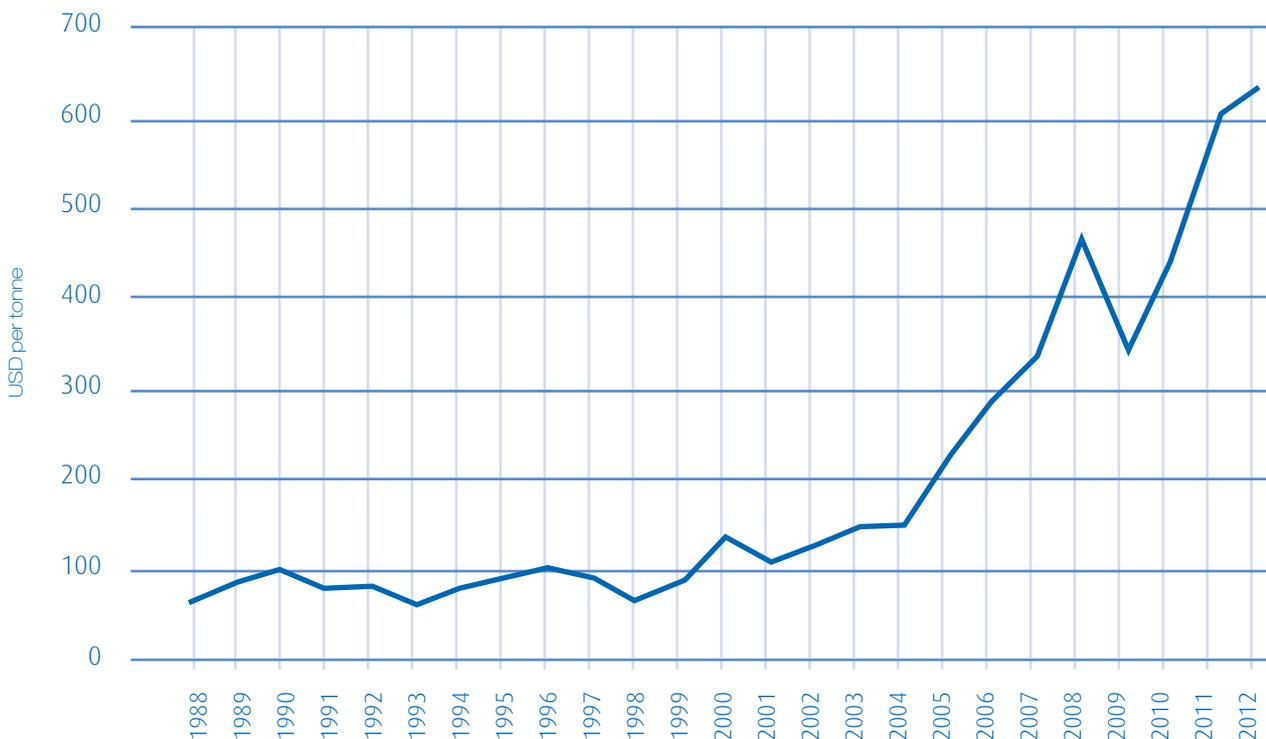
Today, the financial market for shipping has become very difficult and it is important to find new banks and partners with whom we can realise new projects, e.g. buying and building new ships. We have a small team which works on various ideas with the goal of taking on new ships into the management. For this project we also have the extensive knowledge of external third parties. Our top priority is to have an organisation which performs to the expectations of the market. The initiative "Ship operation of the future" analyses internal working processes on land, submits proposals for amendments and reconfirms present procedures. People are at the heart of our company. Whether on board a ship or on land, the communication lines and responsibility need to be constantly reviewed and adjusted. At present, nearly all employees in Hamburg and Cyprus are included in this process and the findings will be implemented to determine how we work together in the future. All the initiatives are guided by an external advisor who supports the process. The focus of his work is not to implement a wholly new structure but to listen, ask the right questions and assist the groups in their work.

I am very thankful for the input of everybody and this will improve the quality of CST even further.

The Impact of Bunker Savings

For years nobody has really given much thought to bunkers for various reasons. One major point was the limited impact of bunker consumption on voyage results due to the low price. For most of the last 25 years, bunker oil cost next to nothing.

380cst bunker prices – Rotterdam (Source: Clarksons)



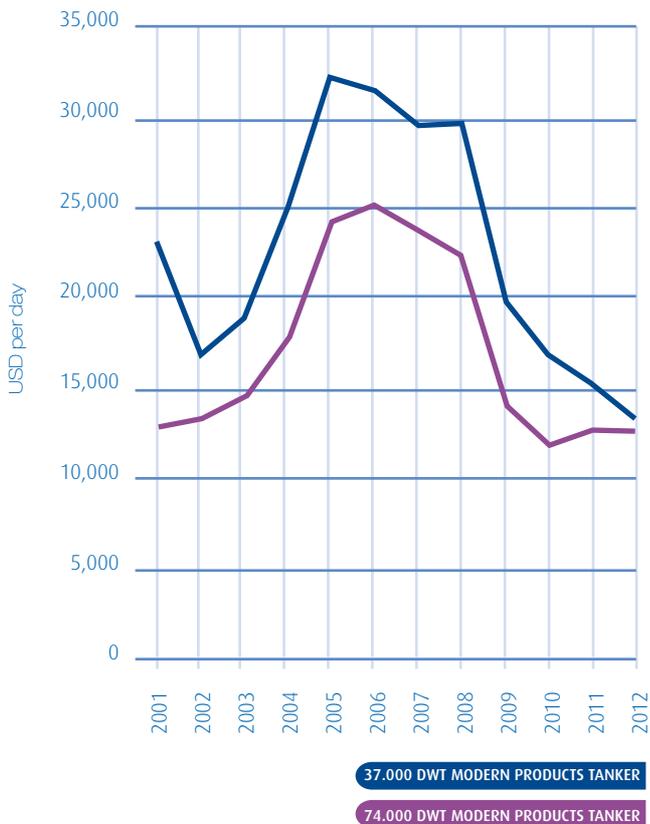
Between 1988 and 2003, 380cst edged up – with only a few spikes – from about USD 70 per tonne to slightly over USD 150 per tonne, which is only a little more than a doubling over 15 years. In 2004, the price escalation kicked in and the residual waste from the refining process became much, much more expensive. On top of the general oil shortage, some regulators also discovered that bunker oil in particular contains nasty things that they do not like. The bottom line is that the price for one tonne of bunker doubled again to above USD 300 by 2007 and once

again to about USD 650, its current price. This is an increase of over 300% compared to 2004, or an extra USD 500 per tonne! A temporary interruption in this development could only be noticed in the aftermath of the global financial crisis, when not only the bubble in real estate prices in the US exploded, but also in the price of oil for a moment. Whilst the bunker price recovered really quickly after the crisis and has hit one peak after another in the meantime, the income of vessels unfortunately did not. In the period from 2004 until 2008, the increase in the bunker price

could be more than compensated for by a rise in earnings, whereby shipowners still made a higher profit in spite of escalating running costs. However, even with the extensive ordering resulting from high profits in these good times, shipping markets have so far not recovered from the global financial crisis. After more than three years of reduced net earnings, most shipowners nowadays have to struggle for their survival as the income from the vessels is not sufficient to cover operational as well as capital expenses.

1 Year Timecharter Rates for Tankers

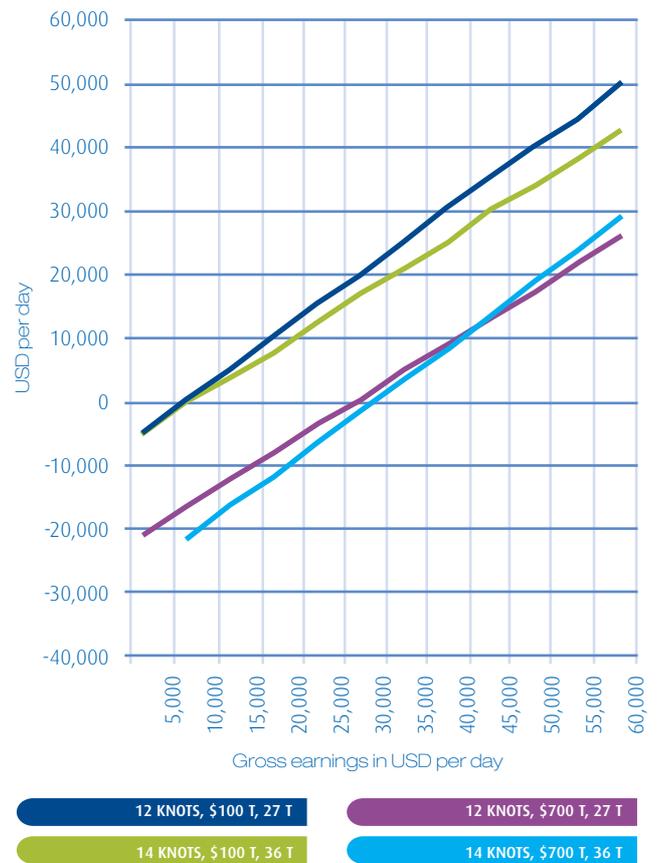
(Source: Clarksons)



However, the bunker price escalation does not only have an effect on the profitability of shipping companies. In combination with the respective earnings, the bunker price does affect the optimum steaming speed.

More returns due to reduced speed

(Source: Clarksons)



For example, a Panamax-sized vessel built in 1999 is designed to operate at 14 knots, with a bunker consumption of 36 tons per day. By slowing down to 12 knots, the consumption could be reduced to 27 tons per day. Regardless of the speed, this ship creates an additional USD 6,500 per day of operational expenses for the crew, maintenance, consumables, insurances, etc. When this ship was ordered and built, the bunker price amounted to roughly USD 100 per tonne. With bunkers at this price per tonne, slow steaming does not make any sense unless daily gross earnings fall below USD 6,300, where owners would suffer losses in any case.

But if this calculation is repeated at a price of USD 700 per tonne, which is presently the case in large parts of the world, the

profitability curve shows that, at gross earnings below USD 44.100, slow steaming is very profitable. For instance, at gross earnings of USD 30.000 the ship would save over USD 2.000 per day by slowing to 12 knots, which leads to a profit instead of a loss (at 14 knots in this example).

Of course, this is only an example and it is not that simple as there are also technical difficulties in slowing a ship and other conditions need to be met, like laycans, etc. However, the example clearly shows that measures of fuel oil savings are gaining in importance, especially in times like these, when the bunker price is high and earnings are low. Even quite small reductions to the speed can have a huge impact on net earnings. In addition, slowing down does not just save the owner money, it also has an effect on the recovery of shipping markets in general as slower ships will deliver less cargo, whereby the worldwide supply of transport capacity decreases. Last but not least, reduced consumption helps to reduce air pollution, to protect the environment and to save the world we are all living in. It has an impact on pure financial results, but also on the sustained market appearance of ship managers and operators. The lion's share of CST's fleet is operated by pools like Handytankers, Star Tankers, Broström, Hansa Tankers and

Nordic Tankers. Some of these pools are also very creative in developing ideas on how to improve earnings; they share their experience in this regard within the group and, of course, they benchmark their members. The outcome of this benchmarking is partly reflected in the allocation key of the pooled income to single ships and members. However, in order to maintain and further improve their customer relations, pools are now turning more and more to select potential and existing members, and excluding partners who are not able to live up to their standards, which include proven flexibility and the skill to realise innovations.

On some parameters that do have an impact on pool points, time charter rates and spot earnings for single ships – like the age, the draft or the design in general – the crew aboard as well as the managers ashore have almost no influence or only limited possibilities. However, especially with regard to the speed/consumption performance of ships as well as acceptance by major oil companies, CST has the opportunity to prove that it is the top provider of ship management services with excellent crews on board their vessels. Let us jump at this chance. Together, we will make it!



Dear colleagues,

My name is Andrea Wilcke. I am 25 years old and live in Hamburg. I joined CST in November as a purchaser to replace Kerstin

who'll soon be enjoying her maternity leave.

Actually, everyone I know calls me Anni, so feel free to adopt it. After my apprenticeship as an office clerk I started working for a ship supplier located in Hamburg. 2 ½ years later I accepted a new opportunity, that of working for Wilhelmshen Ships Service in

their Ship Spares Logistics department. As their management decided to close this branch, it was clear to me to check out the opposite side, being a customer, and I found a new job as a purchasing coordinator at a shipping company also based in Hamburg.

After 1 year I decided to look for a company where I felt I could build on my expertise, help develop the team in the long term and found CST Shipping who gave me a warm welcome. I would like to take the opportunity to thank you for your sustained friendliness, good organisation and patience. I will finish the small introduction about myself by wishing you fair winds and following seas!

Best wishes, Andrea Wilcke

Author: Ulrich Günther

Electronic Chart Display and Information System (ECDIS)

The age of paper charts for navigation is quickly coming to an end. Chemikalien Seetransport GmbH has already fitted several of their vessels (and will fit all the remaining ones in the medium term) with ECDIS. The vessels will switch to electronic navigation, which is the cutting-edge technology and the future of navigation.

An end to information overload: ECDIS stops time-consuming small corrections on overloaded and confusing nautical information charts. ECDIS can truly be called the revolution in maritime navigation. The electronic system fades out all unnecessary information and provides a clear, structured display of the chart, avoiding errors of manual transcription.

The new technology displays customised nautical data on the computer screen, adjusted to the specific measurements of each vessel. ECDIS integrates navigation sensors such as Global Positioning System (GPS) and radar. Accurate data concerning vessel position and other relevant information can be obtained in real time, so that the system can detect risks and warn the captain in advance. The system, for example, identifies the shallows ahead of the vessel in sufficient time for successful avoidance action to be taken.

ECDIS can be regularly updated through a download or through a CD-ROM delivered on board. Vessels are equipped with two independent systems. In case of a computer crash, the second unit will take over automatically.

ECDIS will become mandatory for our vessels by 2015 at the latest.

Chemikalien Seetransport GmbH is well ahead of schedule.

Author: Eckhard Wulff

Cooperation between CST and HARPAIN



Dear All,

We are delighted to inform you that in 2012, two new vessels joined the Gas carrier fleet.

GASCHEM NORDSEE GASCHEM PACIFIC

The takeover was performed within one month and both vessels are now running successfully and to the satisfaction of their owners and managers. The high professional skill of crew and vessel was proven by the cargo operations performed and all necessary vetting inspections.

GASCHEM BERGEN, GASCHEM NORDSEE and GASCHEM PACIFIC will be managed under the brand name "HARPAINGAS".

We herewith take the opportunity to welcome Capt. D. Tatanis from Messrs. HARPAIN SHIPPING in our Gas dept. team as nautical superintendent and look forward to fruitful cooperation in the future.

Super Slow Steaming

We have already gained some experience in how to operate ships in SSS (Super Slow Steaming) mode. Between May and September 2012, the entire fleet completed around 200 hours in SSS.

The main reason why CST introduced SSS is to burn less bunker. There are two main benefits of burning less bunker:

1. **Less bunker consumption means less generation of emissions**
2. **Less bunker costs less money**

Below is an example calculation, based on one ship in the CST fleet: The ship needs to sail 500 nm in ballast, the laycan starts in 4 days, 1mt HFO and costs 650 USD. There are two voyage calculations, one if the ship sails only in Eco and one if the ship sails first in SSS, then in Eco:

	only Eco	half SSS, half Eco
		250 nm SSS
		9.3 kn
		9.2 mt/day
duration, SSS		1.12 days
consumption, SSS		10.3 mt
price, SSS		6,697 USD
	500 nm Eco	250 nm Eco
	12.8 kn	12.8kn
	20 mt/day	20 mt/day
duration, Eco	1.63 days	0.81 days
consumption, Eco	32.6 mt	16.2 mt
price, Eco	21,190 USD	10,530 USD
duration, anchorage	2.4 days	2.1 days
consumption, anchorage	6 mt	5.3 mt
price, anchorage	3,900 USD	3,412 USD
total price	25,090 USD	20,639 USD
CO ₂ Generation	121 mt	100 mt

If the ship sails halfway in SSS and halfway in Eco, it saves 4,451 USD in bunker costs and generates 21 mt less CO₂.

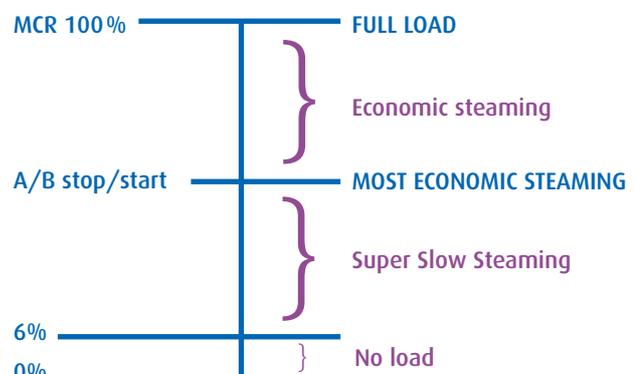
But to understand SSS, it is essential to first define SSS: For Chemikalien Seetransport, SSS means the lowest possible main engine RPM, where the temperature of the exhaust gas (after economiser) is higher than 180 degrees C.

For tankers, SSS is only allowed when the ship is in ballast condition. SSS is not allowed when the ship is in laden condition. In general, the entire RPM range with running aux. blowers can be considered as Super Slow Steaming.

But the lowest HFO consumption can be achieved with the lowest ME RPM. And the lower the RPM, the better the combustion air supply via aux. blowers.

Also, the entire RPM range from full load to start of main engine aux. blowers can be considered economic steaming. But most economic steaming refers to the lowest main engine RPM before the start of the aux. blowers.

1. Below, please find a sketch of the different operational modes of an engine, from full load to Super Slow steaming:



SSS requires some special attention from the engineers with regard to technical aspects:

1. **Continuous running of ME auxiliary blowers may lead to the failure of the electric motor of the aux. blower. Therefore, if open-type bearings are in use, the bearings may need frequent greasing. Also, there can be a spare A/B electric motor on board.**
2. **Exhaust gas economiser: can be subject to more frequent cleaning due to soot deposits, even if slide fuel valves (MAN) are in use. This depends highly on the type of exhaust gas economiser. The only way to find out is to do frequent checks and/or to monitor the pressure drop across the economiser.**
3. **More frequent scavenge space inspections to check the condition. Maybe the basic setting of the lubricators needs to be adjusted, but there should be sufficient oil injected.**
4. **Steam for all bunker tank heating might not be available. In case of planning SSS, the bunker tanks can be heated up prior starting of SSS, and then switched off.**
5. **Fresh water generation might not be possible.**

We have not yet heard about any problems during SSS. SSS can be aborted at any time and the voyage can be continued with Eco Speed.

When Chemikalien Seetransport started thinking about the implementation of SSS at the end of 2011, there were two main concerns on the technical side:

1. **Build-up of deposits**
2. **Failure of one ME aux. blower**

The build-up of deposits in the engine/exhaust/boiler system is not a big issue (yet) for us. The days a ship runs in SSS are very few (between May and September 2012, the entire CST fleet completed around 200 hours in SSS).

This means the build-up of deposits is very low. All deposits could be burnt away when the engine RPM after SSS was increased to Eco speed. Also, we did not learn that an ME aux. blower had failed. Nevertheless, all ships which are subject to SSS should have one spare electric motor for the ME aux. blower on board for emergencies.

There are also a few items to be considered by the nautical department:

1. **In dense traffic areas, no SSS is allowed**
2. **In cross-traffic areas, no SSS is allowed**
3. **In areas with high tidal currents, no SSS is allowed**
4. **In canal areas, no SSS is allowed**
5. **In piracy HRA, no SSS is allowed**
6. **Weather conditions are to be considered**

We have not received any negative feedback about SSS, neither from the ship's crew nor from the ship operator. Therefore, we will continue to run SSS upon request from our charterers.

The Maritime Labour Convention 2006

*Dear Masters, Dear Chief Engineers,
Dear Officers, Dear Crew*

Today I would like to take the opportunity to introduce to you something "new"... **The Maritime Labour Convention 2006.**

"Seafarers have human rights too" was the headline of a commentary on the International Labour Organization (ILO) Maritime Labour Convention 2006 (MLC 2006) when it was passed more than five years ago. As of August 2012, the convention was ratified by 30 states representing 60% of global shipping. Entry into force required 30 ratifications by countries representing over 33% of the world gross tonnage of ships and will take effect on 20 August 2013, 1 year after the thirtieth ratification. After just five ratifications, the ratifying countries (the Bahamas, Norway, Liberia, the Marshall Islands and Panama) represented over 43% of the gross world tonnage (which is over 33%; the second requirement for entry into force). We will arrange a proper MLC 2006 training session for all masters in order to be well prepared when the inspection is performed on board. This training will either be combined with our annual crew events or will be carried out as part of briefings at the Hamburg or Cyprus office. Every inspection will take at least 8 hours and, after successful completion of inspection, the Maritime Labour Certificate (MLC) will be issued.

Below I will give you a short introduction about:

What is MLC 2006?

Why was it created?

Applicability?

Key players?

Certification process?

The Maritime Labour Convention (MLC) is an International Labour Organization convention established in 2006 as the fourth pillar of international maritime law and embodies "all up-to-date standards of existing international maritime labour conventions and recommendations, as well as the fundamental principles to be found in other international labour conventions". The other pillars are SOLAS, STCW and MARPOL.

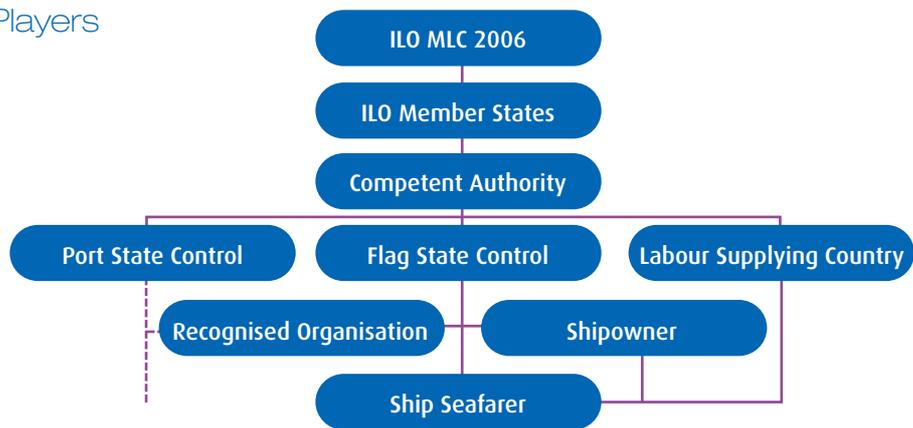
Make-up of the Convention:

- **Articles, regulations and the code**
- **Vertically integrated**
- **Articles and regulations**
Sets out the core rights, principles and basic obligations of members
- **Code**
Deails for implementation of regulations
Part A (mandatory standards)
Part B (non-mandatory guidelines)

Convention structure

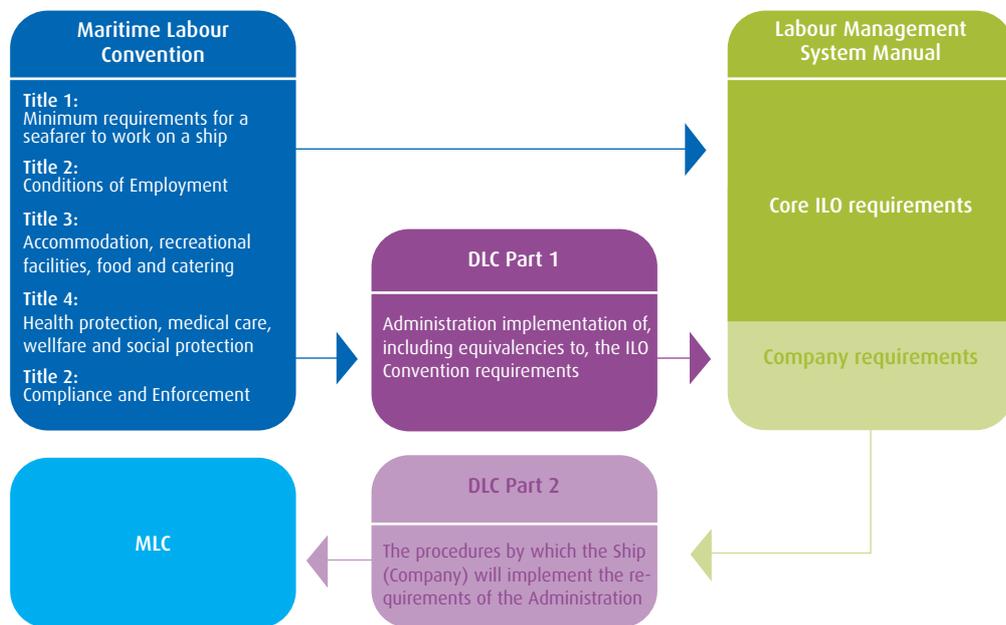
Articles & regulations				
Title 1 Minimum requirements for seafarers to work on a ship	Title 2 Conditions of Employment	Title 3 Accommodation, recreational facilities, food & catering	Title 4 Health protection, medical care, welfare & social security	Title 5 Compliance & enforcement
<ul style="list-style-type: none"> Minimum Age Medical Certificate Training & Qualification Recruitment & placement 	<ul style="list-style-type: none"> Seafarers' employment agreements Wages Hours of work & rest Entitlement to leave Repatriation Manning Levels Compensation for ship's loss or foundering Career & Skills development 	<ul style="list-style-type: none"> Accommodation & recreational facilities Food & catering 	<ul style="list-style-type: none"> Medical care on board and ashore Shipowners liability Health, safety protection & accident prevention Access to shore-based facilities Social security 	<ul style="list-style-type: none"> Flag state responsibilities Recognised organisations Inspection & Enforcement On-board complaints procedure Port state responsibilities On-shore complaints procedure Labor-supplying responsibilities

Key Players

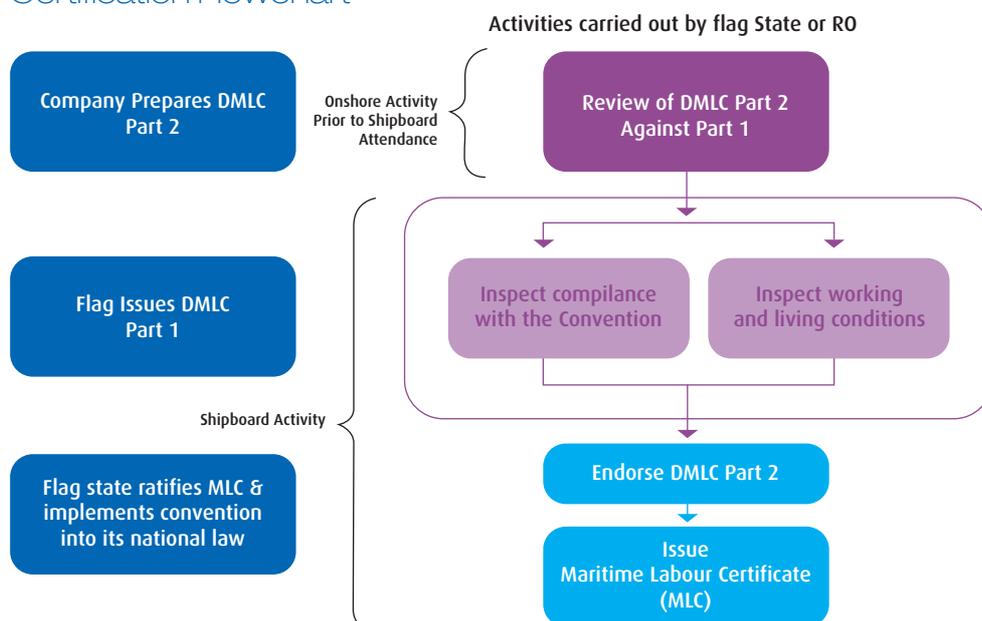


The Labour management System

(Source by IACS)



Certification Flowchart



Piracy attack on the Chemtrans Elbe

Sailing in a risk-exposed area – West Africa



Source: New York Star, January 2011

According to the International Maritime Bureau Piracy Reporting Centre pirate attacks are on the rise in the Gulf of Guinea. Ships transporting fuels like gas oil and Gasoline are the favourite targets, and unlike the pirates in Somali waters, the interest in West Africa is the cargo and not the hostage. But for the crew members that find themselves in a situation facing robbers, this is of little reassurance. Unfortunately, the crew of CHEMTRANS ELBE had to experience a 2-day hijack and luckily no one was injured during the kidnap. Because the criminals were under the influence of drugs and mentally unstable,

their guns were loosely handled and they had cheap ammunition. The vessel was carrying ethanol at the time, and the pirates were trying to sell the cargo without success. Details and lessons learnt were distributed to all vessels and the office departments with the incident report and these should be taken to the heart when sailing in the Gulf of Guinea area. I would like to take this opportunity here in Fleet Magazine to share how the events developed in the office during these 2 days.

The pirates boarded the vessel on Monday 25 June 2012 in the morning around 02:00. The morning after, the CST CYPRUS office opened and the absence of messages/emails was noted. When several routine office emails sent to the vessel during the morning remained unanswered, the emergency team was set up in the afternoon. On 25 June 2012 at 16:00 Cyprus time (GMT+3), the company IT department increased the polling frequency for the Sat C device from 12 hours to 1 hour. The last position update was on 24 July 2012 at 18:00 UTC, but the Sat C polling device didn't respond. Shortly thereafter, the Liberian flag office was informed about the lost communication from the vessel. The flag office was still able to receive and provide us with regular position reports via LRIT.

The following parties were informed during the afternoon:

- PLEXUS SECURITY (our security advisors)
- Flag State
- P&I Club
- Kidnap and Random Insurer
- War Risk Insurer

Valuable information and help was received from the insurance representative in Lagos, who advised us of the limited possibilities that we had at this stage other than trying to get information regarding the state of the vessel (reconnaissance by helicopter or speedboat). The Nigerian MRCC was involved, with the hope that other vessels would spot the CHEMTRANS ELBE and report back to confirm her position. The insurance representative advised that the cargo of ethanol was an "unsuitable" (meaning "unsalable") cargo, and the pirates were likely to abandon the vessel. He advised that kidnap is not their usual motive and violence usually only occurs when crews put up resistance – crews should be physically unharmed if they comply with pirates' demands.

Since no further arrangements could be made from the office to ensure the safety of the crew for that moment, the emergency team proceeded to make arrangements to secure the cargo in case it was stolen by the pirates.

Contact was made with Kongsberg Satellite Services regarding shooting a satellite picture that could enable us to read a newspaper on the cargo deck. Since we received position and speed updates from the flag office at regular intervals, we were prepared to take a satellite picture the moment the CHEMTRANS ELBE was not moving in order to get details of any lightering vessel that would be involved in the cargo robbery. At 03:00 Cyprus time all conditions were right for a successful satellite picture and the "spy satellite" was programmed to sweep across the CHEMTRANS ELBE. At this very moment, all outstanding email receipt confirmations were downloaded onto my computer, indicating that someone on the ship had established communication with the mailbox – "is the crew still under pirate command?" was the next question that had to be clarified.

A call via the sat phone got the officer on watch online. His answers were very brief and I could not clearly establish if his answers were dictated by any pirate next to him or if he could answer freely. At least I received the confirmation that crew and ship were all right. The only further information I could get was that "the time on board was 02:00 LT" and that the Master would be "available for communication at 07:00 LT". At 09:00 Cyprus time all office staff gathered around the telephone when the second contact to the vessel was made – only then (and with great relief) did we get the confirmation from the Master that the pirates had disembarked during the night and released the vessel without harming the crew. The hours of uncertainty were quickly "forgotten". A "confirmation procedure", including a security password to clarify such uncertain situations, is about to be built into the ship security plan.

Additional note from the management:

We, the management, are very happy about and thankful for the positive outcome of this severe situation. We are grateful to the entire crew on board the vessel and the people at our offices for their professional performance and work.

Ship Energy Efficiency Management Plan (SEEMP)

Based on initiatives that date back to 2003, members of the Maritime Environmental Protection Committee (MEPC) adopted an amendment to MARPOL, Annex VI, at the 62nd MEPC meeting in July 2011.

The amendment includes a new chapter 4 entitled “Regulations on Energy Efficiency for Ships”. The chapter contains five regulations covering issues from:

- a. the application of this new chapter to ships through [Regulation 19],
- b. the calculation of the Energy Efficiency Design Index (EEDI) [Regulations 20 and 21],
- c. the Ship Energy Efficiency Management Plans (SEEMP) [Regulation 22] to
- d. cooperation between MARPOL member states [Regulation 23].

The provisions of the new chapter 4 will enter into force on 1 January 2013 and apply to all ships of 400 GT and above, so to all CST ships. Although the calculation of the Energy Efficiency Design

Index is required for **new ships***, each vessel shall keep a ship-specific Ship Energy Efficiency Management Plan on board. Unlike other plans, e.g. SOPEP or SSP, the SEEMP does not require official examination and approval.

The purpose of this stand-alone plan is to provide for a proactive approach to energy management. The SEEMP will include energy efficiency measures which can be divided into the following categories:

- Operational measures,
- Hull & Propeller measures,
- Machinery & Equipment measures, and
- Accommodation Service measures

Each energy efficiency measure can be broken down into further energy-saving measures. Each of these energy-saving measures will be accompanied by one or more action plans. The action plan will include tasks, responsibilities and recording & monitoring measures. An example is given below.

Hull & Propeller Measures					
Energy Efficiency Measures	Energy Savings Measures	Start Date	Goal	Recording & Monitoring Tools	Responsible Person
Hull performance optimisation	<ol style="list-style-type: none"> 1. Perform hull performance assessment on a 4-monthly basis 2. Perform underwater hull/propeller condition assessment for fouling one per year 3. Perform underwater cleaning in case of non-optimized hull condition/performance 	01-JAN-2012		<ol style="list-style-type: none"> 1. Records of hull performance assessment for historical reviews 2. Analyse data to identify trends and compare against benchmark sea trials 3. Keep records of underwater inspection 	Head Office

The information received through records generated either on board or in the office shall be gathered and analysed. The purpose of the analysis is to review the effectiveness and efficiency of the energy-saving measures. The review will take place at regular intervals, e.g. every 6 or every 12 months.

CST has started making arrangements in order to provide the vessels with suitable tools/equipment, since the accuracy of the analysis will greatly depend on the accuracy of the measuring devices and availability of reporting schemes. For example, the Coriolis flow meter for measuring bunker consumption, and Fleet Tracker as a fleet- wide reporting platform have been purchased.

Through the implementation of the SEEMP, CST seeks not only to improve the commercial/operational aspects of ship management, but also to save natural resources and thus the environment.

HSSEQ Department/Nov. 2012

* **New ship means a ship:**

- 1. For which the building contract is placed on or after 1 January 2013; or**
- 2. In the absence of a building contract, the keel of which is laid or which is in a similar stage of construction on or after 1 July 2013; or**
- 3. The delivery of which is on or after 1 July 2015
(An extract from the amended MARPOL Annex VI)**

Ships Performance Measurement and Ship Tracking

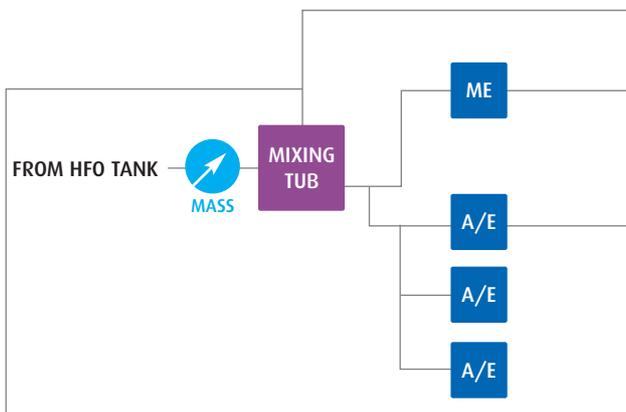
It is essential for a ship manager to know about the performance of each and every ship in their fleet.

Only if we know about the actual performance of the ship will we be able to implement measures which will improve the ship's efficiency. An improvement of a ship's efficiency will result in a decrease in its HFO consumption.

The Chemikalien Seetransport concept is as follows:

1. Installation of one Coriolos type Mass Flow Meter between HFO tanks and Mixing tube. It will only measure the "fresh" HFO entering the system
2. Installation of kWh counters for each AE
3. Purchase of monitoring software

Below is a sketch of how the system should look:



The consumptions for AE and ME can then be calculated as follows:

1. The AE SFOC is constant
2. $AE \text{ HFO Cons} = AE \text{ SFOC} \times kWh$
3. $ME \text{ HFO Cons} = \text{total HFO Cons} - AE \text{ HFO Cons}$

A Coriolis-type mass flow meter will not measure a volume flow of fuel oil, which then needs to be converted into a mass flow. It directly measures the mass flow of fuel oil, with an accuracy of 0.1%. For the monitoring software, Chemikalien Seetransport decided to purchase a new kind of software called "Fleettracker", which needs to be installed on every ship in the fleet. The installation has to be done on the ship's network.

At present, the program has 4 main functions:

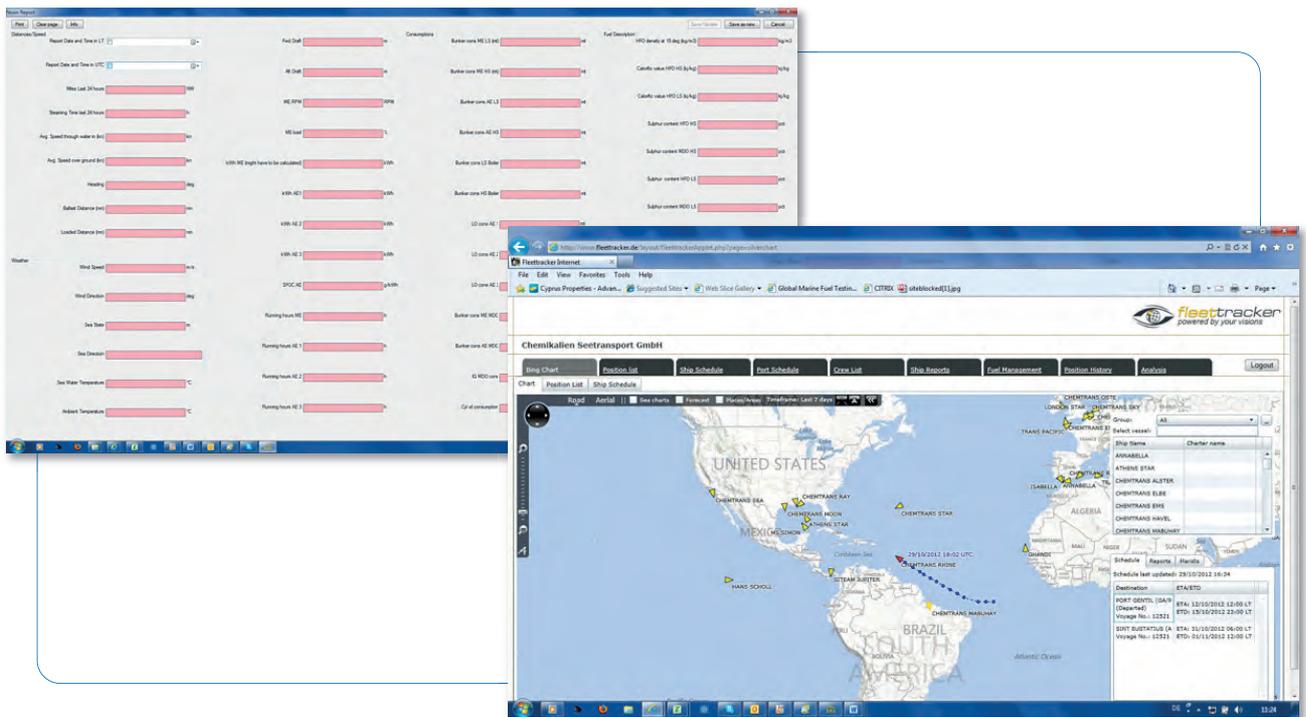
1. Position update (can be done more than once per day) including next port, ETA, ETB, ETD, agent
2. Noon Report
3. Arrival Report
4. Departure Report
5. In-Port Report

The three reports mentioned, and the position, have to be regularly updated by the ship. The updates have to be done partly by engine staff and partly by nautical officers. With the departure, arrival and noon reports, the office will be able to generate voyage reports and performance reports for every ship. The office will then be able to evaluate the reports and compare sister ships. Below is a screenshot (1) of the Fleettracker noon report.

If we get the data regularly and fleet-wide, we are able to monitor the entire fleet:

- Ship's position
- Agents, ETA, ETB, ETD
- Arrival Reports, Departure Reports, Noon Reports
- Speed/Consumption
- Ship's Performance
- EEOI (Laden, Ballast, Combined)
- Ship's efficiency (mt HFO/ton mile)

Below is a screenshot (2) of the start page of Fleettracker. After the selection of a ship, the last positions are shown as well as the last two ports and the next port incl. ETA.



A very important function of Fleettracker will be the performance monitoring tool. It will enable us to analyse the ship's performance.

Before the office is able to analyse the ships performance, it is necessary to collect data for at least 6 months. Only if there is a sufficient amount of data is it possible to recognise certain trends.

A few KPIs for a ship are:

- Nautical miles/Bunker Consumption [nm/mt]
- CO₂ Generation [mt]
- NOx Generation [kg]
- CO₂ efficiency [g/ton mile]
- EEOI [-]

All the above KPIs can be calculated by using the HFO consumption and multiplying it by certain factors.

For example, the EEOI is the Energy Efficiency Operational Indicator and can be calculated for a voyage as follows:

$$EEOI = \frac{\sum_j FC_j \times C_{Fj}}{m_{cargo} \times D}, \text{ where}$$

- j is the fuel type,
- i is the voyage no.,
- FC is the mass of consumed fuel,
- C is the fuel mass to CO₂ mass conversion factor for fuel,
- m is the mass of the cargo carried,
- D is the distance in nautical miles.

7th CYCLASSICS Event on 19 August 2012 in Hamburg for our Company



Once again more than 22,000 participants cycled around Hamburg on three different courses. The Crazy Marine Team from CST and Marine Service were participating for the 7th consecutive year, with an ever growing number of 35 keen cyclists. As in previous years, we were very lucky with the weather: sunshine and nice temperatures of around 25 degrees made the event enjoyable and relaxed. Luckily, everybody from the team returned in good health and with lots of positive impressions. Each muscle was controlled and subjected to constant pressure, which resulted in sore muscles for most people in the days that followed.



The event has become more popular every year, and the number of participants from CST and business friends has steadily risen. Apart from the CST shore team, there were business partners from Germany, Denmark and the US. Amongst them were suppliers, charterers, bankers, insurers and lawyers. The international mix of different sectors gave this event a very special and personal note. Next year, we'll be counting on you!!

On the regular 55-kilometre course, we had 24 participants and the top five all had times below 1:35 hours, with an average speed of above 35.7 kilometres per hour. York Müller was the fastest and even did the distance in 1:29:11, which corresponds to an average speed of above 38 kilometres per hour – well done!!



The team for 100 kilometres was set up with 10 participants and was very strong. The fact that three did the distance below 2:50 hours (average of 36.6 km/h) was extremely impressive. Oliver Henkel, with 2:42:35, was the fastest from our team and proved with also 38 kilometers per hour on average his good condition.

The "iron distance" of 155 kilometres was faced by the only fighter Christian Frass who, with 4:33:09 hours, delivered a perfect performance. We are confident that this distance will be just as popular next year and that Frass will be joined by many others.

This year's CYCLASSICS will be on 25 August 2013 and we hope to welcome both new and old participants. In case you are interested in participating, please send an email to event@cst-shipping.com by the end of January 2013.

CST Crew Seminar July 2012, Odessa



The annual seminar for seafarers who work for CST took place in Odessa on 25 to 27 July 2012. Such seminars are part of CST's quality policy, which refers to a constant perfection and improvement of the company's activities.

25/07/2012: The first day of the seminar was held at the ONMA training centre. The specific meeting was organised for the Top officers with the main objective being vetting training and familiarising seafarers with the best seagoing practices during the passing of vetting procedures. Also, practical training sessions for chiefs and second engineers were carried out, as well as separate ones for masters and chief mates.

26/07/2012: The "Londonskaya" Hotel was chosen as the venue for the second seminar. The Fleet Manager of CST Mr Joachim Müller opened the seminar. The intensive and tense, but very interesting seminar finished at 18.00. The participants continued their communication with company representatives in a friendly manner at the "Blef" restaurant. CST is one of the leading tanker

shipping companies in Europe with more than 40 years' experience on the market. CST approves the main policy of the company: "Environment Protection and Human's Safety are the foundation of good work", specialising in the transport of oil, oil products and liquefied gases. The main priority for the company is to continue to be perceived as the best shipowner. This is demonstrated by the fact that all its vessels satisfy the standards of ISMA and ISM. And, sometimes, technical compliance of the fleet overtops strict international requirements. A number of today's CST clients are well-known brands such as ExxonMobil, TOTAL, ConocoPhilips, BP, Shell, LUKOIL and many more.

Seafarers' opinions:

Oleksandr Manisov: The main focus was drawn to the information regarding the vetting inspection. It's very important for the vessel to be ready for an inspection and to meet all the international standards and requirements of the industry. I appreciated the bright samples of situations which need to be avoided on the vessels. It was very objective.



Leonid Horosanov: All the information was very interesting and, of course, very useful. But most of all I was interested in a speech about navigation, which was related to my rank. Also, I want to find out more about the new control department. There were a lot of professionals in this area of expertise who have worked in this field for a long time and were competent in issues that had arisen during the training.

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Nikoleta Grindaki, Head of the Crew Department of CST, agreed to give an interview to "Rabotnik Morya" newspaper about the prospects of a sea job on the Ukrainian market and CST's relationship with Ukrainian seafarers.

Could you please tell us a bit about the relations of your company with the Ukrainian seafarers? How many years have you been cooperating with the Ukrainians?

Our company is about 40 years old. From early on, we started to employ Ukrainians and Russians. I've already been working for CST for 8 years. When I came to the company, Ukrainian seafarers were already working there. Now we are cooperating with seafarers of different nationalities, but with the Ukrainians (we've got on board) we've established good relationships and gained a lot of experience in terms of cooperation. That's why we try to employ more and more Ukrainian seafarers.

How many Ukrainian seafarers work for your company now?
In total about 240 seafarers.

And which Ukrainian manning agencies do you cooperate with?
Eurocrew only!

Why?

We joined forces many years ago: Eurocrew is the first and the only agency we work with. CST appreciates that this work is carried out in an open and honest way. It's very important to us.

Is there any difference in the work with Ukrainian seafarers and seafarers of other nationalities?

Certainly. There are properly specialised educational establishments in Ukraine, where seafarers get a good education on an international level. They are well prepared. Maybe these are the main reasons why we employ Ukrainian seafarers. The main difficulty is that Ukraine is not a member of the European Union and seafarers need visas for European ports. But I think it's a minor issue. And that is important.

Could you please tell us about the difficulties in working with Ukrainian seafarers in detail.

It can be difficult with everybody, irrespective of their social status, nationality, or job. Ukrainian seafarers should improve their level of English. We cannot forget that the main language of communication on board is English. It's not Russian or Ukrainian, but English! This is an international requirement for a job. Officers and ratings should communicate in English. And all orders should be given in English and should be clear to every crew member.

How do you foresee a partnership between CST and Ukrainian seafarers in future?

I hope that we will continue working with highly qualified officers. Also, we hope that the educational level in the marine educational establishments of Ukraine will improve even more, and more young people will relate their job to the sea and be willing to work at our Company. Now, together with our agent Eurocrew, we are working on a training programme for Ukrainian cadets, who will work on our company's vessels in the future. During the practical part, they will get the experience they need to successfully become officers.

CST Crew Seminar March 2012, Novorossiysk



We're pleased to announce that at the beginning of 2012, Chemikalien Seetransport GmbH and Chemtrans Crewmanagement GmbH planned and organised the greatest crew event of recent years, held in Novorossiysk on 18 and 19 of March 2012.

What are the greatest issues that happened?!

It was our first attempt to combine a lectures seminar with practical exercises on navigation and engine simulators at Novoship Training Centre, with simulated navigational and engine tasks as per CST scenarios based on accidents that occurred on the CST fleet in recent years. The target of practical training is to show that some accidents are predictable and can be avoided if the right decision is taken in time. One of the best decisions was to invite representatives from different companies and organisations and Novorossiysk that play an important role in marine industries and consider them as long-term clients of CST, as well as marine experts engaged in the field of accident prevention, investigations and analysis. Let's go through the agenda and see what was done

at the last crew event, and what kind of conclusions were drawn. On 18 March, after the welcome note of Mr Dushka Sergey, Dr Dirk Lassen proceeded with a speech that offered a broad summary of the company's performance in all aspects during 2011 and the beginning of 2012. It was mentioned that the past year was very hard for the company and their staff due to conditions on the tanker market, as well as several accidents that happened among our fleet, which should be future. Ways of avoiding such accidents in the future were also looked at. Afterwards, representatives from CCM Hamburg, Mrs Kukrika Verena and Mr Walther Thomas, highlighted the amendments to the STCW Convention held in June 2010 in Manila which came into force in 2012, as well as the main points of MLC 2006, which will come into force in August 2013.

They also discussed key issues on board with TOP officers. These included appraisal reports, rights and obligations of crew on board, controlling and motivating seafarers, written warnings and dismissal report issuance.



Marine Superintendent Mr Linde Ingo held a very professional presentation covering boiler maintenance, water analysis and boiler damages as a result of negligence and a breach of engine duties. It was underlined how much can be lost – and is lost – by oil shipping companies once boilers become defective.

Marine Superintendent Mr Leu Detlev was appointed to discuss incidents and accidents that had happened during 2011, as well as possible ways in which to predict casual and unexpected situations while ships are in operation. The second important point was a Heidmar Vetting System (Star Tanker), and how to comply and respond to the demands and expectations of major oil companies.

In his presentation, Captain Tariq Khan – guest and contractor of CST – who represents his own company “Master Mariner M.Sc. International Transport” demonstrated the key role of masters and top officers in terms of organising teams on board in order to perform their duties safely and effectively.

The innovation came about during further investigation and professional tasks that were given in written form in order to evaluate respective deck and engine officers while vessels were prepared for forthcoming vetting inspections. The key role of the master for the entire organisation and controlling the situation on board was highlighted, irrespective of any inspector’s attitude.

On the second day of the seminar, 19/03/2012 officers were split into navigation and engineering groups, and undertook common and separate tasks such as:

- Vessel’s entry to port and emergency actions of the crew during unexpected energy shutdowns. Exercises were successfully completed, and vessels avoided any accidents while simulating processes.
- Navigators completed several separate exercises relating to vessels manoeuvring in restricted areas and those with dense fog, such as the English Channel, and the Kerch and Bosphorus straits, with turn manoeuvring and bringing the vessel to anchorage.

The above training and simulator exercises were properly recorded on the video and participants were handed their certificates. In the meantime, engineers were involved in the presentation of Alfa Laval – speaker Mr Uryvaev Denis brought engineers’ attention to the innovation drawn up by the Alfa Laval relating to the fuel conditioning system.

The next presentation was provided by representatives of LUKOIL Marine Lubricants LTD Mr Hans-Peter Giese and Steffen von Arnstedt, who demonstrated an innovation in the field of cylinder oils and items, namely: neutralisation and corrosion protection, oil-cleaning ability, dispersancy and detergency and choosing the right oil. Oil testing (standard analysis) and onboard test kits.

All the above was organised and provided by CST to show officers the company’s willingness for further progress and development in all areas of the shipping industry. The company’s management spent their time investigating and providing fresh and helpful solutions for further business expansion and maintenance of the best conditions on board.

On behalf of Russian seafarers and the staff of STMA LTD, we would like to pass our sincere thanks and respect to you, for the time you have spent in organising annual crew events in different countries where you have the agency, crew management meetings in Hamburg, and TOP officer seminars held by CST in the lovely city of Odessa and our best colleagues, Eurocrew!

We wish Chemikalien Seetransport GmbH, Chemtrans Crew Management GmbH, Chemikalien Seetransport Cyprus, Belchem Singapore, and our colleagues Eurocrew/Odessa and Seagate/Batumi much prosperity and the best conditions for working together as one fantastic team in the years ahead!!

Sincerely yours,
Sergey Dushka
General Manager, LLC “STMA Ltd”



WAVE