SETRANSNYTT

Rolls-Royce: New LNG-engines under construction for Sea-Cargo

involvement innovation performance

care

Innovation for "greener" transportation at sea

As we approach Christmas and the New Year again, it is time to reflect on where we are and to look into the future.

The building of two liner vessels for our subsidiary Sea-Cargo with a main engine powered by LNG, points towards a low emission future shipping that the world needs if we shall be able to solve the challenges of pollution of our environment.

With these engines, there will be no emissions of Sulphur, hardly any emission of NOx or particles, and 20% reduction of greenhouse gases. There will be no heavy fuel oil on board to pollute the seas through accidents or operational mistakes. This is the cleanest technology available today for ship propulsion, and it should make us all proud that Seatrans is in the forefront of both development and use of this technology.

We believe that in a few years most of shipping will be fuelled by LNG, a transition as great as the one from steam to motor in the early 20th century.

This is true Innovation, we change and improve!

We still experience difficult markets, but with the progress we see in Seatrans now, there is good reason to look to the future with optimism.

I wish you all a Merry Christmas and a Happy New Year!

Johan Hvide



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Lack of a ship dog...

-We miss a ship dog, so we were happy to get some substitutes, Capt. Kurt Gimmestad on OHM Leader tells us. Meanwhile the new pets on board gave them some challenges while they didn't find the procedure described in TQM 2000: "How to train a snake". And there were not anyone on board that could remember this lesson from school. But being in Indian waters: Wasn't there a "guru" somewhere ashore that could give them some hints? With or without a flute?

Jubilanter:

Jan Johansen	60år	02.11.2010
Wojciech Madejski	60 år	21.12.1950
Relu Mahu	50 år	09.12.1960

A glimpse of **history**

"Brave innovation" This should be the headline for the massive newbuilding program implemented by Seatrans in the mid-1970s. A restructuring of the newspaper production industry opened a new market for an industrial shipping company like Seatrans. With an agreement and contract on hand, Seatrans ordered four new vessels especially designed for transportation of paper. "Trans Sea" was the first in the series that was sent to sail the seven seas, with two sideports, aft engine room and wheelhouse and accommodation in front. With a total cost of some NOK 75 million (probably close to NOK 1 billion today) the consortium operated four new vessels for the trade: Trans Sea, Follum Supplier, Nornews Leader and Trans Baltic.



Old technology in new context: Electromagnetic surveys improve deep resource management

OHM reduces risk in exploration and field appraisal costs

Traditional seismic surveys use acoustic energy to create reflections from the around below the sea floor (subsurface) which can provide important structural information in the search for offshore hydrocarbon accumulations. In Controlled Source Electromagnetic (CSEM) surveys, acoustic waves are replaced by electromagnetic waves. The different rocks the seabed conduct these waves differently and by comparing the electrical responses to a previously derived model, the computer based processing can produce maps of the electrical resistivity below the sea floor. With the use of these maps combined with other data (more on this later) the explorationist can significantly improve his knowledge of the fluids that are present within the subsurface structures, these fluids may be valuable hydrocarbons. The use of electromagnetic data is not a modern or difficult concept, having been used on land throughout the last century, but translating this data into



Top management: (from left) Andy Lambert (Vice President Sales and Marketing), Anthony Greer (CEO) and Jon Nicholls (Vice President Operations)

high value information from very deep waters with complex structures below is quite a challenge in practice. The founders in OHM started out with doctorate degrees from The Universities of Cambridge and Southampton and some brilliant ideas about how to commercialise the use of electromagnetic offshore surveys. Over the years OHM have managed to develop a business that is slowly getting adopted by the oil industry, says Anthony Greer; Chief Executive Officer of OHM Ltd –The business develops rather slowly due to the long technology adoption cycle within the oil industry. It takes a long time from when an oil company (operator) is awarded a licence or concession to when they can produce oil or gas from the field. The technology adoption of CSEM, which in this case is capital intensive and impacts the work processes of the end user, tends to work along similar timescales. Looking back over the past 8 years we have made significant new steps along the adoption curve with new processes typically developing every few years. Each new process represents a new opportunity in the market. (DGNA)



Monitoring

As both the acquisition of information from the subsurface and the processing and integration of the data along with other types of geophysical data are being improved, we are looking for new ways for our services to add value to oil companies. An upcoming opportunity is to offer a reservoir monitoring service to the oil companies (operators). We have demonstrated that CSEM is very sensitive to the presence of hydrocarbons through exploration surveys, and furthermore that we are able to accurately map the lateral extent of the hydrocarbons through field appraisal surveys. The natural extension of the increasing resolution and accuracy of them method is to monitor the depletion of an oil field as it undergoes production. The idea is that if we compare a baseline survey with repeat surveys conducted potentially every one or two years, we can give the operator valuable information about how the oil is being produced, supporting the drive for enhanced oil recovery (EOR). This repeat business has the potential to be very profitable for the company, Vice President Sales and Marketing, Andy Lambert adds.

ep sea hydrocarbon



Integration

Underlying the success and development of the exploration and appraisal services is the recognition that Controlled Source Electromagnetic Imaging and MT (Magnetotelluric) methods are complimentary to traditional seismic tools. They can be particularly effective at determining presence of hydrocarbon charge in an exploration setting, and determining extent of hydrocarbon charge in an appraisal setting by combining information from these two technologies along with seismic and well data. In an open project, along with our sister company "OHMRSI Processing and Interpretation" the WISE workflow (Wells Integrated with Seismic and Electromagnetic) was developed. The WISE workflow uses novel methods for the integrated interpretation of seismic, controlled source electromagnetic and well log data within a rock physics framework. Our aim is to provide quantitative measurements of sub-surface rock and fluid properties leading to improved reservoir characterization, Anthony Greer explains. -Making use of seismic, electromagnetic and well log data allows the strengths of each to be exploited, increasing the certainty with which sub-surface properties can be derived and ensuring that the maximum value is extracted from existing data and new acquisitions alike. So, integration is the key!

This is how **CSEM** works

OHM Ltd uses a technology based on the "Controlled Source Electromagnetic" methods (e.g. CSEM) where a man-made source induces electrical current in the Earth, due to the fact that the various kinds of geology conducts the electromagnetic waves differently, a highly sophisticated post data acquisition process can produce 3D images of the sub seafloor resistive structure. These maps, when integrated with other geophysical data, give far better indication of the presence and quantification of hydrocarbon fluids, than can be gained through just 2D / 3D seismic data alone. (see www.ohmrsi.com)





OHM Rock Solid Images and Seatrans gets **closer**

During the autumn 2010 a restructuring of OHM took place. OHM Ltd was owned by OHM PLC a listed company on the London Stock Exchange. OHM PLC consisted of two separate parts: A unit for acquiring data from the sea floor (OHM Ltd), and another for processing the acquired information into visible maps and images (Rock Solid Images Inc). Now these two units have been formally separated. The unit for acquiring data OHM Ltd, which is closely linked to the operation of the two Seatrans surveyor vessels OHM Leader and OHM Express, is now 50 per cent owned by Seatrans, the other 50 per cent is owned by a Norwegian investment company. The remainder of OHM PLC is still listed on LSE, This company has various shareholders, but also here Seatrans and the Norwegian investment company are major shareholders with more than 50 per cent of the stock between them. Strong links exist between the two companies as well as a mutual dependency for services and business growth.

-From our point of view, this a very good solution, Anthony Greer says who is appointed Chief executive Officer of OHM Ltd –Seatrans has both very sophisticated vessels designed for our operations, and they are able to finance upgrades and development of the equipment we need for optimizing the value for our customers. We have a very close business relationship with Rock Solid Images, but by separating us into two different companies we are better positioned to focus on our core competences, and together growing the CSEM market through our joint offerings. This gives both parties more flexibility in the market, and the clients an improved service, Greer explains.

Overall on Seatrans

Overall I believe that Seatrans is a good work place in relation to my ideal work place





Seatrans has two vessels dedicated for operations for OHM Rock Solid Images and their clients.

Sailors prefer Seatrans:

The first employee survey shows **good results**



"Of course we are very happy with the results from the survey from our offshore employees. The overall impression is very good. 83 per cent of our sailors find Seatrans to be a good workplace in relation to their ideal workplace. Only four per cent are on the negative side."

Erik Mohn, Head of Crewing department, has started in his new position by launching the first employee survey in Seatrans performed on the Internet. All the seafarers received an email with a link to a website. Here they could click through a number of questions, giving their response totally anonymously. "First of all, I'm very happy with the level of enthusiasm shown by the fact that 253 out of 450 seamen took their time to give us their point of view. The survey points out many issues where we can improve. I therefore hope the response will be even higher next time," Erik Mohn comments.

When it comes to the physical working environment on board Seatrans ships, 66 per cent find it very good, while 26 per cent find it "neutral" compared to their expectations. Only nine per cent of the respondents feel that the working environment not is very good. "There are some improvements we can make in this area. In more detail, a number of seafarers feel that they have no power to affect their own workplaces and are not satisfied with how the environment is suited to their needs. However, the survey also shows that being a sailor is hard work; the majority does not feel that they are physically relaxed after finishing their job. This corresponds very well with the impression we had beforehand. Our seamen work extremely hard," Mohn says.

Another very positive result from the question about how they experience the ships: 74 per cent of the seamen believe that

the general appearance of the Seatrans ships is very good. Only five per cent disagree on the statement. "When we dig deeper, we find that 73 per cent of the seamen agree with the statement 'when we enter port, I feel proud to be on a Seatrans ship'. But in this area, there were too many neutral responses and eight per cent on the negative side. Eleven per cent also think that 'my ship (is not) equipped with all necessary equipment to ensure an effective and safe place to work'. So, there is room for improvement here," Mohn concludes.

The working environment on the Seatrans ships is good. 93 per cent are neutral or positive to the statement 'I believe that the psychological working environment on my ship is very good overall'.

"This is not to say that it's like Paradise on board. The relationships between employees can be improved on many vessels. Improvements are possible when it comes to expectations to the working day and the impression of how much the superiors on board are interested in individuals and personal development on board. This corresponds with the issues we discuss during every management course and the meetings we have. On the other hand however, a large majority of seafarers are very confident in their colleagues and feel that the level of caretaking in general is very good. Our health care both for the seamen and their families gets a very high positive score in particular."

"What about stability? Do the seamen in Seatrans want to sail with Seatrans in the future, or are they looking for other companies to sail for?"

"I'm happy to say that we have a very stable and highly motivated crew. When we ask them, more than 75 per cent expect growth in the company and 80 per cent of the seamen we employ today intend to stay with us for the next ten years! If we include expectations for the next five years, we will have 89 per cent of our sailors today in 2015. This is a very positive sign, and from our side we will continue our efforts to make Seatrans attractive, safe and a pleasant company for the best seamen there are," Erik Mohn says with an optimistic smile.

GG I'm happy to say that we have a very stable and highly motivated crew.

Production of new gas engines: High-tech in the engine room!

"The feedback from chief engineers operating gas engines is unilaterally positive: They would not want to exchange their new gas engines with conventional diesel. Gas engines are quieter and cleaner. They make it much easier to be in the engine room," explains Oda Erene Spurkeland at the Rolls-Royce engine factory in Hordvikneset outside of Bergen. The next generation of gas engines for Sea Cargo are under production.

The first engine has already been delivered for fitting in the stern which is currently being constructed. At the time of writing, engine number two is being built at the factory. TransNytt was lucky to catch a glimpse of the birth of this engine. The engine block is cut out and left to stand upside down in the waiting area. A V12 (6 cylinders on each side) engine standing upside down looks like a castle turret. Soon the block will be turned and the different teams will start the work of bringing life to the 12 cylinders.

Clean and attractive

"It takes around 1 month to build this type of engine. The job requires approximately 4,200 components and everything has to be fitted and placed down to the smallest micrometre. In practice, there are no tolerance levels with this work. In order to ensure stable conditions for the automated cutting machine, we had to dig down through the floor to the rock beneath then build up proper foundations from there. It is essential that the cutting machine is absolutely stable. If not, we could be several micrometres out and the result would be tiny warps in the machinery which in turn generate vibrations and, in the worst case, an engine breakdown. And that is something we absolutely have to avoid," explains Harald Åge Sætre (work supervisor for machine workshop – block production).

The majority of engine rooms onboard ships are impressive in their complexity and technology. Walking round one of the world's leading ship engine factories is like walking round a gigantic play area for engine enthusiasts. Although there may be one exception: the level of noise and tidiness.

"Yes, it really isn't that noisy here. All our machining work has good sound insulation and we place a huge emphasis on keeping the work area clean and tidy. If an engine does not require any work, it is covered to avoid dust or any metal particles getting into the critical parts of the engine. Cleaning is in fact an extremely important aspect in an engine factory," confirms Oda Erene Spurkeland.

Third generation

The engines intended for the new Sea Cargo ships are already the second generation of gas engines from Rolls-Royce. "Product development is a constant process. We are always on the lookout for areas for improvement. The two Bergen B35:40V12PG engines for Sea Cargo are an enhanced design based on gas engines we have previously manufactured. This implies that the basic principles are the same and are well-tested, but that we have further developed the design of the cylinder tops, the piston and the way in which gas and air are mixed in order to achieve optimal effect from combustion," explains Oda Erene Spurkeland. Each of the engines for the Sea Cargo ships will have an effect of 5250 kW.

Once the engines have been assembled, they are physically moved to a separate test hall. They are fitted here as if they were in a genuine engine room. Propeller resistance is simulated by using water resistance (water brake). This allows testing of the engines in a range of conditions and the customer can then ascertain that the engine meets all specifications and expectations.

"We normally sell long-term service contracts for the engines we supply. We have mechanics who travel all over the world, monitoring the engines we have supplied. Customer satisfaction is essential. And we don't want ships unable to move because of engine trouble. At least not when carrying one of our engines," concludes Oda Erene Spurkeland.

Facts

In 2008, Sea-Cargo ordered the first ships in the world to be fuelled solely with liquefied natural gas (LNG), and also with a simple mechanical drive propulsion system. On delivery from the shipyard they will operate on a ten-day round trip service covering Baltic, Norwegian and British ports, bunkering gas fuel at one location. The engines are a major breakthrough, both in the application of LNG fuel f or merchant vessels, and in the way the simple Rolls-Royce solution works. An important end result will be a very large reduction in emissions compared with a similar ships using liquid fuel. CO2 emission will be reduced by about 20%, NOx by about 90%, particulates negligible and sulphur oxide emissions will be zero.

Principle for engines fuelled by LNG

Gas engines from Rolls-Royce have spark plugs which ignite the mix of gas and air. A thin mix of gas and air is sucked into the cylinders. It is so thin that it cannot be ignited by compression alone when the pistons move upwards. Rolls-Royce has therefore developed a unique ignition system with a forechamber where a richer gas mix is ignited by the spark from a spark plug. The spurts of flame in the forechamber ignite the thin gas mix in the cylinder. This provides a much safer combustion process and high utilisation of fuel, resulting in a higher effect and lower emissions of environmentally hazardous gases such as NOx, Methane, CO2. What's more, there are no emissions of SOx and low emissions of particles.



Turret: This is the block for engine number two. By the New Year, this will be ready for testing and will then be sent for fitting in ship number two of Sea Cargo's new "gas fleet".



Rolls-Royce LNG enigine



Look for the yellow tube: This is an example of a modern turbo LNG engine from Rolls-Royce. Even on a photo the yellow tube for gas identifies what kind of engine it is.



Both are necessary, but: Leadership and management are **not the same**

19 out of 20 of the Captains invited took part in the Captain seminar in Bergen at the beginning of November. They left with a lot of new information and a management course in their bags. "What is management and what is leadership," asked John Meling from Seascape who was invited to facilitate the training session. The Captains developed their answers on the spot.

Management is about organising the work on board, implementing rules and regimes, having an overview of the vessel, planning for actions in advance, achieving results, supervising and encouraging improvements all around. Leadership is about getting the best out of the people and resources, communication with the staff, clients and authorities, creating cooperation and team work, motivating people and certainly: Leadership is connected with clear responsibility. In other words, management and leadership are necessities for performing well as a Captain. The question is how and when...

"As captain you are the top manager onboard," Meling comments. "You are supposed to do overall management, including; maintaining an overview, setting goals, setting priorities, budgeting and cost control, organising and executing the work and following up the various activities (by yourself) in order to achieve results through and together with your onboard team. Of course you have professional duties to perform, and handling relationships with external parties has become a vital part of daily life – in today's shipping industry.

Think about all the relationships you need to have with port authorities, clients, suppliers and your counterpart ashore and how important every single interaction is. This means you have to be good at communication, negotiation and making deals that advance your ship. Finally, you have all the aspects of leadership, which also involve direct interaction with colleagues and followers. Your leadership style is crucial; you have to be clear about delegation, approachable and inclusive, you must be able to identify and solve problems and conflicts and build strong teams to achieve top performance.

Herein lies the key: Many people in this standardised business "do well". The thing is: In order to beat competition and be among "the top of the class" you as Captain in Seatrans are expected to make sure that you and all your crew members perform accordingly. That is what good management and leadership can make you achieve," Meling concluded in his introduction. "Be better than the average. As Captain in Seatrans, you are expected to be top of the class."

All the Captains in Seatrans will be invited to take part in this course as a part of our Master seminars. The aim is both to clarify the Master's role and to support the Masters in executing their challenging role on board. The role of Master carries the most significance for our efforts to achieve good performance. In other words: It is all about "performance" – the ultimate core value in Seatrans.



Coach: John Meling opened the minds of the Captains who took part in the management training course, and filled them with ideas. All the Captains in Seatrans will have the opportunity to participate on the Captain Management Training Course.



Huge increase in "near accident reports": Tool box meetings help raise the level of **awareness**



Toolbox meeting: Every morning the crew meets to share information and discussing today's tasks.

"In 2007 we received 44 near accident reports. In 2008, the number was 120 and last year we received 360. So far this year (end of October) we have received 394 reports. This is a really positive indication," says Safety & QA Manager Karl-Johan Kleppe. Onboard Trans Iberia, the obligatory morning meetings have helped raise the level of awareness and co-operative attitude, Master Per Hagen reports.

You might think that an increase in near accident reports makes it sound like we work in a dangerous environment. On the contrary: the huge increase in "near accident reports" shows that the reporting system works and that the crews onboard are willing to share their experiences so that others can learn from them, and use this knowledge to avoid accidents!

Learning potential

"The quality of the SIS-reports has really improved and gives us a far better picture of the risk factors onboard the vessels. We see that fall accidents are the most significant topic. Over the last three years, such accidents represent 33 per cent of all personal accidents onboard. When it comes to "near accidents", falling constitutes 44 per cent alone. The causes behind such near accidents are wet or slippery deck, loose items on deck and stairways. Near accidents on deck dominate the picture and chemical tankers report three times as many as dry cargo and survey vessels. We still have some room for improvement for the SIS reporting. But we also have a lot to do to analyse the reports and convert their contents into learning points," says Kleppe.

Tool box

One practical outcome of these reports is the recommendation to have a daily planning meeting with all crew members. On Trans Iberia, this has now been introduced and Captain Per Hagen explains why. "This is part of our tool box in the TQM system. I had some problems with this in the beginning; you know accepting "another idea" pushed onto us. But soon I had to confess to myself that this is a good and valuable tool for all of us onboard. As Captain it is easy to stick to conservative ways of doing things. But for goodness sake, you can't behave as if you're blind or deaf to new ways of thinking about how to improve the management of a ship." Captain Hagen went on to explain that everyone onboard participates in the meeting, expect for personnel on duty. What do they talk about during these meetings?

All men on deck

"Well, we talk about everyday tasks in general, and everyone talks about what he is up to on that day – the 1st officer, Chief engineer, boson, pump man, cook, and electrician – everyone gets a word. The thing is that this helps us exchange information between deck and engine so that they know about each other's tasks for the day and can therefore handle certain limitations or unforeseen and extraordinary situations more smoothly. We deal with the safety aspects related to the various tasks, review related procedures and check lists. The meeting is also ideal for all the planned follow-up such as SIS, NC, safe job analyses and risk assessment. And not least, the "Tool box meeting" is a good arena where we can help each other remember what has been promised or how various jobs can be carried out in a smarter way – and so on."

Daily routine

"Do you find it hard to establish these kinds of meetings with the crew?" "No, but you have to be firm with a "democratic" attitude. But then, these meetings are not only a positive motivation for me, they are also for the rest of the crew and that makes it easier for the crew to accept them. At least here on Trans Iberia, these meetings were quickly adopted as part of our daily routine. There were a few grumbles at the start, but they soon stopped. Participation is obligatory, but the atmosphere during the meetings is very positive. This is something which has come to stay," Per Hagen concludes.

Awareness

"Have the meetings given birth to any changes onboard?" "There's no doubt that my aggressive campaign for improving our safety culture onboard has been fruitful. The co-operation between deck, engine and galley has been improved, information is more easily exchanged between us, and because we have meetings every day they are never boring and do not last too long. Very often, the meeting only last ten minutes. Furthermore, the crew has a much higher ability to analyse their own working environment and safety challenges. For example, many of the managers onboard now use the TQM system more intensively and inspire others to do the same. This has resulted in a better safety culture, followed by a higher awareness and watchfulness that in turn reduces the possibilities for serious accidents. A new routine is that short reports from the meetings are written and everyone puts their name on this afterwards. The loyalty among the crew when it comes to taking part in these morning meetings at 8 o'clock is impressive. And the flow of information about the operation and management of the vessel has improved - not least because of the situation I put myself in by forcing myself to do this," Per Hagen concludes.

Toolbox meeting

Date: <u>191112010</u>

1	Hagen Per	Captain	Yu Gell
2	Budner Michal	Chief Officer	AB
3	Rusanu Lucian	2. Officer	1.
4	Bjoerge Benjamin	3. Officer	100
5	Paulsen Erik	Chief Eng.	E.PA
6	Toma Radu Virgil	2nd Eng.	TEQUE
7	Galan Jan	2nd Eng.	Gaia
8	Galav Daniel	3rd Eng.	210
9	Roman Dumitru	Electrician	to A.
10	Garbaty Witold	Pump man	Jas
11	Cocos Liviu	Bosun	Alex
12	Stoian Tudor	AB	But
13	Vulcan Dragos	AB	A
14	Burdujanu Gheorghe	AB	R-
15	Vlad Adrian	AB	8
16	Mocanu Dumitru	AB	De
17	Chirita Cristian	Fitter	fthe
18	Buicli Mitel	Motorman	Buig
19	Lolot Ionel	Cook	F
20	Dima Alexandru	Massman	18
21	Tudor Catalin	Deck cadet	PV ,
22	Udrea Marius	Engine Cadet	Meho

MERCY ACTIVITIES OF THE MIT. - GOBARA CHINELT, CONNECUS, FIRE FLAPS - CHEMMING OF ACCONDANTION - CHEMING OF ACCONDANTION PP * ENGINE CLEANING HARMING PP * ENGINE IN EXERCISE EACT - CLEANING IN EXERCISE EACT - CLEANING INECTOR EACT - CLEANING INECTOR EACT - CHECK FLINDATION BUTS AND PIPE SUMPATS ON AGA. ENGADO - CHECK FLINDATION BUT ON THEAMAL OIL CIRC FOR SHITTER NO I & NO 2 * WOORLING HOURS IN CONCAL ORD -2000 AS PER INSTRUCTION PROFT MAJTER

* DISU ASSESSMENT / HEAR ACCIDENT REPORT TO BE COMPLETED ABOUT SOFTUME FAILURE ON AUTRONICA FRE ALARY SYSTEM * KAS/WATCHSCHEDULE FOR WILDMING RETSTAY REDM 1500 THIS AFTURNOON.

& LUTRONICH FIRE MART SUITED BELONIS TO CRITICAL EQUIPMENT.

Report: After every meeting the crew signs on to show who has been participating AND a few words that concludes the discussions that have taken place.

Christmas is (soon) served

The winter is a time for celebrations; Christmas and New Year are good reasons for good socialising with family and friends and with eating traditional meals. Well, here are some recipes from the "TransNytt family" that maybe will inspire you to expand the meaning of "local" traditional dishes for the season? Alcohol suggestions are for onshore use only...



Cabbage Rolls

– a Romanian traditional Christmas dish

From Christian in Constanta, Romania we have got a whole menu for the lunch on Christmas day:

Appetizers: jumari (melted pork fat), sausages, blood sausages, toba (big sausage stuffed with pork jelly and skin), lebar (a paste made from liver and pork fat), piftie (pork feet jelly). Main dish: cabbage rolls with mamaliga (a sort of Italian polenta) - roasted pork with pickles- pickled vegetables Desert: sweet yeast-raised egg bread

Cabbage rolls are made of:

300 g pork meat 300 g beef meat 100 g rice 200 g smoked ham 100 ml oil 2 large sour kraut cabbages black pepper corns savory 2 or 3 bay leaves salt and pepper by taste

Preparation of cabbage rolls

Chop the meat; mix the rice with salt, pepper and savoury. Separately, choose the cabbage leaves and just cut them in parts ready to be filled. The leaves that can't be filled are cut separately in order to be put in the deep pot. From the mixture of meat, rice, salt, pepper and savoury prepare the cabbage rolls. Take the cabbage leaf, put the mixed meat in the middle of it, roll the leaf and, then, push the heads inside with the fingers. Put the rolled leaf in deep pot oil and smoked ham.

Afterwards, put the cabbage rolls and on top of them the fried smoked ham in layers. On each layer insert slices of smoked ham altogether with the cabbage rolls and pepper, savory and when reaching the top of the pot just put again slices of smoked ham and a layer of chopped cabbage. We must add pepper, bay leaves and savoury and fill the pot with water mixed with tomato sauce.

Leave the cabbage rolls to boil at high temperature first and then minimum under the lid until the rice is ready, about 1 hour, the water level drops to half. Then, introduce the pot in the oven, at medium temperature, until the water level drops completely, about 30-60- minutes.

Before serving, we recommend drinking a glass of boiled plum brandy, and while tasting the cabbage rolls, the red wine is preferred.



Pinnekjøtt

 traditional dish from Western Norway gains popularity in all of Norway

In Norway, Pinnekjøtt (that is Lamb rib, cured, dried and sometimes smoked) is a main course dinner dish of lamb or mutton. Pinnekjøtt is a festive dish typical to Western- and Northern Norway, served with puréed sewed and potatoes, beer and akevitt. This dish is largely associated with the celebration of Christmas, and is rapidly gaining popularity in other regions as well. 31 % of Norwegians say they eat pinnekjøtt for their family Christmas dinner.

Preparation

The preparation of pinnekjøtt uses a traditional method for food preservation utilizing curing, drying and in some regions also smoking as means of inhibiting the growth of micro-organisms. Although lamb is today available fresh or frozen all year round, pinnekjøtt is still prepared both commercially and in private homes due to the flavour and maturing the preservation process gives to the meat. In home preparation of pinnekjøtt, racks of lamb or mutton are cured in brine or coarse sea salt. Once sufficiently cured, and when the weather is cold enough, the racks are hung in a cool, dark, well ventilated place to dry. In some regions, particularly in parts of Hordaland, the fresh racks are smoked prior to curing, traditionally this was done in order to prevent mould growth during the drying process.

Before cooking, the racks are separated into individual ribs by cutting a sharp knife between the bones. The ribs must then be soaked in water for some 24 hrs in order to rinse out the salt and reconstitute the meat. Today pinnekjøtt is available in most supermarkets before Christmas, smoked or unsmoked, ready cut and sometimes also soaked, ready for cooking.

After soaking the ribs are steamed over a little water in a large saucepan. A layer of twigs from the birch tree may be placed in the bottom of the saucepan instead of a metal steamer, hence the name pinnekjøtt (literally: stick meat) which refers to these birch twigs and not to the rather obvious resemblance the ribs have to sticks. Steam the ribs for approx 2 hrs. Serve with potatoes, cabbage stewing and even a sausage (from Voss that should come...)



Walnut Roll (Orehnjaca)

As it is customary in Catholic countries, most Croats do not eat meat on Christmas Eve.Traditionally on the coast, this meal is consisted of dried salted cod-bakalar. And with cake afterwards of course.

Dough: (Serves 10 persons)

cup milk
 2 cup plus 1 teaspoon sugar
 teaspoon salt
 4 cup butter or margarine
 4 cup warm water
 tablespoons dry yeast
 eggs
 1/2 cups all-purpose flour
 teaspoon finely grated lemon

rind 2 tablespoons butter, melted

Filling:

3 eggs, beaten
4 cups finely chopped walnuts
1 cup packed light brown sugar
1/3 cup butter or margarine, melted
1/2 teaspoons cinnamon
1 teaspoon vanilla extract
1/2 teaspoon ground cloves

Dough: Heat the milk in a medium saucepan, when hot, stir in 1/2 cup sugar, the salt and butter. Cool to lukewarm. Put the warm water into a large mixing bowl; add 1 teaspoon of sugar and the yeast. Allow to rise and bubble for about 10 minutes, and then stir in lukewarm milk mixture. Add the eggs and 2 1/2 cups flour as well as the lemon rind; beat at high speed with electric mixer. With a wooden spoon gradually beat in the remaining 2 cups of flour. Knead with hands until the dough is stiff enough to leave the side of the mixing bowl. Spray another mixing bowl with cooking spray, and then place dough in greased bowl. Turn the dough over to bring up the greased side. Cover with a towel and let rise in a warm place free from drafts, until double in bulk, about 1 hour.

Filling: Put the beaten eggs in a medium-size mixing bowl. Add nuts, brown sugar, butter, cinnamon, vanilla and cloves. Stir to thoroughly mix. Set aside until the dough is ready.

To assemble walnut roll: punch down dough. On a lightly floured surface turn out the dough; cover with cloth and let rise for 10 minutes. Roll out to a 30 x 20 rectangle. Spread with the filling to about 1-inch from the edge. Starting from the wide side, roll up tightly, just as if for a jelly roll. With the palms of hands, roll back and forth so that the roll is even all over. On a large greased cookie sheet or round baking pan, form roll into a large coil, seam-side down. Let rise in warm place covered with a towel, free from drafts, until double in bulk, about 1 hour.

Preheat oven to 200° and brush the roll with the melted butter. Bake on 180° for 40 minutes until golden. Cool on wire rack. Slice crosswise ¼ inch thick. **Blue waves** - also with snow - and also in Poland. With this photo from Wojciech Incewicz we will thank our readers for following us through 2010. We are looking forward to be seeing you again in 2011!

Merry Christmas and Happy New Year!

