

# Danish polar shipping 1915 - 2015

Bjarne Rasmussen



An exciting story about politics and shipping  
including dramatic accounts from sailors

## **Danish polar shipping 1915 - 2015**

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On the web site you can watch the Authors films of Arctic ice navigation

# **This teaser of the book contents**

## **Authors preamble**

### **Greenland:**

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### **Important:**

The pages in this teaser are translated into English by Chief Engineer Thorbjørn Joensen and proofread by editor Wendy Laursen, Maritime Executive. Without this great help, these translated pages could not be released today; thank you very much to both of you for this contribution.

The complete and original Danish version of the book is free available on [www.iceguide.dk](http://www.iceguide.dk) in September and October 2016th

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## **The Authors preamble**

I hope that this book will provide just as much pleasure, enrichment, surprise, wonder and enlightenment to the reader as it constantly does to me.

Before I began my research for this book, I was convinced that with my many years as navigational officer in polar ships I had a thorough knowledge of the Danish polar voyages through time.

Soon, however, I found out that I really didn't know much!

My research and subsequent preparation of the book was therefore my "polar exploration" in which my challenge was to put together a "jigsaw puzzle" where I didn't know the final picture - with the pieces spread across the country – in which I couldn't expect to find all the pieces as some had been lost through time - where I wasn't sure where to look for them - where I didn't know whether I was permitted to use the pieces that I found - where I often was denied help to get on - where I often got unexpected help to move forward, but now in a new direction - where I collected an enormous amount of material to be sorted and evaluated.

It all ended up with a kind of chronicle and encyclopedia of Danish polar navigation in the period 1915 - 2015, in particular how the Danish state institutions such as Royal Greenland Trade (KGH) and private Danish shipping companies built and developed the maritime part of Greenland from 1945 and forward.

While reading the book the attentive reader might wonder why I have quoted company magazines, in particular J. Lauritzen's "Frivagten" and the Royal Greenland Trade's "KGH Orientering".

I have chosen to do so because I have estimated that these public journals give a good impression of the many challenges the Danish polar navigation was facing.

I am particularly happy for the personal accounts in the book which the seafarers have sent me, as they give a good description of the many "sailor challenges" polar navigation has to offer - and frankly spoken as the "sailor jargon" is, these contributors are well into their senior years, and this book was perhaps the last chance to collect and publish some of their dramatic experiences from the Arctic voyages.

Apart from the above, I have been inspired by extensive sources which I have listed in the appendix, hoping that the readers of this book will take the time to delve into the many books and reports to which I refer.

During the preparation of the book, a number of seafarers have sent me video footage and photos of polar shipping, and it is my vision that both this material and, as far as possible, all the other collected material will be digitized and posted on a publicly accessible non profit web site so that the material can be preserved and publicly disseminated for both the present as posterity.

It is also my vision that my book "Danish polar navigation 1915 - 2015" will be translated into English, and then released as E-book via the internet to benefit the many polar scientists abroad.

For a realization of both visions, I hope to gather interest and financial support from funds and/or public institutions in Denmark and abroad.

Last but certainly not least, I owe special gratitude to Fjord Riisgaard, Ole Albertsen, Povl Kjeld Hansen, Fritz Ploug Nielsen and Per Danker, who all have given me invaluable assistance during both my research and preparation of the book.

I once more want to thank Chief Engineer Thorbjørn Joensen for his translation of the book so far, and editor Wendy Laursen for proofreading same.

Bjarne Rasmussen, Denmark 2016

# **Greenland**

## **History and politics**

In the period 1380-1814 Norway was part of the Kingdom of Denmark, and thus the Danish king also ruled Greenland which belonged to Norway. During the Revolutionary and Napoleonic Wars in the period 1792 – 1815, Denmark had sided with Napoleon, and during the negotiations in the Kieler treaty in 1814 Denmark had to cede Norway to Sweden but was allowed to keep Greenland.

In this book the Danish arctic trade to and from Greenland is considered to start in 1721, as it was this year the missionary Hans Egede co-founded a private trading company “The Bergen Company” in Norway with the intention that the Company's profit should cover the cost of missionary work in Greenland.

The king supported this mission by granting Hans Egede and the Bergen Company monopoly on the Greenland trade.

In the years 1721 - 1774 the Greenland trade was managed by several Danish companies but with unsatisfying results, why the Danish Government established the “Royal Greenland Trading Company” KGH (in Danish: Kongelige grønlandske Handel) and took over the monopoly which lasted until 1950. Furthermore the Danish Government assumed full navigational and supply commitment which lasted until 1986, whereupon the assets of KGH was transferred to Greenland Home Rule.

## **Danish Greenland expeditions**

In the period from 1898 to 1948 a great number of Danish research expeditions were carried out to both East- and North Greenland

Many of these expeditions also gained experience in polar navigation in the ice filled waters around Greenland, and also gathered knowledge beneficial for proper construction of vessels for this kind of navigation.

With the establishment of trading posts and mining, some of the expeditions later became important for the Danish arctic trade. Especially when an expedition in 1948 headed by dr. Lauge Koch discovered a very large lead deposit at Mestersvig in Northeast Greenland.

## **International conflicts**

### **East Greenland**

In connection with the sale of the West Indies to the United States in 1917, the Danish sovereignty claim to all Greenland was recognised, and in 1921 the entire Greenland was annexed to the Kingdom of Denmark.

Norway, now an independent country, did not recognize Danish sovereignty over Greenland as Norwegian seal hunters refused to waiver hunting and fishing rights on the East coast of Greenland.

This led to intensified enforcement of Danish sovereignty, and in 1931 the conflict culminated with a Norwegian “occupation” of the areas in the East Coast and a subsequent lawsuit in 1933 by the International Court in The Hague which confirmed Danish sovereignty in East Greenland.

### **World War 2**

The German occupation of Denmark during the period 1940 - 1945 had an enormous impact on the Greenlandic society and the subsequent servicing of the country up to the present day. It was a period of prosperity for Greenland, which exported salted fish and cryolite to the US and imported American goods.

During the war, the United States significantly changed the supply chain to the Greenland destinations by developing and implementing a coastal route along the west coast.

### **The Cold War**

Denmark joined NATO in 1949, and on the 27th of April 1951 the United States and Denmark contracted a defence agreement for Greenland (Greenland Treaty). This led to the establishment of the Thule Air Base in 1953.

## The modernization process

Greenland was as such pleased with the liberation and "reunification" with Denmark in 1945; but many social problems surfaced during and just after the war.

The Danish writer and journalist, Ole Vinding, stayed for six months in Greenland after the liberation in 1945 and travelled around the country talking to people about their life and problems.

After his stay in Greenland Ole Vinding wrote the book "Grønland, 1945" that attracted huge public attention and debate when it was published in Denmark in 1946.

The outcome was partly, that Ole Vinding received the prestigious Cavling prize the same year and partly, that a Danish delegation of journalists in 1946 travelled to Greenland to probe into the alleged problems and then published a series of critical articles on the subject particularly in the Danish media.

In 1946 the Danish government set up the "Greenland Committee of 1946" (in Danish: Grønlandsudvalget af 1946) which quickly released "Report of 12th June 1946" (in Danish: "Betænkning af 12. juni 1946"); a report which also was presented and eagerly discussed by the "Greenland Society" under the headline "Debate on the Greenland report" on Thursday evening December 12, 1946. A large number of dignitaries including Prime Minister Knud Kristensen and other politicians, **business people** and journalists etc. had turned up for this debate night (Source: Grønlandsposten no. 11, December 1946).

In 1948 Prime Minister Hans Hedtoft travelled to Greenland to discuss the issues with the local Councils, whereupon the Prime Minister established the "Great Greenland Commission of 1948" (in Danish: Grønlandskommission af 1948) which in 1950 published a very comprehensive report (roughly 1100 pages) proposing legal bills containing guidelines to a development program for the next several years, (also called the G50 plan or "The new deal") resulting in the beginning of a gigantic modernization of Greenland.

The development program should support improvement of infrastructure and with private Danish enterprises as mentors, the Greenlandic fishing that had started as exploratory in 1917, should be modernized.

Ship-owner Knud Lauritzen from the private Danish shipping company J. Lauritzen did also visit Greenland in 1948 on a voyage with *S/S Maria Dan*. Most likely as a consequence of the great public attention in Denmark regarding the problems in Greenland.

At the time J. Lauritzen was by no means a novice in the Greenland trade, as six of the company's vessels during World War 2 were commandeered by the US War Shipping Administration, who used them for the trade between USA and Greenland.

The vessels carried supplies to Greenland and in Ivigtut they reloaded cryolite for the military aviation industry.

Subsequently Knud Lauritzen wrote a report on all his impressions from his Greenland journey, including suggestions for improvement. In 1949 he sent the report to the private residence of Eske Brun, Director of the Greenland Agency, and in copy to the Prime Minister Hans Hedtoft in Denmark.

(This report from 1948 is available to the public today, and excerpts are included in this book in the chapter "Port Facilities").

With the 1953 amendments to the Danish Constitution Greenland became an integrated part of Denmark, and the very large investments and expenses for the establishment and development of infrastructure, power plants, hospitals, warehouses, stores, production facilities, modern welfare etc. etc. in Greenland was done and payed by Denmark because the Greenlandic economy and society was not able to do this.

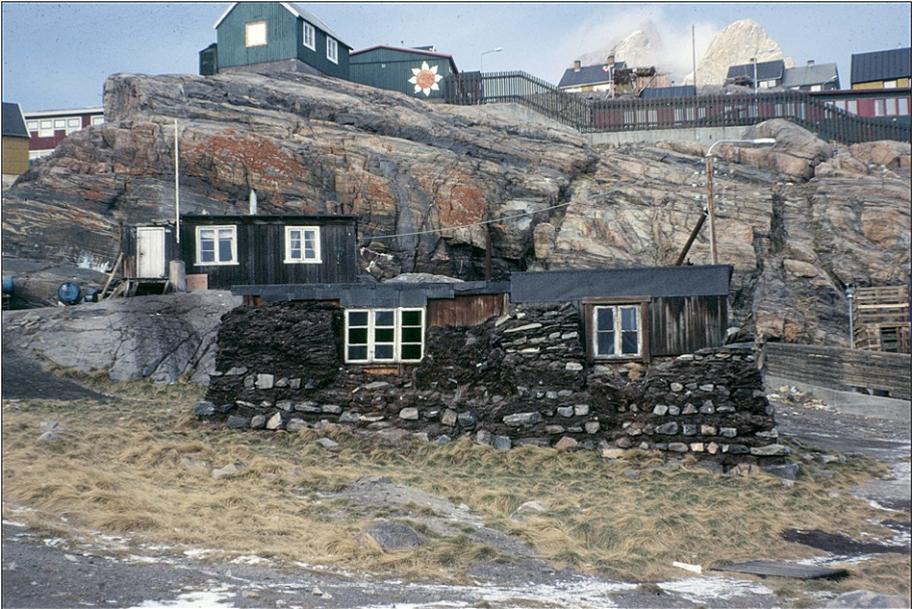
## **The G50 plan**

In 1950 the majority of the population in Greenland lived in turf cabins as the one in the lower part of the picture on page 15.

As such the turf cabins were well suited for the climate, but for some reason many of the locals suffered from tuberculosis.

These conditions were contributory to a large scale effort by the Danish Government to fight the tuberculosis in Greenland and also the building of a lot of modern wooden houses, as shown in the upper part of the picture on page 15.

Therefore the G50 plan also led to a large-scale construction in Greenland. As an example construction materials for the building of 3000 new homes were shipped between 1952 and 1963. In the same period the population increased from 23642 to 32288 inhabitants.



*Old turf cabin in Umanak*

*(Photo: Bjarne Rasmussen)*

The implementation of the G50 plan from 1950 and the constitutional amendments in 1953 and involved among other things the establishment of storage tanks and import of oil products to supply fishing vessels and newly built power plants and the infrastructure as a whole.

To this end in 1949 the Danish government therefore approached the major oil companies to instigate the establishment of a private company which could ensure the supply of petroleum products to Greenland.

The Greenlandic Oil Company (DGO) was founded at a meeting in the Danish Petroleum Companies (D.D.P.A), on March 6th 1950; and with effect from June 22nd 1950 required the private company DGO to undertake the oil supply to Greenland.

In 1952 the Danish Government was the prime mover in establishing the Nordic Mining Company (in Danish: Nordisk Mineselskab). The government possessed 50% of the shares, other Danish investors 5%, and Swedish and Canadian investors had 45%. The purpose of the company was to exploit the large lead ore in Mestersvig in NE Greenland discovered by Lauge Koch in 1948.

The private Danish shipping company J. Lauritzen was granted concession to transport the lead concentrate from Mestersvig in NE Greenland to primarily Antwerp in Belgium, and every summer from 1956 until 1963 where the mine was exhausted, the company's new custom built polar vessels were calling Mestersvig.

## **Fishery inspection**

Denmark has carried out fishery inspection around Greenland for several centuries, but the G50 plan from 1950 also had impact in this field, as the Greenland Commission reported the need for four inspection- and charting vessels and five small naval cutters for fishery inspection, a number that could be reduced during the winter.

It was however only after the loss of the KGH cargo polarship *M/V Hans Hedtoft* in 1959, and the consequent commission report which recommended a strongly improved rescue contingency in the Greenland waters, together with the upcoming G60 plan and KGH's implementation of the fishing industry programme, that things started to "happen" in this area.

It all ended up with the Danish Navy granted financial resources to build four new inspection vessels in the period 1960-1963.

These vessels were dedicated to fishery inspection and enforcement of sovereignty around Greenland and Faroe Islands.

Later also new naval cutters and again new inspection vessels were built, and here in 2015, the Danish fishery inspection in Greenland is up to date.

The quick development in Greenland during the 1950's once more saw the need for new directions. Urged by the Greenland Council the Danish government established "the Greenland Commission of 1960", and in 1964 the commission published a recommendation (commonly known as the G60 plan) which would be in force for the next 10 years.

The realization of the G60 plan once more meant that the freight to Greenland was increasing significantly, and had impact on the Danish arctic supply navigation as KGH needed to charter more cargo ships for the next many years to come.

## **Greenland Home Rule**

In 1972 Denmark voted yes to join the European Economic Community (EEC) from 1<sup>st</sup> of January, 1973 and Greenland had to follow suit, despite massive local opposition

worrying especially that foreign fishery would dominate the Greenland fishing, which now counted many jobs and the biggest export.

Greenland's resistance toward membership of EEC was partly influencing the process for Home Rule, which ended with implementation of Greenland's Home Rule 1<sup>st</sup> of May, 1979.

Among other things this meant that the money transfer from Denmark to Greenland from 1980 and onwards was converted to an annual block grant. The aim was that Greenland's economy should manage with this grant and the income from the extensive export of fish products etc.

Greenland's economy had managed without financial support from Denmark during World War 2 1940 to '45. This mainly because the income from sale of cryolite from Ivigtut to USA and from sale of fish products to USA and Canada could cover the expenses in these years.

It should here be noted that cryolite processed into aluminum was highly valuable to the production of war planes during World War 2 and that Greenland's expense was very small.

## **Greenland's Trade company**

Greenland's Home Government initiated the process of taking over the Royal Greenland Trade Company (KGH) in 1979, including its owned ships. In 1986 this work was finalized and the name was changed to Kalaallit Niuerfiat (KNI), in Danish: Grønlands Handel.

Consequently local political forces aimed at privatizing the shipping part of KNI and have it put out to tender.

In 1992 the process had advanced to a point where three private Danish shipping companies had submitted tenders. These were J.Lauritzen, Knud I. Larsen and Mortensen & Lange (the Armada Group) who also owned Copenhagen Reefers from whom first KGH then KNI had chartered many reefer ships since 1979.

Furthermore also the private Danish Kommanditselskabet Difko had shown interest. This company had since the early 1980'es financed new-building of ships and then put them in a bareboat charter with KGH/KNI.

Finally also in 1992 a tender was received from the state owned Icelandic company Eimskip.

The tender ended up with a joint venture between Greenland's Home Government and J.Lauritzen and on 1<sup>st</sup> of January 1993 the private limited company Royal Arctic Line Ltd (RAL) was founded.

In this company Greenland's Home Rule had one third (1/3) of the shares and J.Lauritzen had the remaining two thirds (2/3).

Greenland's Home Rule granted Royal Arctic Line sole concession to all sea freight to and from Greenland and between ten selected cities on the West Coast of Greenland. The concession also entailed duties regarding port call intervals, freight capacity and supply consistency.

The supply duty that came with the sole concession only covered goods, same duty as KGH/KNI also were committed to, although RAL's duty was not that comprehensive.

In 1995, surprising everyone, J.Lauritzen opted to sell all its shares in RAL to the Home Government, which to this day is sole owner of RAL.

## **Greenland's Self-Government**

On 21 June 2009, after being passed in the parliament in both Denmark and Greenland the act on Greenland Self-Government came into force. This Self-Government replaced the Greenland Home Rule arrangement that was established in 1979.

## Shipping

### Goods and passengers

#### The Period 1915 – 1940

##### Denmark-Greenland (the Atlantic Traffic)

In the period from 1915 onwards to Denmark's occupation 9. April 1940, the Royal Greenland Trade Company (KGH) serviced Greenland with own vessels such as *S/S Hans Egede* from 1905, *S/S Gertrud Rask* from 1923, *S/S Gustav Holm* (originally built as *S/S Fox II* for the cryolite company *Kryolith A/S*, purchased by KGH in 1924), the motor schooner *Sværdfisken* (originally built for the Shipping company Munkebjerg, KR. L. Jepsen, Korsoer, purchased by KGH in 1924), *S/S Godthåb* in the period 1898 – 1925 and finally the flagship *M/V Disko* from 1927.

*S/S Gertrud Rask* serviced Angmagssalik and Scoresbysund on Greenland's East Coast, and after 1937 also the Thule district.

These KGH vessels together with a few chartered vessels did in total approximately 20-25 voyages from Denmark to Greenland each year in the period March to November.

The Cryolite Company's steamship *S/S Julius Thomsen* from 1927 serviced exclusively Ivigtut in South Greenland with supplies and personnel.

Winter navigation did not take place in December, January and February due to the particularly rough weather conditions, storms, frost, ice-over, darkness and the risk of facing ice conditions that could endanger the vessels safe navigation.

Navigation in November and March would occasionally be made, but were preferably avoided, as the navigational challenge in these months in general were not much different from the winter season.

##### Coastal navigation in Greenland

Before 1940, the coastal traffic with goods, mail and passengers between the cities and villages was very limited, and was mainly carried out by KGH's expedition vessels and a few motor boats from the cities.

When the Atlantic vessels from Denmark reached the coast of Greenland it was very common that they called cities and villages to assist in transporting necessities, mail and passengers to other destinations along the coast.

For the trip from Denmark to Greenland and back it was not unusual that the Atlantic vessel would have 16-17 port calls.

## **The Period 1940 – 1945**

### **USA – Greenland (Atlantic traffic)**

After the occupation of Denmark 9. April 1940, the Danish supply to Greenland was suspended until the liberation in May 1945.

This day the KGH vessels *S/S Gustav Holm*, *Sværdfisken*, *S/S Godthaab*, og *M/V Disko* were in port in Copenhagen were detained until the day of liberation.

As a consequence of Denmark being occupied, the Royal Governors in Greenland assumed charge of Greenland. Eske Bruun in Godhavn and Axel Svane in Godthåb. 23<sup>rd</sup> April they broadcasted a message saying that they on their own responsibility had assumed power of the governmental office and administration of Greenland.

Same day in 1940 the Danish minister Henrik Kaufman established the, "American Danish Greenland Commission" in New York. The main purpose of the Commission was to secure the supplies to Greenland and export the production of cryolite and salt fish from the local communities.

To begin with it was mainly chartered Norwegian vessels that sailed the supplies from USA to Greenland.

The KGH vessels *S/S Gertrud Rask* and *S/S Hans Egede* were not in Copenhagen on the day of the occupation and could relatively fast join the supply chain.

Later also the Cryolite Company's steam ship *S/S Julius Thomsen* joined.

As backload from Greenland to USA the ships mostly carried cryolite. In USA the cryolite was processed and used in the production of aluminium which was important to the American war plane industry during World War 2.

## **Transit ports and the coastal navigation in Greenland**

Gradually the supply service was arranged to have the ships sailing from USA and Canada to certain cities in Greenland, and these to act as transit ports for KGH's distribution to the other villages on the coast.

Egedesminde was transit port for cities in North Greenland. Godthaab and Sukkertoppen had the same role for cities in South Greenland. Julianehåb took care of Narsaq and Nanortalik.

From these transit ports supplies were sailed to the remaining 13 cities and appr. 60 trading stations (villages with a KGH shop) , with the vessels *S/S Gertrud Rask*, *S/S Hans Egede* og *S/S Julius Tomsen*, and also KGH's local boats.

For the distribution in 1939, the Greenland Agency and KGH had following local vessels at their disposal:

12 expedition vessels with motor

36 motor yachts

86 large and small sailboats without engine.

The Thule-district was serviced by *S/S Gertrud Rask*, *M/V Hvidfisken*, *M/V Klapmydsen* and *M/V Fylla* and chartered vessels like *S/S Julius Tomsen*.

From the onset the East Coast of Greenland was serviced by *S/S Gertrud Rask* and *M/V Søkongen*, which loaded the supplies in the transit ports on the West Coast and then sailed them to the East Coast.

## **US War Shipping Administration (USWSA)**

In 1941/42 USA got involved in World War 2 and hence USWSA was involved in the service of Greenland, so now the East Coast was service by American Coast Guard vessels.

The Cryolite Company's steam ship *S/S Julius Thomsen* was deployed to the coastal traffic, where it among other things transported coal from the coal mine Qutdligssat on the Disko island in NorthWest Greenland and to the cities on the West Coast.

*S/S Julius Thomsen* was built with big oil tanks (400 m3), and the vessel therefore participated in supplying the cities with oil and kerosene from the American bases in Greenland.

US War Shipping Administration (USWSA) commandeered the following of the Danish Shipping Company J. Lauritzen's steel ships for the navigation between USA and Greenland:

1941 – 1942: *Marna* (OXQH); renamed by USWSA to *Azra* in these years.

1941 – 1943: *Nora* (OZFK); renamed by USWSA to *Halma*.

1941 – 1944: *Jutta/Jutta Dan* (OXHH); renamed by USWSA to *Kingman*.

1941 – 1944: *Tanja* (OZRH); renamed by USWSA to *Alcedo*.

1942 – 1945: *Laura (IV)/Laura Dan* (OXKH)

1944 – 1945: *Linda/Linda Dan* (OXYH)

J. Lauritzen had been in the Finland trade with own vessels since 1920, and many of their officers had a certain experience with navigation in winter ice.

In 1942 both *S/S Gertrud Rask* and *S/S Hans Egede* are lost in the trade between Greenland and USA.

Before 1940 the vessels did not navigate between the cities in the winter season, December, January and February, but the mild winters in Greenland in 1940, -41 and -42 made it possible for the ships to enter the transit ports Julianehåb, Godthåb/Sukkertoppen and Egedesminde nearly all year round with almost no trouble.

And KGH could then extend the service season significantly these years.

In the Arctic the weather is however always very changeable and in the years 1943 og 1944 the weather conditions were poor, which had a negative impact on the service season.

No matter the weather and ice conditions in Greenland in the period 1940 – 1945, World War 2 had caused the service pattern to change significantly, and after the war Greenland was reluctant to return to the old system.

## The period 1945 – 1960

In 1946 the Danish government set up the “Greenland Committee of 1946” which already same year releases "Report of 12th June 1946"

This led Prime Minister Hans Hedtoft to establish the “Great Greenland Commission of 1948” (in Danish: “Grønlandsudvalget af 1946” which in 1950 published a very comprehensive report (roughly 1100 pages) including proposing 8 legal bills containing guidelines to a development program for the next several years, resulting in the beginning of a gigantic modernization of Greenland.

This report was also called the G50 plan or The new incentive (in Danish: Nyordningen) and one of the consequences of its implementation was that quite a lot of cargo had to be shipped from Denmark to Greenland.

### Denmark – Greenland (Atlantic traffic)

The KGH vessels *S/S Gertrud Rask* and *S/S Hans Egede* are lost during World War 2, wherefore KGH in 1945 at its disposal only had the vessels *S/S Gustav Holm* purchased in 1924, the motor schooner *M/V Sværdfisken*, purchased in 1924, *S/S Godthaab*, which is in lay-up after having been in service in the period 1898 – 1925, and finally, the flagship *M/V Disko* from 1927.

Hence, in 1946 the KGH long-term chartered the Cryolit company’s cargo- and passenger ship *S/S Julius Thomsen*, built in 1927 for servicing Ivigtut in South Greenland. The ship had proven to be well suited for servicing other destinations in Greenland during World War 2.

In 1947 KGH built the cargo- and passenger ship *M/V G.C. Amdrup* in Denmark, but in 1951 the ship caught fire while in Scandinavian waters and sank. In 1949 KGH built the cargo- and passenger ship *M/V Umanak* also in Denmark.

With the amount of cargo increasing drastically in the 1950’s, many Danish private shipping companies also built cargo ships for the polar trade, as KGH needed to charter additional tonnage for the trade between Denmark and Greenland, and for the coastal trade in Greenland.

Among these are J. Lauritzen, A.E.Sørensen and Progress, just to mention a few. They are further described in the Appendix, chapter “Companies and Vessels”.

In the period 1952 – 1962 J. Lauritzen launched a comprehensive new-building program with more than twenty modern steel cargo ships for the polar trade.

In 1956 the Danish Government granted KGH the funding for a custom built steel polar cargo vessel and *M/V Hans Hedtoft* was built in Denmark in 1958. Tragically the vessel sank in Greenland waters on her maiden voyage in January 1959. All souls were lost.

To replace *M/V Hans Hedtoft*, KGH makes an agreement with A.E.Sørensen in Svendborg, that the shipping company in 1962 builds the polar cargo ship *M/V Nanok S.* straight into a 'bare boat charter'\* with KGH until 1973, when KGH implemented the Unit Load transport system.

A special feature of *M/V Nanok S.* was the tank capacity of 352 m<sup>3</sup> for carriage of animal oils such as whale oil.

J. Lauritzen had built the polar cargo ship *M/V Erika Dan* in 1958, and in 1962 it went in "bare boat charter"\* for KGH all the way up to 1973.

Both KGH's own vessels and those chartered for the Greenland trade were built as contemporary cargo ships but with special ice reinforcements.

As the service pattern had been changed in the period 1940 – 1945, the Atlantic vessels did no longer make frequent calls to the villages during the round-voyages.

The small ports in Greenland were not designed for the Atlantic vessels, so when arriving they had to anchor forward and send mooring ropes ashore from the stern. The cargo was then loaded into barges that were towed to the pier to have the goods transported to the warehouse.

\*"Bare Boat Charter" means KGH rents the vessels and undertakes crewing and maintenance.

## **Domestic Cargo and passenger traffic in Greenland**

The cities Upernavik, Umanak, Egedesminde, Holsteinsborg, Sukkertoppen, Godthaab, Frederikshaab, Julianehaab, Nanortalik and Angmagssalik each formed a district with nearby villages and settlements. And each district had a designated KGH "District Vessel" which serviced the villages with goods and passengers as needed.

The intensive service during World War 2 had taken its toll on the old District Boats, why KGH in 1945 faced a renewal of the tonnage.

A renewal where the vessels should be designed to carry both cargo and passengers for the district service and/or coastal service between the cities.

As yet another offspring of the Greenland Committee's Report in 1946 and the later G50 plan (the new incentive) in 1950, the KGH contracted "H.A. Hinrichsens baadebyggeri" in Humlebæk in Denmark to build four timber district vessels, each accommodating 6 passengers.

The boat builder consequently delivered the new-buildings *M/V Blaaside* in 1949, *M/V Sortside* in 1950, *M/V Finhval* in 1952 and *M/V Blaaival* in 1953 for the Greenland district service.

The war years 1940 – 1945 had also caused a fast growing passenger traffic between Greenland's cities, why KGH also had "Holbæk Skibs- og Baadebyggeri" in Denmark build a designated passenger ship in timber, *M/V Tikeraq*, with a capacity of 57 passengers. It was delivered from the yard in 1949.

"Holbæk Skibs- og Baadebyggeri" also built timber district boats for KGH, in 1950 *M/V Sioraq* was delivered and in 1952 *M/V Ujaraq*, both having accommodation for passengers.

In 1960-61 KGH also built the ice-reinforced steel cargo ships *M/V Agdleq* (built in Marstal) and *M/V Avoq* (built in Aarhus), both able to carry 10 passengers.

## **The period 1960 – 1973**

In the early 1960's KGH prepared an analysis for the Greenland Committee of 1960, calculating the need for transport, i.e. cargo vessel demand. The Committee published a report in 1964, also dubbed the "G60 Plan" valid for the next 10 years.

### **Denmark – Greenland (The Atlantic Traffic)**

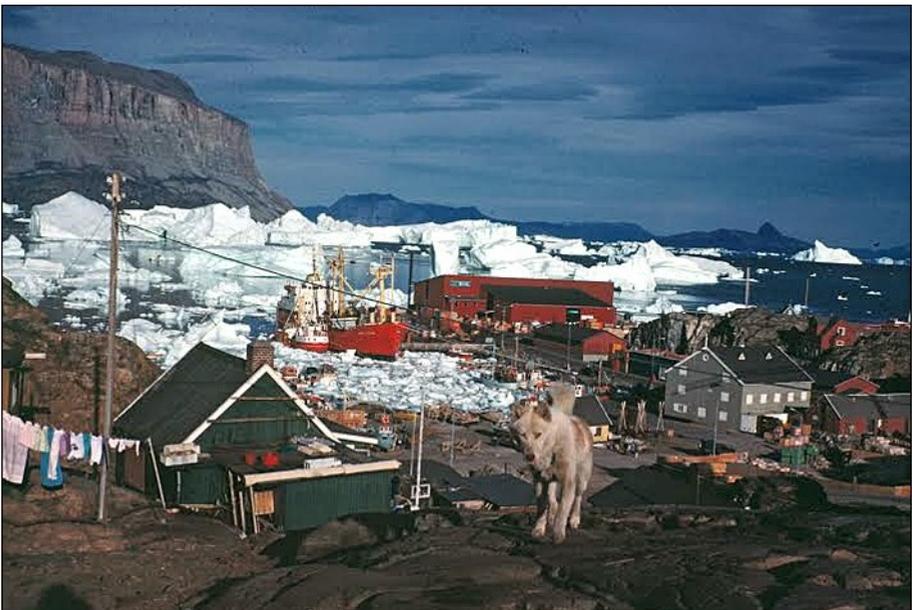
The steadily growing amounts of cargo into Greenland and the expanding export of fishery products meant an increasing need for KGH to charter more vessels each year.

This demand inspired many Danish private shipping companies to custom build polar cargo vessels with extra heavy ice reinforcement and reefer holds, making them better suited for the Greenland trade and therefore also more attractive for KGH to charter.

Another example of the cooperation between KGH and the private Danish shipping companies is the company A.E. Sørensen, which had the polar cargo vessel *M/V Svendborg* built in a way that made it specially suited for the port of Umanak. The vessel also had a reefer hold with tween deck.

The vessel was one of the first in the Greenland trade fitted with bow thruster for better manoeuvrability in the small ports.

Typically for the period, the private shipping companies still built their polar cargo vessels as shelter deck/general cargo vessels, as they were also used in tramp business outside the KGH chartering seasons.



*M/S Svendborg in Umanak port, North West Greenland*

*(Photo. Bjarne Rasmussen)*

Among the increasing cargo were also plenty construction materials, including timber for building the new houses that were replacing the old turf cabins, and also as outside plating for concrete constructions.

The timber materials were shipped from Denmark together with all the general cargo, and in the public it was often discussed why these materials

were not shipped straight from Canada or Sweden, instead of having it pass through Denmark ?

In 1968 the KGH in-house magazine "Orientering nr. 31, 1968" had an article called "Why is KGH not buying timber from Canada or Sweden and ship it straight to Greenland?"

Quote: "In these times when everybody talks of simplification, rationalization and cost-consciousness, many questions are raised. For example originates the majority of the timber each year shipped to Greenland from Sweden. Why isn't this timber purchased and shipped straight from Sweden to Greenland?"

It surely must become cheaper to skip the transport from the Swedish sawmill to the lumber yard in Denmark and then to KGH's place in Strandgade. Even better it should be to import the timber straight from Canada, as the distance is short compared to crossing the Atlantic.

We ask our Purchase Manager Frank Nilsson, who for many years has been responsible for KGH's purchase of construction materials.

Yes, Mr Nilsson says, it isn't exactly a new idea. I also had to ask myself this question shortly after my employment with KGH in 1956, and since then others have also been curious. But this is not such a straight forward case as it looks at first glance. It is true that we are dealing in large quantities of timber. In total we are shipping roughly 400.000 cubic feet every year.

But, why aren't we doing it? We ask once more. It can't be that hard to sum up the total demand of timber and then find a sawmill with a steady production and ship the parcel to Greenland in dedicated timber cargo vessels.

Of course we can specify our need for timber, says Nilsson, but the 400.000 cubic feet is made up of many different grades of wood. There's whole and half timber, laths, boards, planks and joiners wood, tongue and grooved floor boards, coarse planed boards and shuttering boards, all of these in different dimensions and in accurate measurements, and even in different qualities, depending on its purpose.

It is correct that all this timber mainly comes from Sweden, but what is not considered is that it comes from many different sawmills far away from each other. Some in the North and some in the South of Sweden. If you then also add the fact that all 17 cities in Greenland need a little of each grade and in different dimensions, sometimes in small parcels spread over the year, then it becomes more clear to you that it would become a complicated if not an impossible task, to load the vessels with different wood from different Swedish ports in such a way that you, without difficulty and

without some sorting and reloading in a transit port, will be able to deliver to each city in Greenland exactly what they have ordered, be it grade, quality or dimension.

On top of that you also have to conclude that it would not become cheaper to buy directly from Sweden. As each delivery is split in so many different sorts and grades, the order to each sawmill would be so small, that the price would be affected. If we on the other hand do as we now do, place our order with Danish lumber yards who can add these to orders they are making anyway for the Danish market, we can negotiate lower prices. The Danish lumber yards also have everything in stock, making them able to deliver the rather small quantities for each of the 17 cities. Different dimensions, qualities, all bundled in 10 pieces as requested, to avoid an otherwise space demanding sorting job in Greenland, which doesn't have that kind of space readily available. Establishment of sorting space of suitable size would be financially demanding.

Finally, one can also point out, that at the arrival here at KGH's place in Copenhagen, we also carry out control of both volume and quality for each and every delivery. Such a control would be much harder to do in Greenland, especially if the wood arrived in large ship cargoes straight from the place of production.

This is basically the answer to why we don't buy timber straight from Sweden.

Does this also go for purchase from Canada? During the war the timber came from there and everyone was satisfied... ..

Yes, with the actual volume, being much larger than 25 years ago, the distributional challenge would be exactly the same. Also, if we should use timber from Canadian sawmills, the GTO would have to go back on their requirements to have building materials delivered by Danish standards and in specific lengths.

Last, but not least, when we a few years back, upon request from Greenland, investigated the possibility to make a test with timber delivered from Canada, there were no competitive offers from sawmills close to the North American East coast, shipping and transport facilities considered, obviously." Unquote

### *Authors note:*

In 1987 Greenland Trade company (KNI) investigated the possibilities to establish a regular shipping connection between Greenland and Canada, ending up with KNI striking a deal with the Port of Saint John, New Brunswick, entailing four annual trips between Greenland and this Canadian port.

First vessel from KNI servicing route was the Unit Load polar vessel *M/V Nungu Ittuk*, calling St.John first time den 28. April 1988.



*M/V Nungu Ittuk arrived St. John in April 1988*

*(Ole Albertsen's private archive)*

*The author was second officer on board.*

KNI however discontinued the route by the end of 1991, as lack of cargo had caused an annual loss.

### **Coastal service, goods and passengers**

Prior 1945 it was not uncommon for the Atlantic vessel to have 16-17 port calls in Greenland, during the round-trip Denmark-Greenland. These port calls could be both cities and villages and, now and then, even the small settlements.

After 1945 such a service pattern proved to be more and more in-efficient, and gradually the service was changed towards the Atlantic vessel having only 2-3 district

cities for each round-trip, thus having a better utilization also financially due to the increasing amounts of cargo in the 1950's.

From the district cities goods and passenger were transported on to the villages, using the district vessels and the ships chartered for the coastal service. For Atlantic cargo to NW Greenland KGH in 1965 built a large transit warehouse in Egedesminde.

The growth of cargo to Greenland continued during the modernization process (based on G50 and G60 plans and KGH Industry programme from 1958/59), and in 1965 KGH prepared an internal transport analysis, which once more caused KGH to launch another new-building programme for district vessels dedicated for scheduled service to the villages with goods and passengers.

KGH in-house magazine "*KGH orientering*" no. 24 1966 wrote this:

Quote: "District vessel with a fixed schedule

Distances in Greenland are great, and throughout history transport of goods and passenger has been troublesome and expensive.

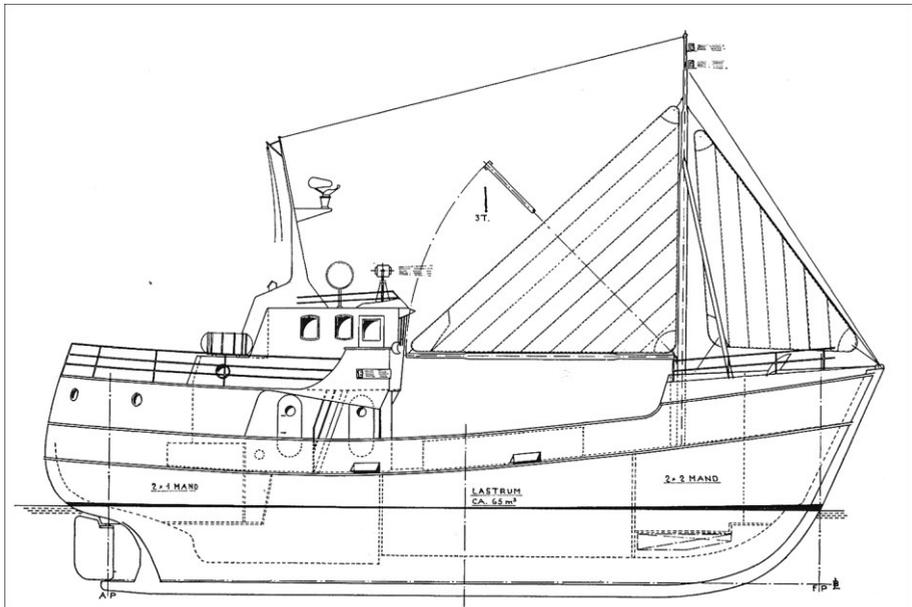
With the limited activity in the remote smaller settlements it is difficult to plan a profitable service, but a certain degree of supervision has always been necessary to ensure the well-being of the settlers, and so they are not left to their own devices. Recent years have seen an increased travel demand, both between settlements but also to the central cities. This demand has so far been covered in different ways. The supervisory and administrative demand has been covered with custom built "travel boats". This solution has been the most suitable for a long while, but with today's lack of manpower, even in Greenland, a more rational approach must found.

A lot of young and clever people are hired to operate the many "travel boats" available today, but this duty excludes them from participating in the productive industry. This dilemma has been thoroughly discussed and KGH has now prepared a plan for a "District Vessel" which hopefully with time can render these "travel boats" superfluous.

The plan comprises a vessel with accommodation suitable for 12 passengers, approximately 50 tonnes cargo capacity and a dedicated cabin for officials, so they can carry our administrative work while travelling.

If such a vessel is to be utilized best possible, a scheduled service must be made for each district, and everybody, officials and visitors a lot, must be prepared to travel according to the fixed timetable, which is arranged with due consideration to the

needs of each district, this including goods transport, as well as private travellers and official journeys.



*District Vessel*

In some districts this may become a difficult task, but the idea, which has been presented to the Greenland Council and discussed with the Greenland Minister and the governor, has won sufficient support for an agreement to raise the necessary funds to build the first district vessel, this being available for service in Greenland early summer 1967.

Clearly, everyone knows that such a vessel does not cater to all needs. Situations may arise where urgent district travels must be arranged outside the fixed schedule, but if, within a number of years, a level could be reached, where each district at its disposal has only one or two “travel boats” beside the dual purpose district vessel and the police cutter, then the Greenland society could have a staff of young men released into the industry and thereby get a suitable crew for e.g. the larger fishing vessels.

It is true that the “travel boats” for years have provided good training, but in time with the phasing-out of some of these boats, the education of fishermen must be

transferred to the fleet of longline vessels and trawlers which we expect to fill the production plants in Greenland with sea produce.

The use of the suggested district vessels with a fixed schedule will also reduce the financial burden it is to maintain and expand the fleet of “travel boats”. The travel need in Greenland will not decline in the years to come.

We expect that in 1967 yet another layer will be added to the array of travel possibilities in Greenland, a layer which can rationalize the operation and create better opportunities for the people who need to travel in the districts, and do this under appropriate conditions and still keep the communication costs on a proper level. “  
Unquote.

KGH started its new-building program of expedition/district vessels in timber by letting a Norwegian shipyard deliver *M/V Narhvalen* in 1967.

In 1964 KGH had the Danish shipyard “Holbæk Skibs- og Baadebyggeri” build *M/V Tateraq*, a coastal passenger ship in timber, capable of carrying 80 day trippers. Again in 1967 the yard built *M/V Tugdlik*, another coastal passenger ship in timber, this one able to carry 100 day trippers.

Consequently “Holbæk Skibs- og Baadebyggeri” delivered a series of timber built district vessels for KGH:

*M/V Hvalen* in 1968, *M/V Netside* in 1968, *M/V Klapmydsen* in 1969, *M/V Hvidfisken* in 1971, *M/V Ejnar Mikkelsen* in 1972 (this vessel was sunk by the ice pack at Ammassalik in 1991), *M/V Hvalfisken* in 1973, *M/V Anders Olsen* in 1976. All vessels had passenger accommodation.

### **H. C. Christiansen**

It is now appropriate to introduce Hans Christian Christiansen, Bachelor of Commerce, lic.merc.

“Hans C. Christiansen was born in South Schleswig and had his first training as banker in Flensburg and Altona. In 1924 he moved to Denmark, initially working as banker, but later he served in different companies until 1947 when he became general manager for the Province Chamber of Commerce, and in 1956-76 general manager for the Royal Greenland Commerce. Alongside his day job, he studied at the business college and graduated in 1933 with Diploma in Business Administration, MSc in 1937, BSec in 1959 and PhD in 1988.

Hans C. Christiansen published a number of business scientific articles, and in 1941-49 he was lecturer in business organisation at the business college. It is notably as

spokesperson for the major province commerce during the post-war restrictions, and dismantling of these, and as General Manager of KGH during the company's modernization, that Hans C. Christiansen has put his mark.

He was an unassuming, intellectual person who by virtue of calmness and knowledge achieved remarkable results while working in the Province Chamber of Commerce, and capable to reconcile the differences between the old established industry and the new importers who had difficulties in obtaining the much coveted import licenses.

When Hans C. Christiansen in 1956 took charge of KGH, the company was in the middle of a rather challenging period. The monopoly was lifted in 1950, and the political endeavours for modernization of Greenland had started.

His broad knowledge of the industry, his interest and understanding of the special conditions for the Greenland population and his openness towards new methods and rational operation were qualities that made Hans C. Christiansen a strong leader in the transition period. He carried on as General Manager until 1976. From 1956-76 he was also member of the Greenland Nutritional Council.

source: [www.denstoredanske.dk](http://www.denstoredanske.dk)

Hans C. Christiansen undoubtedly had a great positive impact on the development of both Greenland and the arctic trade while he was in charge of KGH.

## **The Period 1973 – 1993**

### **Denmark – Greenland (Atlantic Trade)**

In the Danish book "Fra Trangraven til Langerak" authored by mr. Fjord Riisgaard, it is in detail described how KGH already in 1966 had ordered a comprehensive analysis of the US transportation system LASH (Lighter Aboard Ship).

It is a transport system where huge barges are being launched from a large mother ship, and then sailed into the harbour to be unloaded and loaded in conventional manner.

One of the advantages of implementing this transport system in Greenland would be to use the existing piers, which originally were built for the schooners, and thus avoid expanding the Greenland ports with new facilities such as quays for the traditional Atlantic vessels, as this was and still is very costly in Greenland.

The book also elaborates on how KGH in November 1968, received a proposal by the private Danish shipping company J. Lauritzen for a new shipping system - Unit Load System - and thus a new type of ships for the Greenland trade.

With the Unit Load system the goods is packed on pallets for easier and more efficient handling of the entire transport operation from the loading in Denmark and until delivery in Greenland.

The full efficiency is however only achieved if this new type of ship can dock in the Greenlandic ports meant to be serviced by this ship.

The Arctic navigation conditions can be very unpredictable, and harsh winters in 1968 and 1969 contributed to KGH's decision that the LASH transport system was not suited, and therefore opted for implementation of the Unit Load system, starting in 1973.

At first KGH did not build their own unit load ships, but agreed to let the private Danish shipping company J. Lauritzen build the two ice strengthened Unit Load polar vessels *M/V Bamsa Dan* and *M/V Linda Dan* directly to KGH bareboat charter. KGH also agreed with the private Danish shipping company "Dansk – Fransk" that this company also built it the ice strengthened Unit Load polar vessel *M/V Grønland* directly to KGH bareboat charter (*M/V Grønland* is sister ship to the *M/V Linda Dan*).

Thus a modernization program for the quay facilities in selected cities in Greenland was also launched, so the use of these three Unit Load ships could be optimised.

In 1974, the implementation of the Unit Load System meant that cities such as Nuuk, Sukkertoppen and Holsteinsborg had a ship from Denmark calling every two weeks.

If the volume of goods for each departure of KGH Unit Load from Denmark to Greenland exceeded the capacity of the Unit Load ship, KGH quickly chartered a ship to lift the "excess" goods in order to maintain the two weeks schedule for each city.

When KGH in 1978 built their own two Unit Load polar vessels, *M/V Magnus Jensen* and *M/V Johan Petersen*, in, the two week schedule expanded to include also Jakobshavn, and in the late 1980's where KGH put yet another Unit Load polar vessel *M/V Nuka Ittuk* in service, Nuuk had weekly calls.

From 1984 the Unit Load polar ships *M/V Nungu Ittuk* (ex. *M/V Grønland*) and/or *M/V Naja Ittuk* (ex. *M/V Linda Dan*) took over service of East Greenland; primarily because these ships were particularly heavy ice-strengthened and constructed with steel propeller, icebreaker bow, ice knives etc.

## Coastal traffic, freight and passengers

In 1979 KGH let Svendborg Shipyard build the polar vessel *M/V Pajuttaat* (no passenger accommodation) that was specifically designed for the coastal trade and the new Unit Load transport system.

In 1980 KGH had three new district polar vessels in steel and with passenger accommodation built; ships that also were designed for the new Unit Load transport system. In 1983 Marstal Steel Shipbuilding delivered *M/V Anguteq Ittuk*, in 1983 *M/V Aqqaluk Ittuk* and in 1984 *M/V Angaju Ittuk* in 1984 all three with room for 12 passengers.

In 1983, the passenger transportation was further improved, as KGH let Alu-Staal in Rudkøbing supply the passenger polar ships *M/V Aleqa Ittuk* and *M/V Aviaq* both able to accommodate 20 day trippers.

In 1986, the Danish Government handed over the Royal Greenland Company (KGH) to the Home Rule of Greenland, and the company continued as Greenland Trade (KNI) until the end of 1992.

In 1991/92 Greenland Trading was having three regional passenger polar vessels built at Ørskov Steel Shipyard in Denmark. *M/V Sarpik Ittuk*, *M/V Sarfaq Ittuk* and *M/V Saqqit Ittuk*. Each vessel could carry 150 passengers in the coastal trade.

Common for all vessels in KGH/KNI's newbuilding programs from 1945 to 1992 was, that they were designed and built for the special navigation conditions in Greenland.

KGH's Atlantic vessels and the coastal passenger ships, as well as many of the chartered Danish Atlantic vessels in the period 1945 - 1985, were usually built to exceed the highest ice class requirements from Bureau Veritas or Lloyds Register, the 1A listing.

The original design drawing of the polar vessel *M/V Nanok S.* - built by the company A.E.Sørensen for bareboat charter to KGH in 1962 – shows that the distance between the ship's frames is only 600 mm compared to normal eg 1800 mm or more....!

KGH's Navigational Office operated with three Arctic Ocean strength categories when planning each service season to destinations in Greenland: "Heavy reinforced, custom built", "Heavy reinforced" and "tonnage equivalent to Bureau Veritas' highest standard".

Especially the private Danish shipping company J. Lauritzen's many arctic vessels were built to exceed Lloyds Register's highest ice class 1A, which made them very

suitable for KGH to charter to service destinations in Greenland as far as seasonal conditions and local port access allowed.

KGH' District polar vessels in steel and later also KGH' Regional Passenger polar ships in steel were only built to exceed the classification societies ice class 1B - probably because these polar ships sailed close to the west coast of Greenland and thus considered to be in reach of SAR facilities within a reasonable timeframe, in case assistance should be needed.

## **The Period 1993 – 1995**

Already in 1971 political ideas emerged regarding privatization of the Royal Greenland Trade (KGH) by converting it to a limited company, without it coming to fruition.

In 1986, Greenland's Home Rule was entrusted with KGH, which was then renamed to Kalaallit Niuerfiat (KNI), (the Greenland Trade), and spurred by the political ideas in Greenland on a major restructuring of KNI, the question of conversion to a public company was raised again.

The ideas of restructuring KNI was probably the reason why the private Danish shipping company J. Lauritzen in December 1990 presented a new transportation system in Greenland to KNI's CEO mr. Flemming Bolø. It was a system based on goods loaded in 20'/40' containers which were meant to be transported by modern polar container ships from Denmark to Greenland.

J. Lauritzen's idea "Trans-Atlantic and coastal transport of Greenland" ended up being presented to the Greenland Parliament on 24<sup>th</sup> October 1991.

During the Greenland Parliament's autumn session in 1992, it was agreed that Greenland Trade (KNI) per. January 1, 1993 was divided into a number of public limited companies, out of which the shipping company Royal Arctic Line Ltd. was established with J. Lauritzen as major shareholder with two thirds of the shares and the Greenland Home Rule as minor shareholder with one third of the shares.

Royal Arctic Line Ltd. was established in Greenland, and Greenland's Home Rule granted Royal Arctic Line Ltd. exclusive concession to operate scheduled services between selected cities in Greenland and between Greenland and Aalborg (Denmark) and a number of overseas destinations. With the exclusive concession came also a number of conditions regarding calling frequency, capacity and supply consistency.

In 1992 the Greenland Trade (KNI) owned or bareboat chartered, the five Unit Load polar vessels:

- *M/V Nivi Ittuk*
- *M/V Nungu Ittuk*
- *M/V Nuka Ittuk*
- *M/V Magnus Jensen*
- *M/V Johan Petersen*

These vessels were purchased by Royal Arctic Line Ltd. with delivery January 1<sup>st</sup> 1993, and they were renamed to:

- *M/V Tinka Arctica*
- *M/V Kista Arctica*
- *M/V Arina Arctica*
- *M/V Makka Arctica*
- *M/V Malla Arctica*

The challenge for Royal Arctic Line was to develop and implement maritime transport with modern polar container ships to the concession cities, and the company therefore had *M/V Arina Arctica* undergo a conversion from Unit Load to container ship in 1994 and the same year the Company had three container polar ships built in Denmark, and delivered at the beginning of 1995:

- *M/V Irena Arctica*
- *M/V Nuka Arctica*
- *M/V Naja Arctica*

As per 1<sup>st</sup> of January 1993, RAL also assumed responsibility for the operation of the ports in Greenland, which were included in the concession, and in 1993 and 1994, the company carried out a comprehensive modernization of berths and rolling stock, in order to have the ports ready to handle the 20'/40' container system.

In 1995, the RAL shipping status was as follows:

The two large RAL container ships *M/V Naja Arctica* and *M/V Nuka Arctica* together with the RAL chartered ships serviced Nuuk, which is transit port for all the “concession cities” on West coast of Greenland.

The two other polar container ships *M/V Irena Arctica* and *M/V Arina Arctica* serviced the "concession cities" north and south of Nuuk.

The Unit Load polar ship *M/V Kista Arctica*, supplemented with RAL chartered ships, mainly serviced destinations in Greenland outside the "concession", but did however also call the "concession cities".

The port Grønlandshavnen in Aalborg is still RAL's base port for the shipping of goods and containers to destinations in Greenland.

As a consequence of the new transport system the Grønlandshavnen in Aalborg had the goods delivered either for loading in 20'/40' containers conducted by RAL's stevedoring subsidiary Arctic Container Operation Ltd. (ACO) - or in pre-loaded 20'/40' containers to Grønlandshavnen.

ACO subsequently loaded the containers onto RAL's arctic container vessels *M/V Nuka Arctica* and *M/V Naja Arctica* and others destined for transit port Godthåb.

In Nuuk *M/V Arina Arctica* loaded transit containers to Frederikshåb, Narsaq, Julianehåb and Nanortalik and Narssarsuaq.

The newly built polar container ship *M/V Irena Arctica*, also loaded transit containers in Godthåb to cities Sukkertoppen, Holsteinsborg, Egedesminde, Christianshåb and Jakobshavn.

One of the advantages of this new transport system was that the "open water" cities from Nanortalik to Holsteinsborg no longer needed large warehouses, as the 20'/40' containers en route to the district town or stored inside the port area acted as warehouses, so to speak.

It does however require a tight logistic planning to ensure that containers with goods arrives at their destination at a certain time, or the stores would quickly run dry.

It was and still is not easy in Greenland, where ice and wind conditions in particular can vary considerably over the year.

In connection with the major restructuring of the Greenland Trade (KNI) on 1 January 1993, the cargo- and passenger service incl. ships in the part of the coast outside the RAL's concession were transferred to a newly established limited company, KNI Pilersuisoq Ltd. (Service) having Greenland's Home Rule as the sole shareholder.

Within the goods supply, KNI Pilersuisoq Ltd. (Service) is responsible for consistent supply to settlements and remote districts and to navigational service of cities and settlements with passengers.

From 1993 until today KNI Pilersuisoq Ltd. (Service) has gone through several restructurings where new limited liability companies are established and where goods and passenger transport to the villages and remote districts were distributed.

In mid-1995, when the new container transport system is fully implemented in accordance with the concession agreement, the company J. Lauritzen very surprisingly sold all its shares in the subsidiary company Royal Arctic Line to Greenland's Home Rule, which subsequently now is the sole shareholder.

In the Greenland Parliament the possibility of another ship owner replacing J. Lauritzen's engagement in RAL was discussed, but the parliament chose to continue as the sole shareholder of the shipping company Royal Arctic Line Ltd..

The daily marketing, operation and management of Royal Arctic Line Ltd. and thus the company's ships continued largely unaffected by the J. Lauritzen's exit; however with new department heads in the company.

## **The Period 1995 – 1998**

During this period the service schedule for the cities covered by Royal Arctic Line's exclusive concession changed.

The port Grønlandshavnen of Aalborg continued as base port, but instead of transporting containers from Aalborg to the transit port of Godthåb for subsequent distribution to the cities within the concession, all the containers were now going straight to a few “concession” cities on the West coast of Greenland - a schedule that Royal Greenland Trade (KGH) and later also KNI used before 1993.

Before 1993 KNI was responsible for the uninterrupted supply to both cities and settlements in Greenland, but after the establishment of Royal Arctic Line Ltd., January 1<sup>st</sup>, 1993, KNI's obligation was reduced to only cover villages and the cities of Godhavn, Umanak and Upernavik.

To maintain this supply chain, KNI used its own village ships *M/V Aqqaluk Ittuk*, *M/V Angaju Ittuk*, *M/V Anguteq Ittuk* and the coastal freighter *M/V Pajuttaat*, supplemented with the chartered dry cargo polar ship *M/V Johanna Kristina*.

## **The Period 1998 – 2010**

### **The supply of remote districts**

In the period 1998 to 2010, Royal Arctic Line developed and implemented a new method for the handling of containers in the cities where polar container vessels couldn't go alongside - some cities don't even have a mooring facility.

From 2005, the destinations Angmagssalik, Scoresbysund, Constable Point, Mestersvig, Daneborg and Danmarkshavn on the East and North East coast, were serviced by the container ship *M/V Arina Arctica* who put 20' containers ashore using a self propelling barge and a truck.

When conditions are right, this method was and still is also used on Ella Island.

Master Fritz Ploug Nielsen has donated the following six photos to illustrate the container vessel *M/V Arina Arctica's* arrival in the cities of Scoresbysund and weather station Danmarkshavn, both in Northeast Greenland and Thule district in North Greenland

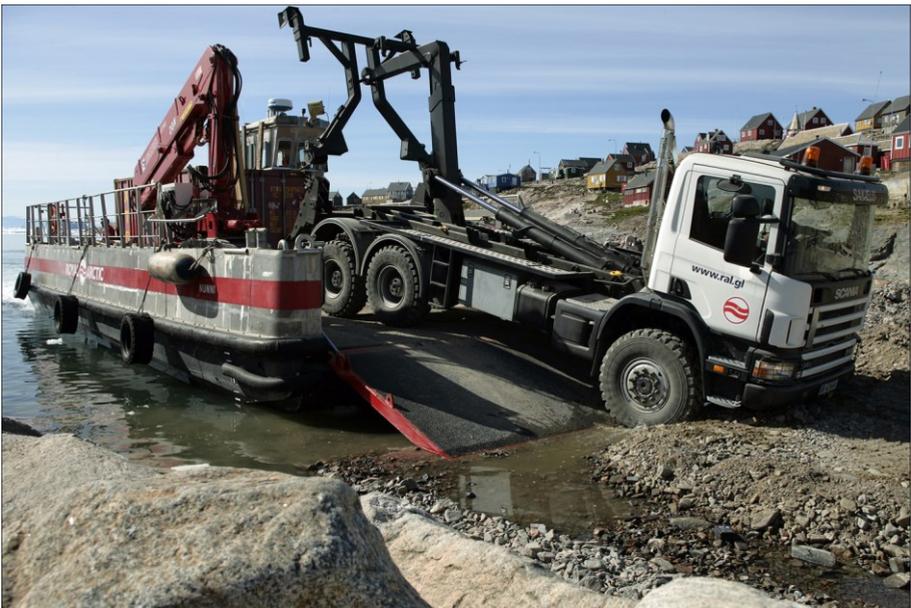
For this expedition of 20' containers for the city, the vessel brought two trucks, a self propelled barge (driven by water jets), a small tug and two towed "barges".



*M/S Arina Arctica at anchorage at Scoresbysund*



*The self propelled barge arrived at the landing station with 20' containers*



*The truck reverses on board to pick up a 20' container for the warehouse*



*Landing station, warehouse area and the warehouses*



*Here heavy cargo is loaded in the barge in Qaanaaq*



*Discharge on the Beach (Qaanaaq) – the trucks are also available on the Beach*

In the period 1998 - 2010, many other initiatives were also launched by Royal Arctic Line.

In 1998, RAL thus established its subsidiary Royal Arctic Bygdeservice Ltd., and I quote the following from “Royal Arctic Line's official annual report 2010”:

Quote: “Royal Arctic Bygdeservice Ltd.

The subsidiary is responsible for transport between the settlements in Greenland and passengers to villages in central Greenland. The assignment is based on a service contract with Greenland's Home Rule.

The ice-free settlements are serviced every two weeks with goods and in central Greenland also every week with passengers.

*Current fleet:*

Royal Arctic Bygdeservice Ltd owns four village ships and in high season it charters a general cargo ship. Furthermore, the company maintains a part of the passenger transport through charter contracts with private subcontractors. The four village ships

are quite old. The current maintenance of the vessels is costly, partly because many spare parts must be custom made because of the age of the ships.

#### *Service Contract:*

The current agreement with Greenland's Home Rule expired at the end of the year. In connection with the newbuilding program, the negotiation of a new long-term service contract started in 2009, and has been negotiated throughout 2010.

The service contract is the basis for the financing of newbuildings for village service. The Finance Act for 2011 includes the option of a long-term service agreement, and in January 2011 a 20-year agreement was signed.

Royal Arctic Line has contracted five new ships, and four of the ships will as per demand be chartered to Royal Arctic Bygdeservice Ltd. at market price.

#### *New fleet:*

Royal Arctic Bygdeservice Ltd. plans to begin a partial containerisation of the village service when the new ships for Royal Arctic Line are delivered.

The two smallest of the new ships will have a capacity of 36 TEU, while the ships in the intermediate class will have a capacity of 108 TEU. The design of the vessels ensures that containers can be used to a greater extent than is the case today, without sacrificing flexibility for smaller consignments.

The proposed new building program is future proof, and the continued depopulation of the villages is taken into account partly by reducing the number of ships and partly by having multi purpose ships.

The ships can with simple modifications for example be used for SAR contingency, passenger transport, maritime classrooms, floating medical-, eye- or dental clinics etc. All new buildings will be able to accommodate 12 passengers.

The fleet is designed so that all tasks can be solved based on the current infrastructure condition, why no major investments in new mooring facilities in the villages are required.

#### *Passenger Service in central Greenland:*

The Government wanted to extend the central Greenland passenger services agreement with Royal Arctic Bygdeservice Ltd. until the end of 2012 on the same terms.

Royal Arctic Bygdeservice Ltd. and Arctic Umiaq Line Ltd. have signed an agreement which makes Arctic Umiaq Line sole provider of passenger traffic in central Greenland. The agreement provides more choices for passengers and also benefits a number of

private tour boat operators as these are chartered to do the job. This agreement frees Royal Arctic Village Service to concentrate on its core competence, cargo operations”  
Unquote

In 2005, RAL received the polar container ship *M/V Mary Arctica* which was custom designed to be able to call at all concession cities. Unit Load polar ship *M/V Kista Arctica* was then sold abroad.

In 2007/08 the German Alfred Wegener Institute chartered Royal Arctic Line's polar container ship *M/V Naja Arctica* for a trip to Antarctica. In Bremerhaven were loaded 3.500 tonnes of machinery and equipment which the institute would need to establish research station Neumayer III in the Antarctic.

## **The Period 2010 – 2015**

In 2010 the Scottish company Cairn Energy performed offshore oil exploration activities in the sea around NW Greenland using Egedesminde as base port.

That same year per. January 1, 2010 the Royal Arctic Line Ltd. together with Danbor Ltd. founded the company “Arctic Base Supply Ltd.” on which we read the following in Royal Arctic Line’s Annual Report 2010 from which I quote:

Quote: “Arctic Base Supply is owned 50% by Royal Arctic Line and 50% by Danbor Service.

The company was founded by 1<sup>st</sup> January 2010. The company was founded in order to unite the two parent companies' specific competencies within operations in Greenland and supply to the offshore industry respectively.

The company's goal is to deliver the best possible services to the international oil companies that come to Greenland.

### *The market:*

In 2010, a single oil company carried out drilling in the sea West of Disko Island. Before arriving to Greenland, the Scottish oil company Cairn Capricorn Greenland Ltd. entered a full service agreement with Arctic Base Supply covering logistics services. The company has thus made a good start in the market.

The oil industry continues to show great interest in Greenland, and an increasing activity in the sector in 2011 is anticipated, not least in the preparation of new drilling wells in the coming years. In the spring of 2010 Arctic Base Supply concluded a three-

year contract for logistics services with the Scottish oil company Cairn Capricorn Greenland Ltd.

In 2010 the oil company completed three out of four planned exploration wells west of Disko Island, and expects to conduct a similar drill program at West Greenland in 2011. The activities surrounding oil drilling is also expected to provide spillover revenue in the Group's other companies. " Unquote.

In 2015, th company's activities are greatly reduced since no offshore oil exploration activities have been performed in Greenland in the recent years.

The ships of Royal Arctic Village Service Ltd. is getting worn out, and in the "Royal Arctic Line' official annual report 2010" the following is written, from which I quote:

Quote:

*"New vessels*

Throughout 2010, Royal Arctic Line has worked on a new building program, including the selection of yard and securing financing. In December 2010, the Board approved a comprehensive newbuilding program of five new ships to be built at the German P + S Werften. A thorough selection process showed that this yard offered the best combination of price, quality, facilities, delivery and financing options.

The total order includes a container vessel of Mary-class, with a few modifications, the 606 TEU (TEU = container measurement - Twenty foot Equivalent Unit), two container ships of 108 TEU and two smaller vessels with a container capacity of 36 TEU each. These four smaller ships will be introduced for village services.

The new ships will help to ensure a stable and flexible supply of Greenland. The new tonnage allows a higher degree of containerisation of village services. At the same time due to the ships' design, the fleet renewal contributes to Royal Arctic Line group's achieving its strategic goal of developing the business in the non-concessionary areas.

*Container ships:*

*Naja Arctica* and *Nuka Arctica* are of 782 TEU each and are engaged in regular service between Aalborg (Denmark) and Greenland. The ships are from the mid-1990s, with a remaining life expectancy of 5-7 years.

*Mary Arctica* is of 588 TEU and sails and between Aalborg and Greenland's east and west coasts. The ship is very flexible and was in November and December 2010 chartered to work in the Antarctic.

*Irena Arctica* at 424 TEU and *Arina Arctica* 283 TEU call most cities in Greenland on both the East and West Coast. The ships unload with special barges and trucks in places with no port facilities.

*Pajuttaat* is mainly carrying general cargo and occasional containers. The ship dates from 1979 and originally built to sail with dry cargo and to a lesser extent frozen goods.

Village vessels *Angaju Ittuk*, *Aqqaluk Ittuk*, *Anguteq Ittuk* and *Johanna Kristina* are all smaller general cargo vessels with a capacity of between 220 and 320 cubic meters. The ships were built between 1960 and 1984. The age is high, and has for years led to steadily increasing maintenance costs. "

Unquote

# Shipping

## Petroleum products

### The period 1950 - 2015

From 1888 onwards a total ban had been against the use of kerosene or similar for heating or lighting inside the Greenlandic buildings as they were made of wood or peat/turf and therefore flammable.

In 1939, there was an astonishing progress, as it was permitted to use the so-called Colza- oil that could be used in ordinary kerosene lamps. Colza-oil was far less flammable than petroleum, but had the disadvantage that it solidified in cold weather, so the lights went out.

During World War 2 Colza oil for lighting could not be provided. Therefore it was permitted to use kerosene for the purpose, provided that they were extremely cautious. Fires are difficult to extinguish in the Arctic; especially during the winter months.

The G50 plan and the subsequent realization of the “new incentive” meant that there would be an increasing need for petroleum products in Greenland after the 1950’s.

In 1949 the Danish government therefore approached the major oil companies in order to establish a company that could operate under all conditions in Greenland, thus ensuring supplies of petroleum products to the country.

The Greenlandic Oil Company (DGO) was then founded at a meeting at the Danish Petroleum Company’s headquarter, Monday, March 6<sup>th</sup>, 1950.

The founders were, beyond the Danish Petroleum Company (later Danish Esso), also the United Oil Company Ltd. and barrister of the Supreme Court, O. Bondo Svane.

With effect from 22<sup>nd</sup> June 1950, DGO in an agreement with the Danish government was committed to guarantee the Greenlandic oil supply.

## **Construction of storage tanks in Greenland**

Preceding the agreement the Danish Petroleum Company (DPC) had assisted the Danish government via the Greenland Department with the construction of a number of storage tanks in Greenland.

This was because DPC already at that time had a cooperation with the Greenland Department regarding the supply of petroleum products. It was mostly kerosene, which was delivered in 200 ltrs drums.

In 1948 a storage plant was built in Egedesminde. In 1949 storage plants in Julianehåb, Godthåb and Holsteinsborg, and in 1950 followed the storage tanks in Frederikshåb, Godhavn, Upernavik and Thule.

All storage facilities would be supplied via a new import storage facility, Polaroil, which the Danish Government via the Greenland Department would build in Færingehavn in 1950 and then rent to DGO.

### **The transport**

In the first 10-12 years after its inception in 1950, small tankers were used for the transport.

For example, *M/T Birk*, which in July 1956 was chartered for a cargo of 700 tonnes from Rotterdam to 6 destinations in Greenland, or *M/T ASP*, which in June 1961 carried 650/700 tons from Aruba to 9 destinations in Greenland.

In October 1968 it was the *M/T Grete Terkol* that sailed 1.100 tons from Fawley to 4 destinations in Greenland.

In the beginning the oil was shipped to Færingehavn with 5-7000 tons tankers or larger, if it could be combined with the transport of supplies to for example the Cryolite Company in Ivigtut or to the Danish Marine Station in Grønnedal.

Tankers of 16-20.000 tons were gradually introduced when the storage capacity was increased along with the demand.

As time passed, oil supplies were shipped with large ocean-going tankers directly to the storage facilities in Godthåb, Holsteinsborg, Julianehåb, Scoresbysund and Angmagssalik etc.

## **Atlantic transport in ice filled waters**

In the period 1977 - 2011 DGO used tankers from the Finnish state shipping company Neste for the ocean transports.

This Company's tankers all had the highest Finnish ice class 1A and double hull, and the shipments to Greenland were made with two types of ships, namely Lunni and Tavi-type of 17.000 m<sup>3</sup> and 22.200 m<sup>3</sup> load capacity respectively.

In 2012 DGO began to use the Danish company A.P. Moller -Maersk with the ocean-going tanker *M/T Maersk Edgar* of 37.188 TDW, double hull and Germanischer Lloyd Ice Class E1.

## Domestic transport in ice filled waters

For further distribution from the main storage to the smaller towns and communities, the oil was for many years distributed by KGH's own and chartered ships with specific large tanks, such as the *M/V Julius Thomsen*, with its 400 m<sup>3</sup> large tanks was used from the start in 1950.

When Polaroil in Færingehavn in the early 1960's had reached an appropriate capacity, and revenue also reached a certain level, the distribution of oil was organized, and the use of dedicated small tankers started.

The first dedicated tanker in domestic transport was *M/T Esso Hermod* - with which the DGO in 30 coastal trips supplied a total of 18309 m<sup>3</sup> of petroleum products to KGH's tanks from Prins Christian Sund in the south to Thule district in the north.

In the following years came also the *M/T Esso Odin* and *M/T Esso Rønne* until a new era began in 1968 with the deployment of the *M/T Ireland*, which had a capacity of 2000 m<sup>3</sup>. This tanker came to follow DGO for better or worse for 20 years under various owners and names, first *M/T Irla Lupe* and then *M/T Betty Theresa*.

The demand for greater efficiency, quality and environmental awareness meant that *M/T Betty Theresa* in 1988 was replaced by *M/T Sofie Theresa*, who is also from the Company Herning.

*M/T Sofie Theresa* is 50% larger than *M/T Betty Theresa*, and is also constructed with double hull.

For the further distribution of the oil to the settlements the KGH for many years used the chartered freighter *M/V Erika Dan* and later the chartered tanker *M/T Henny Kaz* until KGH/KNI in 1980 had two small tankers custom-built to supply service stations in the settlements, *M/T Orsiaat* and *M/T Aqipi Ittuk* with a capacity of 300 and 350 tons, "

(Source: The Greenlandic Oil Company's (DGO) 40th anniversary publication "The oil has to get there" published in 1990)

As for KGH distribution of petroleum products to the settlements, the following can be read in KGH in-house magazine "KGH Orientation No. 63" from which I quote:

Quote: "When the Company (KGH) in 1968 systematically began to build storage tanks in the settlements, it quickly became obvious that one of the prerequisites for these smaller systems to run in a safe and financially sound manner necessitated the procurement of some sort of tanker tonnage.

The demand was indeed large, but it was estimated that the problem could be solved by acquiring a small so-called tank barge. It could load 3 x 8,000 litres and was licensed to carry to both gas oil, kerosene and gasoline. It never became a success, as it was found to be very difficult to tow the long distances required.

To be left without means of transportation was not an option, why we in the beginning of 1971 made a charter agreement for *M/T Henny Kaz*, which now is familiar all over the West coast.

This small oil tanker, which is built in 1939 and can carry 180,000 litres, has since solved the need for transportation of liquid fuels to the settlements to everyone's satisfaction. The first season *M/T Henny Kaz* moved about 7 million litres, while the last was at about 12.5 million litres. As the ship's size and age put a natural limit to its capability, you had to realize that a new and larger tanker was necessary.

When we say the last season, it is because said new and larger tanker is now a reality, and was put into service in October. The ship's name is *M/T Orsjaat*, and it is built and equipped according the latest principles for a tanker to operate the Arctic waters, which bodes well for future consistent supply, but it will also be busy. If the estimated forecast for the settlements holds, the consumption of oil will more than double within the next ten years. " Unquote.

Here in 2015 Polaroil operates a total of 69 plants, with 16 storage tanks in the cities, 52 tanks in the villages and 1 import facility. Import and distribution of petroleum products to these tank facilities is carried out in close cooperation with KNI Ltd. which is owned by the Government of Greenland.

# Shipping

## Ore

### The period 1860 – 2015

#### The Cryolite mine in Ivigtut

The cryolite ore in Ivigtut in southern Greenland was discovered already in 1795 by mineralogist Heinrich Schumacher, but it wasn't utilized before 1859.

In 1859, Mr. Julius Thomsen, a Danish engineer, became co-founder of "Kryolithfabrikken Øresund" which was intended mainly to produce soda for chemical treatment of cryolite from the privately run Cryolit mine in Ivigtut in Greenland.

The factory worked right up to 1987; from 1940 with the participation of the Danish government, which bought 50% shares in the newly established limited company "Kryolitselskabet Øresund", and two private investors who owned the other 50% in this company.

"Kryolitselskabet Øresund" was then controlling the mining in Ivigtut and the cryolite factory in Denmark.

In 1890 the factory began a major production of aluminium made out of cryolite from Greenland, which became important during the World War 2, when the United States imported the entire cryolit production from Ivigtut; the aluminium was then used to build the war planes.

It was not only the cryolit factory in Denmark which received cryolite from Ivigtut. For many years after its inception in 1859, the majority of cryolite was shipped to Philadelphia in the United States with American ships.

In 1927 the "Kryolith Mine and Landels" company let build the famous steamship *S/S Julius Thomsen* (call sign NGSC / OYCD) to maintain the connection between Copenhagen and the cryolite quarry in Ivigtut whereto the ship sailed supplies, fuel and passengers.

In the book " The Tale of cryolite" (see Bibliography in the Appendix) there is a comprehensive description of the vessel. In 1962, the quarry closed, but all the

excavated and stored cryolite ore was shipped all the way up to and including 1987.



*1983: M/S Nanok S. below the gantry crane in Ivigtut, and also tipper wagons with cryolite (Photo: Bjarne Rasmussen)*



*The full tipper wagons are hoisted by the gantry crane and emptied into the cargo holds. (Photo: Bjarne Rasmussen)*

## **The coal mine in Qullissat**

In 1924 the Danish government established a coal mine in Qullissat on Disko Island in NW Greenland; and from the start to the closing in 1972 the yield was 570,000 tons of coal. The coal was partly distributed to the settlements on the entire West coast of Greenland and partly shipped to Denmark.



*M/S Mogens S. at anchorage in the village Ukkusissat discharging coal to a barge  
(Photo: Fritz Ploug Nielsen)*

For many years from 1948 and onwards, several of the Danish shipping company A.E. Sørensen's smaller ships such as *M/V Mogens S.* were engaged in distributing these coals on the entire west coast of Greenland until the coal mine was closed in the early 1970s.

Ship owner Knud Lauritzen from the shipping company J. Lauritzen visited Qullissat in 1948 when he made a voyage to Greenland on board the cargo ship *S/S Maria Dan*. This voyage is detailed in the section on port facilities in Greenland.

## **The Ore Ports Project**

In 1957 Secretary Eske Brun in the Ministry of Greenland wrote the article "The Ore Ports Project" in the magazine "Tidsskriftet Grønland" (The Greenland journal) from which I quote:

Quote: " In the post-war years steel production outside the Arctic is rapidly increasing, and one of the areas in the Arctic where very large deposits of iron ore are present, is in the Ungava Bay area in the Hudson Strait at the northern end of the province of Quebec; approximately on same latitude as Cape Farewell in South Greenland.

Transportation from here is however only possible three months a year, and two of the concession ports in this area therefore approached the Ministry of Greenland inquiring about the possibilities of realizing plans seeking to establish an ice-free port of transit in Greenland, to which the ore can be sent in the three summer months and from which it can again be passed on to the customers the remaining part of the year.

The ships included by this plan will be custom-built ships in very large format. Ship sizes up to 45,000 tonnes have been mentioned, which is undeniably of a different magnitude than we are used to seeing bringing goods to Greenland.

If the plans become a reality, two transit ports would have to be built in Greenland, as the two companies are interested in getting each their own port facility.

For a start, the two companies have been authorized to carry out preliminary examinations in Greenland, and both had expeditions up there in the summer of 1956.

"Atlantic Iron Ore" looked into different locations on the coast, but took particular interest in Rype Ø near Nuuk, where it was believed that the optimal conditions were present, while "Oceanic Iron Ores" found "Marraq" between "Færingehavn" and "Fiskenæsset" to be more appealing to them.

The question now is, what interest the Greenlandic society can have in the construction of ports of the character they are talking about here. To this end there are two conditions which are essential.

First, it must be remembered that ports with such specialized equipment can hardly be used for any other purpose than loading and discharging of iron ore.

Secondly, these will be ports whose operation requires little labour, because they are so highly mechanized that they only require a small number of people to operate, but these in turn have to be very highly trained specialists, of which there are not too many in Greenland.

When it on the other hand must be predicted that these ports involve considerable expenses of social nature, it would be highly doubtful whether we can have any interest in having the plans realized, unless some sort of significant fee is included.

In the negotiations now going on between the Ministry of Greenland and the two Canadian companies, it was established that from a Danish point of view, a permit for construction and operation of these ports can only be given to a Danish company.

Therefore Danish companies, who can take on these tasks, must first be formed before permission can be granted.

Next, it has been determined that the construction and operation of the ports must use Danish labor and Danish contractors only, except for individual licenses expected to be given foreign specialists, who can not be found in Denmark.

Finally, it has been made clear to the Canadians, that the permission would be subject to an agreement on a reasonable fee, which is currently negotiated. It is however already every reason to believe that we can reach a mutually satisfactory result in this respect.

In this case, there will be carried out construction work on a scale and a character which is far beyond anything we have seen so far, up there, at least in the civilian field. Also it is interesting, that the central position Greenland has in the world in respect of air traffic, now also may regarded that way in the field of shipping".

This project causes the Danish shipping company J. Lauritzen early in 1957 to order two 16.000 tonnes ore and coal transport ships (bulk carriers) for building at Aalborg Shipyard in Denmark, which will be strengthened to the high Finnish ice class 1A. The speed is 15 knots.

The ships length is 149 m. The main machinery is of 8.300 BHP

Later in 1957 J. Lauritzen wrote this in the in-house magazine "*FRIVAGTEN*" no. 66 from which I quote:

Quote: "As you know, about a year ago we ordered two ore carriers at Aalborg Shipyard, which originally was to be at 12-14.000 tons, but which was later converted to 18.000 tons.

One reason for the cancellation is that the Canadian ore projects which relied on transshipment of ore in a Greenland port of transit, now is so far behind schedule that ore shipments may not begin before 1960; so our ore carriers will be finished too early. And in addition it seems as the plans for transit ports in Greenland seems to recede into the background, as the American and German interests that recently seem to have entered into close cooperation regarding the shipping of the Ungava ore, now plan to transport ore directly from Ungava to the United States and Germany in very large ships – sizes of about 40,000 tonnes have been mentioned - and while there is ice in Ungava, the ships concerned can be used for transporting coal from the US to Europe." unquote

After much discussion the port projects in Greenland were postponed until 1961 and then completely abandoned.

*Notes: Here in 2015 the idea of transshipment of Canadian ore in Greenland waters was raised again, this time by the Canadian company "Baffinland Iron Mines Corporation". The project is still in a public hearing phase with Greenland's Home Rule.*

In 1957, the Danish Government set up a commission which had the task of drafting a new law for the regulation of mining in Greenland; a law that would make it more attractive for Danish and foreign companies to begin exploration and pursuit mining in Greenland.

The Mine Commission's work resulted in the Mining Act of 1965 (Act on Mineral Resources, 1965).

## **Iron at Isukasia**

Over the years mines have opened and closed in Greenland, and for elaboration, I can recommend the very factual report "Exploration and exploitation of resources in Greenland in Historical Perspective" written by Frank Sejersen, associate professor at the Department of Cross-Cultural and Regional Studies University of Copenhagen and published in 2014.

In the report you can read more about the mines and offshore in and around Greenland through the ages, and Associate Professor Frank Sejersen has granted permission to bring this excerpt from the report:

"In the 1960's the Cryolite Company Oeresund Ltd. (Kryolitselskabet Øresund A/S) performed airborne geophysical surveys in West Greenland, and in 1965 the company

detected a large iron ore deposit near the ice cap in Isua (Isukasia) about 150 km Northeast of Nuuk.

Based on an exploration concession, the company performed studies and test drilling for a number of years (Mineral Resources Administration for Greenland, 1979, p. 15). Ore reserves were estimated to be between 550 million and 2 billion tonnes of iron ore with a grade of 32% (for the sake of comparison it may be mentioned that it is 60-70% in Kiruna) and geological samples in 1971 showed that the iron ore is the oldest in the world (Appel, 1999).

Because of the location close by and under the ice cap the extraction and transport was considered a challenge.

In the mid-1970's the Cryolite Company stopped the explorations, since the cost was high and the profitability of a potential mine uncertain.

In 1976 the Ministry for Greenland set up the "Working Group on supply and Labour use in the mining and oil industry in Greenland" with the mandate to prepare a proposal for an analysis of community impact at an iron mine at Isukasia. The working group felt that the mandate was too narrow, as the mining activity should be considered in conjunction with other major future projects in the oil and mining sectors.

In 1977 the Ministry accepted an expanded mandate. In addition to an iron mine at Isukasia with energy from hydropower plant at Qaamasup Tasia, the commission analysed consequences to society with exploitation of oil off the west coast, uranium by "Kvanefjeldet", coal at Nuussuaq and large industry based on hydropower.

The Commission worked with a scenario where between 650 and 1.300 Greenlandic workers would be recruited over a 20-year period to the Isukasia mine. The working group pointed out that the present economic conditions indicated that "... mining [will] give the owners so limited economic benefits that one can not expect any interest from private investors, if imposed significant corporate or concession fees.

Especially for a mining company with an annual production of 5 million tonnes pellets the financial result tends to be so poor that private investors probably only will be interested if the government in one form or another bears part of the investment cost, or grants a favourable financing of the mining company's investment "(Working Group on Supply and Labour Use in mining and oil industry in Greenland, 1978a, p. 10).

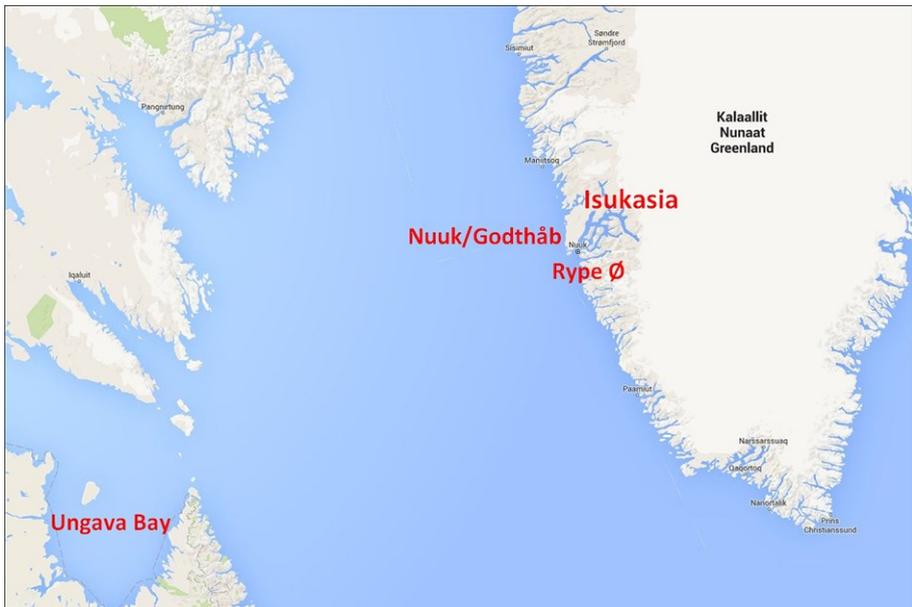
The working group however stressed that better prices, higher volumes and more efficient technology could make mining activity profitable. The group's calculations showed that the mine's operating costs annually would contribute positively to the

domestic product by up to 1 billion, and that the Greenlandic society could benefit from this added value by ensuring employment at the mine (1978a, p. 24).

In 1979 the Mineral Resources Administration for Greenland came with the following conclusion: "... the Isukasia- project must, based on the currently known conditions, be characterized as extraordinarily uncertain in the short term, not least in the light of developments in recent years on the world market for iron and steel, which has been marked by failing sales and steady rising production costs. It is therefore currently considered unlikely that a mining project at Isukasia could be based on general economic and market conditions within the next 5 years "(Mineral Resources Administration for Greenland, 1979, p. 16).

In 2005, the "London Mining" got concession to make exploration in the area, and their studies indicated that there are about 1 billion tons of ore (MRA, 2012a, p. 13). In 2013 Naalakkersuisut and London Mining signed an agreement that gives the company the exploitation license for the iron potential of Isukasia area.

At time of writing at the end of 2015, the project is still not realized ....



*Isukasia iron deposit north of Nuuk*

*Port project: Ungava Bay to Rype Island*

# Shipping

## Fish products

### The period 1925 - 2015

In 1920 a major invasion of cod to the waters off Southwest Greenland began, why the Danish government supported the development of a Greenland cod fishing; eg. by establishing fishery stations and various seafood trading places along the west coast of Greenland, where cod could be salted or dried and loans granted to allow fishermen to purchase fishing boats; in 1939 there were a total of 73 motor vessels in Greenland, which supplied fish to either the many trading stations, or fishery stations as Tovqussaq near Sukkertoppen, where the fish was salted or dried. In the period 1940 - 1945 part of the production was exported to the United States as part of the ships' backload in addition to the backload of cryolite.

After 1945, there was good export opportunities to sell salted fish products such as cod and halibut to Mediterranean countries, but during the 1950's Greenland's cod fishing however receded due to lack of private investment and because many Faroese fishing vessels as well as many foreign fishing vessels from Germany and Portugal, conducted intensive fishing of cod out on the banks of the west coasts of Greenland.

These circumstances and the realization of the G50 plan meant that private Faroese, Norwegian and Danish fishing interests began negotiations with the Danish authorities to form a private limited company Nordafar that would establish a private production facility in Færingehavn in Greenland where the Faroese and Norwegian fishing vessels could land salt fish and fresh halibut for further processing and export.

Nordafar became a reality in 1953, and was active right up to 1990.

During its active period, Nordafar had impact on Danish polar navigation, as Danish merchant ships sailed salt fish and frozen fish products from Nordafar to for example, the Mediterranean where they loaded salt as backload to Nordafar - often with a detour to Trangraven in Copenhagen to also load KGH goods to Greenland.

Several of the Danish shipping company A.E. Sørensen's ships were involved in this trade from the beginning in 1953; and sometimes the merchant vessels would load salt fish directly from the fishing vessel and ship it to recipients abroad.

When the Greenland fishery was challenged by the many foreign fishing vessels and a lack of private investment, Royal Greenland Trade (KGH) at the initiative of especially the Greenland Trade Department Director Hans Christiansen, in the late 1950's launched a major industrial program targeting the construction and operation of production plants in selected cities.

To provide the necessary raw material supply to the plants, KGH purchased many new and used fishing vessels in Denmark for line fishing for cod on the West coast of Greenland. The smaller of these fishing vessels were lifted to Greenland in large KGH chartered ships, then Greenlandic fishermen bought fishing vessels on an instalment plan.

Greenlandic fishing gradually developed from fishing with lines to fishing at open sea with stern trawlers, and on april 30<sup>th</sup>, 1969 - about 10 years after the start of the KGH Industry Programme - the first stern trawler *M/T NUUK* at 433 TDW was delivered to KGH from "Ankerløkken Verft A/S" in Norway, after which the ship sailed to Greenland to fish for cod, which it was custom built for. The cod fishing continued until 1976 when the ship was converted to shrimp trawling.

In the period 1971-1975 the Danish government granted KGH financial means to have the following stern trawlers built to Greenland cod fishing:

- *MANITSOK*, to unload at Sukkertoppen
- *PAMIUT and ELIAS KLEIST* to unload at Frederikshåb
- *ERIK EGEDE and CARL EGEDE* to unload at "Godthåb Fiskeindustri" (GFI) in Nuuk
- *SISIMIUT*, to unload plant at Holsteinsborg

Six stern trawlers that were on 721 TDW compared to stern trawler *NUK* on 433 TDW.

All seven KGH stern trawlers were built to "Det norske Veritas" class 1.A.1. trawler ice class-A, and were thus heavily ice-reinforced.

Cod fishing, however, evolved negatively during the period 1971 - 1975, and in 1974 the cod accounted only for 60% of the trawler catches.

The focus was therefore on shrimp fishing and design of production plants so they could handle these commodities.

## **Shrimp fishing**

The KGH stern trawler *NUK*, 433 TDW, originally built for cod fishing was in 1976 converted to shrimp fishing with Holsteinsborg as base port. In 1977 KGH let build the shrimp stern trawler *M/T David Olsen* on 233 TDW to feed its production facilities in the open water towns Holsteinsborg, Sukkertoppen and Frederikshåb with shrimp.

In the coming years many smaller private shrimp trawlers were built, which mainly fished prawns in Disko Bay and landed this raw material to production facilities in the Disko Bay.

## **PROEKS / Royal Greenland**

As per 31/12 - 1984 KGH/Danish government handed the seven stern trawlers and the three shrimp fishing vessels *David Olsen*, *Ilimassaq* and *Aulisagak* to the newly established company PROEKS, which was 100% owned by the Greenland Home Rule.

In addition to the stern trawlers and fishing vessels KGH/the Danish government also transferred all KGH production facilities in Greenland to Greenland Home Rule.

PROEKS was later again divided into three separate entities where production plants were separated into the unit Kalaallit Tunissassiorfiat (KTU), fishing vessels and trawlers into Greenland Home Rule Trawler Company (GHT), Distribution and sales company into Royal Greenland (RG).

In 1990, the units were reassembled in the limited company Royal Greenland Ltd, where Greenland Home Rule - and later the Greenland Self-Governing - owns 100% of the total share capital.

Developments in Greenlandic fishing over the years was thus of great importance for Danish polar navigation with regard to the ships' backloads from Greenland, since many of KGH's owned and chartered vessels had freezing capacity of varying size.

In the late 1970's and until the early 1990's KGH and the private company Copenhagen Reefers Ltd. developed freezer vessels that were particularly suited to lift this export from Greenland, since KGH's own Unit Load polar ships no longer had freezing capacity enough.

From the 1990's, the majority of the production from the fishing industry in Greenland is exported in reefer containers loaded into modern container ships.

## **The Sailors own accounts/stories**

## ***M/S Varla Dan, spring 1967***

In the early summer of 1967, the shipping company J. Lauritzen's polar freighter M/S Varla Dan was chartered by the Royal Greenland Trade to make three trips to Greenland. The first trip was to go to Angmagssalik on the east coast. The village is located very near the Arctic Circle. The East coast is the deserted part of Greenland, and can only be navigated a few months of the year.

The East Greenland Current constantly leads a wide belt of pack ice from the Pole basin along the coast, and forcing this natural barrier can only be hoped for in the high summer months. Varla Dan was 2700 TDW and built to meet the requirements of Finnish ice class 1A.

So this was a polar ship which besides the added strength also was designed with icebreaker bow, ice fins, ice knives and a crow's nest in the foremast from which the ship could be manoeuvred. But it was not an icebreaker.

These ships were obviously better than conventional ships for navigation in ice, but they were meant to push their way between ice floes of different sizes and thickness. Here, the strong construction is of great importance, as especially the East Greenland pack ice is an immensely powerful and rock-hard opponent to grapple with.

On June 16<sup>th</sup>, 1967 we glided out of Copenhagen port. The journey had begun. Weather reports were fine. We were to be the first vessel of the year, and could this early in the season expect a good deal of ice.

The ice charts we had received from the Meteorological Institute prior to departure, also confirmed that we soon enough would meet the ice. The coast had been filmed from satellites, and from the pictures we could assess the occurrence of the ice.

But as this changes within hours, airplanes were sent on reconnaissance flights from either Iceland or Kulusuk, when vessels would approach the East Coast. The was in contact with the airplane, and eventually the plane would drop a hand drawn ice chart down to the ship.

Our navigation went as planned. The dark hours faded into nearly none, and during a trip in these northern waters, incredible amounts of animal life could be observed. With all this daylight I quickly adjusted to only 4-5 hours sleep a day. And now and then I was also a little annoyed that it was necessary to sleep, when so much interesting was around.

On June 22<sup>nd</sup> we met the ice. From the outer edge of the ice belt we advance quickly through scattered ice floes. Before noon an Icelandic plane had taken off from Kulusuk and provided us with an updated “ice-recon”.

The next day around noon, we met the real great ice.

During the voyage, the captain, (H. Møller Petersen) said that he planned to enter the ice about 50 nautical miles further North-East, compared to the direct course to Angmagssalik.

The idea was naturally, that if we were trapped by the ice, we would still drift with the South-Western current, in the right direction for our destination and would therefore have a chance to work our way towards shore. If we entered the ice belt straight on the course-line, or south of this, it would be make-or-break.

If the ship got trapped she would drift south with the ice masses, and from there the only option would be to work our way out into open sea, and then start all over again. The plane had found a “sweet spot” where the ice-density was “only” 7 to 8.

This meant that 7-8/10's of the surface was covered with ice. Ice-density Zero is open water and 10 is total covered.

The “sweet spot” was in the bottom of an “ice-pocket” appr. 35 NM SSE of the entrance to King Oscars Haven (the bay where Angmagssalik is located), this being the most unfortunate corner. We gambled, took on speed and advanced slowly with only a few miles per hour.

The ice? Yes, it was Great-ice, scarred after years spent in the Pole Basin and after the trip down the East Coast. The ice-thickness we estimated to be around 2-4 meters, but it was hard to tell as the on-going packing of ice had left it rather crumbled.

In short - it was heavy ice – hard as rock. As earlier mentioned, Varla Dan was not an ice-breaker, but only reinforced to navigate in ice. We had to depend on the ice's preference for making cracks and distance between the floes. It takes more than ordinary ice-breakers to wrestle with Great-ice.

We were still advancing, but the speed got less and less. Shortly before midnight came one of the ever-lurching enemies of the ice areas, the fog. The water temperature was -0.5 to -1.0 degrees Celsius, and in the daylight hours the dew-point of the air was some 10 degrees higher. Late in the evening when the sun was low in the sky, the air temperature dropped to around zero, so no wonder the fog showed up.

It was by no means welcome, as it became so dense that the visibility was nil. We couldn't even see what time it was. And with the ice as background our vision was

no better off. Finally we had to stop as it was impossible to see where the best direction to sail was.

The radar gave a fine plot of Cape Dan on the Kulusuk Island, this making it easy to establish in which direction the current was taking us. We were a little surprised that it was NNW, which was straight towards Angmagssalik. The drifting speed was also quite good, nearly one NM per hour. During Saturday's first six hours we drifted nearly as far as we sailed Friday's last quarter, and in the right direction.

The engine was stopped all Saturday, and by the end of the day we were only 13 NM from our destination. The drifting now, however, became more westerly. Finally, shortly after midnight the fog lifted. The engine was started, we had to move on and get into port. The ice did however seem like it wanted to control our movements.

We started at 0215. All 2000 horses were let out of the stables for work. They tore and snapped, stomped and kicked, snorted and pulled. They got another bucket of oat, but Varla didn't budge an inch.

Neither did the ice. We were trapped.

In the logbook, the ice density was noted to be 10. The only water we could see was the melted pots. It was the begging of a 104 miles long voyage, where we didn't sail much. At the most one could say that we rocked a little now and then. The ice had taken command and didn't let go for 10 days, when we finally came loose and could start all over again.

To pass the time on a Sunday, we made some depth soundings. To see if it was possible to reach bottom we switched on the echo sounder in a position where a depth of more than 500 meters was charted. And there we reached bottom at 185 meters. This fuelled our interest, and later we could conclude that over a large area the depth curves are wrongly charted. In the Greenland waters the depth soundings are very scarce and scattered, as it is very difficult to have accurate observations and accurate positions at the same time. Here the ice occurrence again plays a role.

Monday afternoon came the first unpleasant experience. All was a perfect idyll. The sun was shining from a blue sky, and I had just got the 3 o'clock coffee served on the bridge. The first sip was in my mouth when my ears caught some strange sounds. The ice creaked and crashed.

Out in the bridge wing I could see that the ice was moving almost like a maelstrom. I called "the old man" and shortly after most of the crew was on the bridge. Scary forces were at large. Giant ice floes were wrestling. Smaller pieces were sandwiched and squeezed, so they couldn't even be used as ice cubes.

Large floes were either pushed up or forced down. In the ear it sounded like a piece of cloth is torn, like a giant tree falling, like a car running through a glazier's shop,

like pepper corns being milled, and like a lot of other things the imagination could come up with.

Just around the vessel the packing was not too bad, but a couple of short, violent shocks went through the ship, and each time it sounded like a gunshot. All the while the captain stood and said: "I don't like this. Damn if I like it".

When I uttered something about that at least the ice could hold, he told me to shut up. After half an hour the packing stopped as abrupt as it started. Fortunately, as there wasn't much fun in lying on display and not being able to do anything about it. Our only consolation was that if everything went wrong, at least the ice could hold us. Only once more we experienced the ice packing, but that was also more than enough.

Varla Dan didn't escape without damage these two times. The days went by. A colleague joined the area. *M/S Nancy S.* was also heading for Angmagssalik. When she approached the ice, she received an "ice-recon" and at the same time we got to know that we had "only" 30-35 miles to open sea. *Nancy S.* was in a favourable position and advanced quickly with the smaller Norwegian *M/S Polarbjørnen* in her wake.

Over the radio we followed the action, and deep within our maybe not entirely clean souls, we wouldn't mind if the two of them also got stuck. We were supposed to be this year's first ship. In this case fate was not a mind reader, as least it didn't respond to our wishes.

The two vessels reported of dense, heavy ice, but were still advancing. After one day they were both in port. Now we could only take comfort in the fact that *Nancy S.* wouldn't get the same glorious welcome as we, as she mainly carried building materials, while we were loaded with vegetables and other sorts of provision which had not been available for months. Also the beer we had on board.

While the sun was on the rise the icebergs nearly had the colour of pink. As the fireball rose higher they gained blue and white hues. Ice can be of many colours. They were far away, but that morning suddenly they were there. Now there was no doubt from where they came, as it was us that had come to them.

Because they stood fast and perhaps been in the same place for months or years. They came closer, they were large and impressive, they instinctively commanded respect. There were 11 of them. The respect became not less when we found out that we were drifting right into the middle of the bunch. For the two outermost our bearing was W and SSW and we drifted SW.

The radar was switched on. That didn't improve the situation, as it showed that our drift was quite fast, nearly 1.5 mile an hour and straight SW where the closest of the bunch was located. When I started plotting around 03 o'clock, the distance to the majestic icebergs was 5 miles.

It was not at all funny.

The distance became shorter and shorter. With the sextant I measured the highest top to be 65 meters. And then 6-7 times more under water. They were now so close so a hair-raising picture appeared in the binoculars. The icebergs were of course stranded, most likely on a couple of hundred meters depth. And they stood fast, immovable just like a mountain. The fast drifting Great-ice was covering all the surface so it was inevitable that some of it would hit the icebergs.

New masses kept on pushing and shoving forward, while the giants just stood firm, and kept standing. It actually looked like the scenario was reversed, like ice-breaking mountains came sailing through the ice masses. The large floes were erected by the impact, now hordes threw themselves forward in a never-ending attack on the icebergs, which were only slightly grinded around the edges.



The attacking ice was squeezed, smashed, pulverized and pushed away, up and down. More came forward, relentlessly attacking. When giant ice floes one meter thick were erected, they could compare with a large glass window that was hit in the middle with a hammer. Splintered and finished.

The distance was too far for us to hear the sound from nature's act spell-binding us completely. But I bet it would have caused goose pimples to emerge beneath our long-sleeved vests.

Again it was a battle of giants. We were merely spectators and would be absolutely helpless if trapped in between. Suddenly, in a distance of 1.5 miles from an awe-inspiring iceberg, our drifting course changed to straight South, and thus the danger was over.

Perhaps a steep slope on the seabed caused this change of the current, as the depth at our position was far deeper than where the icebergs were stranded. Whatever the reason, it was our luck, as I don't think we would be well off if we were trapped. It has been heard of before, and the icebergs never suffered any damage.

Meanwhile Nancy S. had completed discharging and gone back to sea or, more correctly, back to the ice again. She came only a few miles out from King Oscars Haven before she got stuck.

Down at the weather station Qudtleq M/S Nella Dan was in trouble. It was not easy to maintain the connections to East Greenland. But one day a little open water showed up around the ship.

We could see cracks farther and farther away. The ice floes had separated. The gaps didn't have to be large before we could push our way through. Once again the engine was started for yet another try.

One of us mates climbed the crow's nest to navigate from there. Immensely slow the vessel started moving. Inch by inch. Besides being controlled by the ice, Nella Dan was now also a little under our command.

At least until the Great-ice God changed his mind.

He didn't. The 104 miles long drift under his egocentric command was now over. Us navigators had valuable lessons in ice-navigation.

6 hours twice a day each of us navigated from the crow's nest, and when the shift was over, you could be very tired. Now it was all about getting out in open water. But the plan was also to reach Angmagssalik, where we were missed like an old friend.

We steamed up North and found a favourable position. A dense fog prevented us from getting an "ice-recon", but without one the captain would not enter the ice again. Nella Dan had gotten away from Qudtleq and stayed beside us. She was headed for Orsuagsuaq and therefore going the same way in as we.

On the third day the weather cleared. For some reason we kept waiting for the airplane.

We three vessels dearly needed an “ice-recon” as it could help cutting our distance in the ice significantly, and thereby also prevent more possible damages to the ships, while a bad or no “ice-recon” would mean us fumbling around in darkness. But this day we eventually tired of waiting and headed west towards the edge of the ice-belt.

Finally the plane arrived, and he advised us to head north straight to the coast, and from there continue one to the east and one to the west.

In ice-filled waters there is something called “land-water”. A funny name, which by no means is invented to make fun of the establishment.

Defined by the water depth a little off the coast, a narrow strand of water keeps the tide free from drifting ice. It was this “open water” we should try to reach. During this navigation, where Varla Dan nearly got stuck again, we could easily see that Nella Dan was a much better manoeuvring ship.

She had a pitch propeller, so the engine did not have to reverse. Both the propeller pitch and the engine speed could be controlled from the crow’s nest, while we at Varla Dan had the good old fashioned system with an engine telegraph and an engineer replying to it. It was not an enviable job to be engineer during the ice navigation.

Endless manoeuvres, sometimes several within one minute. And from down below they couldn’t even see what was going on.

Another downside for us was that one of our steering gear motors was broken, so it took the rudder a score seconds to move from side to side, instead of using only the half time. It was something that considerably hampered the vessels manoeuvrability. But we were not stuck for long anywhere.

At some point we had to say goodbye to Nella Dan - unfortunately - for she had been us a good helper. The water was now “thinner” to sail, soon it was only a matter of hours before the trip was over.

Oh, but it was about to happen a few hours too early, because nature just once again would remind us of its presence. And I think it gave us a real scare, the most serious on the trip. The coast between the entrance to King Oscar Haven and the great fjord a little west of - Sermilik - sports high mountains like many other places in Greenland.

But there is clear water all the way to the shore, which means free of rocks and other underwater obstacles. Just in place only, has our Lord been a little moody and thrown a few rocks a small mile from the coast. Just a few little guys that barely stick their nose above the surface at high tide. For some reason we could not sail between the coast and the archipelago. An iceberg was grounded 3-400 meters south of the skerries, and further south was so much ice that it made us think of another 10-day trip without the use of engine power.

The only opportunity left was to sail between the iceberg and the skerries. It was early Saturday, July 8, 1967. The ice situation was fair, the sun was shining and everyone was happy that the journey was soon to end. A hunter came in his kayak with a seal in tow.

A wonderful Greenlandic summer morning to go hunting, almost sorry for the seal to lose his life on such a lovely day - but one's death is another's... and so on. But then we forgot all about the idyll for the next half.

Just between the iceberg and the skerries we got a big chunk of ice on the bow, and it was not to get rid of. Since there was limited room to manoeuvre on, reversing was not possible, which would otherwise have been the best. I sat myself in the crow's nest at the time and made a lot of manoeuvring and was no doubt heavily cursed by 2nd engineer.

To get an obstinate lump of ice on the bow was in itself nothing special. Similar situations had occurred countless times. Lying midway between a skerry and an iceberg was not expected to give rise to any kind of shaking hands and cold sweat.

The trembling hands were that of an old man, and the cold sweat like a waterfall. A detestable yelp from the public address system announced that the captain wanted to see me. He piped up like he was in a knitting club in which someone dropped a stitch.

A lot of less kind words, something about ice that sets and yet another round of curses. But there was something to it, the ice was crazy to watch. By the iceberg came one floe after another drifting around and right towards the coast. And the current led the ship in the same direction.

The floe was still hanging on the bow, while there was less and less room to manoeuvre. The skipper shouted frantically from the bridge: "The skerry, dammit man, we are getting closer and closer, get us away damn it."

But that was what I tried. We drifted right towards it, while the ship was exposed to the same number of manoeuvres, normally used for 100 port calls. On the speaker, I could hear a cadet was put at the Sonar to constantly inform the water depth. It did not sound encouraging: 50, 43, 35, 28, 20 .... Fathoms - and only 5-10 seconds between each message. Holy shit.

I turned off the speaker, it was making me even more nervous to listen to it.

Almost all my body was shaking. The steering stick and the engine telegraph handle was wet to hold. But then we got lucky. Now or never. "Just order full", the captain screamed from the bridge.

The engine telegraph went twice back and forth and stopped in full . 2<sup>nd</sup> engineer knew what it meant. Revolutions skyrocketed, passed manoeuver full and the red line and stopped at maximum.

This violent manoeuver caused the vessel to shake like a leaf. There was now a little open water between the ship and the stubborn ice floe, we got off and the speed increased. One big boom after another reminded us that the speed was too high for normal circumstances.

But this was not normal circumstances. The ice whirled around, more and more had come of it, and the damned skerry was not far away. I could have used a kidney belt up in the crow's nest during the violent clashes we had with the ice.

We realized of course that it did damage to the ship, but we got through the morning in the cheapest way. And we had been close. When it was all over, it was estimated from the bridge, that the ship's side had been 50 to 70 meters from the part of the skerries sticking out of the water. The entire incident lasted about half an hour.

Three hours later, Varla Dan was moored in Angmagssalik.

But the troubles were not over - as discharging progressed, the ship's bulkhead and tween decks became visible. Oh, what a sight. The gunshots we had heard during the ice-packing, had come from ruptured ribs.

About 100 were broken or bent. The bulkhead was heavily dented. The tween decks resembled washboards. Fore Peak tank and trim tanks looked like crumpled newspapers.

In the bow the thick stem plate had a crack more than one meter long. The ship had got its scars trying to wrestle the pack ice. The journey had been a little out of the ordinary, interesting, and a few times a little too exciting. You get more respect for the Great pack ice, the more you navigate it.

The engineers patched the holes as best they could. Then we sailed back to Denmark, where Varla Dan had three weeks at the shipyard and had about 70 tons of steel replaced, which is pretty much for a ship of this size, but we were also heavily damaged.

Niels Christian Dybkjær. Second mate on Varla Dan 1967. "

## M/V Frida Dan, part I

In the old voyage records from KGH, it is listed that *M/V Frida Dan* left Copenhagen on the 16. August 1969, bound for Holsteinsborg, where she arrived 25. August, and then was planned to visit Sdr. Strømfjord and Jakobshavn.



*M/V Frida Dan and Sikorsky helicopter*

*(Photo: Leif Krejbjerg)*

Icebergs are however also drifting in the waters south of the Disko Bay, and *M/V Frida Dan* hit one of those on the 9. October 1969, an incident described in the JL magazine *FRIVAGTEN* no.101, and I quote:

"Just before dawn the 9.October, the Company was notified by the duty officer on Lyngby Radio, that they had received emergency signals from *M/V Frida Dan*.

In the dark Greenland evening West of Frederikshåb, during a south easterly hurricane with foggy sea and snow showers, *M/V Frida Dan* collided with an iceberg.

A couple of hours before the collision, the bulb in the mast mounted searchlight was busted, and it was considered unsafe to send somebody up the mast to change the light bulb, so they would have to make do with the smaller searchlight in the bridge

wing. The lookout was sharpened and both radars in service, although the heavy sea caused plenty clutter on the radar monitors.

In the reduced visibility, when trying to stay clear of an iceberg that was observed ahead to the starboard, a freak wave threw the vessel against another iceberg that suddenly appeared on port side. The collision was not particularly violent as the ship was only doing manoeuvre speed whilst hoving to the wind, but icebergs are hard and *M/V Frida Dan* started leaking at the bow.

As soon as the severity of the collision was realized, SOS and Mayday were transmitted, and Captain Aaberg Nielsen made course for Frederikshåb. Bilge pumps were started and passengers wakened. As the water kept on rising in the forward hold, the Captain ordered preparation of life boats and rafts, and everybody donned a life jacket. In addition to mandatory requirements of two self inflating life rafts, *M/V Frida Dan* was equipped with yet another pair, in total four life rafts.

The vessel's emergency transmissions were immediately received by radio stations in Frederikshåb, Egedesminde and Godhavn, plus several vessels in the vicinity hurrying to their aid. At the same time the Greenland Command in Grønnedal raised alarm.

Police deputy Hans Møller in Frederikshåb alerted the 24 year old captain Finn B. Hansen from the sand-pump dredger *M/V Holmi*, that was stationed in Frederikshåb. Despite the rough weather Captain Hansen immediately prepared his vessel for assisting, and police deputy Moeller headed out with the police cutter "*Jens Jarl*".

The bow of *M/V Frida Dan* sank deeper and deeper. *M/V Holmi* arrived 04:58. At 06:00 *M/V Frida Dan*'s main engine had to be stopped, as the heavy forward trim caused the lube oil pressure to drop. And as the vessel now had heavy list to port side, Captain Aaberg Nielsen gave the order to abandon ship with the life rafts. The two passengers and 23 crew members were picked up by *M/V Holmi*, while "*Jens Jarl*" picked up the last 7. The first 3 rafts inflated properly, one of them perhaps with a minor leak that didn't seem to affect its floatability. The fourth raft would however not inflate, why *Jens Jarl* towed on of the three back to *M/V Frida Dan*. All rafts had certificates valid to 14.November 1969.

The evacuation of *M/V Frida Dan* went nice and easy according to plan, and everybody was safe and dry on the rescuing vessels within half an hour.

Before *M/V Frida Dan* was evacuated, a towing rope was prepared at the bow, and in the engine room provisions were made for continued operation of bilge pumps and the cargo refrigeration plant was secured, also additional lube oil was pumped into

the main engine system and likewise, the heating of the fuel oil in the service tank was kept running. This in order to have the engine ready for start in case of a re-entry of the vessel.

*M/V Holmi* then sailed back to Frederikshåb, while *Jens Jarl* with Captain Aaberg Nielsen and 6 of the officers and crew from *M/V Frida Dan* stayed close to the ship.

At 10 o'clock *M/V Kununguak* arrived and was immediately handed the towing rope from *Jens Jarl*. When the towing rope broke a few hours later, Captain Aaberg Nielsen and the remaining 6 men went on board *M/V Frida Dan* again and prepared another towing rope. While approaching the skerries, where it was too narrow for towing, a part of the crew from *M/V Frida Dan* went back on board and by own means the vessel made it the last stretch to Frederikshåb.

There is always a certain risk navigating Greenland, but the incident with *M/V Frida Dan* shows that, with a strong and well equipped vessel and an efficient alarm- and rescue service, the risk can be minimized.

In this case an admirable effort was shown from many parties, and for the resolute, clever and courageous salvage, us here in *Frivagten* would like to say thank you to especially the master of *M/V Holmi*, Captain Finn B. Hansen, to the crew of *Holmi* and the 3 fire fighters that volunteered with pumping equipment. And also to police deputy Hans Møller and the crew of *Jens Jarl*. Radio Frederikshåb took excellent care of the communication between *M/V Frida Dan* and the salvage vessels.

Finally we also wish to thank Captain Starcke on *M/V Kununguak* for efficient assistance in towing *M/V Frida Dan* and GTO in Frederikshåb for the considerate reception they gave to *M/V Frida Dan's* passengers and crew when brought to Frederikshaab by *M/V Holmi*. Everybody contributed to a happy ending of a hazardous situation. The calm and authoritative behaviour of Captain Aaberg Nielsen along with the order and precaution shown at the officer's and crew's preparation

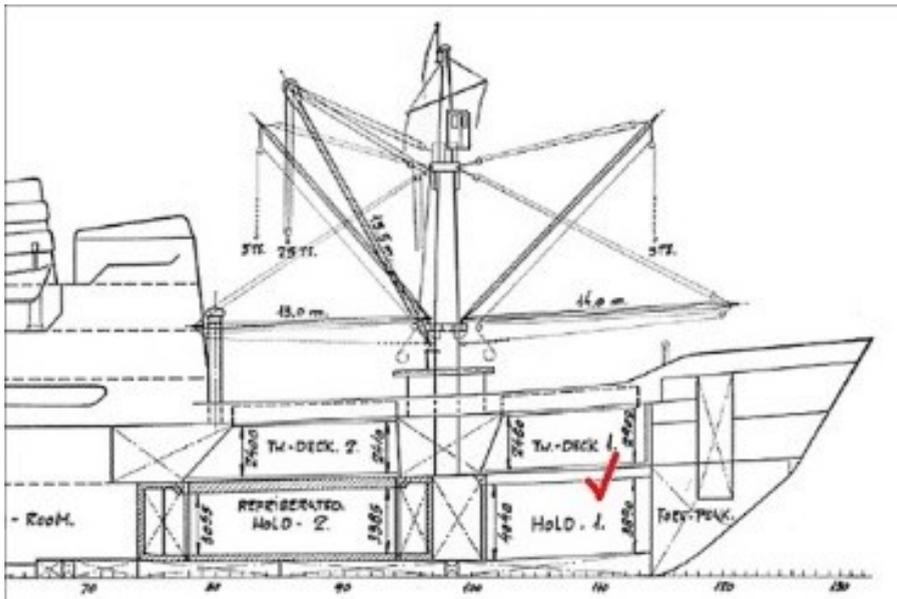
for abandoning the ship, deserves praise and acknowledge, as they very much contributed to prevent a disaster and helped bring the vessel to safe haven.

This was the story from *FRIVAGTEN*. Here in 2015, Leif Krejbjerg, who was engineer on *M/V Frida Dan* during above incident, has sent me his account of the experience

## M/V Frida Dan, part II

"I was 2<sup>nd</sup> engineer on M/S Frida Dan in late summer/fall 1969, doing two trips to Greenland, before and after dry-docking in Landskrona, Sweden.

On the first trip we departed Copenhagen 18. September destined for Jakobshavn and Sdr. Strømfjord on the West coast of Greenland. After Jakobshavn we headed south for Denmark, but in the morning 9. October we hit ice West of Frederikshåb.



*M/V Frida Dan shown from starboard side. The vessel hit ice on the opposite side (port side)*

The vessel got a hole in the hull in port side into no.1 cargo hold, just aft of the collision bulkhead to the Forepeak tank. The hole or crack had the shape of a check mark, a form that together with the position caused the vessel to actually scoop water into no.1 cargo hold during the time after the collision where we still made speed through the water.

The shelter deck in no.1 cargo hold was not fitted as the hold was filled with moving furniture. Between no. 1 and 2 cargo hold was yet another collision bulkhead, **but only between the bottom holds**. This means that at shelter deck level cargo hold no. 1 and 2 were actually one big hold.

In the bottom part, no. 2 cargo hold was separated by a longitudinal bulkhead, making it possible to have cooled cargo in one side and frozen cargo in the other. It was our luck that both holds were occupied by frozen goods, so when the water in cargo hold no.1 rose above shelter deck level and ran into no.2 hold, the water froze in the hatches (shelter deck) preventing it to flow down into the freezing holds.

It is my personal opinion, that it was the air pocket trapped in between the goods in the freezing hold, that in the end kept the vessel afloat.

The auxiliary engines were continuously running, also when we in the morning abandoned Frida Dan in the life rafts.

In Frederikshåb was the sand-pump dredger *M/V Holmi*, and it came rather quickly and picked us up from the life rafts and took us to Frederikshåb.

Luckily *M/V Frida Dan* kept afloat, and the auxiliaries were still running when we came back from Frederikshaab in the afternoon, so the frozen cargo was kept cold during the entire operation.



*Police cutter M/V Jens Jarl tows a life raft out at M/V Frida Dan*

*(Photo: Leif Krejbjerg)*

A part of my job as duty engineer from 00-04 was to make regular checks in the “reefer holds” to make sure that the fans were still running, as this was our only means to minimize the amount of water in the lower no.2 hold.

Whether the Forepeak tank was empty I don’t know, or at least don’t recall.

In the afternoon when we sailed the ship in, only a third of the propeller was in water, but the vessel had been more on her “head” during the night.

This is among other things evident by the fact that we had to stop sailing towards Frederikshaab in the night because the main engine lost the lube oil pressure (even with all stock pumped in), but this problem was gone when we came back.



*M/V Frida Dan in Kvanefjorden, Frederikshåb.*

*(Photo: Leif Krejbjerg)*

From the 9. October to the 14. October we were anchored in Kvanefjorden at Frederikshåb for a temporary repair of the crack, then we proceeded to Landskrona in Sweden for dry-dock. It turned out that this dry-dock could not carry the vessel’s weight, so we were un-docked in a hurry.

We managed however to get in dry-dock in Landskrona, and in *FRIVAGTEN* no.101, pictures can be seen of the repair both in Frederikshåb and in Landskrona.

## City names in Greenland

### Old names

Danmarkshavn

Daneborg

Ella Ø

Mestersvig

Scoresbysund

Constable Pynt

Angmagssalik

Nanortalik

Julianehåb

Narssarsuak

Narsak

Frederikshåb

Godthåb

Sukkertoppen

Holsteinsborg

Egedesminde

Godhavn

Christianshåb

Jakobshavn

Umanak

Upernavik

Thule

### 2016

Danmarkshavn

Daneborg

Ella Ø

Mestersvig

Ittoqqortoormiit

Nerlerit Inaat

Tasiilaq

Nanortalik

Qaqortoq

Narssarssuaq

Narsaq

Paamiut

Nuuk

Maniitsoq

Sisimiut

Aasiaat

Qeqertarsuaq

Qasigiannugit

Ilulissat

Uummannaq

Upernavik

Qaanaaq

**Bjarne Rasmussen**  
**Chief officer**  
**M/V Kista Arctica**  
**1997**



**Danish polar shipping in this book deals with the Danish shipping companies servicing of:**

- **Greenland**
- **Arctic Canada**
- **St. Lawrence (Canada)**
- **NE Passage**
- **NW passage**
- **Antarctic**

**The book also deals with the amazing story of how the Danish state institutions such as Royal Greenland Trade (KGH) and Danish private shipping companies built and developed the maritime infrastructure of Greenland after 1945.**