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F E R R I E S

Norway THE HYDROFOIL YEARS



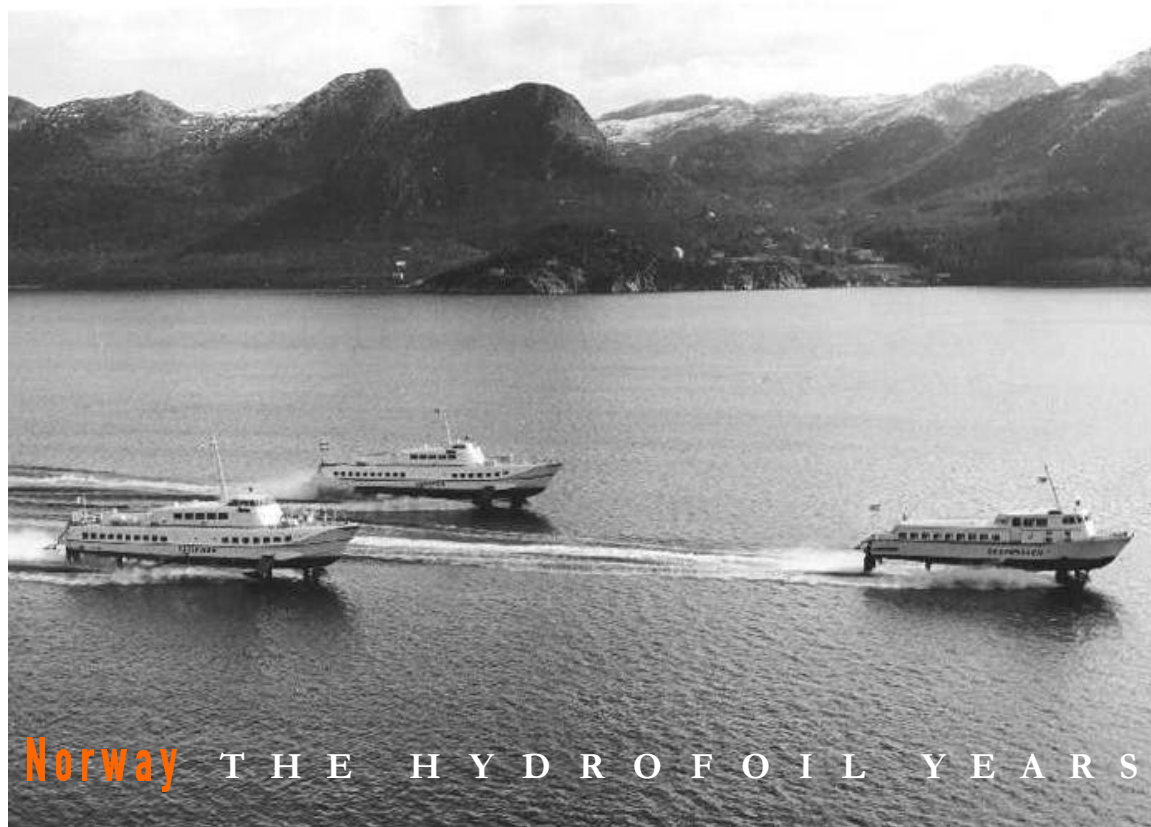
All

you always wanted to know about
All of Norway's hydrofoils

8 OCTOBER 2003 - SPECIAL EDITION

THE ONLY PERIODICAL ABOUT THE HEYDAY OF PASSENGER HYDROFOILS, HOVERCRAFT & CATAMARANS – AS WELL AS RELEVANT NEWS ■ ISSUED IN PDF FORMAT. PLEASE CHECK OUR SITE ON THE WEB FOR NEXT ISSUE DETAILS: WWW.CLASSICFASTFERRIES.COM EDITOR/PUBLISHER: **TIM TIMOLEON** . ALL ARTICLES, ARTWORK & DESIGNS BY THE EDITOR, EXCEPT WHERE NOTED ■ SUBMITTALS OF MANUSCRIPTS AND PHOTOS, OLD AND NEW, AND RELEVANT NEWS ITEMS ARE ENCOURAGED! ■ EMAIL TO: **CFF @ EMAIL.DK**
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COVER PHOTO : VINGTOR WAS THE FIRST HYDROFOIL TO ENTER SERVICE IN NORWAY IN 1960. READ ABOUT THIS PT.50 AND ALL OF NORWAY'S OTHER HYDROFOILS IN THIS ISSUE ! [LARS HELGE ISDAHL PHOTO]



Supramar PT.50s *Sleipner* and *Vingtor* (left), co-owned by Sandnæs Dampskibs-Aktieselskab and Det Stavangerske Dampskibsselskab, and PT.20B *Ekspressen*, belonging to DSD, show off for the photographer in the early 1960s
[MTU FRIEDRICHSHAFEN photo]

This is our second theme issue. The first being the Australian *Sydney Special*, published in June 2002, commemorating almost twenty-seven years of hydrofoils on Sydney harbor.

Coincidentally, hydrofoils in scheduled passenger service in Norway were operated for the exact same length of time, although the Norwegians became foilborne earlier.

To the best of our knowledge, this is the first ever package overview describing the hydrofoils and hydrofoil operators of

Norway from a historical-nostalgic point of view.

A special thank you to Lars Helge Isdahl for his invaluable assistance with providing most of the photo documentation, which obviously is crucial to a publication such as this one.

We hope you will all enjoy this special edition of *CLASSIC FAST FERRIES* and invite readers, enthusiasts and professionals alike, to step forward with suggestions and material for future one-topic issues.

The October CLASSIC FAST FERRIES is being published as two separate editions, numbered 7 and 8

ALL



LARS HELGE ISDAHL photo

Y O U
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ABOUT

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OF

NORWAY'S

HYDRO

FOILS

***C**ontrary to today where it is one of the top-notch nations as far as high-speed catamaran production and operation are concerned, Norway may not be remembered as one of the fast ferry world's hydrofoil strongholds. But it certainly was among the first countries to introduce them, and the sixth market outside Italy to which a Supramar-designed hydrofoil was exported by the Leopoldo Rodriguez shipyard.*

Between the years 1960 and 1987 a total of ten hydrofoils of four designs from two builders carrying fourteen different names saw revenue passenger service with seven owners in Norwegian waters. In addition, one more hydrofoil was being leased to one of the companies by Norway's only hydrofoil shipyard for three months, which, if you stretch your imagination, brings the total of individual hydrofoils in scheduled service in Norway to ten-and-a-half.





THE PIONEERS

Norway's first hydrofoil, PT.50 *Vingtor*, entered service between Stavanger and Bergen on June 15, 1960
[SUPRAMAR photo]

DET STAVANGERSKE DAMPSKIBSSKAB
SANDNÆS DAMPSKIBS-AKTIESELSKAB

Four established ferry operators on Norway's south-west coast were drawn to the hydrofoil towards the end of the 1950s – Hardanger Sunnhordlandske Dampskipsselskab (HSD) in Bergen, Haugesunds Dampskipsselskab (HDS) in Haugesund, Sandnæs Dampskibs-Aktieselskab (SDA) in Sandnes and Det Stavangerske Dampskipsselskab (DSD) in Stavanger.

They were not the only ones either taking a great interest in the technology. Stord Verft, a shipyard south of Bergen, prospected a bright future for the hydrofoil in Norway, including a domestic production, which would revolutionize traveling by sea between the major centres and the many communities on the numerous islands in the vast archipelago as well as in the fiords.

In October 1959 HSD approached Sandnæs and Stavangerske, who already worked closely together, with a proposal for a joint operation along with Haugesunds D/S of a hydrofoil service between Bergen and Stavanger, with calls en-route at Haugesund and Leirvik, as a supplement to the overnight ferry which had been operated by SDA and DSD since the 1890s. The idea was turned down by Sandnæs and Stavangerske, who had paid a visit to the Rodriquez yard in Messina in the summer of 1959 to sample the hydrofoil first-hand and wanted the Stavanger–Bergen route to themselves. HSD then took the idea to the Ministry of Transport, which did not sympathize with HSD's arguments either – and granted DSD and SDA a license to operate Norway's first hydrofoil in December 1959.

Bigger is better

Taken into account the length and nature of the route, with partly exposed stretches, and anticipated carryings, it was clear from the start that to be successful the 58-ton Supramar PT.50 hydrofoil, the first of which had been completed by the

Leopoldo Rodriquez shipyard that same year, had to be chosen over the well-proven but considerably smaller PT.20 of which several had been built since 1956. A contract for a PT.50, worth NOK 3 million, thus was signed with the Sicilian yard for delivery the following spring.

The vessel, *Vingtor*, was handed over to its owners in a ceremony in the Straits of Messina in May 1960 – incidentally, coinciding with the delivery of the first PT.50 to one of the other Nordic countries, the Finnish *Sirena* to Finska Ångfartygs AB. *Vingtor* was shipped from Italy as deck cargo shortly thereafter and entered service on the 109-nautical mile Stavanger–Bergen route on June 15. With a journey time of a little over 3½ hours, as compared to ten hours used by the conventional ferries, one daily round trip was operated by *Vingtor* until the end of November when the service was discontinued for the winter and the hydrofoil laid up at Stavanger.

Also in the spring of 1960 Supramar announced that it had granted a Norwegian shipyard the exclusive rights to build hydrofoils under license to its PT.20 and PT.50 designs for the Scandinavian market. The yard was not Stord Verft but Westermoen Båtbyggeri og Mekaniske Verksted in Mandal in south Norway. The prognosis was optimistic; in the region of 20–25 units were expected to be ordered by Norwegian companies in the next few years, with a similar number believed to enter service in Denmark and Sweden.

The premier season with *Vingtor* went very well, and a second PT.50, *Sleipner*, was ordered from Rodriquez. With two craft available from the spring 1961, this allowed for two daily round trips to be operated, with departures in the morning and afternoon from both ends, as well as local trips from Stavanger to Haugesund and back in between.

However, prior to this HSD and HDS had applied for the right to operate the



LEFT: PT.20B *Ekspressen* was delivered to DSD in 1961 and was introduced on local services in the Ryfylkefjords

BELOW: The second PT.50 to DSD and SDA, *Sleipner*, also entered service in 1961

[LARS HELGE ISDAHL photo, both]

second hydrofoil, be it *Sleipner* or another, on the important Bergen–Stavanger route as they felt this would be a fair division of concessions (and money) between the parties. But the MoT was of a different opinion and once again gave Sandnæs and Stavangerske the go-ahead.

Both hydrofoils sported the simple but attractive paint scheme of the time, all-white with just a contrasting line down the hull sides. The bottom part of the hull and foils were green. Exteriorwise the vessels differed slightly in that *Sleipner* had a restyled, somewhat larger wheelhouse.

There were also small variations in the interior layout. *Vingtor* was laid out with 105 reclining aircraft-style seats; eleven in a small cabin on main deck, beneath which was the engine room, and 38 and 56 in the lower forward and aft saloons. Each of the lower saloons was equipped with a wash room port and all three had racks for coats, etc.. A bar serving hot and cold drinks and snacks was situated forward in the bow saloon.

On *Sleipner* this bar was smaller and instead a second was built in the aft saloon by omitting four seats, thus

minimizing the running up and down of stairs by the attendants and passengers and of course reducing capacity to 101 passengers. Each vessel carried a crew of four plus one or two hostesses depending on the time of year.

If during the first season *Vingtor* had behaved remarkably well for a new design, the second season, which ran from the last week of March till the end of November 1961, saw some disruption in the service caused by damaged foils, propellers and propeller shafts on both vessels. While obviously unfortunate and annoying for all involved, including passengers wishing to travel on the hydrofoils, it must be remembered that the PT.50 type was still in its infancy and relatively unproven, as were the crews and maintenance personell new to the hydrofoil as such.

In addition to the mechanical misfortunes, sailings had to be cancelled for weather reasons on eleven days, however, of which only one day in full, out of a total of 253 days. These cancellations were mainly for the sake of the comfort of passengers and not safety reasons.



DSD and SDA did not state any exact limits for wind or wave forces when operation had to be suspended, this was left to the judgement of the captain. The waveheight in which operation was being maintained would be depending on the course in relation to the direction of the waves. It was estimated, however, that a waveheight up to approximately 2.4m with the waves against and approximately 1.8m in following sea should not present any problem for the PT.50s.

PT.20 ...

So pleased with the hydrofoil idea was Stavangerske that it acquired a third hydrofoil of its own, i.e. without involvement of its business partner Sandnæs, from the Rodriguez yard in August 1961. Of the smaller PT.20 type,

this, *Ekspressen*, was put into service in the sheltered waters of the Ryfylkefjords linking Stavanger and the towns of Sandeid, Sand and Sauda.

Sharing the main particulars with the standard Supramar PT.20 design, *Ekspressen* was of the PT.20B type, the designation used for the version on which the immediate visual difference is the forward

rather than midships location of the wheelhouse, offering the crew optimal visibility which is particularly welcome in waters that are congested or with much floating debris. The PT.20B is sometimes also being referred to as the Caribe.

Further, instead of the three relatively small passenger cabins on the standard craft, the PT.20B features one main saloon over almost two thirds of the length of the boat with additional seating rearward of the raised wheelhouse. As a result, the engine on the PT.20B is also located forward, beneath the upper cabin.

Passenger capacity on *Ekspressen* was 75, with 65 seats occupying the main saloon and the remaining ten, all facing aft, in the upper cabin. A toilet and coat rack were placed at the very rear of the main saloon starboard and port.

All three hydrofoils became very popular with locals and tourists alike and passenger numbers continued to increase up through the 1960s. For a number of years the hydrofoils were only allowed to operate during the daylight hours. Therefore, initially the PT.50s were operated for eight months of the year, but this was subsequently extended to ten months leaving just December and January without hydrofoil service between Stavanger and Bergen. The two winter months were used for annual overhaul of the vessels and was carried out at DSD's maintenance base at Stavanger.



ABOVE : DSD/SDA
Stavanger-Bergen route
map

RIGHT: The stylish
Rodriguez RHS 140 *Tyrving*
was the last hydrofoil to
enter service with a
commercial operator in
Norway
[LARS HELGE ISDAHL photo]



Norway THE HYDROFOIL YEARS



...and RHS 140

It was not until 1972 however that the next hydrofoil was added. As it would turn out, this was also the last hydrofoil to enter service with any of these operators, as indeed with any commercial operator in Norway. The major reason for this being the introduction and success of domestically developed and built catamarans from 1971 onwards.

The hydrofoil was of the new stylish Rodriguez RHS 140 series, which had been developed by Rodriguez based on the experience with building the Supramar PT.50 design and introduced the year before. The 116-seat vessel was accepted by DSD and SDA and officially named *Tyrving* in Messina on March 14, 1972. Unlike the former three craft, *Tyrving* made the delivery trip from Sicily to Norway under its own power. During the approximately 3,000 nautical mile journey by way of the Straits of Gibraltar, Biscay, English Channel and North Sea some rough conditions were experienced and the crew members were all very impressed by the mechanical reliability of the RHS 140 and the way it tackled the heavy seas.

Tyrving joined *Vingtor* and *Sleipner* on the Stavanger–Bergen route, marketed as the Hydrofoilruten, in April and with three vessels now available a third round trip was added during the shoulder periods and a fourth during the high season, June

through August, offering up to some 430 seats in each direction on all days of the week. Of course, the actual number of passengers carried could be considerably higher as not all would travel all the way and the same seat therefore could be sold more than once. With more calls en route being added as well, increase did also the transit time which on certain connections was up to four hours.

More vessels, less speed

Some major development occurred two years later as, first, in February 1974 an agreement to jointly operate and own the vessels on the Stavanger–Bergen route was finally reached between SDS, SDA and HSD with 45%, 30% and 25% ownership and influence respectively.

ABOVE: *Ekspresen* laid up for the winter at DSD's Klasaskjæret maintenance base at Stavanger

[LARS HELGE ISDAHL photo]

BELOW: RHS 140 *Tyrving* operated in Norway for seven years before sold overseas in late 1979

[DAG BAKKA JR photo]



In the process a new marketing name, Flaggruten, for the coastal service was adopted.

The most visible change of times on the route however was the introduction in May and June of two 180-seat Westamaran 95 catamarans as replacement for the PT.50s, which were put up for sale. Built by Westermoen Hydrofoil, as the Mandal yard had been known since the early 60s when it started producing Supramar hydrofoils, the catamarans were the first two W95s completed. However, eleven of the smaller W86 type had already been delivered by the yard since 1971, incidentally, two of which to DSD. Since it was decided to use the same names for the new catamarans as had been carried by the two PT.50s since 1960 and 1961 these

The new catamarans had their share of mechanical troubles, most of which were put down to the French SACM engines, and had to be pulled out of service for shorter or longer periods of time during which either of the PT.50s would substitute, joining their workmate *Tyrving* which continued operating the Flaggruten service alongside the W95s.

Hydrofoil phase-out

In 1975 *Ekspressen* was withdrawn from service and laid up. It was eventually sold in December 1978 to a private individual in Sarpsborg who planned to rebuild the PT.20 for use as a leisure craft. The foils and some other parts were removed, but the work came to a halt as, reportedly, the owner passed away. Acquired by another private individual, a conversion



ABOVE : *Vingtor* was renamed *Princefoil* in 1974 and sold in Cyprus two years later
[LARS HELGE ISDAHL photo]

were renamed. Untraditionally, English names were chosen over names from the Nordic mythology hitherto (and since) used. *Vingtor* became *Princefoil* and *Sleipner* was renamed *Queenfoil*. This, it was believed, would make the hydrofoils more sellable on the international market.

Initially the W95s were scheduled to be operated at a service speed of 30 knots, compared to 34 knots of the hydrofoils, but this was later reduced and settled around 28 knots thus increasing transit time for those who were traveling the entire distance by up to 40 minutes to 4 hours 20 minutes. A fact which did not seem to bother the companies too much, who gave priority to other aspects in the hydrofoils versus Westamarans question.

into a house boat was now intended, however, the work of which did not proceed particularly fast. Still fifteen years later, in 1993, the former hydrofoil, still with its original name hand painted in big letters on the hull, could be seen sitting on dry land at Sarpsborg. It is believed the craft was moved to the Kristiansand area shortly thereafter.

On July 27, 1976 *Princefoil* was sold in Cyprus to operate between Larnaca and Lebanon. It was deleted from the Cyprus ship registry in August 1978 and headed for Sicily, having been acquired by Rodriguez' operating company Aliscafi SNAV. Renamed *Freccia del Sud* and having received an all-over yellow paint job, the hydrofoil was used as a supply



LEFT : Blue skies over *Princefoil* – but its days flying the Norwegian flag are numbered...

[OLAV MOEN photo]

vessel by Agip, the Italian petrol company, on offshore duties in the Adriatic. For this purpose the luggage compartments aft on deck had been removed and replaced by a platform capable of carrying up to seven tons of cargo.

Almost five years after it had been withdrawn from daily service on the Stavanger–Bergen route, the other PT.50, *Queenfoil*, was sold to a company based in Gibraltar in March 1979. Keeping its name it entered service with Transtour, a Moroccan operator, on various routes across the Straits of Gibraltar linking Tanger and Tarifa and Algeciras in Spain and Gibraltar, joining three Sormovo Kometa hydrofoils. This service was discontinued in September 1987 and *Queenfoil* was laid up at the Crinavis Breakers in the Bay of Algeciras where it is believed to have ended its days.

RHS 140 *Tyrving* continued operating the Flaggruten joint service till April 1977 when it, too, was replaced by a third Westmaran 95 on the route. Instead, *Tyrving* was set to work the Ryfylkefjords local route network until sold overseas in October 1979. The only seven-year old vessel was shipped to Latin America the following month and entered service with a newly established Uruguayan company, Aliscafos Belt, on the cross-River Plate Colonia–Buenos Aires, Argentina route on December 1. Unusually, the hydrofoil retained its Norwegian name as the new owner felt it would not be of good omen to rename its first vessel.

Tyrving remained in service with the company for seventeen years until put away in the backwaters of Buenos Aires in 1996 where it was left to rot along with another former Scandinavian RHS 140. ■

BELOW : DSD/SDA's other PT.50 also changed identity in 1974 as it was renamed *Queenfoil*

[LARS HELGE ISDAHL photo]



Hardanger Sunnhordlandske Dampskipsselskap operated hydrofoils from 1961 to 1987. The company's second *Teisten* entered service in 1970

[LARS HELGE ISDAHL photo]

by HSD representatives in a small ceremony at Messina on July 11, the hydrofoil was shipped to Germany as deck cargo a week later, accompanied by a HSD captain and a chief engineer who had been in Sicily for crew training.

Teisten was unloaded from the cargo vessel in Hamburg on July 26 and, with two more crew having come down from Norway, left for Bergen under its own power that same evening. It was not all

HARDANGER SUNNHORDLANDSKE D/S



When the Bergen–Stavanger hydrofoil plans began to take shape in 1959/60, Hardanger Sunnhordlandske Dampskipsselskap, which goes back to 1890, strongly suggested that Leirvik on the island of Stord, just south of Bergen, be included in the itinerary. A view which was not shared by neither DSD / SDA nor the Ministry of Transport, which advised HSD to apply for a permit to operate a hydrofoil service of its own. Which it did, and got in February 1961.

A contract for a PT.20 was signed not with Westermoen but Rodriquez as work on such a craft was already in process in Messina and HSD wished to get started as soon as possible. Still, a planned June 1961 start-up had to be pushed due to a late delivery from Daimler-Benz of the craft's main engine.

The first Teisten

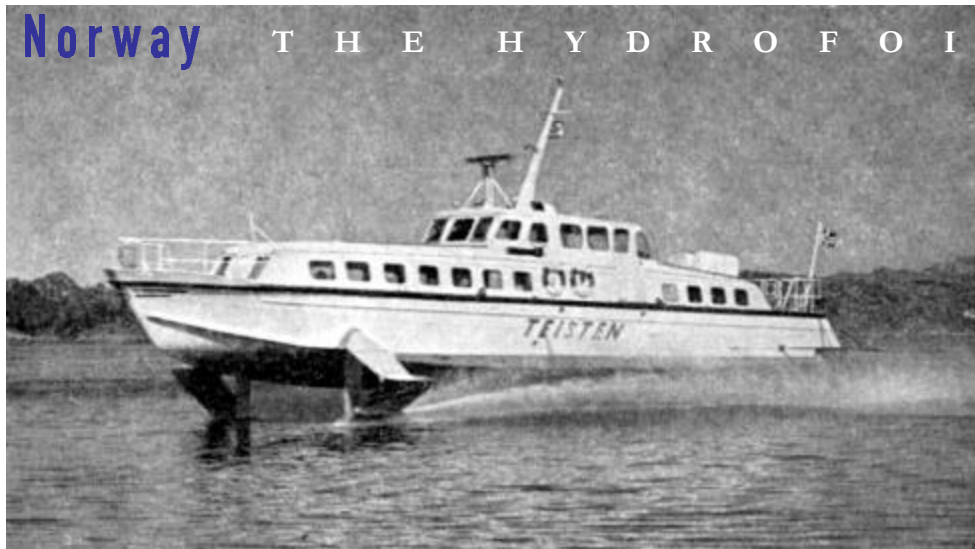
Having been named *Teisten* and accepted

plain sailing however, as weather conditions in the Great Belt and southern Norway forced the hydrofoil to spend three days in the Danish port of Korsør and 19 hours in Farsund. It eventually reached Bergen in the morning of July 31.

Following some test runs for the crews to acquaint themselves with the new hydrofoil and route routines as well as a demonstration trip for media, the tourist industry and other invited guests, *Teisten* entered revenue service on a multi-stop route linking Bergen and Leirvik, Tittelsnes, Ølen and Skånevik on August 4.

Teisten was of the standard Supramar PT.20 type, as opposed to the PT.20B delivered to DSD almost simultaneously, and fitted out for 64 passengers. There were 41 seats in the forward and 19 seats in the aft saloons with the remaining 4 seats being rearward of the bridge – which, also contrary to the PT.20B, was not enclosed. Describing the interior HSD

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LEFT : HSD's first hydrofoil was delivered by Rodriquez in July 1961
[HARDANGER SUNNHORDLANDSKE D/S photo]

said, "The seats are comfortable, the materials and colors well-chosen and nicely matched and there is a good view from the panoramic windows". Externally the hydrofoil's appearance was as attractive and non-dramatic; all white with a red trim line where the hull and superstructure meet and the name in big italics on the hull. The foils and bottom part of the hull were painted green as on the DSD/SDA craft.

Normally *Teisten* would be operated at 32–34 knots, whereas the maximum speed was 36 knots. Not only was this more than twice the speed of what had up till then been considered the fast ferry in the HSD fleet, at NOK 1.8 million the PT.20 was also the most expensive vessel (per register ton) ever ordered by the company. People in the ship building industry voiced that if built

domestically, a PT.20 would sell for a little over half that amount. While perhaps a bit optimistic, HSD felt that some competition in this field would in fact be healthy.

Since in the early days hydrofoils in Norway were not allowed to operate in the dark and also for ice reasons, in the first couple of years *Teisten* did not run between December and March. The hydrofoil was well received by passengers and staff alike, and mechanical reliability was good.

One up and one down

In early 1968 HSD decided to add a second hydrofoil and more destinations.

BELOW : With the arrival in 1968 of the Westermoen built PT.20B *Tjelden* more destinations were added. The hydrofoil had previously operated between Sweden and Denmark
[LARS HELGE ISDAHL photo]



Since a newbuilding would take at least eight months to complete and the company wanted a vessel in time for the summer season, a hydrofoil on the second hand market was chosen.

Westermoen Hydrofoil had a pair of used PT.20Bs sitting in the yard at Mandal which had previously been operated between Sweden and Denmark by, first, a Swedish and later a Norwegian company. The hydrofoils, *Sundfoil I* and *Sundfoil II*, delivered in 1963, had been purchased back by Westermoen when the Norwegian company collapsed.

A contract for *Sundfoil I* was signed. In need of a refit, it was agreed the five-year old vessel be delivered to HSD by June 1. However, as this date got closer it became clear to Westermoen that it would not have the hydrofoil ready in time. An offer by the yard to substitute a

The following year was not good to the original PT.20, *Teisten*. On October 22, 1969 while working a morning commuter service from Ølen to Bergen the hydrofoil ran aground off Bårdsund after having performed a manoeuvre in order to avoid an impact with some driftwood, at the same time entering a fog bank which had appeared very sudden. None of the thirty-six passengers or two crew on board was seriously injured. All passengers were taken ashore in two inflatable rafts and shortly thereafter picked up by *Tjelden* for their continued trip to Bergen.

Teisten was brought to the Mjellem & Karlsen shipyard at Bergen by a floating crane the following day. Inspections showed that the damage inflicted on the hydrofoil was rather severe, including misalignment of the bow foil, resulting in

BELOW : PT.50
Tumleren operated out of Bergen for three summer months in 1968, pending delivery of HSD's PT.20B *Tjelden*. Having been completed by Westermoen in 1966, the PT.50 was being used by the building yard for charters until sold in Italy in 1969
[LARS HELGE ISDAHL photo]



PT.50 which it had completed in 1966 but had not yet found a buyer for was accepted by HSD. This, *Tumleren*, entered service on June 29 between Bergen, Rubbestadneset, Leirvik and Sunde, and vice versa, and worked successfully all summer till September 19 when the PT.20B, renamed *Tjelden*, finally arrived from Mandal and *Tumleren* made the reverse journey. The PT.50 was subsequently sold to Alilauro in Italy.

Similar to DSD's PT.20B *Ekspressen* but with a more spacious interior layout, the 62-seat *Tjelden* took over the service from the PT.50 on September 20.

the vessel being written off. In subsequent negotiations between the Norwegian insurance company and Rodriguez it was agreed that the Sicilian yard would take over the damaged *Teisten*.

Following repairs it entered service in Sicily with Aliscafi SNAV as *Freccia di Reggio*. Some time later, in May 1972, the hydrofoil was transferred to the UK to operate a River Thames service between central London and Greenwich with Thames Arrow Express. This service lasted for only a few months and the vessel was then taken to the Solent in the south of England, having been leased by

Red Funnel to operate its Southampton–Isle of Wight route until August 1973, pending the delivery of a Rodriguez RHS 70 hydrofoil to the company.

At the age of thirty-three, *Freccia di Reggio* was withdrawn from service by SNAV in 1994.

A new Teisten

Placing an order for a new hydrofoil with Westernmoen as replacement for the grounded *Teisten* would have seemed the obvious thing to do but was not an option as at the time the yard had enough on its plate with refitting and building the large Supramar PT.150 hydrofoil design.

Rodriguez was busy as well, but had a PT.50 under construction for its operating company Aliscafi SNAV which it offered to HSD. Being in a bind, HSD decided to go for the PT.50 despite it being considerably more expensive than a PT.20. On the other hand it was felt that a larger hydrofoil would better meet with any future route expansions and also passengers' increasing demand on comfort.

The PT.50, also named *Teisten*, was handed over by the yard to HSD on April

21, 1970. With a full tank and an extra 3,000 liters of fuel in oil drums placed on aft deck that would allow the vessel to travel for some 16–17 hours at cruising speed if need be, *Teisten* left Messina for Bergen under its own power early in the morning four days later. The 3,000 nautical mile 12-day journey took the craft and five crew via the Straits of Gibraltar, Biscay, English Channel and North Sea. On the first day Tunis was reached, then followed Algiers and Oran, Algeria; Gibraltar; Setúbal, Portugal; La Coruña, Spain; Brest and Calais, France; Cuxhaven, Germany and Mandal, arriving, as scheduled, in Bergen on May 6.

Without festivities the hydrofoil entered service three days later, re-establishing the swift way of traveling between Bergen and the communities south, which had been greatly missed.

Teisten was fitted out for 111 passengers, although initially the vessel was only certified to carry 100. There were thirteen seats in the upper saloon and 40 and 58 in the lower forward and aft saloons. Each of the lower cabins was equipped with a wash room. Exteriorwise

BELOW : PT.20 *Teisten* at the Mjellem & Karlsen shipyard at Bergen following the grounding in October 1969. Damage inflicted on the vessel included misalignment of the forward foil

[LARS HELGE ISDAHL photo]





the hydrofoil was painted in the same manner as the company's PT.20s.

A fourth hydrofoil almost made it to HSD. In 1971 the company seriously considered ordering a second PT.50 (in fact this would have been an RHS 140) to replace one of its aging conventional ferries. However, at the same time the first Westamaran 86 appeared from Westermoen and, as they say, the rest is history. When HSD was ready to place an order the W86 thus was chosen over the hydrofoil.

Norway's last hydrofoil

In 1980 the PT.20 was renamed *Tranen* as its original name was given to a Westamaran 86 which HSD acquired from another operator. *Tranen* was withdrawn two years later, leaving *Teisten*

as the only remaining operational hydrofoil in Norway, and sold to an employee with the intention of using it as a leisure craft. The vessel was stripped of its foils, etc. and renamed *Exfoil*, whereas HSD kept the MTU diesel as a spare engine for its Westamarans. However, this owner, too, passed away some time after the acquisition.

In 1984 *Teisten* was extensively refitted. Passenger capacity was increased by seventeen to 128 by replacing the original seats with new lightweight and less bulky ones, floors were recarpeted and pay phones installed. A modified exterior design was also introduced, which was not any less becoming than the old one had been.

The following year the hydrofoil got media's attention as it hit and killed two

ABOVE : PT.20B
Tranen displaying the original basic but very attractive white-red-and-green HSD paint scheme
[LARS HELGE ISDAHL photo]

RIGHT : Although ordered by HSD and appearing in the new HSD livery when launched, the foil assisted catamaran Foilcat 2900 never entered service with the operator
[WESTAMARIN photo]



youngsters in a stolen dinghy who were escaping from an island prison south of Bergen.

As had been the case with the first *Teisten*, the PT.50 proved a reliable workhorse during its career with HSD and was very popular with the crews. By 1986 however HSD felt it was time to dispose of the country's sole remaining hydrofoil. One of the main reasons for this being the maintenance costs which according to HSD was two times those of the company's Westamarans. Towards the end *Teisten* saw very little use; only one service from Ølen to Bergen in the morning and a return service in the afternoon were carried out, with the hydrofoil spending most of the time alongside at Bergen. It made its last scheduled revenue run in December 1986 but remained in Bergen as a stand by and charter vessel until sold almost one year later, in September 1987. Acquired by, first, Simon Møkster and renamed *Strilprins* and later by another company and renamed *Hinnavåg*, the hydrofoil was used on oil rig support duties out of Stavanger.

Late in 1988 the 18-year old hydrofoil returned to Italy, having been acquired by Aliscafi SNAV. Renamed *Freccia di Casamicciola* it stayed with them until withdrawn at the end of the 1990s.

Foilcat

But the *foil* term was not completely dead with the sale of *Teisten* as far as HSD was concerned.

In 1989 the company announced it had placed an order with Westamarin, as the Westermoen Hydrofoil yard had been

known since the late 70s, for a 140-seat foil assisted catamaran for delivery in January 1991. The design, Foilcat 2900, had been jointly developed by HSD, Westamarin and Marintek, the Marine Technology Research Institute, in Trondheim, and was based on various experiments with foil assisted craft that had been carried out in 1986–87.

Combining the best from both worlds, the Foilcat featured symmetrical hulls and fully submerged foils fore and aft – a T-foil mounted on each hull forward and a full width foil aft – and was powered by a pair of 2,000kW MTU diesels driving two Ulstein-Liaaen controllable pitch pulling propellers giving the vessel a service speed of 45 knots.

However, the building schedule derailed along the line and faced with the fact that the vessel would not be available until sometime in early 1992, i.e. one year after it was supposed to have entered service, HSD decided to cancel the contract in mid-1991. One of the main reasons for this considerable delay was a late delivery by the sub contractor of the foil system for the otherwise finished Foilcat, and also the yard ran into financial difficulties subsequently resulting in its bankruptcy and following reconstruction. The new company, Westamarin West, then completed the Foilcat on its own account and trials commenced in February 1992, the craft still displaying the HSD paint scheme. From November to April 1993 it operated in Denmark between Århus and Copenhagen and following two years in lay up in Norway was transferred to Indonesia in 1995 and later sold in Hawaii. ■

Norway's last hydrofoil PT.50 *Teisten* was extensively refurbished in 1984. It was sold to another Norwegian company some three years later and returned to Italy in 1988

[LARS HELGE ISDAHL photo]





LEFT : PT.20B Øyfoil approaches the berth at Oslo. . . [DE BLÅ OMNIBUSSER photo]

BELOW : . . . and at speed in the Oslofjord [LARS HELGE ISDAHL photo]

THE OSLOFJORD

vice versa. Journey times would be 4 hours for Oslo–Strömstad–Arendal and six hours for Oslo–Kristiansand via Strömstad and Arendal. These plans never eventuated.

The Oslo company was to operate between central Oslo and various towns on the west and east shores of the Oslofjord as well as Strömstad in Sweden. This did not come about either, at least not in the first instance.

Shortly after the license agreement had been signed between Supramar and Westermoen in 1960 the yard announced it had received an order for two PT.20s to be delivered the following spring for operation between Oslo, Horten, Tjøme and Hvasser. A pair of PT.20s did indeed enter service in the Oslofjord – but not until three years later.

The third and fourth (and last) PT.20s built by Westermoen, these were the first delivered to a domestic operator and entered service with Hydrofoiltrutene as *Fjordfoil* and *Øyfoil* in May 1964. Like the

Elsewhere in Norway they wanted the hydrofoil at an early stage too. A company on the south coast and another based in Oslo planned on introducing them in the summer of 1960.

Arendal Dampskibsselskab in Arendal had several routes in mind, one of which international; Arendal–Kristiansand, Oslo–Strömstad, Sweden and a triangular route Oslo–Strömstad–Arendal–Oslo, or



pair before them, both of which were later imported back to Norway, and DSD's *Ekspressen*, these were of the PT.20B type. Each vessel was fitted out for 72 passengers with 54 seats in the main saloon and 18 seats in the upper cabin behind the wheelhouse. Both craft were originally painted a maroon and white.

Fjordfoil and *Øyfoil* would operate all year round, except when ice would occur in winter, to points on either side of the Oslofjord including Drøbak, Tofte and Horten. The Hydrofoilrutene service had two different owners from its inception in May 1964 to August 1970 when it was taken over by De Blå Omnibusser, an Oslo-based bus company.

MAIN PHOTO : The other PT.20B *Fjordfoil* races by the photographer

[LARS HELGE ISDAHL photo]

INSET : The main saloon on one of the Oslofjord craft looking forward

[DE BLÅ OMNIBUSSER photo]



BELOW : Sandwiched between *Øyfoil* and *Fjordfoil* is Hovermarine HM.2 sidewall hovercraft *Fjordbuss 1* at the Oslo terminal in 1973

[DE BLÅ OMNIBUSSER photo]

During the high season May 14–September 19, 1971, for instance, six northbound departures were scheduled between 0650 and 1845 on weekdays and seven southbound between 0800 and 2015. On Sunday and public holidays the last service from Horten would leave at 2145 returning from Oslo at 2315 and arriving back at Horten at 0030, reflecting the excursion nature of the service on these days.

After nine years in the Oslofjord the hydrofoils were withdrawn from service at the end of October and sold in Italy in November 1973, along with a third PT.20B, having been acquired by Aliscafì SNAV. During that last year between March and October *Fjordfoil* saw service on 166 days and *Øyfoil* on 100 days.



Refurbished and renamed *Freccia dello Ionio* the former *Fjordfoil* was put into service the following year across the Straits of Messina between Messina and Reggio di Calabria. It was laid up in the second half of the 80s. Although renamed *Freccia di Posillipo*, the former *Øyfoil* never received the SNAV company colors and presumably did not enter commercial service in Italy, instead serving as a stockpile for the other PT.20Bs in the SNAV fleet.



The same year that the hydrofoils were sold by De Blå Omnibusser, the operator took delivery of a 62-seat Hovermarine HM.2 sidewall hovercraft, *Fjordbuss I*, which it introduced between Oslo and Horten in May 1973. Trial runs with another HM.2 had been carried out the previous year. However, this service was rather short-lived as it was felt that the HM.2 was not suited for the route and *Fjordbuss I* was withdrawn in 1974. ■



ABOVE : Originally delivered to a Swedish company, PT.20B *Fosenfoil* entered service with Fosen Trafikklag, as *Nisen*, in 1969

[FOSEN TRAFIKKLAG photo]

FOSEN TRAFIKKLAG

BELOW : *Fosenfoil* at the maintenance base at Trondheim in 1973

[SØREN STRUNTZE photo]



The last Norwegian operator to add a hydrofoil to its fleet of conventional ferries was Fosen Trafikklag in Trondheim. It was also the only of these companies to introduce but one hydrofoil and operating it for the shortest period of time.

In January 1969 Fosen acquired the sistership to HSD's *Tjelden* (as described above) from Westermoen Hydrofoil which had bought back the former Swedish PT.20Bs from another Norwegian owner the year before. Already renamed *Nisen* by the building yard, the 62-seat refurbished former *Sundfoil II* entered service on May 2 on Fosen's route network in the Trondheimfjord and neighboring archipelago.

Based in the island of Hitra overnight, *Nisen* would leave Hestvika at 0605 and arrive in Trondheim at 0750 calling at

HYDROFOILS IN REGULAR SERVICE IN NORWAY

PT.50 *Vingtor* Rodriquez, 1960 ➤ *Princefoil* (1974–76)
PT.50 *Sleipner* Rodriquez, 1961 ➤ *Queenfoil* (1974–79)
PT.20B *Ekspressen* Rodriquez, 1961–75
PT.20 *Teisten* Rodriquez, 1961–69
PT.20B *Fjordfoil* Westermoen, 1964–73
PT.20B *Øyfoil* Westermoen, 1964–73
PT.50 *Tumleren* Westermoen, 1968, 3-month lease (built 1966)
PT.20B *Tjelden* Westermoen, 1968 (built 1963) ➤ *Tranen* (1980–82)
PT.20B *Nisen* Westermoen, 1969 (built 1963) ➤ *Fosenfoil* (1970–72)
PT.50 *Teisten* Rodriquez, 1970–87
RHS 140 *Tyrving* Rodriquez, 1972–79

1960–1987 AT A GLANCE

Brekstad en route. Depending on the day of week, it would then make one or two round trips to Brekstad / Hestvika during the day before returning to Hitra in the evening for the night. In addition short 30-minute return trips between Trondheim and Frosta were carried out on certain days, and the hydrofoil was also available for charter in between the scheduled trips. It was laid up for the winter on September 28.

Having been once again renamed *Fosenfoil* in May 1970, the operating season was from late March till the end of

September 1970–72. The hydrofoil did not return to service with Fosen in 1973 as the company wanted catamarans for its express services instead and had ordered two Westamaran 86s which it took delivery of in April and May 1973.

Fosenfoil was eventually sold to Aliscafi SNAV and shipped to Italy in November, together with the pair of Oslofjord PT.20Bs. It entered service in Sicily across the Straits of Messina as *Freccia di Procida* and was laid up in the Rodriquez yard along with *Freccia dello Ionio* in 1987. ■



LEFT : This photo of *Fosenfoil* was taken at Jørpeland near Stavanger suggesting the hydrofoil was at the time being leased to Det Stavangerske D/S

[OLAV MOEN photo]

Norway T H E H Y D R O F O I L Y E A R S

So, with the failed Foilcat project – at the time of the order being placed for the prototype HSD had an option for three more craft with Westamarin – and the last hydrofoils being delivered and withdrawn as long ago as in 1972 and 1986 respectively, is a comeback of foils in Norway plausible? It is safe to say that not all the evidence point to this happening.

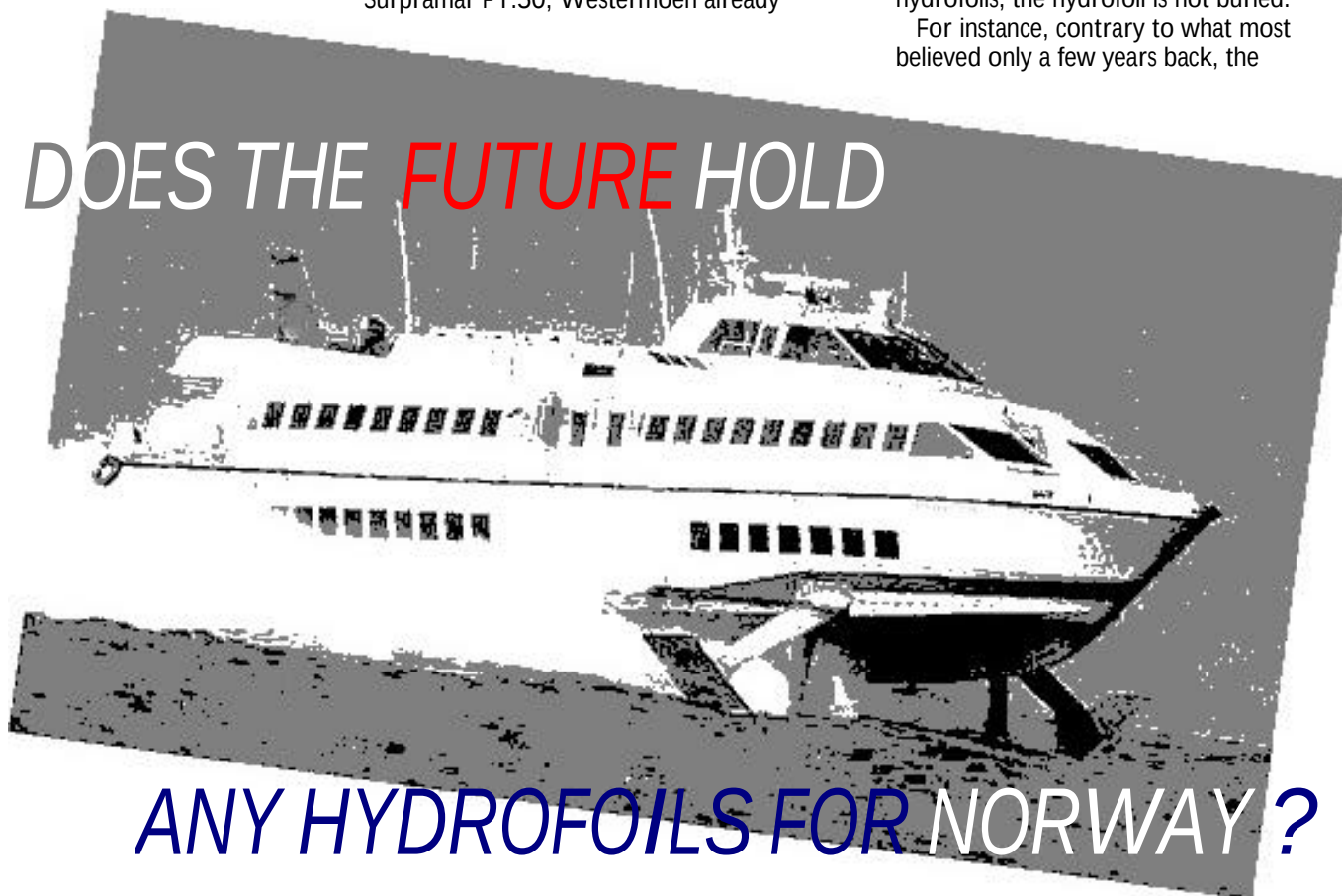
By the time Rodriquez presented the RHS 140 design, which of course was a modernized and restyled successor to the Surpramar PT.50, Westermoen already

travel time between the two cities would be reduced to 3 hours from the 4 hours 20 minutes then used by the Westamarin 95s on the route. However, the high level of investment and estimated running costs prevented this from happening.

A more recent hydrofoil design of course is the Rodriquez Foilmaster which might be a candidate for certain routes. While the trend for many years with operators around the world was the introduction of catamarans instead of hydrofoils, the hydrofoil is not buried.

For instance, contrary to what most believed only a few years back, the

DOES THE *FUTURE* HOLD



ANY HYDROFOILS FOR NORWAY?

had announced the coming of the Westamarin series of catamarans, the second and third generations of which it was foreseen would be foil assisted and/or powered by gas turbines and able to travel at 40–50 knots.

The RHS 140 was followed in 1974 by the larger RHS 160 which with a passenger capacity of 160–180, matching that of the W95s, and cruising speed of 34–35 knots would have been perfect for the Flaggruten service.

In the spring of 1977 a Boeing Jetfoil 929-100, *Flying Princess*, visited Norway as part of a two-month demonstration tour of northern Europe. By introducing the 300-seat 43-knot Jetfoil on the Bergen–Stavanger route for instance, the

hydrofoil witnesses a revival in Italy these days with five Foilmasters having entered service between 1995 and 2003 and another six units having recently been ordered by the Tirrenia Group for delivery during 2004–05 to Caremar and Siremar.

However, with a successful domestic catamaran industry since the early 1970s, including several builders, it is doubtful whether the Foilmaster in particular and the reintroduction of the hydrofoil in Norwegian waters in general has been given any serious consideration by an operator.

But it is an interesting thought. ■

RODRIQUEZ CANTIERI NAVALI photo

The Oslofjord and Fosen PT.20Bs being shipped from Norway to Italy in November 1973. At left *Øyfoil*, then *Fosenfoil*, hidden behind the latter is *Fjordfoil*
[DE BLÅ OMNIBUSSER photo]



WHERE DID THEY GO ?



LEFT : *Freccia di Procida* (ex-*Øyfoil*) and *Freccia dello Ionio* (ex-*Fjordfoil*) were withdrawn and laid up in the Rodriguez yard in the second half of the 1980s...

BELOW : ...whereas the former *Fosenfoil*, although renamed *Freccia di Posillipo*, never entered service with Aliscafì SNAV
[TIM TIMOLEON photo, both]



DSD's former PT.20B *Ekspressen* at Sarpsborg in April 1990.
The hydrofoil was withdrawn from service in 1975 and sold to a private individual three years later
[LARS HELGE ISDAHL photo]



RIGHT : Originally delivered to DSD/SDA as *Vingtor* in 1960, the former *Princefoil* is back in Italy having been converted into a supply vessel for offshore duties and renamed *Freccia del Sud* [RODRIQUEZ CANTIERI NAVALI photo]



BELOW : RHS 140 *Tyrving* kept its original Nordic name all through its life. It was sold in Latin America in 1979 and operated across the River Plate for almost seventeen years. Here the rebuilt vessel is awaiting demolition at Buenos Aires in March 2000

[GUILLERMO C. BERGER photo]





BELOW : HSD's
PT.20B *Tranen*
following its with-
drawal from service
in 1982 ...
[LARS HELGE ISDAHL
photo]

ABOVE : ... and
four years later,
still at the same
location in the
Bergen area and
still displaying the
HSD logo and
colors, but, and
very appropriate
too, renamed
Exfoil

[TERJE NILSEN
photo]



ABOVE : HSD's first PT.20
Teisten back in Sicilian waters
and renamed *Freccia di
Reggio* ...



LEFT : ... and the operator's
second *Teisten*, of the larger PT.50
type, likewise back in Italy and
renamed *Freccia di Casamicciola* in
1992

[TIM TIMOLEON photo, both]

WHERE DID THEY GO ?

An untraditional view and excellent example of a well-maintained PT 50. Originally delivered by Rodriguez to HSD as *Teisten* in 1970, *Hinnavåg* returned to Italy in 1988 where it entered service with Aliscanf SNAV as *Freccia di Casamicciola*. Also see pages 10-15 + 23

[TERJE MOEN photo]

