An Overview of Vessel Routing Services

There are many vessel routing services to choose from worldwide and they provide a vital service to international seaborne trade. The companies provide voyage planning services on a trip by trip basis. They put together a voyage plan that takes into account forecast weather, ship's speed, fuel consumption, cargo and destination. The route suggested to the ship's master takes into account the time of year and other vessel traffic, such as fishing fleet activity. Vessel Routing Services are staffed with people in a wide variety of disciplines, such as marine engineering, actual sea experience and meteorology and typically hire based on long experience in these fields.

Another source for finding recommended routes is the British Admiralty Publication Ocean Passages for the world. There is no requirement that ships carry this book, but it is frequently referred to by mariners. Please find attached two pages from that publication having to do with the Aleutians. One image shows the semi-permanent low pressure in the vicinity of the Aleutians and the general circulation such that westerly winds prevail south of the low and winds from the NE north of the low. The second page is simply a description of possibilities. Item 9 discusses the option for heading north of the Aleutians. The alternate to the south, with refueling possibilities at Honolulu or Guam is commercially not feasible. It is not uncommon in winter that 7 to 10 days could be added to a voyage from Vancouver to Japan if sailing well to the south near 35N as discussed in Item 9 also. This publication and others are routinely used by Routing Companies. Routes have been developing since the early age of trans-ocean sail and are constantly changing due to advances in technology.

1. Are there specific passes that ARE recommended for transit, and are there any that are NOT recommended for transit?

Yes. As mentioned above, there are standardized routes developed over years. Routes are chosen based on the criteria mentioned above. Routing Companies typically don't warn against a given route, as that would be perceived as interfering in the vessel Master’s domain.

2. Is there any proximity to land recommendations (e.g., for those southern routes below the chain; or for clearance of an island while transiting a pass)?

No. Such a recommendation would be beyond the scope of a routing service unless there was an IMO or other agency regulation requiring it.
3. There are occasions when vessel operate in bad weather and seek shelter behind the islands. Are there places that happen routinely?

Yes, but this is a decision solely up the ship's Master. A routing company would never advise such an action.

4. Are there variations in routing relative to season or vessel type (tank vessel versus cargo vessel)?

Yes. As mentioned above, specific to the Aleutians, the Aleutian Low moves south in the winter, generating large westerly swells south of the island chain. Ships are advised to sail north and have the wind counter-rotating around the low on their stern rather than on the bow as would be experience by sailing south of the chain. Vessel specifics, type, speed, seaworthiness, are also factored in.

5. How frequently does your company provide meteorological or weather updates to a vessel master or their company during a specific voyage?

If the forecast weather reflected in the plan holds communication between the routing company and the vessel occurs every two days. If the weather is changing communication may occur up to three times a day. The routing service is also available to the ships Master 24/7.

6. How frequently do vessel routes change during a voyage due to weather?

It is impossible to give an actual number. Each voyage is different and in any case this would be a decision of the ships Master, completely outside the services provided by a routing company.
CHAPTER 7

NORTH PACIFIC TRANS-OCEAN PASSAGES

GENERAL INFORMATION

Coverage

7.272

This section contains details of the following passages:

From Singapore to North America (7.275).
From Manila to Panama (7.276).
From Manila to San Diego or San Francisco (7.277).
From Manila to Juan de Fuca Strait or Prince Rupert (7.278).
From Hong Kong to Panama (7.279).
From Hong Kong to San Diego or San Francisco (7.280).
From Hong Kong to Juan de Fuca Strait or Prince Rupert (7.281).
From Shanghai to North America (7.282).
To and from Yokohama and Panama (7.283).
From Yokohama to San Diego or San Francisco (7.284).
From Yokohama to Juan de Fuca Strait or Prince Rupert (7.285).
From Yokohama to Dutch Harbour (7.286).
From Tsugaru Kaikyo to Panama (7.287).
From Tsugaru Kaikyo to San Diego or San Francisco (7.288).
From Tsugaru Kaikyo to Juan de Fuca Strait or Prince Rupert (7.289).
From Tsugaru Kaikyo to Dutch Harbour (7.290).
From Nakhodka to Dutch Harbour and North America (7.291).
From Panama to Hong Kong or Shanghai (7.292).
From San Diego or San Francisco to Manila (7.293).
From San Diego or San Francisco to Singapore (7.294).
From San Diego or San Francisco to Ports on the coast of China S of Fuzhou (7.295).
From San Diego or San Francisco to Ports on the coast of China N of Fuzhou (7.296).
From San Diego or San Francisco to Yokohama (7.297).
From San Diego or San Francisco to Ports in the East China Sea and Bo Hai (7.298).
From San Diego or San Francisco to Tsugaru Kaikyo (7.299).
From Juan de Fuca Strait to Manila or Singapore (7.300).
From Juan de Fuca Strait to Ports on the coast of China (7.301).
From Juan de Fuca Strait to Yokohama (7.302).
From Juan de Fuca Strait to Tsugaru Kaikyo (7.303).
From Juan de Fuca Strait to Nakhodka (7.304).
From Prince Rupert to Manila or Singapore (7.305).
From Prince Rupert to Ports on the coast of China (7.306).
From Prince Rupert to Yokohama (7.307).
From Prince Rupert to Tsugaru Kaikyo (7.308).
From Prince Rupert to Nakhodka (7.309).
From Dutch Harbour to Yokohama or Tsugaru Kaikyo (7.310).
To and from Dutch Harbour and Australian ports or Torres Strait (7.311).

Route selection

7.273

Broadly speaking, the trend of the coastline bordering the North Pacific basin follows the arc of a great circle. In fact a great circle drawn between a position in Luzon Strait and a position on the coast of British Columbia will pass through the Sea of Japan and Bering Sea while a great circle between Luzon Strait and the coast of California will pass close to Yokohama and not far S of the Aleutian Islands.

A high-latitude route for the trans-ocean voyage is therefore attractive with regard to distance, but it may have disadvantages in weather and currents.

Weather in the N Pacific Ocean is dominated by the high pressure system over the ocean and the low pressure system which moves along the Aleutian chain of islands.

In winter, calm and clear conditions prevail over the E part of the N Pacific Ocean N of 40°N. Depressions, however, less frequent than in winter, move across the N part of the ocean bringing extensive fog for much of the time along the W part of the northern routes.

In winter, the Aleutian low pressure system intensifies and moves W from the vicinity of Bristol Bay (57°36’N, 160°30’W) to the W part of the Aleutian Islands near the date line. Violent storms sweep from China and Japanese waters towards the centre of the depression and then into the Gulf of Alaska, while storms from the central Pacific move NE towards the Gulf of Alaska. These storms bring rain, sleet, snow and violent winds to many of the northern routes.

In spring, the E coast of Japan is fully exposed to the strong E gales then prevalent.

General notes on winds, weather, currents and ice can be found at 7.14 – 7.11; 7.25 – 7.26; 7.30 – 7.52. For details of swell conditions, see 7.19 – 7.21.

East-bound the choice of route depends mainly on currents likely to be encountered and navigational requirements.

West-bound it may be preferable to take a route N of the Aleutian Islands or, alternatively, one well S of the northern routes, based on the parallel of 35°N, or even farther S, compromising between extra distance and the disadvantages of adverse winds and currents.

If using the S route, calls can be made if necessary for refuelling at Honolulu or Guam, without adding greatly to the distance.

Routes north of the Aleutian Islands

7.274

Vessels following routes N of the Aleutian Islands will be affected by the following conditions:

7.274.1

Bering Sea is N of the usual track of storms that sweep across the North Pacific Ocean. A W-bound vessel N of the islands will therefore be in the favourable semi-circle of most of these storms and so experience following winds and sea.

Local storms are frequent, particularly in Autumn, but the weather is characterised by persistently overcast skies, rapid change and instability, rather than by the violence of the winds.

7.274.2

Fog is prevalent in spring, summer and early autumn particularly off Kuril’skoye Ostrova (48°00’N, 153°00’E). Close to the Aleutian Islands conditions are generally more favourable on their N side rather than on their S side.

7.274.3

Currents are weak N of the Aleutian Islands, being strongest in summer, when they are E-going. Along the S side of the islands the Alaska Current (7.26) flows to the