Raywood, Simon

From: Robert Hunter | Isle of Man Steam Packet Company [redacted]Steam-Packet.com>
Sent: 08 November 2024 11:19
To: Morgan Offshore Wind Project
Subject: Morgan Windfarm - ExQ1 Question SN 1.10

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Dear Sir / Madam,

Reference: - IOM Steam Packet Company's Response to Shipping and Navigation Question SN 1.10 Posed by the Morgan Planning Inspectorate.

In response to the Morgan Planning Inspectorate's request please see below the IOM Steam Packet Company's response to Question SN 1.10 which asks:

"Analysis of effect of route deviations
Further to its Written Representation, IoM Steam Packet Company (IoMSPC) is invited to submit an analysis of deviations required by the effect of the Proposed Development alone and the cumulative effect of proposed development of Morgan, Morecambe and Ørsted wind farms on the IoMSPC Liverpool-Douglas and Heysham-Douglas services and consequent effects including fuel consumption and in-port operations."

Ship examples referred to in this response are Ben my Chree, a conventional passenger ferry for passengers, vehicles and freight (average speed is 17 kts with max 618 passengers), and Manannan, a high speed passenger craft for passengers and vehicles (average speed of 32kts with 890 passengers).

Morgan Proposed development alone
The current berth to berth distance from Douglas to Heysham is 60nm. At 17kts this takes 3h 32m.

New route distances as a result of the proposed Morgan windfarm site are;
Douglas - Heysham (north of Morgan WF) is 61nm – at 17kts takes 3h 35m (an increase of 1nm and 3 minutes sailing time)
Douglas - Heysham (south of Morgan WF) is 65nm – at 17kts takes 3h 49m (an increase of 5 nm and 17 minutes sailing time)

Using Ben my Chree as an example,
Per trip Fuel Oil -tonnes, Lubrication Oil – litres and CO2 emissions;

PROPOSED WINDFARM ROUTING		Ben my Chree (BMC) per trip				
		0.081 t/nm	1.13 l/nm	£795/t	£3.20/l	0.27 t/nm
Route	Berth to Berth Distance nm	FO t	LO l	FO Cost	LO Cost	CO2 t
Douglas - Heysham (north of Morgan WF)	61	4.94	68.93	£3,928	£221	16.47
Douglas - Heysham (south of Morgan WF)	65	5.27	73.45	£4,186	£235	17.55

Number of voyages between Douglas and Heysham is approximately 1300 per year
Assuming BMC sails 95% Short and 5% long routes
Annual dist short 75335nm
Annual dist long 4225nm
Total Annual Dist 79560nm
Current annual dist 78000nm
Therefore annual distance increase to current distance is 1560nm

Increase to fuel oil, lubrication oil, CO2 emissions and associated costs are as follows;

	BMC Heysham difference based on new route increase				
	FO t	**LO l**	**FO Cost**	**LO Cost**	**CO2 t**
95% & 5% dist	6444.36	89902.8	£5,123,266.20	£287,688.96	21481.2
2019 dist	6318	88140	£5,022,810.00	£282,048.00	21060
Difference	**126.36**	**1762.8**	**£100,456.20**	**£5,640.96**	**421.2**
2019 % diff	1.96%	1.96%	1.96%	1.96%	1.96%

Using Manannan as an example,

Voyages between Douglas and Heysham is approximately 40 per year

PROPOSED WINDFARM ROUTING		Manannan (MAN) per trip				
		0.14t/nm	0.7 l/nm	£795/t	£3.00/l	0.453 t/nm
Route	Berth to Berth Distance nm	FO t	LO l	FO Cost	LO Cost	CO2 t
Douglas - Heysham (north of Morgan WF)	61	8.54	42.70	£6,789.30	£128.10	27.63
Douglas - Heysham (south of Morgan WF)	65	9.10	45.50	£7,234.50	£136.50	29.45

Assuming Manannan sails 95% Short and 5% long routes
40 voyages IOM Heysham route
Annual dist short 2318nm
Annual dist long 130nm
Total Annual Dist 2448nm
Current annual (2019) dist 2400nm
Therefore annual distance increase to current distance is 48nm

Increase to fuel oil, lubrication oil, CO2 emissions and associated costs are as follows;

	MAN Heysham route difference based on new route increase				
	FO t	**LO l**	**FO Cost**	**LO Cost**	**CO2 t**
95% & 5% dist	342.72	1713.60	£272,462.40	£5,140.80	1108.94
2019 dist	336.00	1680.00	£267,120.00	£5,040.00	1087.20
Difference	**6.72**	**33.60**	**£5,342.40**	**£100.80**	**21.74**
2019 % diff	1.96%	1.96%	1.96%	1.96%	1.96%

Morgan Morecambe Orsted windfarm sites

In combination with other windfarm sites a narrow bottle neck is created to the north of Morgan between the Morgan site and the Isle of Man Mooir Vannin site. In compliance with the Isle of Man and United Kingdom Merchant Shipping (Distress Signals and Prevention of Collisions) Regulations (COLREGS) all ships are obliged to comply with the COLREGS by either adjusting their speed and/or course where risk of collision exists depending on the circumstances and conditions of the case.

To maintain a safe passing distance from other ships, pleasure craft, fishing vessels etc and the windfarms themselves it may be necessary for the ship to slow down. Sea-room to alter course is restricted by the presence of the windfarm sites and any action to reduce speed would impacts upon the vessel's scheduled service. This circumstance would also be exacerbated by adverse weather or poor visibility which could necessitate further reduction in the ship's speed to comply with the COLREGS. Significant delays can take days to recover which ultimately negatively affects the service delivery for passengers and freight vital to the Isle of Man's economy.

It should be noted any emergency action to avoid collision within a windfarm corridor could put the vessel further at risk of collision with another vessel or risk allision with a wind turbine. For a passenger ship with around 1000 persons on board this could potentially turn into a mass casualty event.

In combination with other windfarm sites the increase in fuel oil, lubrication oil, CO2 emissions and associated cost increase for the Isle of Man to Liverpool route is as follows;
Current berth to berth distance from Douglas to Liverpool is 71nm. At 31kts this takes 2h 17m.

New route distances as a result of the proposed windfarm sites are;
Douglas - Liverpool (south of Morgan WF) is 72nm – at 31kts takes 2h 19m (an increase of 1nm and 2 minutes sailing time)

Using Manannan as an example,
Per trip Fuel Oil -tonnes, Lubrication Oil – litres and CO2 emissions;

PROPOSED WINDFARM ROUTING		MAN per trip				
		0.14t/nm	0.7 l/nm	£795/t	£3.00/l	0.453 t/nm
Route	Berth to Berth Distance nm	FO t	LO l	FO Cost	LO Cost	CO2 t
Douglas - Liverpool (between Morgan Mona WF)	72	10.08	50.40	£8,013.60	£151.20	32.62

Voyages between Douglas and Liverpool is approximately 630 per year
Assuming Manannan sails 95% Short and 5% long routes
630 voyages IOM LPL route
Annual dist short 43092nm
Annual dist long 2646nm
Total Annual Dist 45738nm
Current annual (2019) dist 44730 nm
Therefore annual distance increase to current distance is 1008nm

Increase to fuel oil, lubrication oil, CO2 emissions and associated costs are as follows;

	MAN Liverpool difference based on new route increase				
	FO t	LO l	FO Cost	LO Cost	CO2 t
95% & 5% dist	6403.32	32016.60	£5,090,639.40	£96,049.80	20719.31
2019 dist	6262.20	31311.00	£4,978,449.00	£93,933.00	20262.69
Difference	**141.12**	**705.60**	**£112,190.40**	**£2,116.80**	**456.62**
2019 % diff	2.20%	2.20%	2.20%	2.20%	2.20%

In total it is estimated the combined Ben my Chree and Manannan increase to fuel oil, lubrication oil, CO2 emissions and associated costs are as follows;

BMC and MAN combined difference based on new route increases					
	FO t	LO l	FO Cost	LO Cost	CO2 t
95% & 5% dist	12847.68	121919.40	£10,213,905.60	£383,738.76	42200.51
2019 dist	12580.20	119451.00	£10,001,259.00	£375,981.00	41322.69
Difference	**267.48**	**2468.40**	**£212,646.60**	**£7,757.76**	**877.82**
2019 % diff	2.08%	2.02%	2.08%	2.02%	2.08%
			£220,404.36		

The increase in cost may or may not be passed on to passengers and freight customers depending on commercial and any political considerations. Such a cost increase to a lifeline service has a negative socio-economic impact to the national economy of the Isle of Man.

National implementation in the United Kingdom and Isle of Man Merchant Shipping (Prevention of Air Pollution from Ships) Regulations regulate heavily on the amount of CO2 emissions. An increase in CO2 emissions also make compliance with the existing regulations more onerous and incur extra costs to achieve the required compliance.

Any significant increase in a ship's voyage time between ports also has implications to a ship's ability to keep to a scheduled service and impacts on the time available to conduct safe port operations. The IOM Steam Packet would be opposed to speed up operations at the expense of ship and shore worker's safety. Time in port could be extended to accommodate delayed arrivals but this would result in a delayed service departure inconveniencing passengers and freight.

On some occasions, the ship may be tidally restricted and forced to depart port on an ebbing tide regardless of passengers or freight in order to maintain a safe under-keel clearance and avoid damaging the ship by sitting on the seabed. In such circumstances, passengers and/or freight may have to be left behind.

In conditions of adverse weather the likelihood of the Captain cancelling a sailing may increase where the option to 'weather route' (ie sailing a more comfortable course and speed reacting to the sea conditions for passenger and cargo safety) has diminished. Windfarm corridors will force to ships to navigate particular courses. Should the windfarm course be particularly uncomfortable according to the prevailing adverse weather conditions, and thus unsafe for the carriage of passenger and freight, the likelihood is the Captain will cancel the sailing on grounds of safety.

Cancelled sailings, delayed departures or departing without booked passengers or freight are highly detrimental to the operation of a lifeline passenger service vital to the Isle of Man's economy. The number of sailings undertaken are also monitored by the Isle of Man Government under the commitment to the Strategic Sea Services Agreement to undertake a minimum number of sailings per annum. Each sailing not undertaken are detrimental to the Isle of Man Steam Packet Company's obligations and reputation as a whole as a reliable ferry operator.

I trust this satisfies your request. Should you require any further information then please do not hesitate to contact me

Kind regards,
Robert Hunter

Robert Hunter
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