

## Project Description

### *Scenic Eclipse*

Unlocking the Northwest Passage – August 2022



Developer: Scenic Cruises in cooperation with PEC Operations Ltd.

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## 1. Title

*Scenic Eclipse* Canadian Arctic – Unlocking the Northwest Passage

## 2. Contact Details

Scenic Cruise Services D.O.O.  
Riva Boduli 1  
Rijeka  
Croatia  
51000

Contact Name: James Griffiths  
Contact Title: Director Marine Operations  
[James.Griffiths@scenic.eu](mailto:James.Griffiths@scenic.eu)  
+44 7922 122804

## 3. Ship Operations and Insurance provisions

**The ship is owned by PEC Ltd.**

Contact details are as follows:

PEC Ltd

Victoria Mansions, Block 3 Pjazza

Toni Bajada, Naxxar

NXR2605, MALTA

**The ship is operated by PEC Operations Ltd in cooperation with Scenic Cruises.**

Contact details are as follows:

PEC Operations Ltd.

Victoria Mansions, Block 3 Pjazza

Toni Bajada, Naxxar

NXR2605, MALTA

Insurances will include but are not limited to insurance for Hull and Machinery, Professional & Indemnity, oil pollution, Charterer's Liability and tour liability as appropriate for the operations planned.

## 4. Regulatory and Other Authorizations

### **Federal**

Labour Market Impact Assessment – pending

Crew work permits – pending

Transport Canada approvals for helicopter – pending

Transport Canada approvals for submersible - pending

### **Nunavut**

Nunavut Planning Commission – submitted March 21, 2022

Nunavut Impact Review Board – Pre-screening submitted April 9, 2022

Nunavut Archaeological Permit – submitted March 30, 2022

Nunavut Tourism Outfitters License – Submitted March 30, 2022

WSCC exemption - received April 5, 2022

Community Notification letters – sent April 11, 2022

HTO notification letters – sent April 11, 2022

Migratory Bird Sanctuary Permit – submitted January 31, 2022

Access to Qikiqtani owned lands – to be submitted

Access to Kitikmeot Inuit owned lands – to be submitted

Wildlife Observation License – to be submitted

### **Northwest Territories**

WSCC exemption - received April 5, 2022

Inuvialuit Land Use Application Land Use permit – to be submitted

Tourism Operators License – Submitted March 30, 2022

Community Notification letters – sent April 11, 2022

HTO notification letters - sent April 11, 2022

### **Yukon**

Herschel Island Territorial Park Permit – to be submitted

**Permitting for the helicopter is being handled by:**

Helicopter Services Malta Ltd.

Coral House, Triq Dun Karm,

Birkirkara, BKR 9037, Malta

+356 27761306

**Permitting for the submersible is being handled by:**

F.K. Warren Ltd.

2000 Barrington St., Suite 1212

Halifax, NS, B3J 3K1

Tel: 1+ 902 233-3749

Email: [ops@fkwarren.ca](mailto:ops@fkwarren.ca)

The submersible and helicopter will only be operated if all necessary approvals have been obtained.

## 5. Summary of Project Description

Bahamas-flagged expedition yacht *Scenic Eclipse* has advertised and is selling on the retail market the following voyage:

2022 Arctic Discovery – Unlocking the Northwest Passage (Voyage 201G)

Embarkation – August 16, 2022 Kangerlussuaq, Greenland

Debarkation – September 5, 2022 Nome, Alaska, USA

Cruise Length: 21 days

The company plans to make several port calls in Greenland before arriving in Canada, in the region of Pond Inlet on August 20. The ship will make several stops in Nunavut before proceeding on to the Northwest Territories, Yukon, and onto Alaska where guests will disembark. Community visits are planned in Pond Inlet (August 20), Gjoa Haven (August 26), Cambridge Bay (August 27) and Ulukhaktok (August 29). A detailed itinerary is available in Section 7.2 Project Location. A route map is available in Section 7.3 Route Map.

The vessel is Polar Class 6 and will not be joined by additional icebreaking support. One ice pilot will be onboard the vessel for the entirety of the voyage. Details of his previous ice experience is included in Section 6.2 Special Operational Staff.

## 6. Company Background and Special Operational Staff

### 6.1 Company Background

Scenic Cruises has more than three decades of experience creating unforgettable handcrafted journeys for our guests. Scenic is an Australian founded company and has developed itineraries that travel to more than 60 countries and every continent on Earth. From humble beginnings to world-renowned luxury cruise and tour operator, Scenic is recognised as a leader in its field, and now has offices across the globe and two sister companies, Evergreen Cruises and Tours and Emerald Waterways. Scenic has earned a world-class reputation for creating and delivering the ultimate cruising and touring itineraries for travellers who seek wondrous experiences and exceptional 5-star service.

Our success has been built on establishing long term partnerships with travel networks, supplier partners and travel partners selling our product across the globe. We continue to nurture these partnerships, to build new relationships and aim to deliver the best experience possible across the globe to create memories that will last a lifetime.

Scenic has a history of operating in both environmentally-sensitive areas and in waters in which ice conditions exist. Past sailings include numerous trips in Antarctica, South Georgia and the Falkland Islands, as well as Iceland, Greenland and Svalbard.

Scenic is a member of CLIA (Cruise Lines International Association), IATA (International Air Transport Association), CATO (Council of Australian Tour Operators), IAATO (International Association of Antarctic Tour Operators) and AECO (Association of Arctic Expedition Cruise Operators), and is ATAS (AFTA Travel Accreditation Scheme) and ATAP Accredited (Australian Tourism Accreditation Program) approved. Scenic has been the recipient of national and international accolades from the industry and its partners, as well as being recognised within the industry for its exemplary product and operations.

*Scenic Eclipse* is the flagship vessel of Scenic Cruises and was built to exceed current and future environmental standards. Inspired by the sleek contours of a sailing yacht and custom built with an unwavering commitment to safety and excellence in design, *Scenic Eclipse* combines a wealth of world class facilities with the opportunity for unrivalled exploration.

Additional information on the ship can be found in Section 7.6 List of Equipment.

### 6.2 Special Operational Staff

Scenic Operational Staff at all levels have extensive background and experience in specific measures to avoid environmental impacts. The employees for whom resumes have been provided have been actively involved in the planning and preparation for the voyage, and will be involved during its operation.

**Name: James Griffiths**

**Title: Director Marine Operations, Ice Pilot**

A British National living in South Wales, James is currently working as Director of Marine Operations at Scenic Cruise Services.

James has extensive seagoing experience having started his career in 2001 working for Cunard Line. He served onboard all of the current Cunard Lines ships and sailed as Chief Officer onboard the RMS Queen Mary 2. In 2008 he began working for Lindblad Expeditions as an Ice Officer, later working as Chief Officer and Captain onboard the National Geographic Orion and National Geographic Explorer.

In 2015 he joined Windstar Cruises as Captain and led the project to setup their Alaska Expedition Program in his capacity as Fleet / Expedition Captain.

James joined the build of the *Scenic Eclipse* in the new building yard in 2018 and was the ships Captain for her maiden season in Greenland and Antarctica.

James has extensive polar water experience in both the Arctic and Antarctic and works as a freelance Ice Pilot for EYOS Expeditions. He is approved by the MCA to instruct both the Basic and Advanced Polar Water Courses, which he does at the Maritime Skills Academy in Portsmouth. He holds both the Advanced Polar Water and Nautical Institute Ice Navigator Level 2 certificate.

In addition to his seafaring qualification, James holds a degree in Engineering and a post graduate diploma in Law.

In his capacity of Director Marine Operations, he is in charge of all aspects of Compliance and Maritime Operations he also currently holds the 'Designated Person Ashore' responsibility.

**Name: Jason A. Flesher**

**Title: Expedition Operations Director**

James has been committed to all aspects of experiential wilderness education, along with wilderness search and rescue for over 35 years. In addition to playing on top of 23,000 foot peaks and exploring the labyrinths 1,500 feet beneath the surface of the earth, Jason's professional experience grew from co-producing multi-day outdoor wilderness events, serving as Lead Antarctic Expedition Guide for 2041 Expeditions, wilderness instructor/guide – educating diverse ages and backgrounds – in over twenty countries, on all seven continents. Jason has been written up for his work in numerous publications over the years. He was featured in The New York Times, Readers Digest, Outfitter magazine, Land Rover Magazine, Climbing and the National Speleological Society magazines to name a few. In addition, Jason has been in search and rescue for over 30 years, serving as a Search Manager, Training Coordinator, Field and Alpine Rescue Specialist, and currently as a member of the International Rescue Team the Kenyon Group. Jason has written numerous training, operational and risk management plans and manuals for wilderness based institutions and national and international Search and Rescue Teams. Developing and Presenting curriculum models and training programs for corporate leadership, team development, experiential/wilderness education and guiding, as well as search and rescue is a passion that takes him throughout the United States and all over the world to train facilitators and personnel, guide clients, deliver keynote addresses and design strategic programs. He has sat on several local, state, and corporate committees and boards, worked with multi-million dollar grants and budgets, managed over 100 staff at a time and managed several wilderness and leadership based programs simultaneously. Lastly, Jason has received numerous certifications in wilderness education and search and rescue as well as numerous appreciation awards and citations for work with businesses, youth and the communities he serves.

**Name: Captain Erwan Le Rouzic**

**Title: Master, *Scenic Eclipse***

Born in France to a family with a long nautical history, Erwan's love of sailing came as no surprise. So as a graduate from the French Merchant Marine Academy in 1994 his career at sea was quickly established. Erwan sailed on various types of vessels until 2001, rapidly graduating as a deck chief officer, and finding that luxury expedition ships was where his skills and his passion were best employed. Erwan became Captain of his first cruise ship in 2006, since then he commanded expeditions and cruises to all the seven continents. As Captain of luxury expedition ships, he became an expert in Polar waters. With his profound respect of nature and the importance of responsible tourism, the unspoiled beauty and vastness of the Polar regions remain his destination of choice, though his curiosity pushes him to continue exploring new destinations, from the unspoiled coast of the Kimberley in Australia to the last Frontier Alaska and the ultimate adventure of the North West Passage. He has successfully completed eight Antarctic seasons, one season in Svalbard, three seasons in Greenland, and transited the North West Passage twice in summer 2015 and summer 2017. Erwan has sailed a little less than 200 days leading expeditions in the Arctic complimentary to his extensive Antarctic experience. Early 2016 he sailed past the Antarctic Circle as part of expeditions for Scenic Ocean Cruises. The success of these cruises convinced him to be part of the *Scenic Eclipse* project, in establishing new standards in exploring the world at sea, with the first ever Discovery Yacht, *Scenic Eclipse*. He is now one of the two captains who has successfully guided guests along Atlantic Canada, the Caribbean, the Panama Canal, the Red Sea, and completed the first two Antarctica seasons of the *Scenic Eclipse* in 2019 and 2022. Erwan is an advocate of environmental issues, and particularly the use of renewal energies. In 2011 he participated in the First Ever Around the World Expedition with Solar Energy as Captain of PlanetSolar - the world's largest solar powered ship, establishing many Guinness World Records. When not at sea Erwan now calls Vancouver, British Columbia home where he developed a profound interest for the diverse first nations cultures of the Pacific Northwest. He recognizes the wild beauty of the region and enjoys running, biking, sailing, as well as hiking and skiing in the coastal mountains, and spending time with his wife and young daughter and son

## 7. Summary of Proposed Development

### 7.1 Overview

This project description aims to provide a non-technical summary of Scenic Cruises' proposed operation in the Canadian Arctic during the transit of the Northwest Passage with *Scenic Eclipse* in 2022. The voyage will be carrying approximately 200 guests and 192 crew, including 20 expedition staff, plus contracted support staff including one ice pilot and one Inuit guide.

Further information about the expedition staff onboard can be found in Section 7.10 Expedition Management.

Aboard *Scenic Eclipse* will be expedition equipment to support the planned operations. Further information about the equipment onboard can be found in Section 7.6 List of Equipment.

The voyage has been planned with a high degree of sensitivity to the local environment and communities. The goal is to provide a positive and enriching experience to all involved while at the same time minimizing disruption or risk of negative consequences

Operations have been planned to be fully self sufficient and within the search and rescue capacity of the vessel, including for medical emergencies and evacuation, if required. Expedition activities will be managed by experienced onboard personnel. Where applicable, Federal and/or Territorial permit applications have been submitted to the appropriate authorities and copies of permits will be carried onboard, and by expedition staff, as required.

The possibility of potential impacts will be minimized by strict adherence to applicable laws and regulations; company policies and standard operating procedures; careful pre-trip planning and briefings; advice received from the communities, review boards and public input; implementation of mitigation measures and the supervision and monitoring of visitor activities in the field by experienced personnel. It is expected that the proposed voyage will have an environmental impact that is minor or transitory. Further information on potential impacts and mitigation measures is provided in Section 7.14 Wildlife Protection and Section 15 Analysis of Potential Negative Environmental Impacts and Mitigation Measures.

Guest activities ashore are detailed in Section 7.5 Proposed Activities at Project Location.

## 7.2 Project Location

Details of the planned itinerary are included below. Alternate sites have been identified if the planned sites are not accessible because of weather, ice, or other circumstances.

<b>Date</b>	<b>Location</b>	<b>Proposed Activities</b>	<b>ETA</b>	<b>ETD</b>
16-Aug-2022	Kangerlussuaq		08:00	19:00
17-Aug-2022	Sisimiut		08:00	18:00
18-Aug-2022	Disko Bay		08:00	18:00
19-Aug-2022	At Sea			
20-Aug-2022	Pond Inlet	Community Visit	09:00	18:00
21-Aug-2022	Dundas Harbour, Devon Island	Landing	08:00	12:00
21-Aug-2022	Croker Bay, Devon Island	Zodiac cruise, kayak, helicopter, submersible	15:00	19:00
22-Aug-2022	Beechey Island	Landing	08:00	11:00
22-Aug-2022	Radstock Bay	Zodiac cruise, kayak, helicopter, submersible	12:00	4:00
23-Aug-2022	Prince Leopold Island	Zodiac cruise	15:00	20:00
24-Aug-2022	Fort Ross, Somerset Island	Landing, kayak, helicopter	08:00	13:00
24-Aug-2022	Cruising Bellot Strait	Ship cruising, zodiac cruising	15:00	18:00
25-Aug-2022	Coningham Bay, Prince of Wales Island	Zodiac cruise	08:00	14:00
26-Aug-2022	Gjoa Haven, King William Island	Community visit, zodiac cruise, kayak	08:00	17:00

27-Aug-2022	Cambridge Bay, Victoria Island	Community visit, Zodiac cruise, kayak	13:00	18:00
28-Aug-2022	Edinburgh Island	Landing, Zodiac cruise, kayak, helicopter, submersible	08:00	13:00
29-Aug-2022	Uluhaktok, Victoria Island	Community visit, Zodiac cruise, kayak	08:00	13:00
30-Aug-2022	At Sea			
31-Aug-2022	Herschel Island	Landing	08:00	14:00
01-Sep-2022	Deadhorse, AK		08:00	10:00
02-Sep-2022	At Sea			
03-Sep-2022	Little Diomedede, AK		15:00	20:00
04-Sep-2022	Port Clarence Bay, AK		08:00	18:00
05-Sep-2022	Nome, AK		08:00	18:00

The following alternate sites are being considered:

20-Aug-2022	Bylot Island	Zodiac cruise, kayak
21-Aug-2022	Cuming Inlet, Devon Island	Zodiac cruise, kayak, helicopter, submersible
22-Aug-2022	Maxwell Bay	Landing, Zodiac cruise, kayak, helicopter, submersible
24-Aug-2022	Fury Beach, Somerset Island	Landing, Zodiac cruise
25-Aug-2022	Prince of Wales Island	Zodiac cruise
26-Aug-2022	Victory Point, King William Island	Landing, Zodiac cruise, kayak, helicopter
27-Aug-2022	Jenny Lind Island	Landing, kayak, helicopter, submersible
28-Aug-2022	Nakyotok River	Landing, kayak, helicopter
29-Aug-2022	Fort Collinson or Minto Inlet	Landing, kayak, helicopter, submersible
30-Aug-22	De Salis Bay, Franklin Bay or Smoking Hills	Zodiac cruising

### 7.3 Route Map

A preliminary route map for the voyage is included below. The route taken will be subject to change based on weather and ice conditions.



### 7.4 Appointed Port Agent

Scenic Cruise's appointed port agent for the *Scenic Eclipse* is:

**F.K. Warren Ltd.**

2000 Barrington St., Suite 1212

Halifax, NS, B3J 3K1

Tel: 1+ 902 233-3749

Email: [ops@fkwarren.ca](mailto:ops@fkwarren.ca)

**Main Contacts:**

Kate Smith

[ksmith@fkwarren.ca](mailto:ksmith@fkwarren.ca)

Cell: +1 902 233 3749

Colin Conrad, President

[colinconrad@fkwarren.ca](mailto:colinconrad@fkwarren.ca)

Cell: +1 902 483 2611

## 7.5 Proposed Activities at Project Location

Passengers on board the ship will take part in a variety of activities, both on-board and off the vessel.

Proposed off ship activities include community visits, cultural performances, flightseeing, hiking, kayaking, Zodiac boat tours and excursions, Scenic Discovery Excursions, submarine excursions, and nature and wildlife viewing and photography. An Inuit guide will be part of the expedition team and will embark in Pond Inlet, NU and disembark in Ulukhaktok, NT. Most stops will last for a duration of 5-8 hours.

Guests will be briefed prior to departing the ship on how to conduct themselves ashore with consideration for local communities, safety in Arctic conditions, and safe and respectful conduct when viewing wildlife. The onboard Discovery Team will follow advice from local communities, applicable permit conditions, applicable regulations and guidelines including those developed by AECO regarding visits to remote communities (Included as Appendix B), and historical and cultural sites (Included as Appendix C). AECO and Canadian Wildlife Services (CWS) Guidelines will be followed during all wildlife viewing and encounters (Included as Appendices D, E, F, G and H). In addition, any recommendations from local HTA/HTC will be followed.

Community representatives, as well as Hunters and Trappers Organizations (HTOs) have been contacted to obtain input and approval for requested activities.

We understand that the COVID pandemic is not over and some communities have not yet decided if they will allow cruise visitors this season. We have created a corporate COVID management plan and have been using it successfully in other locations. In addition, we will abide by any regulations communities wish to be implemented.

### **Onboard activities**

Onboard activities will consist of an in-depth educational program including lectures, briefings, field guidance, and viewing of wildlife and scenery. Lectures will consist of pertinent information in the fields of Arctic conservation, ornithology, marine biology, climate change, geography, geology, glaciology, history, photography, etc.

### **Off-Ship Activities**

#### **Community Visits**

Scenic is aware that although cruise ships have been permitted in the Canadian Arctic, the COVID-19 pandemic is not over. Passengers will not disembark in any arctic community without permission. If communities are welcoming cruise ship tourism in 2022, Scenic plans to follow the community's current COVID protocols and only take part in activities that the community deems safe. If permitted, these activities may include cultural performances or presentations, purchasing arts and crafts, sampling food, viewing local artwork, town tours, guided hiking tours or flightseeing tours. Prior to arrival in a community guests will be briefed on any local protocols and COVID restrictions.

### *Transportation*

In Cambridge Bay it is planned to land guests at an area outside the town known locally as the gravel pit. A local shuttle service will transport guests to and from the town.

In Pond Inlet, the majority of guests are expected to walk around the hamlet. A shuttle bus may be needed for those with walking difficulty.

In Ulukhaktok & Gjoa Haven, guests are expected to walk about the community.

Transport between the cruise ship and community landing sites will be by Zodiac boat.

Passenger landings will be carefully controlled to ensure there are a maximum of 90-100 passengers on shore at any given time. Group sizes will be reduced based on local guidance and COVID regulations. Shore excursions will be between 2-3 hours in length.

### *Self-Guided Visits*

Guests will visit the hamlets, disembarking the vessel in small groups and going ashore by Zodiac. Once ashore they will tour the community, view demonstrations of traditional crafts and food; see sights of interest around the settlements. Guests will be issued a map of the communities showing sights of interest and indicating which buildings are open to the public. All local COVID protocols will be followed.

### *Scenic Discovery Excursions*

Cultural experiences could include throat singing and drum dancing performances, sampling local food, arts and crafts displays for purchase, or participation in Inuit games.

Flightseeing tours without landings of the surrounding area will only take place with permission from the community.

Guests may participate in guided hikes in various locations to enjoy the landscape, flora and fauna. Hiking routes will be agreed in advance with the communities; guests will remain in guided groups at all times while outside the settlements. Hikes will be guided by members of the expedition team familiar with the area, and if available members of the community will accompany each group as additional guides. All hiking groups will have VHF radio communications with the ship and will be carrying firearms for polar bear protection.

Guests have been informed that some excursions require a minimum level of physical ability and those that do not appear to be in appropriate physical condition, or appropriately attired will not be permitted to join the excursion.

### **Kayaking**

Kayaking will be offered to small groups, with a maximum group size of 18 including guides. These excursions may take place in the waters surrounding communities or during other stops throughout the itinerary. This activity will be managed by the onboard Discovery Team and utilize the ship's equipment with no need for logistical support from the communities. Kayaking excursions will only take place when weather and sea conditions are optimal. Guests will be outfitted with safety equipment. Most excursions will consist of a short paddling tour along the coast nearby, 2-3 hours in duration. Each group

will consist of 8 double kayaks with two guests aboard each. All groups will be guided by two experienced kayak guides in single kayaks, and a dedicated safety/rescue Zodiac will accompany each group. All guides and the safety boat will be in VHF radio communication with the vessel at all times. Generally, expeditions will be recreational in nature and remain in calm water within 3 nautical miles of the *Scenic Eclipse*. All guides and guests will be briefed on and adhere to local area regulations and guidelines.

Further information on kayak operating procedures can be found in Appendix I.

### **Zodiac Boat Tours**

Guests will disembark from *Scenic Eclipse* for a tour of the waters and coastline surrounding the location, to enjoy the area scenery and wildlife. Groups will consist of up to 12 guests and 1-2 crew members including a qualified driver. During these excursions, guests will remain on the boat. Zodiacs will always travel in pairs and all zodiacs are outfitted with VHF radios and all safety equipment required by local jurisdictions. All guests and crew will be briefed on safety procedures and local regulation prior to boarding the zodiacs. Typical tours are 60-90 minutes in length.

### **Zodiac Excursions**

In some cases, where permitted, the zodiacs may choose to land ashore to take in local activities, wildlife and scenery. Landing procedures have been carefully planned to minimize potential impacts. Activities could include but are not limited to walking, hiking, viewing and photography of nature and wildlife and bird watching. In cases where the zodiac is landing on shore extra staff and crew will be accompanying the group to assist as needed with loading and unloading of the guests. Guests will be briefed prior to disembarking about local regulations as well as different opportunities and area attractions. The guests will remain with guides at all times. The maximum crew to guest ratio for shore excursions will be 1:10 and groups will be time staggered to eliminate over crowding. Minimum approach standards for wildlife will be maintained at all times.

Further information on zodiac operating procedures can be found in Appendix J.

### **Submersible Excursions**

*Scenic Eclipse* will operate one UBOAT-WORX Cruise Sub 7, where permitted, and plan to offer undersea excursions with 1 Pilot and 6 guests. In most cases the sub will be deployed for dives with a duration of approximately 30 minutes, within a 2 nautical mile radius of the *Scenic Eclipse*. Guests will be transported to and from the sub via zodiac. A surface support zodiac with 1 crew member will remain with the sub at all times.

The submersible will not be used near King William Island.

Further information on submersible operating procedures can be found in Appendix M

### **Helicopter Flightseeing**

The helicopters will be used for flightseeing, weather permitting, in select locations. Each flight will be approximately 20 minutes in length and will start and end on the ship.

The helicopter seats 6 guests plus one pilot.

The helicopter may also be used for ice reconnaissance.

Further information on helicopter operating procedures can be found in Appendix N.

## 7.6 List of Equipment

### Ship Particulars: MS Scenic Eclipse

IMO Number	9797371
MMSI Number	311 000 995
Call Sign	C6ET4
Colour	Black/White
Registered	Nassau, Bahamas
Class Notation	1A Super
Ice Class	PC6
Length Overall	168.0 m
Length PP	152.1 m
Breadth	21.5m
Maximum Draft	5.6m
Gross Tonnage	17,545
Net Tonnage	5,263
Deadweight, normal operations	2,065 m ton at 5.6 m
Maximum Speed	17.8 knots
Maximum Guest Capacity	237 Maximum, 200 Polar Maximum
Maximum Crew Capacity	183 normal operations, 220 Polar Operations
Keel Laid:	Delivery 2019
Propulsion	2 x ABB Azipod® DO1250-S2000-PC6
Propulsion Diesel Generators:	4 x ABC diesel engines 16DZC, 3117 kW each, 900 rpm
Boilers:	Aalborg OH
Stabilizers:	SKFX 600 retractable
Bow Thrusters:	2 X Brunvoll FU-80-LTA-2250

### Communications:

Voice Telephone Number	+88 1652412609
Email	<a href="mailto:captain.eclipse@scenic.eu">captain.eclipse@scenic.eu</a>
GMDSS Area	A1+A2+A3+A4
AIS	Yes
VDR	Yes

### Weather and Ice Information:

Weather and ice information is obtained by the ship through government and private services by means of telex, fax, voice, internet and e-mail communications. The ship subscribes to a weather information service, which sends updated weather daily.

**Safety:**

The Scenic Eclipse has a Polar Class 6 rating that enables it to navigate through Arctic water in the summer.

She will transit only open water and areas with very limited ice floes like those encountered in Alaska and Northern Europe and follow the route selected by the ice pilot. One highly-experienced ice pilot has been added to the crew. Further information on the experience of the pilot is included in Section 6.2 Special Operational Staff.

**Emergency Capacity:**

Scenic Eclipse is certified to carry a maximum of 420 persons. For Polar region itineraries this includes a maximum of 200 guests and 220 crew members. 356 Persons can be accommodated in covered, motorized lifeboats. The ship can accommodate an additional 210 persons in inflatable life rafts. The vessel meets all requirements of ISM and SOLAS as far as required number of lifeboats and survival equipment.

**Medical facilities:**

Scenic Eclipse is designed to operate safely in remote locations, without any land support. The ship's medical facility is equipped to handle most medical emergencies. Stabilizing medical care is provided until patients can be safely disembarked to a land facility offering an equal or greater level of care. The facility is staffed by one doctor and two nurses, all trained and experienced in emergency medicine.

The ship has an intensive care unit equipped with cardiac monitor/defibrillators, external pacemaker, a ventilator, lab capabilities, x-ray, a well-stocked Pharmacological unit, and three additional hospital beds equipped with oxygen for less serious admissions. 911 response capabilities and 24 hour on-call personnel are provided. Staff are experienced in arranging helicopter or fixed wing air ambulance transfers for critical patients.

**Auxiliary Equipment:**

Auxiliary equipment onboard the *Scenic Eclipse* to support the expedition operations include the following:

Equipment Type	Number	Engine	Fuel	Length	Passenger Capacity
Mark V Zodiacs	12	Yamaha 60HO	Unleaded gasoline	5.8m	
Narwal Fast Boat	1	Yamaha F150DETL	Unleaded gasoline		8
Double Kayaks	8	n/a	n/a		2
Single Kayaks	2	n/a	Nn/a		1
Airbus H130 Helicopters	2		Aviation Fuel		7
U-Boat Worx Cruise	1		Battery		6

Submarine 7					
Ocean Robotics Aegir 50-4D ROV	1		Battery	105X72X59cm	

Zodiacs will be used to transport guests between ship and shore, and for small-group guided exploration of remote sites. Each is equipped with standard safety equipment and fuel efficient engines that comply with all environmental protection standards, and minimize noise, thereby mitigating impact to wildlife.

Narwal Fast Boat will be used to conduct sightseeing tours in coastal areas. It can carry up to 8 guests plus 2 crew members. It is equipped with safety equipment and fuel efficient engines that comply with all environmental protection standards, and minimize noise, thereby mitigating impacts to wildlife.

Guest kayaks are two-person versions. Operations will be conducted in small groups which will be led by one or two staff members in single kayaks with the support of a rescue Zodiac which will accompany the group at all times.

Helicopters will be used for ice-reconnaissance and flightseeing in select locations. Each seats 6 guests plus the pilot. Helicopters will also be available for emergency evacuation in the case of medical emergencies.

The submersible will be used for underwater exploration in select locations. The submarine seats 6 guests plus the pilot.

The ROV will be used to aid in the submersible operations in emergency situations only. It will not be used for underwater exploration or for obtaining photos or videos for promotional purposes. Additional information regarding the ROV is available in Appendix O.

More detailed activity descriptions are available in Section 7.5 Proposed Activities at Project Location.

## 7.7 Environmental Practices

Scenic Cruises has a history of operating in environmentally sensitive areas. Past sailings include numerous trips in Antarctica, South Georgia and the Falkland Islands as well as Iceland and Svalbard. The ship was designed to ensure it meets or exceeds the highest international standards.

As part of the company's commitment to maintaining the pristine regions we travel to, we have invested in state-of-the-art technology and environmentally sustainable systems, to ensure the smallest possible impact from our operations. Our GPS dynamic positioning system allows the ship to hold position without dropping anchor. The ship is equipped with an advanced wastewater treatment system. Our highly efficient engines reduce emissions, noise and vibrations, for minimal disruption to the surrounding marine life. The ship is fuelled with marine gas oil (MGO), the highest class of marine fuel with the lowest concentration of sulphur and particles.

Scenic is a member of the Association of Arctic Expedition Cruise Operators (AECO). This association is dedicated to managing safe, responsible and environmentally sustainable operations in Arctic regions. As a member AECO, *Scenic Eclipse's* operations in these sensitive areas will be carried out to these strict environmental standards. Our operations are also fully compliant with the Polar Code pollution prevention measures and comply with all emission requirements for cruising in Polar regions.

The possibility of potential impacts will be minimized by strict adherence to applicable laws and regulations; company policies and standard operating policies; careful pre-trip planning and preparation including obtaining in advance permits/authorizations (where applicable); briefings; advice received from the communities to be visited, elder knowledge, hunters and trappers committees, environmental impact screening committees/review boards, interested parties and community input; as well as by implementation of mitigation measures and the supervision and monitoring of visitor activities in the field by experienced personnel.

Scenic Cruises is committed to operating in a way that is sustainable to the environment and has partnered with a number of organizations in their effort to be constantly improving. Through their partnership with Climate Friendly, an Australian Organization committed to reducing large scale greenhouse gas emissions by funding renewable energy projects, Scenic has measured 100% of its emissions and is taking steps to reduce the greenhouse gases that are created.

Scenic has also worked on reducing the single-use plastics on-board its ships. Straws are no longer plastic, instead they are bamboo and glass bottles are now used in all rooms. Refillable water bottles are also given to all guests on-board.

## 7.8 Fuel and Hazardous Material Use

### MS *Scenic Eclipse*

#### Engine/Fuel Information

Fuel Type	Low Sulphur Marine Gas Oil
Estimated daily fuel consumption at normal speed	35 MT
Estimated daily fuel consumption at full speed	39 MT
Estimated daily fuel consumption when penetrating ice	14.5 MT
Marine Diesel Oil Capacity, normal cruising	623 MT
Gas Oil Capacity, normal cruising	No
Heavy Fuel Oil Capacity, normal cruising	No
Heavy Fuel Oil Onboard during NWP trip	No
Lubricating Oil Capacity, normal Cruising	13.2 MT

All of the chemicals onboard *Scenic Eclipse* are stored in designated lockers with appropriate segregation. No hazardous chemicals are used in parts of the ship where they could enter the marine environment. They are used in specific applications in the engine room, laundry or during routine upkeep of the ship's interior. No washing with cleaning chemicals will take place on the open decks while the ship is operating in Arctic Waters.

The *Scenic Eclipse* is outfitted with limited oil spill response equipment and officers and crew are trained in emergency response procedures.

## 7.9 Waste Disposal and Treatment Methods

The proposed activity will result in waste being generated during the course of normal ship operations.

### Liquid wastes include:

- Domestic wastewater (e.g. from cooking and cleaning activities),
- Sewage,
- Macerated food waste, and
- Oily Mixtures.

### Solid wastes will also be generated, including:

- Garbage (e.g., wastepaper, clean packaging materials, glass and wood from domestic and work activities on the vessel),
- Food waste (e.g., excess, or spoiled food waste which is not suitable for maceration), and
- Hazardous or special waste (e.g., batteries, paints, oils, oily rags, etc., from maintenance or other work on the vessel).

The ship will meet or exceed all MARPOL regulations regarding the disposal, treatment and storage of waste. The ship also plans to abide by the voluntary New Environmental Measures for Cruise Ships In Canadian Jurisdiction – 2022 season DDB NO.:10/2022.

### Oily Water Discharge/Waste Oil

Oily Water Separator	Alfa Laval Pure Bilge 2505
Sludge Oil holding capacity, cbm	40.9 m <sup>3</sup>
Sludge oil holding capacity, days	80 days
Bilge water holding capacity, cbm	52.7 m <sup>3</sup>
Bilge water holding capacity, days	30 days
IOPP certificates	Yes, RJK0/DEC/20200915120614
MARPOL approved SOPEP (Shipboard Oil Pollution Emergency Plan)	Yes
MARPOL, oil record book	YES
Certified to operate within MARPOL's special areas	YES

### Garbage/Incineration

MARPOL waste management plan	Yes
Incinerator capacity	920kg per 24 hours
Incinerator usage frequency	Daily
Incinerator burning temperatures	830-930 degrees

### Fresh Water

Fresh water maker	SW75T compact X 2
Fresh water maker capacity	105 m <sup>3</sup> per day each
Fresh water consumption	138.65 m <sup>3</sup> per day

### Grey Water

Grey water holding capacity, cbm	379.07 m <sup>3</sup>
Grey water holding capacity hours	96
Any untreated water discharged directly overboard	No

### Black Water

Black water management plan	Included in Sewage Management Plan
Black water treatment plant certified	Membrane System; Martin Membrane Systems BMA600; IMO MEPC 159(55), IMO MEPC 277(64)
Black water holding capacity, cbm	379.07 m <sup>3</sup>
Black water capacity hours	Approximately 120 hours

### Ballast Water

Ballast water treatment plant	GEA Ballastmaster Marine X 150
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## 7.10 Expedition Management

Expeditions will be managed by the experienced onboard Discovery Team. Biographies of key staff members are included below.

**Name: Jason Kelley**

**Title: Discovery Leader**

Jason grew up on the coast in the San Francisco Bay Area. His love and fascination for the sea began early in life being raised by an oceanographer father and a biologist mother. Having grown up driving small boats that his father owned, Jason was a natural at driving in windy and high surf conditions. This led him to working as a professional Zodiac driver while still a teenager. Once he received a degree in the geosciences, he worked for the U.S. government based out of Menlo Park in California. He also worked as a naturalist and as a regional geologist in different parts of North America. He worked at the same time for one of the first Global Position System start-ups in Silicon Valley. He later had the opportunity to work as a field naturalist and hunting guide in the Rocky Mountains.

The call of the sea drew him back to marine board work and put him on ships where he worked as a naturalist, guest Lecturer, weapons expert and Expedition Leader. Jason has developed Zodiac training methods for small boat drivers in ice conditions and has worked as a consultant concerning Polar bear and Brown bear safety protocols for companies working in bear prone regions. Jason has travelled and

explored over 70 countries, on all 7 continents, from the High Arctic to the base of the Antarctic Peninsula

**Name: Danny Johnston**

**Title: Discovery Leader**

After a decade of teaching in public school classrooms from Texas to Uzbekistan to Alaska, Daniel escaped to the woods and glaciers, where he continued his calling to educate, through guiding. He has now been working in and sharing the wonders of the natural world as a guide for over a decade on the icy cold waters of Alaska, Antarctica and the Arctic.

While ice and whales have kept Daniel coming back to the polar regions for more than 40 voyages, he embraces the opportunity to lead the Discovery Team as they conquer the challenges of weather, ice and wildlife. Having studied Philosophy and Literature at Texas A&M University, Daniel is always looking to help make the deeper connections in our Discovery experiences.

For Daniel, nothing can match the sheer joy of being on the water, in wild places, with nature unfolding her mysteries before you.

**Name: Jonathan Fuhrmann:**

**Title: Assistant Discovery Leader, Geologist, Glaciologist, Lecturer and Naturalist**

Originally from Vienna, Austria, Jonathan lived in the UK for 11 years before moving back home in 2018. He initially studied Economics at the University of Cambridge, but soon switched focus to Geography and completed his MPhil in Glaciology at the Scott Polar Research Institute. He has undertaken fieldwork on the slopes of Mont Blanc and studied how meltwater lakes drain from the western margins of the Greenland ice sheet. Having since worked in science communication and press relations at the British Antarctic Survey and the Natural History Museum in London, Jonathan is interested in a range of scientific topics.

As a keen traveller and semi-professional photographer, Jonathan's love of the polar regions and great mountain ranges of Earth has proven enduring. He has worked on expedition cruise ships on all seven continents since 2015 and enjoys speaking on subjects ranging from glaciology and geology to astronomy, volcanology and photography, following scientific developments surrounding climate change with particular interest.

**Name: Dr Helena Schofield**

**Title: Naturalist**

After an education on the south coast of England, Helena went on to study medicine at the University of Cambridge. She was quickly drawn to the practice of medicine in extreme environments and travelled to Guatemala and Nepal to work with remote high-altitude communities. Alongside expedition medicine, Helena is inspired by the early days of polar exploration and has researched the medical advances made by historical Arctic and Antarctic pioneers. Since graduating in 2016 she has worked in trauma and emergency medicine in UK hospitals.

Having cultivated a love of the ocean from her early days sailing and kayaking around the British coast, Helena swapped her stethoscope for a Zodiac tiller to explore the polar environment first-hand. She enjoys speaking about how humans survive and thrive in extreme environments and the history of

maritime exploration. She currently lives in Vienna, Austria, where she spends time honing her mountain skills in the Austrian Alps.

**Name: Brendan Morris**

**Title: Submarine Pilot**

Brendan hails from Cape Town, South Africa, where he grew up enjoying the outdoors and participating in team sports. At the age of 17 he joined his local lifesaving club where he discovered his passion for the ocean. After multiple seasons he decided to advance his career and moved to the Bahamas to work full time in the water sports industry. In June 2021, he joined the *Scenic Eclipse* for the red sea project as a water sports coordinator, before transitioning to into his current position as submarine pilot. He currently splits his time between South Africa and The United Kingdom.

**Name: Alex Alderwick**

**Title: Submarine Pilot**

Alex grew up spending most of his free time on, or in the water of the Welsh coastline, or hiking around its beautiful Coastal National Park, enjoying nature and the adventures that you can find whilst out and about in it. After University he took some time out and travelled around New Zealand and North America which made him realise he would need to find a job that would keep him on the move.

He first learned the role of a Navigation Officer on board cargo ships, sailing all over the world, including the Caribbean and West Africa (where he was once attacked by pirates). After qualifying he moved closer to the UK to help take some newly built ships on their sea trials off the Coast of Scotland and work on a small dredger to develop his ship handling skills.

He made the transition across to the expedition sector in 2019, joining Scenic with a view to developing my Navigational skills whilst also taking on a role with the submarine team. Since joining Scenic he has dived multiple countries with a huge variety of sea life across the locations Being able to explore underneath the ocean and take guests with him to share in the excitement along the way has added a whole new level of enjoyment to a career he was already in love with.

**Name: Pascal Fischer**

**Title: Helicopter Pilot**

Pascal Fischer was born and raised in Switzerland. After working 10 years in the Swiss Army as an Artillery Instructor he was able to fulfill his childhood dream to become a commercial helicopter pilot. After flying 20 years in the United States, doing Charter work in California, Utility work in Alaska and the last 15 years flying as a HEMS Pilot in Arizona and Florida, he found his dream job in 2020 on the *Scenic Eclipse*. Pascal is totally excited to safely take the guests from the *Scenic Eclipse* up in the air and share the Wonders of the magnificent locations all over the world *Scenic Eclipse* travels to.

**Name: Tony Lumpkin**

**Title: Helicopter Pilot**

Tony has flown as a professional helicopter pilot since 1998, serving 10 years as a US Marine Corps Officer and Medical Evacuation pilot, and 13 years as a US Coast Guard Search and Rescue pilot. He has flown extensively in Alaska and the Arctic, the East and West coast of the US, the Middle East, South Korea, and the Bahamas, as well as a season flying tours over the Grand Canyon National Park. Tony has contributed to the USCG Center for Arctic Study and Policy in the field of Search and Rescue, and in 2021 was recognized for his work in Aviation Safety. A long time small boat sailor, Tony has sailed southern

California, the Baja Peninsula and western Mexico, as well the waterways around his home in Tampa, Florida.

## 7.11 Operations Ashore in Communities

Community visits are planned on the following dates:

August 21, 2022	Cambridge Bay
August 26, 2022	Gjoa Haven
August 27, 2022	Cambridge Bay
August 29, 2022	Uluhaktok

Further information regarding planned activities ashore in communities can be found in Section 7.5 Planned Activities at Project Location.

## 7.12 SAR, Emergency Response and Contingency Planning

Guests are all required to complete a full medical questionnaire and have it signed by a medical practitioner 90 days prior to voyage.

Comprehensive medical insurance including medical evacuation insurance coverage, or proof of access to 150,000 USD, or bond or security to cover expenses is required by all guests on this voyage.

### **Stranding Safety**

On every excursion to shore by inflatable boat, a kit, called the excursion safety kit, is taken and remains ashore until the last guest returns to the ship. This kit is designed to provide the survival basics for a period away from the ship. It will be separated into two waterproof cases but carried in one of the first boats ashore and will remain on shore until the last boat leaves. One case will contain equipment that might be used on occasion, while the other case will contain equipment to be used only in an emergency.

## 7.13 Security Plan

The Company's Security Plan, under the ISM Code includes procedures to be followed while the vessel is at anchor and while disembarking guests and includes an introduction, and covers corporate policies, safety management organization, and the safety management system (SMS). As not all aspects of the plan apply when the Vessel is in Canadian Arctic waters applicable portions of the plan are summarized below.

Disembarking guests: The Officer of the Watch is responsible for all movements of guests. A deck officer will attend each landing and embarkation. He/she informs the Captain of any boat launching, stowage, and "in/out" movements of guests, expedition team members and crew.

Guests will be checked prior to disembarking the vessel and any auxiliary craft to make certain they have donned their appropriate floatation device (Zodiac or kayak vest or life jacket) and that it is put on correctly in order that his/her movements cannot be hindered. (Those participating in helicopter flightseeing will be required to wear manual inflation life jackets.) A check will be made

to ensure they are also dressed properly, have disinfected their footwear (and walking sticks and camera tripods) and have signed out according to the Vessel's sign-in/sign-out procedures.

Deck crew will assist with the embarkation/disembarkation of the Zodiacs and Expedition Sightseeing RIB. Guests will be transferred into the Zodiacs and RIB using the wrist-to-wrist method.

A continuous communication's link with the Captain or watch officer on the bridge is in effect during all auxiliary boating operations and shore landings.

Accounts as to the numbers on board and ashore are provided to the Officer of the Watch as per standard operating procedures.

Procedures relating to wildlife encounters are detailed in Appendix K.

## 7.14 Wildlife Protection

*Scenic Eclipse* was designed with environmentally sensitive locations at the top of mind. Inherent in the vessel's design are some of the most modern technologies, which greatly assist to minimize disturbance to wildlife. These features include:

- Use of Azipod propulsion system to reduce noise and vibration levels to minimize disturbance to animals
- GPS dynamic positioning to remain stationary in fragile environments where the use of an anchor would damage the seabed
- Specially designed deck overhangs to minimize light pollution

In addition, will make every effort to minimize underwater noise. Measures to limit noise include:

- Keeping ship speed no faster than required for safe navigation.
- Running at reasonably constant RPM.
- Limiting engine and machinery in operation to only what is required for safe passage where possible

To avoid harmful interference with wildlife, standard operating procedures are in place.

The ship will further seek to avoid wildlife disturbance by:

- Keeping an extra bridge watch when in areas known for wildlife activity.
- Reducing ship speed anytime whales or concentrations of other wildlife are seen nearby.
- Adhering to the ship's SOP as well as AECO Guidelines for Visitors to the Arctic when in proximity of wildlife (Appendices D-H)
- Adhering to AECO Birds in the Arctic guidelines (as well as the regulations of the Canadian Wildlife Services regarding migratory bird sanctuaries).

- Advising crew and guests not to feed seabirds or other wildlife. This will be accomplished through, onboard announcements, lecture content, and through crew and guest education.
- Broadcasts through the outside public address system will be restricted and other distracting noises such as whistles and bells will not be used, except in emergency.
- On shore, guests will be informed not to disturb animals and birds. This includes avoiding making loud noises and keeping conversations low and calm. Group sizes will be kept to small numbers and with an appropriate guide-to-guest ratio to minimize impact. Guests will be briefed ahead of time and advised to follow the instructions of the Expedition Leader and their guides.
- Polar bear safety will be paramount. Guests will be instructed that polar bears are potentially dangerous animals -- but also vulnerable - and it is of the utmost importance that guests follow their guide's instructions when in polar bear areas.

### 7.15 Special Clothing and Equipment

Guests have been advised in pre-trip documentation that they will need to be properly outfitted with heavy, cold weather clothing and expedition gear. To ensure everyone is properly outfitted in Polar climates all guests will be provided with a Polar parka and boots for use during the voyage. Additionally, each guest has been provided with a packing guide, including a list of recommended equipment.

### 7.16 Giving Back to the Community

This is Scenic's first cruise to the Canadian Arctic. As in other parts of the world in which they operate, supporting the local communities through which they travel is important. Scenic Cruises intends to support local artists and performers, hire local guides and wildlife monitors and promote the purchase of local arts and crafts by their guests. An Inuit guide will be present on their vessel for the duration of the itinerary in the Canadian Arctic.

## 8. Developers Commitments

Scenic Cruises has a history of operating in environmentally sensitive areas, and in areas where ice conditions exist. The company is committed to preserving the pristine locations in which it operates. We strive to exceed current standards wherever possible and are constantly looking for ways to improve. All our voyages are carefully planned, taking into account the environments and communities we are visiting.

We are excited about our first voyage to the Canadian Arctic in 2022. Standard Operating procedures and guidelines have been put in place to ensure that the impacts from our operations are less than minor or transitory in nature. These guidelines include COVID protocols, bio-security measures, wildlife protection procedures, guidelines for visits to historical and cultural sites, restriction of group sizes, and procedures to ensure that no trace of our visit is left behind. In addition, we provide our guests with an in-depth onboard educational program. We believe that when our guests leave, after having learned about and experienced the Arctic, they will become advocates for environmental protections and sustainable practices as well.

In addition to the guidelines we have developed, Scenic Cruises will adhere to applicable laws and regulations, will obtain all necessary permits and authorizations, follow the advice received from the communities to be visited, elder knowledge, hunters and trappers committees, environmental impact screening committees/review boards and interested parties and community input.

The *Scenic Eclipse* was launched in 2020. As part of the company's commitment to the environment we have invested in state of the art technology and environmentally sustainable systems to leave as little footprint as possible.

Scenic is a proud member of numerous International and environmental organizations, including AECO, and has committed to meeting or exceeding the guidelines they have developed for the regions where it operates. The *Scenic Eclipse* is fully complaint with the Polar Code pollution prevention standards and complies with all emission requirements for cruising in Polar zones.

## 9. Technology

*Scenic Eclipse* was built with the latest technological advancements to ensure the highest safety and environmental sustainability. It features custom-built stabilisers that are 50% larger than other ships and an ice-strengthened hull. State-of-the-art fins that can adjust themselves enable the ship to handle the strongest water movements and to remain stable, even at zero speeds. Unlike other vessels that use traditional anchors, *Scenic Eclipse* is fitted with a dynamic positioning system that uses GPS to accurately maintain the vessel's position, which is also an eco-friendly way to control the ship. The vessel also features other environmentally sustainable systems, including advanced water treatment systems and efficient low-impact engines.

For more information about the technology onboard please see Section 7.6 List of Equipment to be Used.

## 10. Alternatives

Five alternatives have been considered, including:

- 1) Changes to itinerary,
- 2) Changes to number of guests,
- 3) Changes to vessel and auxiliary craft used,
- 4) Changes to activities,
- 5) Not proceeding with the cruise program.

### **Alternative 1: Changes to itinerary**

The communities and sites chosen have been carefully selected for a variety of reasons. The community visits and expedition landings are a highlight to the guests who get to experience firsthand what it may be like to live and work in these remote locations. However, we understand that the COVID pandemic is not over and some communities may not yet be ready to accept cruise visitors. We have developed alternative sites for some of our planned stops, should any of the communities not wish to receive cruise visitors this year.

## **Alternative 2: Changes to number of guests**

*Scenic Eclipse* is a small sized expedition vessel with a maximum guest capacity of 237. In Polar locations the guest capacity is reduced to a maximum of 200. The smaller size of the vessel allows for it to visit remote locations which would not be reasonable for the larger-sized cruise vessels.

Guests ashore will be limited to a maximum of 100 at any given time/location during community visits. For more remote locations groups will be limited to 10 guests and one staff member and departures will be time staggered to ensure minimal disturbance.

Under these circumstances a change in overall passenger numbers is therefore not considered necessary to minimize potential environmental impact.

## **Alternative 3: Changes to vessel and auxiliary craft used**

*Scenic Eclipse* is a state-of-the-art expedition cruise vessel and features some of the most advanced technology available for cruise ships today, including a Polar Class 6 designation. One ice pilot will be in attendance for the duration of the voyage as well as the experienced onboard discovery team, who will lead the expedition experiences.

The vessel meets and exceeds all Canadian and International shipping and environmental standards and will adhere to all applicable guidelines and regulations.

The vessel and all its auxiliary equipment were designed to operate in sensitive polar environments and therefore, we believe there is no basis for a change to the vessel or auxiliary craft. Planned helicopter or submersible use could be cancelled, or different machinery used, but this equipment is state-of-the-art and uses the most up to date technology available.

## **Alternative 4 - Changes to Activities**

The kayak and zodiac activities being offered are standard and have been offered in the Arctic previously by other cruise companies. Helicopter activities are more specialized but have also been offered in the past. Submersible excursions are relatively new and have rarely been offered on previous Arctic cruises. Scenic Cruises has designed an expedition program that is within their capabilities. Activities will be carried out in a safe, environmentally responsible manor, supervised by trained and experienced crew and subject to all applicable recommendations, guidelines and regulations.

Operating procedures have been developed for all activities so that all personal safety risks, and risk to the environment have been minimized or eliminated. Therefore, we do not believe any changes are required to proposed activities.

## **Alternative 5 - Alternative of Not Proceeding with the Planned Cruise Program**

The only alternative which removes all potential risk of impact would be to cancel the cruise entirely. Provided that all environmental standards have been considered and assessed in order to minimize any associated risks, it does not appear that this alternative is justified.

All of the above alternatives were considered in the planning phases of this itinerary. The planned landings, community visits, on-board and off-ship activities have been planned with a high degree of

sensitivity to the local environment and communities. We believe this voyage will leave a favourable impression on all involved. In our opinion alterations or cancellation of the above categories would be a loss to the company, guests, and communities.

## 11. Description of Biophysical Environment in which the Development is to take place

The Canadian Arctic Archipelago, is a group of 94 major and 36,469 minor Islands in the North Atlantic Ocean. It covers 1.4 million kms and comprises much of the territory of Northern Canada and most of the provinces of Nunavut and Northwest Territories. The various islands are separated from each other and the continental mainland by a series of waterways collectively known as the [Northwest Passage](#). It forms the world's largest high Arctic land area.

The terrain consists of tundra, except in mountainous regions. The higher land on these islands contains most of the glacial ice in Canada. Most of the islands are uninhabited.

The area is generally characterized by frigid winters with average temperatures ranging from -20 C to -35 C and relatively mild summers with temperatures ranging from 10 C to 25 C.

A number of species of plants, mosses, liverworts and lichens grow on the islands. It is also home to a number of land mammals, marine mammals, insects and birds.

## 12. Traditional and Other Land Uses/Potentially Affected Communities

The visit of *Scenic Eclipse* will occur in the vicinity of the municipalities of Pond Inlet, Gjoa Haven, Cambridge Bay in Nunavut and Ulukhaktok in the Northwest Territories. In addition, landings are planned in a number of locations in Nunavut, Northwest Territories and Yukon. All proposed and alternate landing sites have been listed in Section 7.2 Project Location.

It is noted that hunting, fishing, and trapping continue to be valued activities and that there are Territorial Species at Risk within Nunavut and the Northwest Territories.

Scenic Cruises is aware of the Nunavut and Northwest Territories Species at Risk Acts. Potential impacts to the environment and wildlife are discussed in more detail in Section 15 Analysis of Negative Environmental Impacts and Mitigation Measures.

The Expedition Leader will inform all who are going ashore of any designated Species at Risk in the areas to be visited. Guests will be briefed on guidelines for acceptable conduct, prior to disembarking, to minimize potential impacts.

Special attention has been paid to the planning of helicopter operations. Scenic Cruises is aware that the noise from helicopters has the potential to alter the migration route of caribou and will seek advice as to how to mitigate the impact of helicopter operations.

The visit of *Scenic Eclipse* to the communities is not expected to interfere or jeopardize the aims of any community conservation plans nor any known land uses for the hamlets and/or municipalities.

### 13. Community Engagement and Consultation

Notification letters were sent to the following communities and Hunters and Trappers Organizations on April 11, 2022.

<b>Community Name</b>	<b>Hunters and Trappers Organizations</b>
Hamlet of Pond Inlet	Mittimatalik Hunters & Trappers Organization
Hamlet of Arctic Bay	Ikajutit Hunters & Trappers Association
Hamlet of Resolute Bay	Resolute Bay Hunters and Trappers Organization
Hamlet of Taloyoak	Taloyoak Hunters & Trappers Organization
Hamlet of Gjoa Haven	Gjoa Haven Hunters & Trappers Association
Hamlet of Cambridge Bay	Ekaluktutiak Hunters & Trappers Organization
Hamlet of Kugluktuk	Kugluktuk Hunters & Trappers Organization
Hamlet of Sachs Harbour	
Hamlet of Tuktoyaktuk	Tuktoyaktuk Hunters & Trappers Committee
Hamlet of Paulatuk	Paulatuk Hunters & Trappers Committee
Hamlet of Ulukhaktok	Olokhaktomiut Hunters & Trappers Committee
Town of Inuvik	Inuvik Hunters & Trappers Committee
Hamlet of Aklavik	Aklavik Hunters & Trappers Committee

### 14. Co-Management, Inuvialuit Organizations and Government Engagement and Consultations

Notification of the vessel’s itinerary has been distributed to, or will be distributed, during the Review processes by the following government departments and organizations:

- Canada Border Services Agency
- Transport Canada
- Environment Canada / Canadian Wildlife Service
- Canadian Coast Guard
- Shipping Federation of Canada
- Department of Fisheries and Oceans
- Citizenship and Immigration Canada
- Nunavut Planning Commission
- Nunavut Inuit Review Board
- GN - Department of Culture and Heritage

- Qikiqtani Inuit Association
- Kitikmeot Inuit Association
- GN – Department of Economic Development & Transportation
- Nunavut Tourism
- Government of Northwest Territories
- Environmental Impact Screening Committee / Environmental Impact Review Board
- Fisheries Joint Management Committee
- Inuvialuit Regional Corporation

## 15. Analysis of Potential Negative Environmental Impacts and Mitigation Measures

*Scenic Eclipse* will encounter marine and wildlife habitats of species at risk during her transit of the Northwest Passage.

Species at risk have been identified through the following web references:

### **Nunavut**

<https://species-registry.canada.ca/index-en.html#/species?ranges=13&sortBy=commonNameSort&sortDirection=asc&pageSize=10>

### **Northwest Territories**

<https://www.nwt-species-at-risk.ca/SpeciesAtRisk>

<https://species-registry.canada.ca/index-en.html#/species?ranges=13&sortBy=commonNameSort&sortDirection=asc&pageSize=10>

These species have been identified under the Species at Risk Act (SARA). Species at risk most likely to be encountered during the transit and associated activities include Beluga Whale and Polar Bear. Other SARA species at risk that could be encountered include: Eskimo Curlew, Ivory Gull, Ross's Gull, Harlequin Duck, Rusty Blackbird, Short-eared Owl, Peary Caribou, Horned Grebe, Grizzly Bear and Wolverine.

During some off-ship activities, guests and expedition and operational staff will be cruising and landing in areas where wildlife, and delicate flora and vegetation may be encountered. The proposed activities have the potential to be disruptive to certain animal or plant species. These impacts will be mitigated through careful planning and management of activities. All guests and crew will follow the operating procedures developed by the ship as well as AECO guidelines for the viewing of birds and marine mammals.

Potential environmental impacts include the following:

- Emissions to air
- Emissions to water
- Wastes generated during normal ship operations
- Noise Pollution
- Physical Disturbance
- Introduction of alien species and translocation of disease

## 15.1 Emissions to air

Emissions to air generated from fuel burned during the proposed activity will originate from

- Ship cruising
- Auxiliary equipment
- Helicopters
- Incineration of waste onboard

### **Assessment:**

Emissions to air will be generated through the operation of the ship and its auxiliary equipment. It is estimated that the ship will burn 35 mt of low sulphur diesel per day, during normal operations, generating a normal amount of emissions. Emissions resulting from marine operations are typically rapidly dispersed by wind. However, any atmospheric emissions will contribute to regional and global air pollution burdens. It is expected that the impacts to air quality will be no more than minor or transitory in nature.

### **Mitigation:**

The *Scenic Eclipse* and its auxiliary equipment are equipped with some of the most up to date technology available to reduce greenhouse gas emissions. *Scenic Eclipse* uses only low sulphur diesel in its operations. In addition the Eclipse is equipped with an exhaust gas purification system which cleans the exhaust generated by the engines. The vessel will have opacity meters installed which will sound an alarm if opacity exceeds 20%. The *Scenic Eclipse* is fully compliant with Polar code pollution prevention measures and complies with all emission requirements for cruising in Polar zones.

## 15.2 Emissions to water

Emissions to water will originate from:

- Ship cruising
- Auxiliary equipment
- Helicopters

### **Assessment:**

It is not anticipated that any small fuel spills due to the operation or maintenance of auxiliary equipment should occur. Each Zodiac boat carries a small amount of fuel and potential spills can occur from accidental discharge, equipment malfunction, collision. In the unlikely event that such a spill should occur it is estimated that less than 10 litres of fuel would be spilled.

The kayaks are self propelled and have no battery or fuel source.

Submersible is battery powered and will not discharge any waste. An equipment malfunction could cause a small amount of hydraulic oil or coolant fluid.

In the event of a helicopter crash fuel and debris may be discharged. This scenario is highly unlikely. Should it occur, Scenic will partner with relevant authorities to ensure the site is properly restored.

The likelihood that a large-scale fuel spill should occur is extremely low.

**Mitigation:**

Fuel spills are one of the most unpredictable accidents aboard a ship. Their occurrence can be mitigated through proper crew training and adherence to standard operating procedures. Excerpts from the company’s SOPEP (SHIPBOARD OIL POLLUTION EMERGENCY PLAN) manual are included as Appendix P.

Standard operating procedures require all fueling of auxiliary equipment and helicopters to take place onboard the ship, minimizing the risk that fuel will be released into the water. Fuelling of the Scenic Eclipse will be done in port prior to entering the Canadian Arctic. All onboard equipment is regularly serviced and maintained, reducing the risk of fuel discharge due to equipment malfunctions.

A serious incident may result in a large scale fuel spill into the ocean, however, this is an extremely unlikely scenario. The *Scenic Eclipse* will follow the route advised by the onboard ice pilot and will not transit through ice conditions greater than those recommended for its Polar Class 6 rating.

No repair or maintenance activity will be undertaken on auxiliary equipment, except onboard the vessel where any spills or leakage can be contained.

### 15.3 Wastes generated during normal ship operations

Wastes will or could originate from:

- Ships
- Auxiliary equipment
- Helicopters
- Submersible or ROV

The proposed activity will result in waste being generated during the course of normal ship operations.

There is also the potential for waste during submersible operations in the highly unlikely event that the submersible experienced a failure and is unrecoverable.

The following table details the types of waste that may be generated during normal ship operations and the proposed disposal methods:

Waste Type	Disposal Method
------------	-----------------

<b>Non-Hazardous</b>	
Paper, plastics, timber	Separated and incinerated, or removed for recycling or disposal at the end of the voyage
Metal, glass	Separated and removed for recycling or disposal at the end of the voyage
Incinerator ash	All ash will be retained onboard and disposed of in port at an appropriate reception facility
<b>Biodegradable</b>	
Food Waste	Food will be separated and stored for removal at the end of the voyage or offloaded outside of 12 nautical miles from land in accordance with Canadian legislation
Grey Water	All grey water is stored in tanks until it can be processed. Untreated water is never discharged.
Black Water	Black water is stored in tanks until it can be processed. Untreated waste is never discharged.
<b>Hazardous Waste</b>	
Batteries	Separated and removed for recycling or disposal at a certified reception port
Medical and sanitary waste	Frozen and removed for disposal at a certified reception port
Fuels and Oils	Stored onboard and removed for disposal at a certified reception port
Chemical waste	Stored onboard and removed for disposal at a certified reception port

### Assessment

All waste materials generated during normal ship operations will be stored, incinerated, or disposed of in an appropriate manner, in accordance with Canadian legislation and AECO guidelines. It is unlikely that any large scale unlawful discharge of waste should occur during operations.

### Mitigation

All waste will be disposed of according to the procedures previously stated, meeting or exceeding standards laid out in Canadian legislation and AECO guidelines. An accidental waste release incident will be avoided through adherence to standard operating procedures and proper training and supervision of crew. Appropriate procedures have been developed to minimize accidental release of waste and to mitigate impact should such a discharge occur, therefore, accidental discharge of these waste products into the environment will have no more than minor or transitory impacts. In addition to the incinerator the ship carries garbage processing equipment such as a glass crusher, shredder, bale compactor and tin densifier to reduce the collected volume of garbage onboard. The storage area can contain garbage generated onboard the ship for an estimated period of three weeks.

All sewage and grey water are stored in tanks until they can be processed. The ship is fitted with an advanced waste water treatment system. No untreated water or waste is ever discharged. Grey and

black water streams are combined and passed through the treatment system which produces a fresh water effluent (clean water) which is discharged outside 4 nautical miles.

*Scenic Eclipse* will not take on, nor discharge, any ballast water as part of our operation. Officers responsible for managing ballast on the ship are aware of and will comply with International Guidelines preventing the introduction of non-native organism through the discharge of ballast.

There is a potential for accidental discharge of fuel or waste products resulting from a marine collision. Impacts to the environment could include the accidental discharge of refuse or accidental release of petroleum fuel, in addition to small quantities of lubricating fluids, oils, unleaded gasoline for the auxiliary boats and JP5 fuel for the helicopters. This scenario is highly unlikely.

Guests will be advised that any food or drink packaging that they bring from the vessel during off-ship activities must be returned to the ship and disposed of as previously stated.

In the unlikely event of a stranding ashore, all waste products generated will be contained on board the auxiliary vessel and returned to the ship, when possible, for disposal as previously stated.

Any waste mechanical fluids generated during operations of auxiliary equipment will be returned to the ship and disposed of as previously stated.

Minimization and mitigation measures include the development of best-practice standard operating procedures and careful record keeping.

## 15.4 Noise Pollution

Noises will be generated by:

- Ship operations and cruising
- Auxiliary equipment operations
- Helicopter operation

### **Assessment**

The effects of noise pollution on wildlife is a key concern. Wildlife can be impacted by noise through an increase in stress levels leading to behaviour changes as well as through disturbances of whole communities that alter breeding, nesting or migration activities. Every effort will be made to minimize potential effects on wildlife.

### **Mitigation**

*Scenic Eclipse* is equipped with an Azipod propulsion system, ensuring the lowest noise and vibration levels to ensure minimal disturbance to marine life. The level of noise disturbance is related to the number and type of equipment used. All efforts have been made to equip the ship and auxiliary equipment with the most up to date technology, and to reduce the number of auxiliary vessels operating in close proximity to minimize emission of noise.

Standard operating procedures and AECO guidelines regarding minimization of noise and disturbance to wildlife will be followed at all times. Guests will be briefed about relevant guidelines prior to any off-ship activities and compliance will be ensured through supervision.

## 15.5 Physical Disturbance

Physical disturbance may result from the following activities

- Ship operations
- Auxiliary equipment operations
- Shore landings

### Assessment

Likely physical disturbance from the operation of the *Scenic Eclipse* or auxiliary vessels include turbulence from vessel passage, the breaking of sea ice, pedestrian traffic at historical or cultural sites, and effect on wilderness or local flora.

Potential disturbance to marine mammals can occur due to ship and auxiliary equipment operation. These can occur because of habitat disruption, noise and vibration, water turbulence, pollution generated through ship operations or inadvertent discharge or an accidental strike.

It is not anticipated that planned operations will cause any more than a minor or transitory effect.

### Mitigation

The ship has developed procedures to ensure minimal physical disturbance to local wildlife. Landing procedures have been carefully planned to minimize potential impacts and risk assessments will be conducted prior to commencing landing operations. Group sizes will be kept small and where available, guests will use established walking paths. An extensive onboard educational program is provided to ensure guests are briefed on expected conduct and why such conduct is imperative. Staff will supervise guests during all excursions to wilderness or cultural sites and will ensure that guidelines are followed.

In addition, all guidelines suggested by AECO and the Canadian Wildlife Service for the viewing of animals and birds in the area will be followed.

Guidelines will be followed to minimize disturbances to historical and cultural sites.

Helicopters will not operate over wildlife colonies and will maintain acceptable minimum altitude so as not to cause disruption. Except in emergency situations, the ship will not land ashore.

The ship is equipped with a GPS dynamic positioning system which allows it to hold position without anchoring in location where damage could occur. The ship will avoid breaking ice if there is a risk of negative impact to the environment.

It is the policy of AECO and its members that all land and marine areas are treated as protected. During landings nothing will be moved or removed except items that are clearly garbage. No landings will be made near camps or trapper unless previously agreed.

## 15.6 Introduction of alien species and translocation of disease

Introduction of a non-native species, or translocation of disease may occur through increased traffic to the region. Guests, crew or the ship itself may transport (intentionally or unintentionally) a non-native species or communicable disease.

### Assessment

One of the ways non-native species can spread to the Arctic is through cruise travel. Seeds, microorganisms and insects can be carried on footwear, attached to clothing, or in bags that have been used in the outdoors previously. This can be mitigated through adherence to developed guidelines.

We understand that the COVID pandemic is not over and some communities have not yet decided if they will allow cruise visitors this season. We have created a corporate COVID management plan and have been using it successfully in other locations. In addition, we will abide by any regulations communities wish to be implemented.

### **Mitigation**

This cruise will adhere to the AECO Biosecurity Guidelines (included as Appendix L) as well as procedures developed internally. These procedures include, mandatory briefings to ensure guests understand the importance of bio-security measures, and cleaning of equipment, supervised by Discovery Team members. Guests and crew will examine and clean clothes, footwear, and equipment thoroughly to remove organic matter before embarking on the cruise; and by thoroughly cleaning footwear, walking sticks or camera tripods with a disinfectant solution and using scrub brushes before disembarking and when returning to the ship from each wilderness landing. A boot washing station will be set up at the landing site as well as the disembarking embarkation point of the ship and supervised by the ship's expedition crew, to ensure all organic matter is removed between landings. (The disinfectant solution will also be used for dipping walking sticks and camera tripods.)

Scenic is committed to ensuring the safety and well-being of the communities we visit, as well as that of our guests and our crew. We work closely with CLIA and local and international government health agencies to ensure our protocols exceed the latest regulatory requirements. Our Health & Safety Steering Committee oversees all our health and safety policies and training. We have implemented enhanced cleaning protocols onboard, improved air filtration and circulation, reduced group sizes, added socially distanced options for dining and contact free options for checking in and out.

Crew members must show proof of vaccination, complete a pre-boarding health questionnaire and submit a negative COVID test prior to travel, and each day for the first 5 days of their contract. Crew will continue to be tested regularly throughout their time on the ship and are quarantined immediately if they receive a positive result on a COVID test. Crew wear masks at all times while working or in common areas.

All guests are required to complete a preboarding health questionnaire. Proof of vaccination is required for guests over 12 year of age and a negative PCR test, taken within the past 72 hours, is required for all guests 2 and older prior to embarking the ship, regardless of vaccination status. All guests over the age of 2 are required to wear a mask at all times when indoors, except when eating or drinking or when in their own staterooms, and when outdoors if in a large gathering or where physical distancing cannot be maintained.

## **16. Cumulative Environmental Impacts**

Cumulative effects are changes to the environment that are caused by an action in combination with other past, present and future human actions

Examples of cumulative effects over time include:

- Increased marine and pedestrian traffic
- Effects on local flora through increased pedestrian traffic
- Disturbance of migratory and/or at-risk species
- Deterioration of cultural or historical artifacts from increased pedestrian traffic, handling, theft etc.

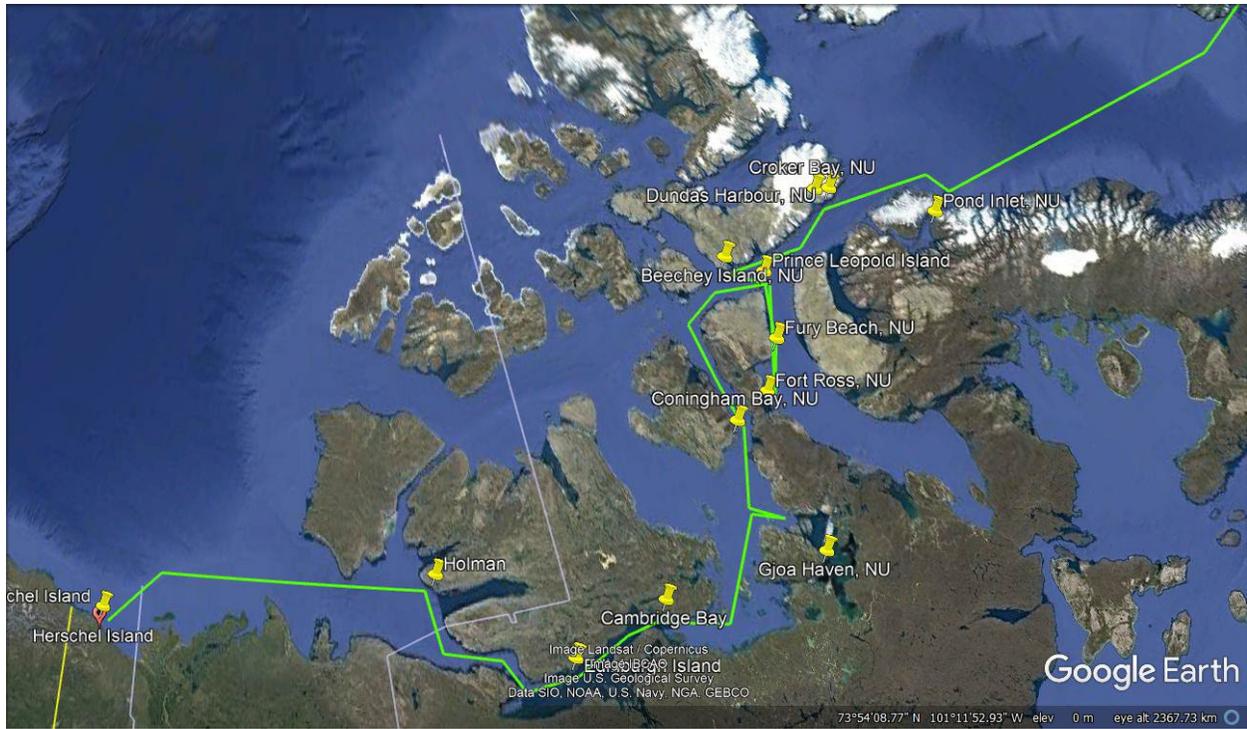
Scenic Cruises has planned its itinerary based on the sites that have typically been visited by other expedition cruise lines in the past. It is difficult to judge the likely long term cumulative effects of these activities as limited baseline environmental monitoring data is available for these sites. However, these activities have been designed to have minimal impact on the area flora, wildlife and cultural and historical sites and it is expected that their effect will be minor or transitory in nature.

## 17. Clean-up, Reclamation, Disposal and/or Decommissioning Plans

The proposed activity is expected to have less than a minor or transitory environmental impact. Therefore, it is not anticipated that any clean-up, reclamation, disposal and/or decommissioning will be required.

## 18. Visual Information

A route map showing the approximate proposed transit route is included below.



# Appendices

## Appendix A Ship Features and Deck Plan



Defining a new era  
of luxury and discovery

**Helicopter\***  
Soar above in our helicopter and discover wonders beyond the horizon.

**Spa Sanctuary**  
The exclusive Spa Sanctuary boasts 550 square metres of pure indulgence.

**Dining Experiences**  
With up to nine dining venues plus 24-hour in-suite dining, you'll be spoilt for choice.

**Submarine\***  
Dive below and see the world from a new perspective with our submarine.

**Kayaks**  
Discover nature up close in one of our tandem kayaks for all-inclusive, active explorations.

### Main Dimensions

LOA	207,000 mm
LBP	197,000 mm
B (Moulded)	21,500 mm
B (Maximum)	21,900 mm
D (Design)	5,300 mm
D (Scantling)	5,450 mm
DWT	15,900 mt
GT	130,855
NT	28,741

### Passenger Area

	sqm	pcs
Total number of PAX cabins	34	34
Veranda	34	16
Deluxe Veranda	34	50
Grand Deluxe Veranda	40	30
Panorama	100	4
Grand Panorama	115	2
Spa Suite	52	12
Owners Penthouse	195	2

### Restaurants

	Deck	sqm
Koko	4, STBD	227
Elements	4, PORT	290
Lumiere	5, PORT	128
Epicure cooking school	5, STBD	45
Yacht club	7	140 (+153)

### Machinery:

**Diesel engines, 4 pcs**  
ABC 16 D2C – engine:  
MCR: 3194 kW at 900 rpm  
Medium speed 16-cylinder engine  
Bore 286 mm and stroke 310 mm  
Vee-shape configuration  
IMO Tier 3 emission execution with using Selective Catalytic Reduction (SCR) – technology  
Fuel consumption according to ISO 3046-1 conditions:  
Engine built for burning: M/D0 – Marine diesel oil  
Reference fuel calorific value Hu M/D0: 42700  
Fuel consumption at full load: 142,0 g/Hp/h 189,0 g/kWh  
Tolerance + 5% without engine driven pumps  
Luboil consumption according to ISO 3046-1:  
Luboil consumption at full load: 0.30 g/kWh  
Tolerance: +/- 0.03 g/kWh

### Generators, 4 pcs

ABB ANG 0630LRO8 LAP  
Ratings:  
Output: 3450 kVA  
Power: 3105 kW  
Duty: S1  
Voltage: 690V  
Frequency: 60Hz  
Speed: 900 rpm  
Overspeed: 1080rpm

### Classification:

**Marina**  
The specially designed marina makes UNRESTRICTED OUTDOOR use possible. LIPS, SVS-NEG, AUT-COS, INWATERSURV, CLEANSHIPAWT, BWI, MDO – 3 days, COM-FINGER-PAX 1, COM-FINGER-CREW 2, COM-FINGER-PAX 1, COM-FINGER-CREW 2, GREEN PASSPORT

### IMO-T Ocean Data Low Temperature (according to Polar Code)

3°C and 5°C

### Lounge

Main Lounge	4	594
Observation Lounge	5	115
Azure Bar and Café	5, STBD	99
Theatre	4	440
Spa	6	360
Pool	7	153 (+140)
Yoga/Pilates	7	54
Gym	7	54
Sun Terrace	10	474

### Propulsion, 2 pcs

ABB AZIP00001250  
Electric motor characteristic:

Zero	Speed	Nominal	Max. rpm
Speed:	0	192	230 rpm
Power:	0	3000	3000 kW
Torque:	149	149	124 kNm

Propeller geometry  
Type: Microblock  
Material: NAIB  
Turning direction: Inwards  
Diameter: 3.3 m  
Blade number: 5

### Bow Thrusters, 2 pcs

Brunvoll FU-90-JA - 2250  
Input power: 1200 kW  
Nominal thrust: 183 kN  
Propeller type: Fixed pitch  
Propeller diameter: 2250 mm  
No. of blades: 4

### Stabilisers, 2 pcs

SKF Z 600 retractable  
Area of one fin: 16,0 m<sup>2</sup>  
Max. working angle: +/- 60deg.  
Extending/ housing time: 120s

Water Mixture (Fresh Water / Seawater) 50/50  
MANDH-FE-FOG-200 (seawater) 200 m<sup>3</sup>  
MANDH-FE-FOG-200 (fresh water) 200 m<sup>3</sup>  
MANDH-FE-FOG-200 (seawater) 200 m<sup>3</sup>  
MANDH-FE-FOG-200 (fresh water) 200 m<sup>3</sup>

### Flight Lounges & Bars

With an abundance of public spaces and two BSHU (Bar, Seating, Hangar, Under) units, there is plenty of room to relax. Two BSHU (Bar, Seating, Hangar, Under) units, there is plenty of room to relax. Two BSHU (Bar, Seating, Hangar, Under) units, there is plenty of room to relax.

### Lube Oil separators, 4 pcs

Type: Alfa Laval SILIPSL-735(b)  
Flow rate: 2 000 lit/h  
Separation temperature 20-40 deg.

### WASTE - MARTIN MEMBRANE SYSTEMS

Persons on board: 400  
Treatment system: BMA@600  
Systems capacity: up to 132 m<sup>3</sup>/d  
BOD Load: up to 72 kg/d Hourly flow HF 5,000 l/h  
Peak hourly flow PHF: up to 6,000 l/h

### Ballast water treatment system:

GEA BALLASTMASTER marine x 150  
Flow rate: 150 m<sup>3</sup>/h

### Fast Resue boat

HATECKE FRB 20-700  
Dimensions: 6,72 m (length) x 2,70 m (width)  
Capacity: 5 persons + 1 stretcher  
Engine: Volvo D3-200, inboard  
Speed: 25 km  
Propulsion: waterjet system directly coupled to engine

### Mooring winches - ADRIA Winch:

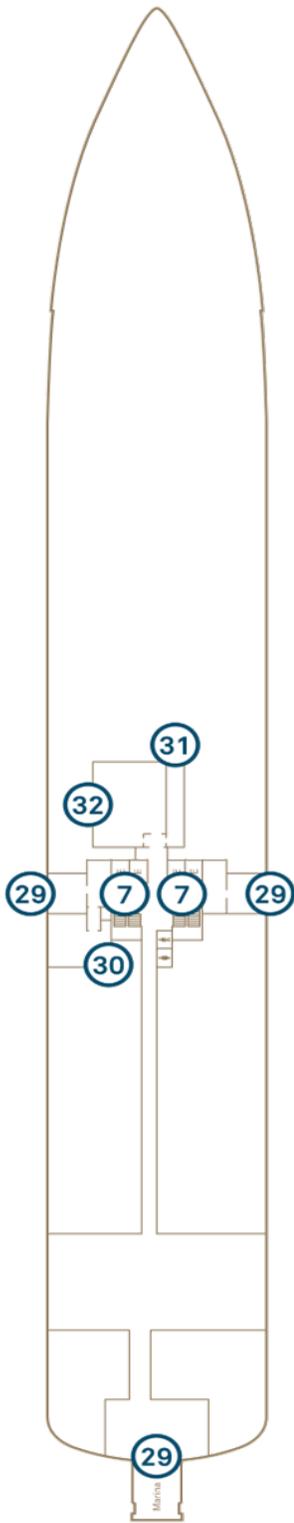
Electric Mooring Winch 60K3 (1x Warping head + 1x Split mooring drum + 1x Chain lifter)  
Electric Mooring Winch 150 K

### ELEVATORS

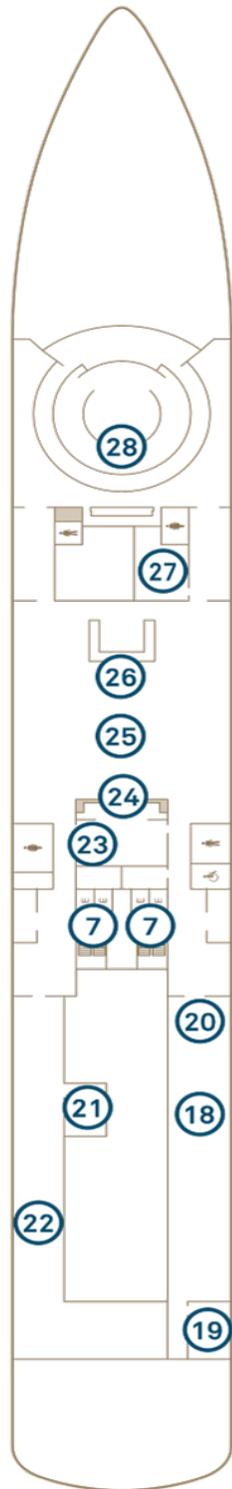
Passenger Elevators  
Number: 4  
Speed: m/s 1,6  
Capacity: persons 10  
Capacity: kg 750  
Manufacturer: KONE

### Service Elevators

Number: 3  
Speed: m/s 1,6  
Capacity: persons 10  
Capacity: kg 1,000



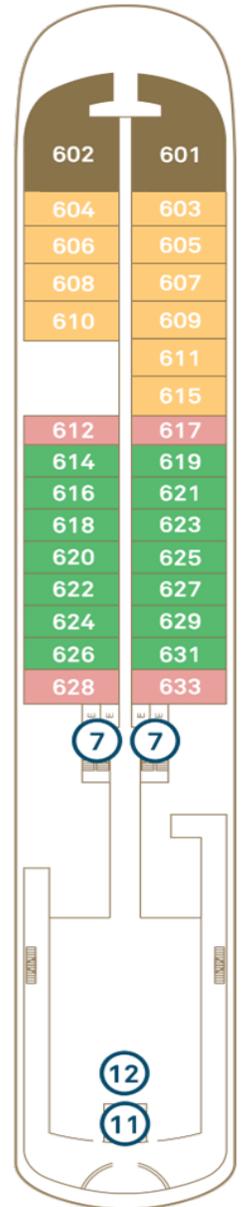
Deck 03



Deck 04



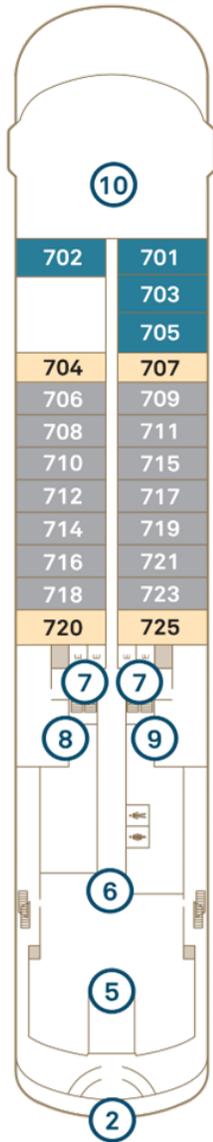
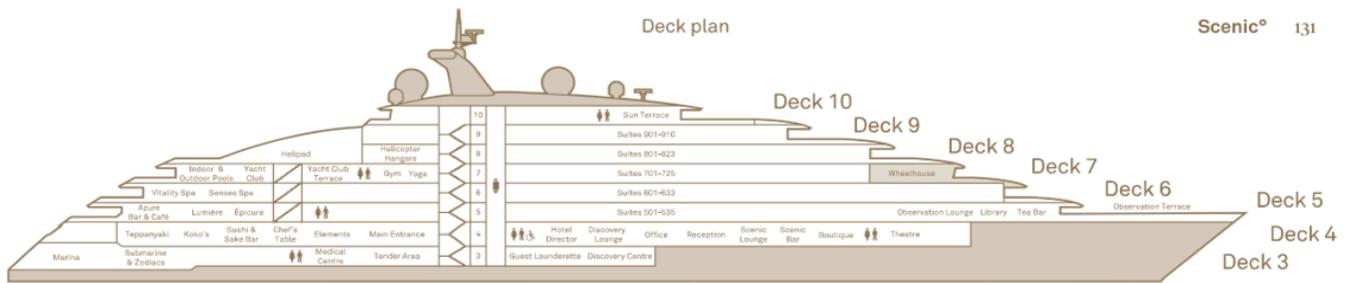
Deck 05



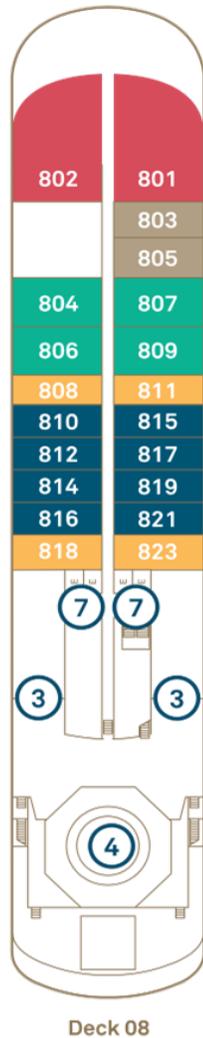
Deck 06

Deck Plan

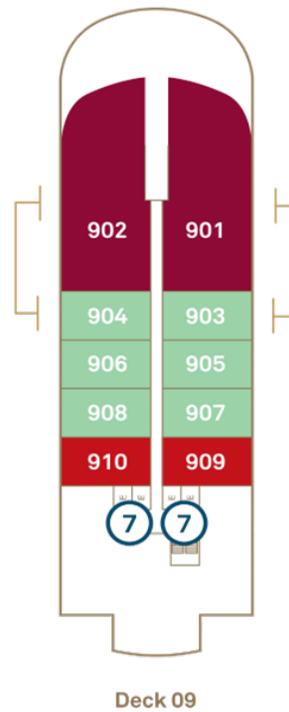
- ① Sun Terrace
- ② Vitality Pools
- ③ Helicopter hangars
- ④ Helipad
- ⑧ Yoga & Pilates room
- ⑨ Gym & fitness area
- ⑩ Wheelhouse
- ⑪ Spa plunge pools
- ⑬ Scenic Épicure
- ⑭ Observation Lounge & Library
- ⑮ Observation Terrace
- ⑯ Koko's
- ⑰ Elements
- ⑱ Discovery Lounge
- ⑲ Reception
- ⑳ Scenic Lounge
- ⑳ Marina entrances
- ⑳ Medical centre
- ㉑ Self-service guest laundry
- ㉒ Discovery Centre



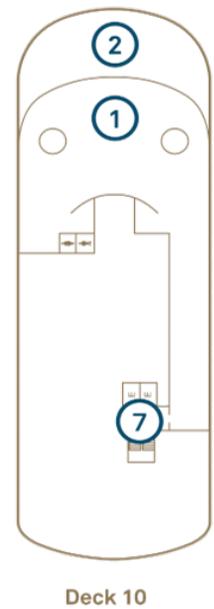
Deck 07



Deck 08



Deck 09



Deck 10

## Scenic Eclipse

Built 2018 | Passengers 200/228 | Suites 114 | Crew 192/176 | Length 168 metres | Gross Tonnage 17,085 | Speed 17 knots

### Suite Categories

Deck 5		Deck 6		Deck 7		Deck 8		Deck 9						
DD	Grand Deluxe Verandah	40m <sup>2</sup>	GP	Grand Panorama	115m <sup>2</sup>	BD	Grand Deluxe Verandah	40m <sup>2</sup>	P	Panorama	110m <sup>2</sup>	OT	Two-bedroom Penthouse	247m <sup>2</sup>
DB	Deluxe Verandah	34m <sup>2</sup>	CD	Grand Deluxe Verandah	40m <sup>2</sup>	BA	Deluxe Verandah	34m <sup>2</sup>	S	Spa	52m <sup>2</sup>	OP	Owner's Penthouse	195m <sup>2</sup>
DA	Deluxe Verandah	34m <sup>2</sup>	CA	Deluxe Verandah	34m <sup>2</sup>	B	Verandah	32m <sup>2</sup>	AD	Grand Deluxe Verandah	40m <sup>2</sup>	SB	Spa Suite	52m <sup>2</sup>
D	Verandah	32m <sup>2</sup>	C	Verandah	32m <sup>2</sup>				AA	Deluxe Verandah	34m <sup>2</sup>	SA	Spa Suite	50m <sup>2</sup>

## Appendix B AECO Visits to Remote Communities – Pond Inlet

For details on the AECO Visits to Remote Communities Guidelines please visit:

<https://www.aeco.no/guidelines/community-guidelines/community-specific-guidelines/>

<https://www.aeco.no/guidelines/community-guidelines/pondinlet/>

## Appendix C AECO Arctic Cultural Remains Guidelines

For details on the AECO Cultural Remains Guidelines please visit:

<https://www.aeco.no/guidelines/cultural-remains-guidelines/>

## Appendix D AECO Birds in the Arctic

For details on the AECO Birds in the Arctic Guidelines please visit:

<https://www.aeco.no/guidelines/birds/>

## Appendix E AECO Cetaceans

For details on the AECO Cetaceans Guidelines please visit:

<https://www.aeco.no/guidelines/cetaceans/>

## Appendix F AECO Polar Bears

For details on the AECO Polar Bear Guidelines please visit:

<https://www.aeco.no/guidelines/polarbear/>

## Appendix G AECO Seals

For details on AECO Seal Guidelines please visit:

<https://www.aeco.no/guidelines/seals/>

## Appendix H AECO Walrus

For details on AECO Walrus Guidelines please visit:

<https://www.aeco.no/guidelines/walrus-2-2/>

## Appendix I Summary of Kayak Standard Operating Procedures

### Safety

At all times safety will take priority.

A safety kit will be located in the safety zodiac and will consist of enough equipment to deal with both first aid emergencies and being stranded off the ship for an extended period time.

The kit will include:

1 tarp – 8'x10'	2 L drinking water
1 flashlight	1 first aid kit
5 emergency blankets	weatherproof matches
1 compass, 1 whistles	1 roll of duct tape
SOLAS rations	emergency candles
1 sleeping bag	extra hat and gloves
multi-tool	large bag of hand and feet warmers

### Spare Equipment

Kayak guides will carry spare paddles, bailing pumps, and throw bag.

### Rescue Equipment

Each kayak guide will be equipped with VHF Radio, GPS, watch, rescue knife, rescue towing harness and a first aid kit.

### Guidelines

At all times kayak guides will be responsible to adhering to AECO's wildlife watching, site, and ice guidelines. It is the responsibility of the guides to keep the kayak group together. No kayak should stray out of eyesight or voice command at any time.

Due to safety considerations, all participants wishing to participate in the kayaking program must speak conversational English and be able to swim 25 m unaided, and be physically able to maneuver themselves and the kayaks.. All briefings, recaps, bulletin notices and instructions will be given in English so it is imperative all individuals can understand.

The kayak guides will cover the basics of getting in and out of the kayak as well as wet exits in their on board briefing, prior to the activity commencing. During the initial briefing it will be made clear that the program is not designed as an instructional program and the polar areas are NOT the place for beginners to learn kayaking.

In order to participate in the kayak program, The minimum participation age is 12 years old, but It is recommended that guests under the age of 14 only be permitted to kayak if the lead kayak guide

determines that their ability level is appropriate and that safety gear with the correct fit is available. Anyone under the age of 18 must have an adult to accompany them.

### **Wind**

No kayak excursion will start if the winds are sustained for five minutes or more at 15kn in the anticipated paddling location. If winds reach 15 kn sustained or more the guides will call off paddling excursion and return to the ship.

### **Icebergs**

Paddling group will stay at least 2 times the height of the iceberg away, more if it looks unstable or has pieces that could break off. If there is a need to move amongst smaller icebergs, the guides in consultation with each other, will pick the safest and quickest route through. At no time should a paddling group be paddling over an ice tongue.

### **Glacial faces (ice walls)**

Paddling group will stay at least 300 meters away from any glacial faces (ice walls), more if it looks unstable. Guides will thoroughly brief all paddlers on the dangers of glacial faces calving's and it producing a large swell.

### **Timelines**

Kayak excursions will last from 1 hour to 4 hours in duration, taking into account paddlers well-being. The kayak excursion will only be conducted during daylight and/or in good visibility. The kayak guides will determine the length of each excursion and cancel should conditions change.

### **Wildlife**

All wildlife encounters during kayak excursions will follow AECO Guidelines. When in the vicinity of whales or seals guides will take extra precautions. If the animals are exhibiting any aggressive behavior, guides will call off the kayaking excursion.

In the Arctic immediate action to get all paddlers out of the water if a Polar Bear is seen in the water or Walrus become curious of the kayaks.

### **Equipment checks**

Prior to each paddle, the kayak guides will check each paddler's equipment, and paddlers will be asked to carry out a safety check to ensure that all equipment they use is in good condition and that they understand its use. Paddlers must confirm to the kayak guides that they have checked their equipment properly and that it is in good condition.

### **Kayaker Participation**

Kayak guides and/or the Discovery Leader have the right to refuse participation if they feel a kayaker is unsuited for the kayaking program. Kayakers are required to attend all kayak briefings aboard ship with the kayak guides before being allowed in the kayaks. During the briefing, expectations and kayaking protocols will be discussed, reinforcing the pre-departure guidelines provided, as well as going over issues such as safety, how to minimize risk, recommended dress, as well as behavior around wildlife.

## **Group Size**

Maximum group size of any kayak excursion we will be 16 kayakers. • A guide-to-paddler ratio will be, 2 guides for 16 kayakers or 1 guide for 8 kayakers. Trained kayak zodiac safety driver will always accompany kayak excursion There will always be two guides regardless of the minimal size of the group in the Arctic.

## **Kayak safety zodiac driver**

A safety Zodiac, manned with a kayak trained driver, will be in the close vicinity to the paddlers at all times to assist if necessary. The kayak safety zodiac driver will have advanced training in all aspects of the program,,including weather observation, risk management, program delivery, rescues, driving skills and group management.

The kayak safety zodiac driver will be in constant radio contact with the kayak guides, Expedition Leader and the ship. If appropriate, the driver will run a 2-radio system, with one radio always on the same channel as both the ship and expedition team and a second radio working on a separate channel with only the kayak guides.

The safety zodiac driver will also assist the guides in determining and maintaining the area of operation, as well as monitoring behavior and ensuring compliance with established protocols. In conjunction with the Discovery Leader, the kayak guides will determine the safest location to offer kayak excursions, based on temperature, wind, ice conditions (which include brash ice, icebergs and glacial faces) and the proximity to wildlife..

## Appendix J Summary of Zodiac Standard Operating Procedures

### Pre-operation checklist

Upon taking command of a Zodiac the driver is to complete a pre-operation checklist, ensuring the proper operation of all the ship's equipment, systems and safety features.

The following will be onboard each Zodiac prior to departure:

Anchor, chain & rope in bag	Paddles (x2)
Boat Hook	Fire extinguisher
First aid kit	Full fuel tank
Full spare fuel tank	Pump/Bailer
Emergency Gear in yellow Container	Throw Bag
Radio	Water cooling pin
Knife	1 Kill Cord and 1 spare kill chord
Functioning AIS system	GPS & Compass

In addition, an excursion kit will be carried during every zodiac excursion to shore. It will be taken ashore before the first guest and remain ashore until the last guest returns to the ship. This kit is designed to provide the basics for survival for 12 days away from the ship.

Operating procedures exist for embarkation, landings, cruising and debarkation, and radio operations.

Contingency planning is in place for a Man Overboard (MOB) situation, natural hazards and wildlife.

### Guest Participation

All guests are required to attend a safety briefing before zodiacs are launched. Prior to the first landing the Discovery Leader will instruct guests on the rules and guidelines for zodiac operations, highlighting guest safety aspects as well as acceptable behaviour.

### Training

To ensure Zodiac drivers meet a basic minimum standard and onboard training program is available. Drivers will have to demonstrate proficiency in all of the following areas in order to be considered

Emergency Procedures	Driver Zodiac Briefings
Golden Rules and Reminders	Safety Kits and Equipment
Equipment Checks	Driver's Responsibilities
Landing Operations	Heavy Ice Conditions
Inclement Weather Conditions	

## Appendix K Summary of Standard Operating Procedures relating to wildlife encounters and deterrents

### Training

All guides and polar bear guards will be experienced in the safe handling of firearms, have good shooting skills, and have knowledge about polar bear behavior. At least one guide ashore will have considerable experience, preferably from hunting or active shooting.

### Storage and Maintenance

All firearms will be stored in the ships' weapon locker. The bolt will not be stored at the same place as the rifle. Ammunition will be locked in. The "owner" has the responsibility of maintaining and cleaning their rifle. The oil used to clean the gun will be suitable to low temperatures.

### General Polar Bear Safety

Scanning of the landing site and anticipated area for the walks as well as the coastline and nearby islands should be carried out with both binoculars and spotting telescopes during the approach and anchoring of the ship. It should be kept in mind that the ship itself is a significant source of odors, which can attract wildlife from a considerable distance. During the operation lookouts from the ship's bridge should pay special attention to the downwind areas of the shoreline.

Once the landing area and immediate coastline are deemed free of bears, a scouting boat should be lowered to examine the area. The scouting boat will maintain patrols for the duration of the off-ship activities. Both the driver and the other staff member will carry firearms, one of which will be loaded in the Zodiac upon leaving the ship. At the landing site, if there is not a clear view around the area, loud noises should be used prior to the staff disembarking with a firearm. Once on shore, the landing site scout should verify that the area is clear of bears. Whenever possible, a crew member will be posted on high ground to observe as much of the operational area as possible. After these procedures have been completed the ship will be notified that the area is clear and operations can begin.

### Polar Bears

#### Landings

Prior to arrival at the landing site, staff should be briefed on the intended routes for the walking groups. Every staff member ashore must be armed with either a rifle or flare pistol, an appropriate number of rounds for the firearm, and must carry a working radio.

Periodically, during the landing, the location of each group (direction and distance from the landing site) should be given by each leader.

Guests will be kept closely grouped and groups will be adequately spaced using time gapped departures from the ship. In groups where a naturalist may be engaged in presenting local flora and objects of interest to the group, a bear sentinel will be present. Constant vigilance will be maintained by the bridge, shore staff and patrolling Zodiac drivers for the duration of the activities on shore.

No shore excursions will be initiated in foggy conditions. Additional caution will be exercised if concentrations of walrus' are observed as bears may be drawn to these areas. If gulls or other

scavengers are observed, which might signal the presence of a bear kill and the possible presence of a bear either actively feeding or sleeping nearby. Polar Bears should never be approached on foot. When sighted, personnel should retreat immediately.

### **Zodiac Cruises**

The driver of the Zodiac must exercise vigilance particularly in ice filled water, often encountered along glacier fronts. Drivers will remain in open water around concentrations of ice, being particularly cautious when seals are hauled out on floating ice. In these situations the ship will remain moving at all times. Zodiacs will not approach or pursue a bear in the water. A reasonable distance from bears, 50 meters if possible, will be maintained and zodiacs will not block their access to land or to the ice.

Bears who are feeding or who have made a kill will never be approached. Drivers will be aware that if they are near a bear feeding on a kill other bears could be in the immediate vicinity. Bears lying near the water's edge or on low cliffs overlooking the water should also be given a wide berth. If the bear shows any sign of leaving the shore, the zodiacs will leave the area immediately.

### **Kayak Excursions**

A safety boat will accompany all kayak excursions and will always carry a loaded set of weapons. Guests will be given clear instructions about staying well away from the shoreline. They will also be instructed to raise their paddles if they sight a Polar Bear. The kayak safety boat will be on constant patrol or near at hand. Should a bear be sighted all boats and the bridge are to be informed of its location. The closest Zodiac to the bear should then slowly move the bear away from the kayaks by following it at about 100 meters distance while the other Zodiacs round-up the kayaks and move them out of the area where the Polar Bear is swimming.

### **Walrus**

#### **Landings**

Walrus (Aiviq) are found on traditional hauling-out sites (Ugli) from late July to late August. Prior to approaching the area will be carefully scouted of the area and constant vigilance will be maintained during the viewing by several armed staff members. If any of the animals in the huddle begin moving towards the water as a zodiac approaches, the boat will retreat immediately. Approaches on foot to such concentrations will not come directly from the water's edge. Groups will land at least 300 meters downwind from the uglit if coming to land in Zodiacs. If Walrus begin moving towards the water group will cease viewing and slowly retreat.

### **Zodiac Cruises**

Swimming walrus will be approached very slowly and boats will remain outside of their main concentrations. The engine will be kept running and boats moving very slowly at all times when observing.

Approaching a haul-out from the water in Zodiacs has a greater potential of disturbing them than walking to them from the land. In these cases, if the land approach was not feasible, the 100m standoff distance should be respected by the Zodiac drivers.

## **Kayaks**

Kayak operations will not be started anywhere near a walrus haul out site as there are usually satellite animals in the water. Kayakers will be advised not to approach a walrus suddenly seen in the water.

## **Responding to a Bear Sighting**

If a bear is sighted during off-ship operations all groups, as well as the bridge, will be notified immediately including the position and location of the bear and the group closest to the bear. A reaction assessment will be made either by the Discovery Leader or the leader of the group running the landing, including instructions for other groups.

## **Distant Bears**

Distant Bears are considered those that are 500 meters or further away, which are either stationary or moving in a direction which will not take them closer to any shore party, Zodiac or kayak.

Guides will keep the bear(s) in sight until they have ascertained that it will either remain in place or is moving away so as not to pose any threat to the operations. Periodic reports will be given to inform others. At this time no deterrent action may be warranted. Crew will maintain a bear watch.

## **Medium distance and approaching bears**

These are bears that are within 500 meters and are either stationary or moving away from all shore parties because they have detected the presence of the group.

Guides will ascertain whether the bear(s) has detected the group and what its intentions may be, then inform all parties. If the bear remains stationary or is moving away, guides will keep it in sight and withdraw their group. Groups will attempt to avoid moving upwind of the bear to prevent it from detecting their presence. If the bear has detected the group or is moving in the direction of the group, and closes to within 300 meters guides will instruct guests to continue to retreat in an orderly manner while keeping the bear in sight. The armed naturalists will keep close to their group, positioning themselves between the group and the bear, if possible, otherwise be at the lead. Guides will prepare a signal pistol for use. If the bear continues to follow the group, particularly if it has fully scented and identified the group and is moving in a directed manner, deterrents will be used once it is inside of 300 meters.

## **Use of deterrents**

Weapons permits for all firearms will be obtained from the RCMP and kept onboard the ship.

Unless specifically noted community visits do not require guides to be armed. Weapons will be unloaded during landing and carried empty inside a case while guides are in communities. When the group leaves the inhabited area weapons will be reloaded and carried in the usual manner.

Guides will pick a position and instruct their group to remain together approximately 100 meters behind the guide.

Flare rounds will always be the first level of ammunition deterrent. Firearms loaded with report cartridges (explosives) are used as the next option to deter a bear's approach. Guides will be instructed

to make aggressive gestures (waving with hands above head) and loud noises prior to and during the firing of the signal pistol. Guides will shoot several rounds of deterrent cartridges if necessary.

### **Responding to a Bear Attack**

If a bear continues to approach after deterrent rounds have been fired guides will prepare their rifle for shooting.

If a bear approaches within 50 to 75 meters and appears determined to continue toward the group guides will prepare to shoot, with the intention of killing the bear, and will continue to shoot until the bear is immobile. Once the bear has been immobilized, guides will continue to withdraw the group to the landing site. Once all guests are safe, either at the landing site or in boats, guides will assess whether to approach the bear that has been shot in order to ensure that the bear has been killed. If the bear is approached it will be done with extreme caution and close approach will only be made once it has been verified that the bear is dead.

Guides will wait for the arrival of other armed personnel before processing the bear and documenting the incident. A GPS reading will be taken to document the precise location. The length of the bear and any pre-existing injuries on its exposed side will be documented, as well as the presence of ear tags or other markings.

All weapons will be equipped with swivel sling attachments and weapon slings and are to be transported in water resistant gun bags aboard the ship and during their time in the Zodiacs. Each Zodiac will be equipped with one gun rack capable of holding one bagged weapon. A weapon in the rack will be used during Zodiac patrols, Zodiac cruises and during kayak operations. Cleaning kits for weapons, along with a supply of solvents, lubricants and a basic tool kit will be kept available in the gun cabinet

## Appendix L AECO Biosecurity Guidelines

For details on AECO Biosecurity Guidelines please visit:

<https://www.aeco.no/guidelines/biosecurity-guidelines/>

## Appendix M Submersible Operating Procedures and Information

Scenic Cruises will be deploying a manned submersible, the U-Boat Worx Cruise Sub 7-300, for tourist use during the Antarctic season. Crew of the *Scenic Eclipse*, trained and supported by the submersible manufacturer U-Boat Worx, will be managing and overseeing the operation.

A Submarine Operations Handbook has been prepared specifically for the *Scenic Eclipse*, as a complement to the procedures described in the U-Boat Worx Operational Manual (written according to the IMCA 'Code of Practice for the Operation of Manned Submersible Craft'). The main purpose of these documents is to provide members of the Submarine Operating Team with a clear understanding of the proper and safe operating procedures.

The following is the submersible manufacturer, U-Boat Worx, and Eclipse's Senior Submarine Operations Officer contact information: U-Boat Worx B.V.

Oosterhoutseweg 77

4816KC Breda

The Netherlands

Tel.: +31 (0)76-5713096

Web: [www.uboatworx.com](http://www.uboatworx.com)

Email: [info@uboatworx.com](mailto:info@uboatworx.com)

### **TRAINING AND QUALIFICATION OF SUBMARINE OPERATING TEAM**

Safe and efficient submersible operations are dependent on personnel having adequate training, knowledge and experience to carry out their tasks in a competent manner.

At least one Submersible Pilot and Surface Officer are required for a dive operation, and are to be in the possession of a valid U-Boat Worx Certificate of Competence which is issued under the provisions of chapter 3 of the Guidelines for the Design, Construction and Operation of Passenger Submersible Craft (MSC/Circ. 981).

The Submersible Pilot and Surface Officer will also be trained as ROV Operators by the ROV manufacturer, Ocean Robotics, or certified instructors. This training includes both theory and maintenance sessions, as well as practical training where the ROV Operator will practice locating a distressed submersible underwater, cutting entanglements and attaching a recovery hook/line.

### **SUBMARINE EXCURSION**

#### **Itinerary Planning**

Prior to a dive, the Captain, Expedition Leader and Submarine Operations Officer will identify dive locations for this activity, considering the water depth and general bathymetry (the bottom area topography), known obstacles or hazards in the area of operation, presence or absence of ASPA or ASMA's and their specific requirements, environmental conditions which can be expected and whether any special (safety) requirements can be identified.

## **Briefings**

Guests shall be briefed by the Expedition Leader and Submarine Operations Officer at earliest opportunity about the submarine excursion(s), the proposed schedule, need for flexibility due to weather/ wind/ sea and ice conditions, safety and operational/ clothing requirements and sign up procedures.

On the day of a scheduled submarine excursion, the Submarine Operating Team will come together for a pre-dive briefing and decide on proceeding with the pre-dive preparations or cancelling the operation. Canceling the activity would be due to an assessment of current or expected weather, sea state, wind speed, ice conditions or mechanical issues at the dive site. The same analysis will be done for the Zodiac operation.

## **Dive Operations**

After the pre-dive preparations have been concluded and the *Scenic Eclipse* is in position, the submersible can be launched into the water and proceed to the dive location on her own power accompanied by the Chase Boat, or being towed by the Chase Boat. The Surface Officer, together with the Chase Boat driver, will stay with the submersible at all times, to communicate with the Submersible Pilot and to track the submersible underwater. The Chase Boat is a customized Narwhal Heavy Duty 620 rigid-hulled inflatable boat with Yamaha F150DETL outboard engine.

A Mark V Zodiac will be used to transfer passengers from the *Scenic Eclipse* to the submersible (at the dive site) and back. Before boarding the zodiac, all guests taking part in the submarine excursion must attend the Passenger Safety Briefing. After boarding the submersible, the Pilot shall ensure that all guests are properly briefed on safety and emergency procedures.

A submarine excursion will range in duration from 20 – 60 minutes (time spent underwater), and typically four excursions will be planned for a 4-hour time period. For the duration of the dive operation, the Submersible Pilot will be able to communicate with the Chase Boat and the *Scenic Eclipse* via a voice VHF on the surface, and with the Chase Boat via an (acoustic) underwater communications system while submerged. A tracking system (USBL) allows the Chase Boat to track the submersible underwater, and the submersible will have information about its location relative to the Chase Boat.

Throughout the dive operation weather and environmental conditions, ice movement, as well as surface traffic will be monitored by bridge officers, all crew involved in operation and all expedition staff in the field. A dive may be aborted if conditions so dictate. At any time, the Surface Officer can request the Submersible Pilot to surface if it shows that there is dramatic change in the weather.

At the end of a dive operation, the submersible will return to the *Scenic Eclipse* for recovery, post-dive checks and to be thoroughly rinsed with fresh water.

## **SAFETY**

The Emergency & Abnormal Procedures, which are part of the emergency plan, are the leading procedures when dealing with an emergency. The procedures provide guidance for the Submersible Pilot and the Surface Officer, so that they are capable of dealing with any emergency when it arises. The following situations are described:

- Fire
- Water ingress
- Gas leak
- Entanglement
- Loss of electrical power
- Loss of a key system
- The methods, sequence and result of jettisoning the drop weight
- Establishing stability on the surface
- Loss of surface communications
- Loss of underwater communications
- Sickness or injury to the submersible crew
- Tow and recovery under abnormal conditions
- Surface exiting and abandoning procedures

As part of the emergency plan, an Emergency Contact List is prepared for each submersible operation and lists all the relevant and appropriate external bodies that may need to be contacted during an emergency and which are located within range of the dive location.

Recovery equipment and capabilities onboard the *Scenic Eclipse* are sufficient to recover the submersible from its maximum diving depth of 300 meters or from hazardous situations like entanglement at depth or flooding. This includes towing equipment, hoisting equipment and recovery equipment plus an Ocean Robotics Aegir 50-4D ROV, capable of attaching an emergency recovery line and retrieving hook, as well as freeing the submersible from possible entanglements.

The 500m rated vehicle is equipped with 6 thrusters, HD-SDI 1080p main camera on a tilt platform, SD low light secondary camera, SD color wide angle rear camera, 4 x 3500lm dimmable LEDs, 500m fiber tether for communication with topside, USBL transponder, sonar and location strobe.



The Safety Buoy is characteristic for U-Boat Worx submersibles. When released, it marks the position of the submersible on the surface. The Dyneema rope attached measures 1.5 x the operating depth of the submersible, and is strong enough to lift it to the surface.



Freeboard is the height between the hatch and the waterline. The freeboard extender is a sliding barrier that increases the distance between the water and the hatch opening. It simultaneously allows for the submersible to be operated in rough conditions and be stored in low-height garage spaces.

## KEY SPECIFICATIONS AND FEATURES

### DEPTH

max. 300 meters

### OCCUPANTS

1 pilot

6 passengers

### BATTERY

62 kWh

### SPEED

max. 1,9 knots

### WEIGHT

9,500 kg

### PAYLOAD

750 kg

### LENGTH

450 cm

### WIDTH

317 cm

### HEIGHT

231 cm

### GENERAL CHARACTERISTICS

Designer / Manufacturer	U-Boat Worx B.V.
Model	Cruise Sub 7-300
Type	Dry, 1 Atmosphere
Classification Society	DNV GL
Hatch Type	Top hatch with freeboard extender
Pressure Hull	Steel mid-section with large access hatch and two acrylic hyper-hemispherical viewports. One side-window in steel cylinder part.

### SAFETY SYSTEMS

Fire Extinguisher System	Yes	
Hydraulically Released Surface Buoy		Yes
Emergency Escape Hatch	Yes	
Maximum Depth Protection	Yes	
Hydraulically Released Weight	Yes	
Oxygen Self Rescuer	7 + 1	

### LIFE SUPPORT SYSTEMS

Life Support Monitoring Systems	2, independent
Oxygen System	Continuous Flow
Mission Oxygen Capacity	2 x 3 liter (Quick Exchange)
Carbon Dioxide Removal	Scrubber - total capacity of 51 man-hours
Emergency Oxygen Capacity	2 x 50 liter @ min. 175 bar
Survival Period	96 hours - 672 man-hours
Emergency CO <sub>2</sub> Removal	Lithium Hydroxide Blankets

### **DIVING, BUOYANCY & TRIM SYSTEMS**

Number of Diving Tanks	4
Compressed Air Capacity	4 x 50 liter @ 200 bar
Buoyancy Tank System	Yes

### **POWER CAPACITY**

Battery Type	Pressure-tolerant High Capacity Lithium Polymer
Total Power Capacity	62 kWh
Propulsion System Capacity	2 x 260 VDC Packs - total of 52 kWh
House System Capacity	2 x 24 VDC Packs - total of 10 kWh
Charging (Optimal Cycle)	6 hours nominal
Emergency Battery System	96 hours for Critical Systems

### **PROPULSION & CONTROL**

Propulsion Type	Electrical Brushless DC thrusters
Propulsion Horizontal Vectored	4 x 6.5 kW
Propulsion Vertical	2 x 5.0 kW
Control Device	MANTA Handheld Control Unit with integrated auto-depth and auto-heading
Wireless Remote Controls	MARLIN Controller allowing surface operation of submersible

### **NAVIGATION & COMMUNICATION**

Acoustic Underwater Communication	Yes – dual transponder
Surface Communication	VHF
Altimeter	Yes
Electronic Compass	Yes
Navigation Camera's	2 x 180-degree camera's internal (Standard Def) 1 x 360-degree camera's external (Standard Def)

### **AUXILIARY**

Air Conditioner System	2 x Independent Closed Cycle
Bluetooth Stereo System	Yes
Internal Lighting	Yes
Analogue Depth Gauge	Yes
Bilge Pump System	Yes
Underwater LED Flood & Spot Lights	8 x High-Intensity FLOOD, 8 x SPOT
Imaging Sonar	Yes
Underwater Tracking & Navigation System	Yes
U-Boat Worx Information System	Alarm System, Battery Status, Thruster Status, Sensor Status, Internal Pressure, Depth, Electrical Insulation Monitoring, Water Ingress Sensors, Freon Sensor, Buoyancy Tank Level Indicator, Internal and External Temperature

## Appendix N Helicopter Operating Procedures and Information

### **Scenic Eclipse Helicopter Team**

Aviation Specialties Unlimited, Inc., is the management team contracted to operate and maintain the *Scenic Eclipse* helicopters.

Point of Contact:

Director of Operations

Aviation Specialties Unlimited, Inc. (ASU)

4632 W. Aeronca St.

Boise, Id. 83705

Office +1-208-426-8117

ASU organization is as follows: Names provided on request.

1. President (Operational Control)
2. Director of Flight Operations (Operational Control)
3. Chief Pilot (Operational Control)
4. Director of Maintenance (Operational Control)
5. Assistant Director of Maintenance (Operational Control)
6. Operations Specialist (Operational Control)
7. Lead Pilot
8. Lead Pilot/Director of Safety
9. Pilot in Command
10. Pilot in Command
11. Lead Engineer
12. Lead Engineer

### **Helicopter Specifications**

Scenic and ASU employ two Airbus H130 T2 helicopters from the deck of the vessel *Scenic Eclipse*.

Manufacturer: Airbus

Model: H130 T2

Aircraft 1: US Registration #: N168SE Serial #: 8438

Aircraft 2: US Registration #: N169SE Serial #: 8537

No. of Engines: 1 131

Engine Make and Model: SAFRAN ARRIEL 2 D

Certification: EASA Form 52 with Certificate of Conformity to

FAA Type Certificate Data Sheet H9EH

Additional: Each aircraft meets US Parks Service noise reduction standards.

### ***Scenic Eclipse* Standard Operating Procedures for Helicopters**

#### **Purpose and Scope**

Scenic plans to use helicopters on voyages to the Arctic on *Scenic Eclipse*. The helicopters will be used for passenger sightseeing and ice reconnaissance if needed.

Two helicopters are used for the operations. To ensure the highest possible safety standards and environmental stewardship, every member of *Scenic Eclipse* staff /crew involved in the helicopter operations will be trained in the Standard Operating Procedures listed the ASU Company Operations manual.

#### **Overall Responsibilities**

- The Director of Operations is ultimately responsible for helicopter operations.
- The Chief Pilot is responsible for safety of people and equipment associated with any helicopter flight.
- The Lead Pilot will be in charge of other company pilots and mechanics.
- The Expedition Leader is responsible for the safety and well-being of all people on land or ice.
- Operations will involve consultation between the Ship's Captain, Chief Pilot, Lead Pilot, and the Expedition Leader.

#### **Lead Pilot Responsibilities**

- Coordination aboard with the Expedition Leader or his Deputy.
- Safety and environmental for briefing all relevant personnel before flight operations. Individual pilots will conduct safety and environmental briefings for specific flights.

- Security and safety precautions in respect of the aircraft both at sea and on shore stations.
- Safely conducting flight operations in accordance with the provisions of the relevant aviation safety authority orders, regulations, and company operations manual.
- Ensure that the weight and balance is within limitations.
- Ensure that the designated flight following personnel are trained and competent in air-ground communications, flight following and search and rescue procedures.
- Calculations of fuel requirements.
- Submit a report to the Chief Pilot at the conclusion of the flight if any abnormalities occur during the flight.

*Note: The Lead Pilot shall ensure that no flight takes place without the consent of the proper chain of command dictated in the company operations manual.*

### **Training and Certification**

The helicopter operator will ensure that the all certificated flight operations personnel have the required pilot certificate, currency requirements and valid medical certificates prior to commencement of any tour of duty. The operator will also ensure that the mechanics aboard the vessel have the required certificates to perform their duties.

Pilots and engineers are trained in Federal Aviation Authority (FAA) approved Arctic operations. All of the pilots have completed the FAA approved ASU arctic training program and have experience in arctic and glacier flight operations.

### **Helicopter Deck Crew**

For all helicopter operations, the captain will ensure that a trained safety team is available during all normal flight operations and ready for emergency situations. It is required that the Helicopter Deck Crew (HDC) post at the designated positions of the ship's helicopter landing area (HLA) during all helicopter operations. The HDC consists of a Helicopter Landing Officer (HLO) and Helicopter Deck Assistants (HDA) trained in normal and emergency procedures, including fire-fighting procedures.

### **General Flight Operations**

Scenic helicopter operations are designed to meet and exceed standards of environmental stewardship and general safety:

- Safety is the first priority of all operations. The final determination of the suitability of flight conditions is the responsibility of the pilot-in-command.
- The pilot-in-command is responsible for a clear and detailed passenger briefing about helicopter operations. This briefing is compulsory and must be completed before the start of any helicopter operation. Environmental concerns are integral to the passenger briefs.

- Helicopter operations shall be conducted in a manner to minimize the impact on environmentally sensitive areas, wildlife, no-fly areas, and vulnerable fauna.

### **Operational and Safety Measures**

Pilots will follow specific controls, set out in any relevant management plans, and follow preferred flight paths.

The helicopter will operate under positive control from the vessel (which means radio and Automatic Identification System (AIS) coverage when possible). The AIS will be used to track the helicopter tracks. Aircraft are also equipped with satellite navigation and tracking systems to provide additional locating capabilities.

Survival equipment shall be made available, and all *Scenic Eclipse* staff shall be familiar with the equipment and their roles in an emergency.

Expedition staff/officers and or crew members involved in landing operations will have a marine VHF handheld radio and at least one extra, fully charged battery. Staff will monitor pre-established communication frequencies. The helicopter landing party will have a VHF radio with either a back-up fully charged battery, and/or radio that allows them to communicate with the vessel and the helicopter pilots.

Before passenger landings commence, the shore-based helicopter landing team will be in place and radio communications will be established with them.

The Expedition Leader and staff will ensure emergency equipment is in good condition and placed at a designated point ashore. All equipment will be returned to the vessel and put back into designated storage areas after each landing. Guests will be advised that this equipment will be ashore.

### **Weather**

Up to date weather forecasts shall be provided for all flights. The ship shall monitor weather conditions while aircraft are away on task and will update aircraft if conditions are forecast to deteriorate. If white out conditions exist, or are forecast in unrelieved snow areas, flying operations in those areas shall be cancelled immediately. The pilot will maintain communication with the Captain, Staff Captain or assigned Bridge Officer and Expedition Leader and the weather forecaster to ensure that a minimum warning of four hours is obtained in respect of bad weather warning, or the ship leaving pack ice for the open sea.

For flights in conditions of reduced visibility and in areas of indeterminable horizon and "dome", a low safe altitude shall be calculated with a margin of 2,000 feet above the highest obstructions.

### **Emergencies**

As per the ASU Aircraft Flight Manual. If a forced landing becomes necessary:

- Inflate emergency floats

- Aim to land preferably on, or at least near, the most suitable available ice mass
- Avoid dark colored ice (thin ice)
- Avoid Areas of ice close to islands or grounded icebergs (tidal cracks) if possible.
- Recovery of Persons from Downed Helicopter: *Warning: The Airbus H130 T2 is a single-engine helicopter. Hovering rescue operations will exceed the performance and safety envelope of the H130 helicopter and will not be attempted.*
- In the event of having to recover persons from the water following a water landing; the following is the recommended sequence of events, and is based on the fact that each person will be wearing an immersion suit and life jacket, and have an expected active period in the water of 40 to 60 minutes.
- The operational aircraft is to make immediate contact with the ship advising their GPS position and any relevant information that may assist in the rescue.
- The ship will deploy the rescue boat and standby crew. If the helicopter does an emergency landing on ice, operations described in the comprehensive manual on board will be followed.
- Maintain visual with the downed aircraft and maintain communications with the ship and the rescue zodiac.
- If the distance between the ship and the downed aircraft is such that a timely rescue utilizing the zodiacs would not be possible, then the ship's Captain may require the remaining aircraft to assist.
- The operational aircraft would be positioned into wind and slightly down wind of survivors at 20-30' above the surface. The passenger or pilot can then open the pilot's door and deploy the (emergency only) wire rope ladder, ensuring it falls between the fuselage and the skid. The aircraft is then maneuvered down and forward so that the ladder is in the area of the survivors and its position can be monitored in the aircraft external mirror. Guests are briefed in the use of the rope ladder. The survivors are then lifted clear of the water (not more than 20' above the surface) and taxied to a suitable ice flow and lowered onto it. The wire rope ladder is released from the aircraft before landing and the guests loaded on board and transported back to the ship.

## Appendix O Remotely Operated Vehicle (ROV) Operations

Scenic will be deploying the Ocean Robotics Aegir 50-4D ROV for emergency purposes only, in support of the submersible operations, while in the Canadian Arctic.

The lightweight and portable vehicle, with the capability and versatility to perform intricate and demanding subsea tasks up to depths of 500 meters, will be used as a vehicle for submarine rescue, should it be necessary. Crew of the M/V *Scenic Eclipse*, trained and supported by the ROV manufacturer Ocean Robotics, will be managing and overseeing the operation.

All Submersible Pilots and Surface Officers from the manned submersible operation will also be trained as ROV Operators. As there will always be at least one Submersible Pilot and two Surface Officers onboard, and one Submersible Pilot plus one Surface Officer are required for a submersible dive operation – the other Surface Officer is available as ROV Operator in the unlikely event of an emergency.

Final authority as to whether or not the ROV operation takes place lies with the Captain of the vessel, taking into consideration environmental conditions and site-specific regulations that may forbid this activity.

### **ROV Operational Procedures**

The ROV's manipulator tools will only be used when needed for submersible rescue, and shall by no means be used to collect biological or other materials.

The ROV is normally powered and operated from *Scenic Eclipse*. However, during submarine rescue a diesel generator may be used as required to deploy the ROV from a Zodiac or the ship's rescue boat.

## Appendix P SOPEP (Shipboard Oil Pollution Emergency Plan) Manual

Relevant excerpts from the company's SOPEP (Shipboard Oil Pollution Emergency Plan) manual are included below. These detail procedures to mitigate damage in the event of an accidental discharge of oil during ship operations.

### INTRODUCTION

1. This plan is written in accordance with the requirements of Regulation 37 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as amended by Resolution MEPC. 117(52) adopted on 15 October 2004.
2. The purpose of the plan is to provide guidance to the master and officers onboard the ship with respect to the steps to be taken when a pollution incident has occurred or is likely to occur.
3. The Plan contains all information and operational instructions required by the Guidelines. The appendices contain names, telephone, telex numbers, etc. of all contacts referenced in the Plan, and other reference material.
4. The Plan has been approved by Bureau Veritas on behalf of The Flag Administration except as provided below; no alteration or revision shall be made to any part of it without the prior approval of Bureau Veritas.
5. Changes to Section 5 and the Appendices will not be required to be approved by Bureau Veritas. The appendices should be maintained up to date by the vessel's managers, owners and operators.
6. Routine drills conducted on board will not only ensure that the ship's staff are familiar with their duties but will assist in forming a proficient team to combat all pollution incidents in an efficient manner.
7. The plan will regularly be reviewed and updated. Revision other than those referred to in 5 above will be submitted to Bureau Veritas for approval. Revision will be the responsibility of the Manager and will be carried out at intervals not exceeding 12 months.
8. Following an incident in which the Plan has been activated there will be a thorough review of its effectiveness.

### SECTION 1: PREAMBLE

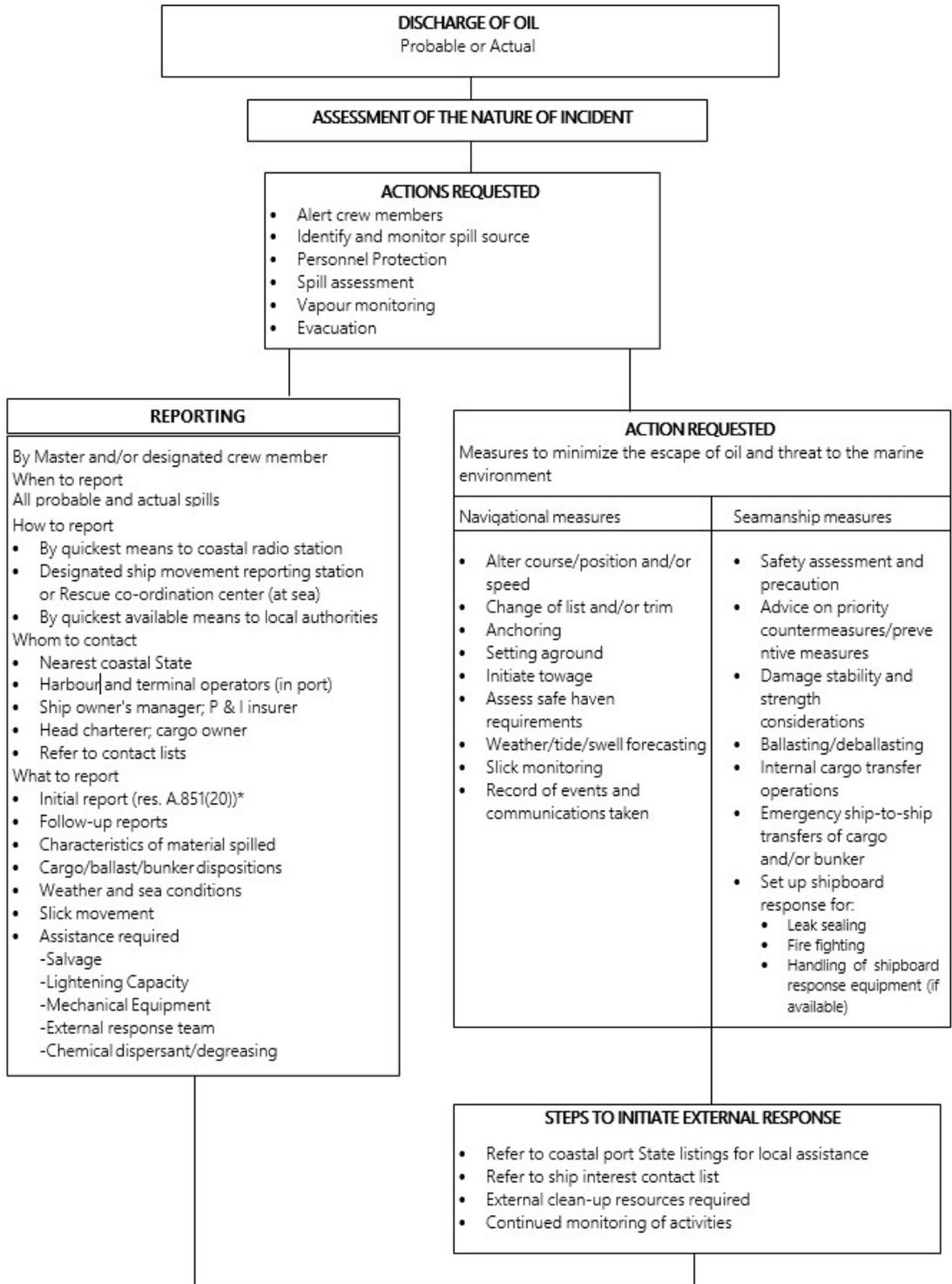
1. This Plan is to provide and assist personnel in dealing with an unexpected discharge of oil. Its primary purpose is to set in motion the necessary actions to stop or minimize the discharge

and to mitigate its effects. Effective planning ensures that the necessary actions are taken in structured, logical, timely manner and safe.

2. The Plan makes use of flow charts and checklists to guide the Master through the various actions and decisions, which will be required in an incident response. The charts and checklists provide a visible form of information, thus reducing the change of oversight or error during the early stages of dealing with an emergency situation.
3. The Master will be backed up on-scene by management appointed personnel as the circumstances and the position of the vessel at the time of the incident, require.
4. For any plan to be effective it has to be:
  - Realistic, practical, and easy to use;
  - Familiar to those with key functions on board the ship;
  - Evaluated reviewed and updated regularly; and
  - Tested for viability in regular practice
5. Training and exercises in implementation of the shipboard mitigation procedures and in the communications procedure must be held at regular intervals. Similarly, exercises in the communications procedure will be necessary to verify that the company's corporate plan is also effective.
6. Without interfering with ship-owners' liability, some Coastal States consider that it is their responsibility to define techniques and means to be taken against a marine pollution incident and approve such operations which might cause further pollution, i.e. lightering. States are in general entitled to do so under the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (the 1969 International Convention) and the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973 (the 1973 Intervention Protocol).

#### Summary flow chart

This flow diagram is an outline of the course of action that shipboard personnel should follow in responding to a pollution emergency based on the guidelines published by the Organization. This diagram is not exhaustive and should not be used as a sole reference in response. Consideration should be given for inclusion of specific references to the Plan. The steps are designed to assist ship personnel in actions to stop or minimize the discharge of oil and mitigate its effects. These steps fall into two main categories - reporting and action.



\* Refer to the General Principles for ship reporting system and ship reporting requirements, including Guidelines for Reporting incidents involving dangerous goods, Harmful substances and/or marine pollutants adopted by the Organization by Resolution A.851 (20), as been amended by Resolution MEPC.138(53) . For ease of reference, see IMO publication. Provisions concerning the Reporting of Incidents Involving

## **SECTION 3: STEPS TO CONTROL DISCHARGE**

### **3.1. Operational Actions**

The Master shall provide every assistance possible to control the situation, including the efforts of the Oil Pollution Prevention Team. He shall, if necessary, engage a Recovery Contractor to eliminate or reduce the consequences of the spill.

#### **Responsibility**

The Master is responsible for all operations. Notifies and informs involved instances regarding the incident, and keeps them updated at regular intervals. Requests assistance if necessary.

The Staff Captain is responsible for all deck operations and initiation of measures for control of oil spill.

The Chief Engineer is responsible for bunkering operations.

#### **General**

When an oil spill has occurred all bunkering operations shall be ceased without delay, and the Master shall inform the Terminal immediately. The Port Authorities shall be notified at the first opportunity.

Bunker operations shall not be resumed until hazards due to the released oil are eliminated, and the source of the oil spill is located and repaired. Prior to recommencing operations, the Staff Captain shall obtain a written approval from the Terminal.

#### **Action Plan**

Any member of the ships crew discovering oil spill shall without delay:

Raise the general alarm if a large oil spill, otherwise:

Inform the Duty Officer/Engineer

Initiate, if possible, measures to stop/reduce the flow.

#### **Duty Officer**

Stop all bunkering operations

Inform the Chief Engineer/Duty Engineer Immediately - Inform Master and Staff Captain

Mobilise crew members immediate clean-up operations

Prepare for fire-fighting

Assist the Staff Captain

#### **Duty Engineer**

Loading and topping of bunker tanks:

Assist the Chief Engineer with bunker operation.

Open up to empty or slack bunker tanks. Order bunkering operations ceased immediately.

Mobilise crew members for immediate clean up operations and prepare for fire fighting.

Provide sufficient air pressure to deck.

Sludge discharging.

Stop all pumps, using emergency stop.

Close of the manifolds

Inform Master, Chief Engineer/Officer

Mobilise crew members in order to prevent sludge from running over the ships sides.

### **Crew on Duty**

Inform the Duty Engineer/Officer immediately if an oil leakage is detected.

Initiate immediate actions to limit and clean up the spill.

Prepare for fire-fighting.

### **Staff Captain**

In charge of deck operations.

Initiate relevant Contingency Plan

Keep the Master informed and updated.

Start and operate the portable oil recovery pump.

Organise and initiate immediate clean-up operations using all accessible equipment, in order to prevent oil from escaping over the ship's sides.

Further in charge of organising the fire-fighting teams.

### **Chief Engineer**

In charge of engine (incl. Bunkering) operations - Keep the Master informed and updated.

Limiting the outflow by using pumps/valves or if possible isolating the afflicted tank(s).

Shall organise and distribute oil spill detergents.

### **Entry in the Log Book**

All details relevant to the incident shall be recorded in the log book.

Time, date and place (position).

What happened – collision – ground – hose rupture – overflow – fire – explosion etc.

Sustained damages

Casualties if any

When and what assistance were requested.

What actions were initiated onboard.

What actions were initiated from shore.

Which instances were informed regarding the incident - Wind, sea and current conditions.

Spread, course and drifting speed of the oil-slick.

Photographs of the spill and executed actions to be taken if possible

Crew functions to develop information – with or without shore assistance

The following structure, to be augmented as necessary by the Master, defines the function of the ship's crew in carrying out key tasks and developing essential information to develop an action plan information to develop an action plan with or without shore assistance.

### **Deck and Engine Officers/Crew**

Gather information on nature and extent of damage Gauge all tanks and compartments

Communicate all information to Staff Captain and Chief Engineer Provide constant updates regarding status and mitigation efforts Carry out any other tasks as assigned by Senior Officers

### **Staff Captain**

Based on information received, report and provide recommendations to Master on:

Stability and stress criteria for existing and future conditions

Status and condition of ballast and bunkers

Status, nature and extent of damage

Options to mitigate damage

Potential for pollution or other hazardous conditions

### **Chief Engineer**

Based on information received, report and provide recommendations to Master on:

Status and condition of all machinery spaces

Status, nature and extent of damage

Repairs options

Options to mitigate damage

Potential for aggravating damage or creating hazardous conditions ☐ Potential for pollution

### **Master**

Based on all information received, including shore advice:

Initiate immediate mitigation measures

Continually re-evaluate situation and options

- Maintain constant communications, both on board and with shore support. ☒ Information to External Sources

Only Master shall issue or relay information to external sources or the press.

Prior to issuing any written statement he should contact the head office. When issuing any written statement in connection with oil pollution, the Master will state facts only, submitting no information, personal opinion or judgement related to the question of guilt.

The Officers and Crew shall be clearly instructed not to give out any information without the Masters permission.