Coronavirus (COVID-19) Considerations for Making Decisions Regarding Conducting Science Onboard U.S. Academic Research Fleet Vessels

Executive Summary

This document provides guidance for Marine Superintendents and Chief Scientists during the COVID-19 pandemic. As the nation prepares to restart activities, it is important to develop a framework for assessing and managing risks specific to each mission. Safety of crew and science parties remains paramount and is thus the driving force for ensuring risks are as low as practical.. Marine Superintendents and Chief Scientists are charged with producing an overall risk assessment specific to each mission. This document outlines steps for producing an assessment and communicating its findings. UNOLS will update this document to reflect the best available guidance as the pandemic unfolds and testing, both antibody and viral, becomes more widely available.

References

1. George Washington Medical Faculty Associates (GW MFA) recommended list at:https://www.unols.org/news/ships-news/unols-update-coronavirus-covid-19-and-considerations-scientists-and-operators
2. International Chamber of Shipping (ICS) – Coronavirus (COVID-19) Guidance for Ship Operators for the Protection of the Health of Seafarers https://www.ics-shipping.org/docs/default-source/resources/coronavirus-(covid-19)-guidance-for-ship-operators-for-the-protection-of-the-health-of-seafarers.pdf?sfvrsn=6
3. 3. Centers for Disease Control (CDC) Maritime Recommendations https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html
4. CDC COVID-19 Travel Recommendations by Country https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notices.html
5. Discovery Health - COVID-19 ONBOARD PROCEDURES

Table of Contents

Change Log

Update 1 June 20

- Updated text regarding High Risk Individuals to reflect that High Risk individuals are *highly discouraged* from participating but if they choose to participate, it is recommended that they consult their physician to understand the risks involved.
- Updated the “Self Isolation” section text and incorporated it into a new section entitled “Self Isolation and Testing”. Also, removed text indicating that self-isolation is not required when IgG antibodies are present. Currently, antibody tests are not reliable enough and there is not enough research to understand whether antibodies create immunity.
- Inserted a section entitled “Personnel with Suspected or Confirmed COVID-19”
- Updated risk classification to clarify medium and high risk criteria
- Added “Appendix 1: Best Practices for Testing and Self-Isolation”, providing guidelines for employing a combination of testing and pre-cruise isolation to reduce risk.

Introduction

Safety of crew and science party members is paramount in determining whether at-sea science operations can recommence on research vessels of the U.S. Academic Research Fleet (ARF). Financial considerations are not the driving factors in making decisions related to restarting operations.

It is the intent of UNOLS and the Federal agencies to re-start seagoing oceanographic science operations as soon as they can be conducted with low risk to scientists and ship crews. This document provides guidance to ARF vessel operators and Chief Scientists for assessing and managing the risk to crew and science party safety in determining whether to proceed with science cruises.

Many factors must be taken into consideration as UNOLS ship operators and Chief Scientists work together to determine whether oceanographic science can resume on ARF vessels. The Marine Superintendent and the Chief Scientist have specific considerations and may have differing opinions as to whether a science cruise can be carried out safely. As always, **either has the authority to veto a cruise after careful consideration of all appropriate factors and assessing the risk** of unsuccessful completion of science and/or adverse impacts to the ship’s crew, the science party members, and the ships.

If a Chief Scientist and/or a Marine Superintendent makes the determination that the risks are unacceptable and a cruise should be postponed or canceled, they shall document the basis for that decision in writing and communicate it not only to each other but also to the UNOLS Office,

NSF Ship Operations, ONR (for Navy-owned research vessels and for ONR-funded science), NSF Science Program Manager (for NSF funded science), and other agencies/institutions that fund the affected science program. Further details of this process are provided below.

As of this date – the current anticipated pause in ARF science operations continues until 1 July 2020. However, where cruises are High Priority (Priority1) and the risk is Low (as discussed later in this document) the ship operator can communicate a plan for conducting science prior to 1 July with the UNOLS Office and the appropriate Federal agency to seek concurrence. Low-risk, priority 2 and 3 cruises will be considered as consistent with easing of regional restrictions on business activity. The 1 July 2020 goal of restarting science operations was established after careful consideration of the pandemic "curve" as of 6 April 2020 and the need to continue with social distancing for a sufficient period to enable "flattening" of the curve. UNOLS and the Federal agencies will continue to re-evaluate progress in the battle to contain and reduce the impacts of the virus outbreak as it pertains to the safe restart of oceanographic science operations. **This document will be updated as new developments arise that further inform decision making and risk assessment related to science operations.** Updates to the document will be communicated to the UNOLS community. It is anticipated that only cruises that start and finish at U.S. (or home) ports will be approved to proceed as science operations restart until the global pandemic is well under control and access to foreign ports can be assured.

Testing is one of the most important tools for assessing risk of infection to crew and science team. Availability and efficacy of testing for personnel sailing on ARF vessels, and the approaches for employing testing as one element of a multi-pronged approach for minimizing risk, are still evolving. This document includes guidelines for employing a combination of testing and pre-cruise isolation, based on information collected from medical professionals and their experiences working with other communities that share similar concerns.

Chief Scientists and Marine Superintendents shall take the following into consideration in determining whether risk is at an acceptable level for conducting a scheduled science cruise on an ARF vessel.

Pre-Cruise Planning - Cruise Risk Assessment

Cruise Logistical Considerations

- Is effective COVID-19 testing available and in place?
- What are the virus infection rates for the port of origin and any anticipated port(s) of call?
- Where on the "epidemic curve" are load and unload port(s) and the home of crew / science party? Is it now safe to work in that port? Have Shelter in Place orders been lifted? Can necessary crew and science party personnel safely travel to the port?
- What are current rules (federal, state, local) for sheltering in place, and/or essential services that may not permit oceanographic science operations? Have those rules been lifted for the port of origin for the cruise and the end-port?

- What are institutional requirements regarding personnel working onboard ships in light of the pandemic?
- What are the current U.S. Coast Guard (USCG) regulations regarding seagoing operations nationally or in that particular region?
- Domestic or foreign port? Are there potential access issues (both for air travel and for the vessel)?
- What is the distance from port? Is it possible to come into port nightly?
- What is the length of cruise?
- For longer duration deep water cruises more than a two-day steam from a US port – would a qualified medical person onboard (e.g. nurse, a physician's assistant, or a doctor) be helpful?
- Are there potential access issues for surrounding countries where the ship might need to transfer personnel ashore in the event of a medical emergency?
- Have Marine Scientific Research (MSR) clearances been obtained, and do they remain unchanged by the pandemic? The State Department has indicated that all new MSR requests will require 6 months processing, as a minimum, as a result of the virus outbreak.
- Can the cruise operate with fewer personnel to help lower the population density and increase the possibility of social distancing?
- How much travel is required by science and crew to reach the vessel? Air travel? How many different locations? Are personnel originating from or transiting through regions with significant rates of infection?
- Can Telepresence be used to reduce the number of required onboard participants? If so, what resources are necessary to increase bandwidth? What equipment?

Chief Scientist Considerations

Instrumentation and Equipment

- Can all aspects related to conducting the science be ready to support the cruise?
    - Instrumentation
    - Sampling equipment
    - Lab equipment
    - Essential systems / equipment – examples include:
        - ROV, AUV
        - Gliders
        - OBS, OBN
        - Lab or other specialized vans
        - Winches, spoolers
        - Coring
        - Portable Multi-channel Seismic
    - Can instruments be prepared in time for a cruise while there are restrictions to onsite work?
    - Can equipment be shipped in time for cruise?

Science Party

- Can the cruise operate with fewer personnel to allow for a lower density of people and higher ability to socially distance?
- Are there sufficient science personnel to complete the science mission?
  Having insufficient science party could be due to the following:
    - Institutional and/or governmental travel restrictions preventing work onboard or travel to the vessel.
    - Individuals in crew who have a high or medium risk profile, including:
        - Older Adults – age 65 or older
        - People with moderate to severe asthma
        - People with HIV
        - Groups at Higher Risk for Severe Illness, these include:
            - Those with Chronic lung disease or moderate to severe asthma
            - Serious heart conditions
            - Conditions that can cause a person to be moderately immunocompromised
            - Severe obesity
            - Diabetes
            - Chronic kidney disease and who are undergoing dialysis
            - Liver disease

      High risk individuals are highly discouraged from participating. If these individuals choose to participate, consultation with a physician is required to confirm the participant is fit for sea-going operations during the COVID-19 pandemic.
    - Science Party members personal safety concerns or care/concerns for their families.

Marine Superintendent Considerations

Crew

- Are there sufficient crew to complete the cruise?
  Having insufficient ship's crew could be due to the following:
    - Institutional and/or governmental travel restrictions preventing work onboard or travel to the vessel.
    - Individuals in crew who have a high or medium risk profile, including:
        - Older Adults – age 65 or older
        - People with moderate to severe asthma
        - People with HIV
        - Groups at Higher Risk for Severe Illness, these include:
            - Those with Chronic lung disease or moderate to severe asthma

- Serious heart conditions
- Conditions that can cause a person to be moderately immunocompromised
- Severe obesity
- Diabetes
- Chronic kidney disease and who are undergoing dialysis
- Liver disease

High risk individuals are highly discouraged from participating. If these individuals choose to participate, consultation with a physician is required to confirm the participant is fit for sea-going operations during the COVID-19 pandemic.

- Crew members personal safety concerns or care/concerns for their families.

Preparing for Operations

- Establish an Outbreak Management Plan (see Chapter 4 of Reference 2). This shall include having a Social Isolation Plan to include single berths or an available stateroom in case personnel need to be isolated. If possible, these staterooms should have the ability to isolate airflow from the rest of the vessel.
- Establish a Screening process. See appendix B of Reference 2
  - Conduct initial screening 3 weeks prior to cruise mobilization using Annex B of Reference 2 as reference to identify personnel who have had or been exposed to COVID-19
  - Conduct a follow-up screening prior to travel to meet the ship to verify and/or update the status of each participant and crew member.
- Establish an effective vessel cleaning protocol (see Chapter 18 of Reference 2) with emphasis on horizontal surfaces as well as common touch points (e.g. door handles, grab bars, frequently transited ladders).
- Where practicable, establish social distancing policies and procedures. Examples include:
  - Adjusting mealtimes to facilitate social distancing while eating
  - Shift galley operations away from self-service
  - Adjusting work schedules to enable proper distancing in laboratories
  - Wear masks while indoors
  - When possible, assign one person per stateroom
- Stock sufficient supplies for cleaning (see Annex C of Reference 2).
- Stock sufficient medical supplies onboard (see Reference 1 and Annex C of Reference 2).
- Display Coronavirus awareness and mitigation strategy posters throughout the vessel (see Annex A of Reference 2)

Self Isolation and Testing

Self-Isolation: Strict self-isolation is currently the best means of preventing the virus from getting onboard the vessel, however the quality of the isolation is important. Per Discovery Health's "COVID 19 Onboard Procedures", self-isolation is explained as follows:

> *"Self-quarantine means that you select a location, whether your residence or a hotel room or rented lodging, and you do not leave that location for 14 days. This means you do not go to the grocery store or leave your home. If you are self-quarantining with other people in the house, you must stay six feet away from other household members, or you must all quarantine together. Do not share personal items and be especially careful of the kitchen and bathroom areas, as these are areas of high infection risk. You should clean and disinfect surfaces, doorknobs, computers, phones, etc. frequently. You should wear masks around other people and practice good cough and hand hygiene, washing your hands with soap and water frequently and avoid touching your face, eyes, and mouth. If you need to break quarantine to seek medical care or for any other reason, you have not successfully completed quarantine and should not travel."*

In cases where participants/crew members must use public transportation (e.g. air/rail) to join the vessel they should self-isolate in the port of call. If this is not operationally feasible, especially in the case of short (few days) less committing cruises whose operations are close to shore and medical care, splitting the quarantine between the home and the port of call *could be considered* with increased RT-PCR testing (see Testing below and Appendix 1).

Testing: Like all medical testing (lab tests, EKGs, x−rays, etc.), the COVID-19 diagnostic test (RT-PCR) is not perfect, with accuracy dependent on the quality and handling of the sample and the skill of the lab. As more is learned about the virus, it is expected there will be more reliable testing. At this time, testing may be used as one component of a multi-pronged approach to lessen the risk, but cannot be relied upon alone to eliminate risk.

Due to this, it is recommended that multiple RT-PCR tests **be combined with** self-isolation best practices to minimize risk to the lowest possible level. Where practicable, and especially for cruises initially assessed as high or medium risk, it is recommended that a 14-day quarantine be combined with RT-PCR testing. Currently, the recommended protocol includes a RT-PCR test ~14 days prior to mobilization (before entering self-isolation), 14 days of self-isolation, and a subsequent test no later than 4 days prior to mobilization. Where possible, a 3rd test is recommended just prior to boarding. For more information, see Appendix 1.

Self-isolation and testing are critical elements of any risk mitigation plan, and the specifics of the protocol (e.g. length and nature of isolation, testing regime) factor into risk determination. It is expected that committing cruises that fall under the 'High Risk' classification (see below; long duration, many days from major ports and professional medical care) will adhere to the strictest

guidelines, currently 14 days of strict isolation accompanied by 2-3 RT-PCR tests. Less committing cruises that fall under the 'Low Risk' classification (see below; short-duration, within two days of ports and professional medical care) might implement self-isolation in accordance with local shelter-in-place guidelines and employ an abbreviated test schedule. Isolation and test protocols may thus differ from cruise to cruise, and should be configured as needed to based on the specific level of risk and consequences of infection

Personnel with Suspected or Confirmed COVID-19

Crew and science party members who have been infected or were suspected to have been infected with COVID-19 shall follow the CDC's "Return to Work" guidelines prior to embarking on the vessel (see When You Can be Around Others After You Had or Likely Had COVID-19). All pre-expedition self-isolation and testing recommendations still apply to these individuals.

When Operations Moves Forward

Prior to traveling to the embarkation port

- Testing – Complete testing as outlined in the "Self-Isolation Guidelines" above.
- Pre-cruise Screening
    - Complete a screening of all personnel (crew and science party) per vessel's established screening process (see Ship Operator Responsibilities above).
    - Require all personnel to provide a statement of their general health. This shall include affirmative statements as to whether they do or do not currently suffer from fever (above 100.4 deg F or 38 deg C), cough, sore throat, trouble breathing, fatigue, achiness, loss of smell or loss of taste.

Mitigation in Port

- Limit access to the ship. Restrict access to only those deemed essential. No public tours.
- Limit crew activities while in port to essential ones.
- Screen personnel who may need to come onboard and require them to wear masks while onboard.
- Set-up hand washing station to be used prior to entering the ship's envelope – preferably before crossing the brow.
- Clean items coming onboard including supplies and provisions.
- Monitor and encourage established social distancing policies.
- Complete established daily cleaning routines.
- Require masks while indoors.

Mitigation at Sea

- Monitor and encourage established social distancing policies.
- Complete established daily cleaning routines.
- Record daily temperatures and monitor symptoms for crew and science party.
- Require masks while indoors where operations allow.
- If all embarked personnel show no symptoms of infection after 14 days at sea, mitigation measures may be relaxed until the next event that exposes the ship to potential new infection (for example, boarding new personnel or port stops that involve interaction with personnel from outside the ship's population).

If Someone Gets Sick Onboard

- Follow CDC guidelines (see Reference 3) to the greatest degree that is practicable
- Contract GW-MFA per normal procedures for Academic Research Fleet vessels. Follow direction provided by GW-MFA medical personnel.
- If someone is diagnosed with coronavirus - go directly to port to avail affected personnel to proper supportive medical care.
- Ship's Captain shall report onboard coronavirus cases to the local USCG Captain of the Port in accordance with current USCG directives

Marine Superintendent & Ship's Captain Considerations for Going to Port

- What port will allow the ship to enter?
- What is the current situation regarding the status of the virus outbreak in the port?
- Is there sufficient appropriate care available in the port?
- Will the ship be quarantined in port? If so, does the port have appropriate services to support the ship's presence for 2 weeks or more?
    - What are port requirements/guidelines for quarantine of a vessel?
        - How long? Is it for 14 days? 14 days from last infected person?
        - Will personnel be quarantined?
            - On the ship or off the ship?
            - Is space even available?
    - If delayed in port – is there science gear/systems that need to be offloaded and shipped elsewhere?
    - If delayed in port, will the port support travelers arriving / departing from the vessel (i.e. crew changeouts, science party members returning to home, etc.)
- If the ship can depart port without quarantine in place orders
    - Can the ship still meet USCG requirements for proper number and type of licensed personnel with those remaining onboard?
    - Can the science party continue with fewer people?

Upon Arrival in Port

- Where is the ship to be moored? The ship shall be moored in a secure location where access to the ship can be controlled to essential personnel
- Will the ship be quarantined?

COVID-19 Risk Determination

After taking all the above into account the vessel operator and chief scientist shall complete independent risk assessments. This will be done to determine whether the risk of successfully completing the research cruise without experiencing a COVID-19 outbreak is at a low enough level (see risk levels below). Prior to *any* operations, policies and procedures outlined in the *Preparing for Operations* section above shall be drafted and implemented. Consideration will be given to whether there is a strong management plan to effectively address any case(s) that may arise during a cruise.

Risk shall be assessed as **Low, Medium** or **High** using the following criteria.

Low Risk

- Science operations are strictly local – within a two-day transit back to a US port.
- Local/state COVID-19 regulations/guidelines do not prohibit personnel working on the ship nor the cruise departing the dock.
- Diagnostic virus testing (RT PCR nasal swab) is available and all crew and scientists have tested negative before boarding the vessel.
- Local crew and science personnel have strictly adhered to local governmental self-isolation guidelines/regulations.
- Non-local personnel (crew and science party who have traveled by air to the port of call) have successfully self-isolated (see Self-isolation guidelines above).
- Science party has been reduced to the minimum necessary to carry out the work and ideally the vessel is not at full berthing capacity.
- Day trip, or all berthing is single person to a stateroom.

Cruises assessed a **Low Risk** may be conducted. The Marine Superintendent and Chief Scientist shall communicate to the operating institution, the NSF Ship Operations Program Manager, the NSF Science Program Manager (for NSF funded science), the ONR Program Manager for cruises on ONR-owned ships and also for ONR funded science, and the UNOLS Office of the **Low** risk assessment and subsequent decision to conduct the cruise.

Medium Risk

- Science operations are greater than 2 days and less than 5 days from a US port.
- Local/state COVID-19 regulations/guidelines do not prohibit personnel working on the ship nor the cruise departing the dock.

- Local crew and science personnel have strictly adhered to local governmental self-isolation guidelines/regulations.
- Non-local personnel (crew and science party who have traveled by air to the port of call) have successfully self-isolated (see Self-isolation and Testing above).
- Local and non-local personnel have undergone RT PCR testing, at least once, at the end of self isolation, with multiple tests preferred (see Self Isolation and Testing above).
- Science party has been reduced to the minimum necessary to carry out the work and ideally the vessel is not at full berthing capacity.
- Some staterooms are shared but the vessel is not at full berthing capacity.

Cruises assessed as **Medium Risk** may be conducted if sufficient risk mitigation strategies are identified and implemented. The Marine Superintendent and Chief Scientist shall communicate to the operating institution, the NSF Ship Operations Program Manager, the NSF Science Program Manager (for NSF funded science), the ONR Program Manager for cruises on ONR-owned ships and also for ONR funded science, and the UNOLS Office of the **Medium** risk assessment and subsequent decision to conduct the cruise. Risk mitigation strategies shall be identified, reported to all appropriate parties, and implemented.

High Risk

A cruise will be deemed high-risk if any of the below bullets apply

- Science operations are greater than 5 days from a US port
- The expedition intends to stop at a non-US port
- The vessel is at full berthing capacity
- Science operations have dependencies that may also be impacted by the pandemic (e.g. multi-ship operations, critical equipment preparation, etc)
- Personnel (esp. crew and science party who have traveled by air to the port of call) are unable to successfully self-isolate and test (see Self-isolation and Testing above)

Cruises assessed as **High Risk** may only be conducted with suitable risk mitigation strategies and approval by the funding agencies. Due to the increased risk, it is highly recommended that the most stringent self-isolation and testing procedures recommended by the ARF's medical providers (see Appendix 1) be applied. The Marine Superintendent and Chief Scientist shall communicate to the operating institution, the NSF Ship Operations Program Manager, the NSF Science Program Manager (for NSF funded science), the ONR Program Manager for cruises on ONR-owned ships and also for ONR funded science, and the UNOLS Office of the **High** risk assessment, risk mitigation strategies and the recommendation to conduct the cruise or postpone/cancel.

Decision Making

After the Marine Superintendent and the Chief Scientist have taken into account the considerations and completed their separate risk assessments – they shall review their assessments together. They will make a final, joint determination. The Marine Superintendent

and Chief Scientist shall then make a joint recommendation as to whether the science cruise should proceed. If the Marine Superintendent and the Chief Scientist cannot agree on a singular recommendation, each shall report their recommendation and the basis of it to the appropriate entities – as noted below for the different risk assessment and cruise execution determinations. In cases where assessments differ, operations will follow the more conservative of the two recommendations.

Canceling or Postponing a Cruise

If a decision results in the cancellation/postponement of a cruise, both PI and ship operator must:

- Document in writing why it is canceled. Submit to:
    - Chief Scientist / Marine Superintendent
    - UNOLS Office: doug@unols.org, alice@unols.org
    - NSF Ship Operations: rdufour@nsf.gov
    - NSF Science Program Manager – for NSF-funded science
    - ONR – for ONR vessels and ONR-funded science: robert.sparrock1@navy.mil
    - Other agencies/institutions that fund the cruise
- Document cost impacts resulting from the cancellation/postponement in accordance with the funding agencies grant guidance

Financial Considerations of Mitigation Measures

Financial impacts to the vessel operator, science party and crew (e.g. day rates, supplements, overtime) should only be considered after risk assessment for the safety of crew and science personnel. In cases where operations are impacted, the Marine Superintendent and Science Party must

- Maintain appropriate records and cost documentation to substantiate the charge for any cancellation or other fees related to interruption of operations or services.
- To the maximum extent practicable, invoke or institute any and all reasonable mitigation actions and practices to lessen the cost to the Government during the crisis period. Such actions may be part of an existing program created by the grantee or may be created to respond to this crisis.

Federal agencies will provide separate guidance to Ship Operators and Principal Investigators related to financial issues related to postponement or cancellation of science cruises.

Appendix 1: Best Practices for Testing and Self-Isolation Framework for Conducting Seagoing Science Operations on ARF Vessels

Updated: 1 June 20

Although a 14 day strict self-isolation is the best risk mitigation, testing combined with this self-isolation and daily screening can further reduce risk by helping to identify asymptomatic individuals. Like all medical testing (lab tests, EKGs, x−rays, etc.), the COVID-19 diagnostic test (RT-PCR) is not perfect, with accuracy dependent on the quality and handling of the sample and the skill of the lab. As more is learned about the virus, it is expected there will be more reliable testing. At this time, testing may be used as one component of a multi-pronged approach to lessen the risk, but cannot be relied upon alone to eliminate risk. Due to this, it is recommended that multiple RT-PCR tests **be combined with** self-isolation best practices.

Logistics for Testing Regime

There are three requirements to obtain a valid PCR COVID-19 test.

1. Doctor's Order for Testing plus Receipt & Dissemination of Results
2. Collection of Test Specimens
3. Laboratory Analysis of Test Specimens & Provide Results to Doctor / Member

Each operator will work with their crew and science party to facilitate the recommended testing.

Testing and Self-Isolation Protocol for Oncoming Ship's Crew and Science Party Personnel

Local – no public transport (air, train, bus) travel required to meet ship

1. Approximately 14 days prior to embarkation, complete a COVID-19 RT- PCR test with negative results, report results to the ship operator.
2. Self isolate at home
3. Complete Health Screening daily
4. Approximately 4 days prior to embarkation, complete a second COVID-19 RT-PCR test with negative result, report results to ship operator

5. Continue self-isolation and daily health screening.
6. Embark Vessel
7. Continue daily health screening.
8. Conduct Cruise
9. For expeditions shorter than 14 days, complete a 3rd PCR test upon return and prior to departing port. This 3rd test will help to verify no COVID-19 was onboard.

If multiple tests are not possible, at a minimum, local crew should be tested at least once prior to each research expedition.

Non-Local – public transport required to meet ship

1. Complete a COVID-19 RT- PCR test with negative results, report results to ship operator prior to travel
2. Complete health screening prior to travel
3. Travel to port adhering to the CDC's Coronavirus in the United States—Considerations for Travelers.
4. Begin 14-day self-isolation near vessel
5. Complete Health Screening daily
6. Approximately 4 days prior to embarkation, complete a second COVID-19 RT-PCR test with negative result, report results to ship operator
7. Continue self-isolation and daily health screening
8. Embark Vessel
9. Continue daily health screening
10. Conduct Cruise
11. For expeditions shorter than 14 days, complete a 3rd PCR test upon return and prior to departing port. This 3rd test will help to verify no COVID-19 was onboard.

If 14 days self isolation in the departure port is not operationally feasible, splitting the self-isolation between home and the port of call and adding a third RT-PCR test shall be considered. In these cases, it is recommended that the final test be conducted prior to embarkation and at least 7 days after air/rail travel.

Test Results

- Anyone testing positive for COVID-19 <14 days prior to embarking on the vessel will not be permitted to sail.
- Anyone testing positive for COVID-19 >=14 days prior to embarking on the vessel must meet the CDC's recommendations for when an individual can return to work (see When You Can be Around Others After You Had or Likely Had COVID-19) and be cleared by a medical professional.