This worksheet should serve as a guide for both the Chief Scientist and Marine Operations Superintendent (MOS) but can in no way predict the many complications of a declared pandemic. The latest guidance from governing bodies, national and local health administrations and UNOLS should be taken into account when conducting pre-cruise planning. See pages 5 and 6 of this document for the latest UHMC testing and isolation policy, based on UNOLS updated guidance.

### Operational Level of Risk Assessment

What Operational Level Of Risk is assigned to this cruise, from 1MCSP-2.1-16 PANDEMIC RESPONSE PLAN?

- Low / Medium / High

### Chief Scientist & MOS Considerations

<table>
<thead>
<tr>
<th>Scheduled Cruise Logistics</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the ratio of vaccinated / unvaccinated personnel during the cruise? Include total crew and science personnel. Is this number at 100% fully vaccinated?</td>
<td></td>
</tr>
<tr>
<td>2. Is effective virus / disease testing available and in place?</td>
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<tr>
<td>3. What are the virus infection rates for the port of origin and any anticipated port(s) of call?</td>
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<tr>
<td>4. Where on the “epidemic curve” are load and unload port(s) and the home of crew / science party?</td>
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<tr>
<td>5. If PPE is recommended, is there enough available?</td>
<td></td>
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<tr>
<td>6. Is it now safe to work in load and unload port(s)?</td>
<td></td>
</tr>
<tr>
<td>7. Have Shelter in Place orders been lifted?</td>
<td></td>
</tr>
<tr>
<td>8. Can necessary crew and science party personnel safely travel to the port?</td>
<td></td>
</tr>
<tr>
<td>9. What are current rules (federal, state, local) for sheltering in place, and/or essential services that may not permit oceanographic science operations?</td>
<td></td>
</tr>
<tr>
<td>10. Have those rules been lifted for the port of origin for the cruise and the end-port?</td>
<td></td>
</tr>
<tr>
<td>11. What are institutional requirements regarding personnel working onboard ships in light of the pandemic?</td>
<td></td>
</tr>
<tr>
<td>12. What are the current U.S Coast Guard (USCG) regulations regarding seagoing operations nationally or in that particular region?</td>
<td></td>
</tr>
</tbody>
</table>
13. Is the cruise beginning / ending / stopping in domestic or foreign port(s)?

14. Are there potential access issues (both for air travel and for the vessel)?

15. What is the cruising distance from port? Is it possible to come into port nightly?

16. What is the length of cruise?

17. 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?

18. Are there potential access issues for surrounding countries where the ship might need to transfer personnel ashore in the event of a medical emergency?

19. Have Marine Scientific Research (MSR) clearances been obtained, and do they remain unchanged by the pandemic\(^1\)?

20. Can the cruise operate with fewer personnel to help lower the population density and increase the possibility of social distancing?

21. How much travel is required by science and crew to reach the vessel?

22. Are science and crew traveling by air?

23. How many different locations?

24. Are personnel originating from or transiting through regions with significant rates of infection?

25. Can Telepresence be used to reduce the number of required onboard participants?

26. If Telepresence can be used, what resources are necessary to increase bandwidth? What equipment?

### Marine Operations Superintendent Considerations

<table>
<thead>
<tr>
<th>Crewing Considerations</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are there sufficient crew to complete the cruise, as per required manning &amp; demands of operations?</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) April 20, 2020, COVID-19: 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.
### Chief Scientist Considerations

#### Instrumentation and Equipment

1. Can all aspects related to conducting the science be ready to support the cruise?
   a. Instrumentation
   b. Sampling equipment
   c. Lab equipment
   d. Essential systems / equipment – examples include:
      e. ROV, AUV
      f. Gliders
      g. OBS, OBN
      h. Lab or other specialized vans
      i. Winches, spoolers
      j. Coring
      k. Portable Multi-channel Seismic

2. Can instruments be prepared in time for a cruise while there are restrictions to onsite work?

3. Can equipment be shipped in time for cruise?

#### Science Party

1. Can the cruise operate with fewer personnel to allow for a lower density of people and higher ability to socially distance?

2. Are there sufficient science personnel to complete the science mission?

3. Are any personnel unable to transit / unavailable for the cruise due to institutional and/or governmental travel restrictions?
<table>
<thead>
<tr>
<th>4.</th>
<th>Are there any individuals in crew who have a high or medium risk profile for the virus / disease, as defined by the CDC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Any individuals meeting CDC guidelines for high risk should be considered for staying ashore.</td>
</tr>
<tr>
<td>6.</td>
<td>Do any science party members have personal safety concerns or care/concerns for their families and are therefore declining to travel?</td>
</tr>
</tbody>
</table>
### Table 1 – Fully Vaccinated Persons

<table>
<thead>
<tr>
<th>Days Before</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 14 days prior to travel or embarkation if local</td>
<td>Submit COVID-19 Vaccination Documentation to MarOpSup/PI</td>
</tr>
</tbody>
</table>
| At least 7 days prior to travel or embarkation if local | Begin Pre-Travel safety measures:  
- Avoid all crowded public spaces  
- Mask in all crowded outdoor spaces  
- Mask in all indoor public spaces  
- Mask in all indoor private spaces (e.g. home) if there are unvaccinated (e.g. young children) and/or immunocompromised persons in the same household |
| At least 7 days prior to travel or embarkation if local | Begin daily symptom tracking  
- If develop symptoms of possible COVID-19, initiate quarantine and obtain RT-PCR test.  
  - There should be at least 48 hours between this test and the pre-travel test. |
| 1-2 days prior to travel or embarkation if local | RT-PCR test |
| Arrival to vessel port and/or day of embarkation if local | RT-PCR test |

### Table 2 – Persons Not Fully Vaccinated

<table>
<thead>
<tr>
<th>Days Before</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-17 days prior to travel or embarkation if local</td>
<td>RT-PCR</td>
</tr>
<tr>
<td>At least 14 days prior to travel or embarkation if local</td>
<td>Submit any COVID-19 Vaccination Documentation to MarOpSup/PI</td>
</tr>
</tbody>
</table>
| At least 14 days prior to travel or embarkation if local | Begin Pre-quarantine safety measures:  
- Avoid all crowded public spaces  
- Mask in all crowded outdoor spaces  
- Mask in all indoor public spaces  
- Mask in all indoor private spaces (e.g. home) if there are unvaccinated (e.g. young children) and/or immunocompromised persons in the same household |
At least 14 days prior to travel or embarkation if local

Begin daily symptom tracking

- If develop symptoms of possible COVID-19, initiate quarantine and obtain RT-PCR test.
  - There should be at least 48 hours between this test and the pre-travel test.

10 days prior to embarkation if local

- If not local, travel to vessel port and begin 10 day pre-embarkation quarantine
- If local, begin 10 day pre-embarkation quarantine at home.
  - This is a strict quarantine and no interaction with other family members, nor departure from place of quarantine is allowed.

1-2 days prior to embarkation

- RT-PCR\(^2\) test

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\(^2\) If a person has a positive PCR (or any NAAT) test they will not be allowed to board the vessel. Before being allowed to board, they must be cleared by a physician. Unless they are recently recovered from COVID-19, they will need to complete a period of ISOLATION before they are allowed to sail. The necessity of repeating a PCR test will be left to physician discretion.
Decision Making Guidance from UNOLS

It is reasonable and expected that the Marine Operations Superintendent (MOS) and the Chief Scientist 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.

After the MOS 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 MOS and Chief Scientist shall then make a joint recommendation as to whether the science cruise should proceed.

If the MOS 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:

1. Document in writing why it is canceled. Submit to:
   - Chief Scientist / MOS
   - 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.sparrock.1@navy.mil
   - Other agencies/institutions that fund the cruise

2. 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. dayrates, supplements, overtime) should only be considered after risk assessment for the safety of crew and science personnel. In cases where operations are impacted, the MOS and Science Party must:

1. Maintain appropriate records and cost documentation to substantiate the charge for any cancellation or other fees related to interruption of operations or services.

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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.