Technical Services Information - R/V *Point Sur*

I. Vessel Operator Organizational Structure & Points of Contact

A. Organization Description

The Marine Superintendent, Richard Muller, is responsible for establishing ship's policies, cruise scheduling and foreign clearances. The Marine Superintendent has the overall responsibility for all aspects of marine operations and is under the general supervision of the director of Moss Landing Marine Labs, Kenneth Coale. Pre and post cruise planning as well as scientific and technical aspects of the ship should be addressed to the Sr. Marine Technician, Stewart Lamerdin. The Senior Marine Technician will be able to redirect any specific questions the he cannot answer to the appropriate individuals. The ship's second Marine Technician, Doug Conlin, will be the next point of contact in the event the Sr. Marine Technician is not available. Specific questions regarding all aspects of cruise billing can be addressed to the Operations Analyst, Maria Kaanapu.

B. Facility Point(s) of Contact and Responsibilities

Cruise Scheduling & Policies:

Richard Muller, Marine Superintendent
Tel (831) 771-4131
Fax (831) 633-4580
Email: rmuller@mlml.calstate.edu

Technical Support:

Stewart Lamerdin, Senior Marine Technician
Tel (831) 771-4134
Fax (831) 633-4580
Email: lamerdin@mlml.calstate.edu

Accounting:

Maria Kaanapu, Operations Analysts
Tel (831) 771-4133
Fax (831) 633-4580
Email: kaanapu@mlml.calstate.edu

Shipping and Mailing Address for all of the above:

(the individuals name)
Moss Landing Marine Labs, Marine Operations
7700 Sandholdt Rd. Bldg. D
Moss Landing, CA 95039

Moss Landing Marine Labs, Marine Operations Website address:

http://www.mlml.calstate.edu/marinops/marinops.htm

II. Vessel Characteristics – (when available, this will be a link to the UNOLS Database)

III. Research Equipment, Instrumentation, and Data Collection

A. Permanently installed science equipment and instrumentation - (when available, this will be a link to the UNOLS Database)

B. Equipment available from the shared-use pool- (when available, this will be a link to the UNOLS Database)

C. Procedures for requesting equipment

1. **Filing a request**
   All requests for shared-use equipment (equipment owned and operated by the vessel) should be made using the cruise planning form found on the R/V Point Sur's website. This form must be completed and submitted to the Sr. Marine Technician prior to every cruise, regardless of the duration of the cruise.

2. **Deadlines for requests**
   Requests for share-use equipment must and all cruise planning material must be submitted at least four weeks prior to the scheduled departure. Questions regarding the condition, capabilities and specifications of any piece of shared-use equipment should be directed to the Sr. Marine Technician.

3. **Equipment request response**
   The Sr. Marine Technician will evaluate the cruise planning forms and any requests for shared use equipment and confirm the receipt of this form with the Chief Scientist. In cases where equipment is not available or its availability is doubtful, the Sr. Marine Technician will work with the science party in obtaining a solution, including attempting to borrow the required items from other UNOLS ship operations. In such cases, funding issues may develop requiring assistance or guidance from the science party.

4. **Last minute equipment requests**
   Equipment requests will be acted upon no matter when they are received and, if possible, the requested items will be made available. However, if cruise plans arrive after the four week deadline has passed, it is possible that some of the requested equipment may not be available or ready in time for that particular cruise.

D. Computer information

1. **Computing resources**
   The ship collects data using four Pentium-type computers. These computers are dedicated to data acquisition and are not available, in any form, to the scientific party. The main lab has a science computer on which basic programs are installed. Scientists

can use this computer to view and type emails as well as install cruise specific programs. More information regarding the computing capabilities can be found on the ship's website or by contacting the Sr. Marine Technician.

2. Networking resources

The R/V Point Sur maintains a simple local area network between the bridge, main lab and electronics lab. There are network drops located throughout the main lab where scientists can connect to the network for data transferring and for connecting to the ship's network printer. A wireless network can also be set up in the main lab if necessary.

3. Time server

Time for all the data acquisition computers is obtained from one of the ship's GPS feeds.

4. Technical assistance

The marine technicians will assist in all interfacing of scientists computer into the ship's network .

5. Procedures for use of shipboard computing resources

a. Interfacing requirements and information

Computer network security concerns compel us to scan all computers for virus problems and operating system security holes. To the extent possible, the ship's technicians will have the necessary updates to correct problems but scientists should attempt to have their computers intended for use aboard ship scanned and updated before they leave home. If a problem is discovered or suspected that cannot be corrected and verified, the computer cannot be connected to the ship's network.

b. Computers on ship's network

If you want to bring a computer to use on the R/V Point Sur network, you should install and test all drivers and interface cards on your own network prior to the cruise – the marine technicians have limited time and resources for troubleshooting new and untested computers. If it works on your TCP/IP network, then we can most likely make it work on the R/V Point Sur.

c. Instruments on ship's network

Currently, the ship's permanently installed sensors are not networked.

E. <u>Data Collection</u>

1. Installed system(s)

The R/V Point Sur performs routine data collection on most cruises, in addition to whatever specific data collection is requested. Data collected on every cruise includes the underway data acquisition sensors (sea surface temp., salinity, meterology sensors, fluorometers and transmissometer). Ocean current data from the ship's 150 kHz.

ADCP is also routinely collected. More information about these systems can be found on the ship's website.

2. **Instrument specific data files**

3. **Real-time data availability and formats**
   With advanced notice (indicated on the cruise planning form), the ship's technicians can provide real-time access to the ship's thermosalinograph data (temp and sal). Files from the ship's underway data acquisition system are typically based on 24 hours of data collection. The collection of this data will be temporarily interrupted while files are transferred to additional computers.

4. **Special requirements**
   Cruise specific changes to the ship's underway data acquisition system (UDAS) should be coordinated with the Sr. Marine Technician. These changes often require extended lead time and it is advisable to contact the Sr. Marine Technician as soon as the need is identified.

5. **Interfacing user-supplied sensors and subsystems**
   With the appropriate lead-time, it is possible to interface user-supplied instrumentation into the ship's UDAS system. This involves contacting the Sr. Marine Technician a minimum of four weeks prior to a cruise to discuss the possibilities. In order to interface an instrument, the technician will have to have a copy of the data output under conditions similar to those that will be experienced on the vessel. Without the appropriate lead-time, the ship's technicians cannot guarantee that the sensors will be integrated into the ship's UDAS.

6. **Procedures for determining needs**

7. **Post-cruise data products**
   Upon completion of a cruise, the chief scientist will be provided with a data cd which will include a copy of all the data collected during their cruise. Additional cd's are available upon request. All data collected on board the R/V Point Sur is archived at Marine Operations indefinitely.

8. **Policies and restrictions**
   Data restrictions are at the discretion of the Chief Scientist and will be followed by Moss Landing Marine Lab's Marine Operations staff.

IV. Pre-Cruise Planning and Services

A. Scientific Party Point(s) of Contact and Responsibility

Each cruise will have a single Chief Scientist. The Chief Scientist serves as the primary point of contact for all cruise related issues and will interact solely with the Master of the vessel on any significant changes to the submitted cruise plan. The Chief Scientist will settle conflicts within the science party. At sea, it is the responsibility of the Chief Scientist to see that the scientific program runs safely and smoothly. The Chief Scientist

will be informed of any difficulties, whether scientific or personal in nature, and will be expected to address them. While at sea, the decisions of the Master will always take precedence.

1. **Pre-cruise**
   The Chief Scientist is required to complete a cruise plan (located on the ship's website) and submit it to the Sr. Marine Technician 4 weeks prior to departure. The Chief Scientist will assign staterooms to the science party. The vessel will not leave the dock until the Chief Scientist informs the ship's technician or Master.

2. **Post-cruise**
   The Chief Scientist will be responsible for making sure all laboratory spaces used during a cruise are cleaned (swept, scrubbed and mopped). The Chief Scientist will also be responsible for ensuring that all members of the science party clean their staterooms as indicated on the placards located in each of the rooms.

   The Chief Scientist will complete a post cruise report (located on the UNOLS website ---insert address here---). The Chief Scientist will also be responsible for providing an isotope report (if isotopes are used) that includes the results of pre- and post-cruise swipe tests.

B. Schedule issues

1. **Schedule definitions**
   Day cruises on the R/V Point Sur begin at 8:30 and return to the dock by 16:00. Departure time for multi-day trips is 8:30. A sea-day begins at 00:00 therefore if a cruise returns to the dock at 00:01 an entire day will be charged.

2. **Departure and arrival decisions**
   Departure and arrival times will follow the times listed on the cruise plan. If there is a change to these times it will be discussed with the Master and Marine Technician via the Chief Scientist.

3. **Point of contact**
   The Chief Scientist will be the point of contact on all scheduling related issues. Changes to the submitted cruise plan should be reviewed with the Sr. Marine Technician.

C. Diplomatic Clearances

The Marine Superintendent should be contacted if the sampling plan for a cruise includes occupying foreign waters. Foreign clearances often require 7 to 8 months to process and therefore should be discussed with the Marine Superintendent as soon as possible. Additional information about this process will be provided at that time.

1. **Required information**
2. **Timing**
3. **Foreign observers**

4. **Post-cruise responsibilities**
5. **Failure to comply**

D. Shipping and Logistical Information

1. Facility Shipping Information

All shipments for a particular cruise should be sent to the following address:

Moss Landing Marine Labs, Marine Operations
7700 Sandholdt Rd. Bldg. D
Moss Landing, CA 95039
Attn.: Sr. Marine Technician, R/V Point Sur

Forklifts and cranes are available for the unloading of larger shipments. The Marine Technicians and the ship's crew will be the only personnel allowed to operate these pieces of gear (regardless of how long you personally have operated a forklift…).

2. Cruise Shipping Information

Shipping equipment to ports other than the homeport of the R/V Point Sur is the responsibility of the Chief Scientist. The ship's crane will be available for loading the gear onto the vessel.

3. Prior notification of incoming shipments

Advanced notice should be provided for all shipments (regardless of size) to the Sr. Marine Technician. Large numbers of packages arrive everyday to Marine Operations and without prior notification of a specific shipment it could be inadvertently refused. Any special handling associated with a shipment should be related to the Sr. Marine Technician.

4. Shipment marking requirements

All shipments should be clearly labeled and include the name of the vessel with an attention to the Sr. Marine Technician.

5. Confirmation of arrival

Make arrangements with the Sr. Marine Technician to obtain notification when a shipment has arrived in Moss Landing.

6. Hazardous Materials

The Sr. Marine Technician should be notified if a shipment contains hazardous materials that requires special handling. If this special handling cannot be facilitated it will be the responsibility of the Chief Scientists to arrange an alternative plan.

7. Isotope regulations

The R/V Point Sur follows the rules and regulations for handling isotopes set down by the Radiation Safety Officer at San Jose State University. We will not accept the delivery of any radio-isotopes. Questions regarding the R/V Point Sur's isotope policy

can be addressed to the Sr. Marine Technician or to SJSU's RSO John Pickering (phone number will be listed).

8. Agents' Information

If an agent is required, the Marine Superintendent will contact the Chief Scientist.

a. Arrangements
b. Costs
c. Other issues

9. Pre-cruise storage of scientists' equipment

a. Available storage area at the facility

Arrangements for storing equipment in Moss Landing prior to ship loading must be made in advance with the Sr. Marine Technician. If space is required for equipment preparation prior to loading gear onto the vessel, this must be discussed with Sr. Marine Technician. This discussion should include a clear explanation of exactly what is required by the science party.

b. Arrangements for storage in other ports

Any arrangement for the storage of equipment at ports other than Moss Landing is the responsibility of the Chief Scientist.

c. Procedure for determining storage needs

d. Costs

Costs associated with pre and post cruise equipment storage as well as delivery to the dock are the responsibility of the science party.

10. Deliveries to the vessel

Shipments will not be received on the weekends or after 5:00. It is the responsibility of the Chief Scientist to ensure that this does not occur. This can severely delay a cruise and is worth ensuring delivery times from the shipping company.

11. Other shore services available

Science parties should plan on bringing with them all the tools required to prepare the equipment for their cruise. Forklifts and cranes are available for transporting gear to and from the vessel. Any special needs can be related to the Sr. Marine Technician.

E. <u>Marine Mammals and Acoustic Permitting</u>

Please be kind to all mammals, marine or terrestrial, during your cruise.

V. Cruise Planning Details

A. <u>Laboratory Spaces</u>

1. **Location of utilities (power, water, air, etc.)**
   Clean, UPS-protected power is available in the main lab and electronics lab. For more information please visit the ship's website.

2. **Bench arrangements**
   A diagram of the bench configuration is available on the ship's website. These benches are fixed and cannot be moved.

3. **Equipment tie-downs**
   The science party is responsible for providing all the tie-downs necessary for securing gear in the laboratories.

B. Deck Spaces

1. **Location of utilities**
   A diagram of the ship as well as digital pictures of the deck layout can be found on the ship's website.

2. **Van/container locations and weight limitations**
   Digital pictures of previous van installations are listed on the ship's website.

3. **Working areas (A-frames, cranes, winches)**
   A diagram of the ship as well as digital pictures of the deck layout can be found on the ship's website.

4. **Tie-downs**
   Lines for securing larger gear out on deck will be provided by the vessel. Assistance with securing large equipment should be arranged through the Marine Technician.

C. Determining Personnel Requirements

The Chief Scientist is responsible for putting together a cohesive, competent sampling group. If there is a question regarding personnel requirements prior to a cruise, the Sr. Marine Technician and/or Master will discuss this with the Chief Scientist. The vessel will not leave the dock if there are safety concerns regarding the science party and the work they intend to accomplish.

D. Berthing Spaces and Assignments

Assigning berths and jobs associated with the operation of shared-use equipment is the responsibility of the Chief Scientist. If job requirements are not being met or there is some question as to the competency of an individual, the Marine Technician and/or the Master will discuss the situation with the Chief Scientist and attempt to rectify the situation. If the situation cannot be resolved, the Master's decision is final.

E. Ancillary Projects

Where cruises with multiple projects are involved, the assignment of laboratory and deck spaces must be coordinated with the Chief Scientist.

VI. Cruise Loading and Setup

A. Vessel Availability

The vessel will be available for loading the day before a cruise at 8:00. If loading is to be conducted on a weekend, advanced notice is required. Staging of gear in the laboratory after 17:00 must be approved by the Master of the vessel and can be arranged during the loading period. The Sr. Marine Technician should be contacted if a cruise requires loading to begin sooner than one day prior.

B. Loading

1. Moving gear from storage to dock

a) Responsibilities of shipboard techs, scientists, crew, facility personnel
The Marine Technicians and/or the ship's crew will transfer all scientific gear from the storage facilities to the vessel.

b) Liaison with shore service providers (cranes, trucks, forklift)
The Sr. Marine Technician will work with the Chief Scientist to organize additional shore services as necessary.

c) Costs
Costs associated with loading specialized gear (i.e. renting additional cranes) will be incurred by the Chief Scientist.

2. Moving gear from dock to deck

a) Responsibilities of shipboard techs, scientists, crew, facility personnel
The ship's crew will crane on-board any gear too heavy to hand carry.

b) Liaison with shore service providers
The Sr. Marine Technician will work with the Chief Scientist to organize additional shore services as necessary.

c) Costs
Costs associated with loading specialized gear (i.e. renting additional cranes) will be incurred by the Chief Scientist.

3. Moving gear from deck to labs

a) Responsibilities of shipboard techs, scientists, crew, facility personnel
The ship's crew will crane on-board any gear too heavy to hand carry.

b) Liaison with shore service providers
The Sr. Marine Technician will work with the Chief Scientist to organize additional shore services as necessary.

c) Costs
Costs associated with loading specialized gear (i.e. renting additional cranes) will be incurred by the Chief Scientist.

4. Loading equipment availability and requirements for use
The ship's crew or Marine Technicians will operate all loading equipment.

C. Lab and Deck Setup

1. Laboratory configuration
The Chief Scientist has the final say in how the laboratory is set up. Before the vessel leaves the dock, the Chief Scientist and Marine Technician will walk through the laboratory to confirm that equipment is secured appropriately. *The vessel will not leave the dock until all equipment is safely stowed.* Science equipment will be setup in the main lab before space will be made available in the electronics lab.

2. Location of utilities, wire-ways, stuffing tubes, etc.
This information can be found on the ship's website.

3. Tiedown/securing supplies
The science party is responsible for supplying all the necessary tie-down gear required for science related equipment. The vessel's deck crew will secure larger gear that will be stowed on deck.

4. Interfacing science-provided equipment
The interfacing of science-provided equipment will be done by or under the direct supervision of the Marine Technician. None of the ship's systems are to be interfaced without prior authorization from the ship's Marine Technician.

5. Operation of shared-use equipment
The ship's technicians are responsible for operating and, in certain cases, training the science party to operate, all shared-use equipment on the vessel. Training will be at the discretion of the Marine Technician. If it is determined that a science party does not have the personnel or experience with a piece of equipment, two ship's technicians will be required for that cruise to cover the watch. Operations involving the ship's towed, undulating vehicle require two ship's technicians.

6. Vans and containers
All portable vans must meet certain criteria to be acceptable for use aboard our vessels. The UNOLS checklist can be found at
http://www.gso.uri.edu/unols/saf_stand/contects.htm#_Toc38352677

D. Lab/Deck Safety Requirements

1. General requirements

The vessel provides work-vests and hardhats. Work-vests are required to be worn during any over-the-side operation. Hardhats are to be worn at the discretion of the Chief Scientist or in response to the nature of the work.

2. Hazmat

Material safety data sheets (MSDS) are to be included with the submission of the cruise plan. The vessel has a generic spill kit for bases and acids. It is the responsibility of the Chief Scientist to insure that unique chemicals that require special handling have the necessary spill kits.

2. Isotopes

The Chief Scientist is required to have an isotope permit on file with San Jose State University (contact John Pickering – phone number here soon). Only those individuals listed on the form can handle isotopes. The R/V *Point Sur* also has an isotope form that is required for each cruise. It can be located on the ship's website and should be filled out by the Chief Scientist and turned in with the cruise planning form.

VII. Activities At Sea (I will be adding to this section)

A. Chief Scientist- General Responsibilities

Interact with Captain and the marine technician on changes to the submitted cruise plan. Provide a plan of the day to the ship's bridge for upcoming science operations. Organize the science party's needs and effectively communicate these needs to the ship's marine technician and Captain.

B. Scientific Party - General Responsibilities

Maintain a clean and safe working condition in all laboratory spaces. Interface with the ship's. Marine Technician on problems associated with data collection/processing or any communication problems between the ship's crew and the scientific party.

C. Shipboard technician(s) - Hours, Duties and responsibilities

Function as a liaison between the ship's' crew and the scientific party. Ensure the quality of all shipboard data collected during a cruise and conduct periodic data backups. Perform periodic checks of the data to ensure quality. Safely operate all shared-use equipment on board. Troubleshoot and attempt to repair all shared-use and user-supplied equipment. Train the scientific personnel in the safe handling of all over-the-side operations. The ship's technician will work up to 12 hours in a 24 hour period (if additional support is necessary, bunk-space for an additional marine technician will be required).

D. Ship's crew responsibilities

Conduct all operations in a safe and professional manner. Assist scientist in the safe handling of over-the-side operations. Insure all equipment located on deck is secured while at sea.

E. Ancillary projects

F. Science Operations

1. **Personnel responsibilities**
2. **Procedure for requesting additional assistance from crew or technicians**

G. Data availability and Distribution

H. Communications

1. **Email information and costs**

   Email is checked twice a day via the ship's cellular modem. There is no cost to send and receive email through the ship's system. If extensive file transfers are required, additional costs will be passed on to the Chief Scientist. If the ship is out of cellular range, email is checked through a satellite link. Costs associated with this will be assessed by the ship's Marine Technician and discussed with the Chief Scientist. No cost is associated with minimal use.

2. **File transfer information and costs**

   Email is checked twice a day via the ship's cellular modem. There is no cost to send and receive email through the ship's system. If extensive file transfers are required, additional costs will be passed on to the Chief Scientist. If the ship is out of cellular range, email is checked through a satellite link. Costs associated with this will be assessed by the ship's Marine Technician and discussed with the Chief Scientist. No cost is associated with minimal use.

3. **Voice/fax information and costs**

4. **Billing/payment procedures**

   If it appears that costs will need to be passed along to the science party, the Marine Technician will have the Chief Scientist fill out an invoice form which will include the Chief Scientists billing information and accounting contacts.

I. Safety Considerations

1. **ISM regulations**
2. **Responsibilities of techs, crew, scientists**
3. **Science party training and drills**
4. **Safety equipment**
5. **Over-the-side operations**
   a. **Facility-provided equipment**
   b. **User-provided equipment**
6. **Laboratory operations**
7. **Operations in lab/isotope vans**
8. **Safety, Hazmat and Radiation Safety briefings**

VIII. Post-cruise activities (I will be adding to this section)

A. Data products and custody

1. **Deliverables**

The ship's technician will provide the Chief Scientist with a cd, which will include all the data collected during the cruise. The cruise data cd will be provided to the Chief Scientist upon departure from the ship.

2. Archives

Moss Landing Marine Labs, Marine Operations retains a copy of the data for archive purposes. This archived data will not be released to anyone, at anytime, without approval from the Chief Scientist.

B. Breakdown and offloading

1. Ship Availability

2. Lab and Stateroom cleanup

The scientific party is responsible for all aspects of breaking down the laboratory The science party will clean the lab prior to leaving the ship. The ship's crew and marine technician will be responsible for moving heavy equipment from the ship to the dock and from the dock to the warehouse. The science party is responsible for all labeling of gear to be shipped. The science party is responsible for organizing all shipping from Moss Landing Marine Labs, Marine Operations to their home institution. The ship's Marine Technician will load all shipments onto trucks as needed. It is the responsibility of the science party to make arrangements for disposing of all hazardous materials and radioactive waste. The science party will not leave ANYTHING on the ship or at marine operations.

C. Movement of equipment from deck to dock

D. Movement of equipment from dock to storage

E. Shipment of equipment

F. Storage of equipment or samples on board the vessel

G. Hazmat/radwaste procedures

H. Post-cruise reporting

The Chief scientist is responsible for completing a post cruise assessment report (form located on the UNOLS website: <http://www.gso.uri.edu/unols/pcarform.htm>
or on the R/V Point Sur's website: www.mlml.calstate.edu/marinops/marinops.htm