

Bill Kamia

44-96815

Ans. Edith Frece

REV

October 18, 1979

Gordon -

The attached is for your information and files. Tongg has an appointment with them next week Wednesday.

If you need further info, please call.

Mahalo,

A handwritten signature in dark ink, appearing to be 'Ma' or 'Ma' with a flourish.

cc; Jan Dill, Chairman-Steering
Committee

February 9, 1980

To : Hokule'a and Ishka Crews

Subject : Communications and Electronic Safety Measures Taken for
Your Voyage to Tahiti and Back

Your safety has been of prime importance in making plans for this voyage. Basic in this plan is the use of the ISHKA as an escort vessel. Ishka will attempt to remain in visual sight of the Hokulea during the voyage and be available in the event of any unusual problems aboard the Hokulea.

Primary communications between the Hokulea and the Ishka will be by means of a portable VHF FM on the Hokulea and a ship station of the Ishka which will be monitored continuously. To insure maximum reliability of this communication system, Hokulea will be provided with 3 spare batteries for the portable and will have installed in the hold a ship VHF FM station, operating from either of two installed 12V batteries. The ship station will have an antenna at the top of the mast to realize maximum range with the Ishka (about 20 miles). As a further precaution a spare antenna will be provided for the ship station.

Ishka's VHF FM transceiver will provide a scanning receiver capable of continuously monitoring a large number of channels if required. Ishka will monitor channel 16 and 68 continuously, using 68 for communications with Hokulea. To insure reliability, Ishka will be provided with an uninstalled replacement VHF FM radio and antenna.

Hokulea will be provided with a battery-operated strobe light to hoist to the mast head when indicated. Ishka will also have a strobe light at its mast head to enhance its visibility to Hokulea.

Hokulea will be equipped with two Class B EPIRB beacons and Ishka one Class B EPIRB beacon which can be launched in case of emergency. These beacons can be heard by aircraft at cruising altitude for about 200 miles. Ishka, however, will not be able to monitor this frequency. The frequency used by the beacons is one normally monitored by all aircraft enroute.

A radar reflector will be provided to Hokulea to make it visible to radars on other ships.

Ishka has been provided with a Single Side Band (SSB) transceiver for long range communications (up to 4,000 miles). Primarily, the SSB will be used for twice daily contact with the Coast Guard Radio Station at Honolulu. Coast Guard monitors the 4 and 8 Mhz frequencies continuously and the 12 and 16 Mhz frequencies on schedules. Twice daily, the PVS will be able to contact the Coast Guard Radio Station and give the Coast Guard any messages to pass to the Ishka, who will relay messages to the Hokulea by VHF FM if indicated. Ishka will send messages to the Coast Guard during these schedules passing on the status and position of the Hokulea. The Coast Guard will relay this data to Marlene Among or Jan Dill by phone

2

for phone relay to the indicated parties. The communication times are tentatively set for 8 AM and 6 PM.

The Coast Guard will maintain an updated position for Hokulea in their Search and Rescue computer. In case of problems beyond Hokulea and Ishka, the Coast Guard will be able to find out the position of the nearest ship to Hokulea with the needed equipment or services aboard as their computer maintains positions for almost all major vessel movements around the world. Additionally, through FAA, the Coast Guard is able to request visual and radio monitoring by passing aircraft if required.

An emergency navigation kit is being stored on Hokulea for use in case of separation from Ishka and an emergency on the Hokulea requiring accurate position information. The kit will contain a sextant, nautical almanac, chronometer and a receiver capable of getting time ticks from WWVH on Kauai to determine chronometer error. This plus charts and plotting tools will allow visual navigational fixes accurate to several miles.

A tool and spares box will be placed on Hokulea which will contain tools required to remake power and antenna connections to communication equipment. It will also contain spare parts such as microphones, fuses, and other items non-technical people can easily replace in the event of equipment failure.

As a novel approach, a solar cell battery charger is planned for Hokulea to recharge communications batteries using solar energy.

As you can see, a great number of steps have been taken to insure your safety during this voyage. In addition to vessel safety, the communications system will provide a daily update of information about the Hokulea/Ishka available to your families by calling the PVS office at 841-3966 for reception of a tape recording of all available general information. Please request your family and friends to call only this number for information.

In case of a family emergency that urgently requires passing a message to you, please request your family to call: Marlene- 841-3966 office, 259-7000 home, Jon Dill- 259-7951 office, 235-5424 home. If possible, the message will be relayed. Our agreement with the Coast Guard, however, is that traffic will be held to an absolute minimum. However, if extended messages are required, your family may call the PVS to arrange for phone connection between yourself and the Ishka via station KMI in Oakland, Calif. Ishka will not normally monitor KMI, however, so any phone calls must be arranged via the P.V.S.. Phone calls will be made collect to your home number (about 20-25 dollars).

POLYNESIAN VOYAGING SOCIETY

BOX 6037 / HONOLULU / HAWAII 96818 / (808) 841-3966

March 3, 1980

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SIEGFRIED RANLER

French Customs
Fare Ute
Papeete-Tahiti
French Polynesia

Gentlemen:

Thank you for your answer to my letter of February 4, 1980, which was received by your consulate office in Hawaii on February 28, 1980.

In response to your request, enclosed is the information you requested. First, a list of the equipment and food for which duty-free is requested is listed in Exhibit A. Note, the value of the food is approximately \$1,500 (U.S. dollars) and does not include any fresh produce we will purchase in Tahiti. Note: Each crew member will be responsible for declaring their own photographic equipment. Note: The tape recorders (3) and tapes (200) have already been declared with your people.

Second, a list of the crew members as well as the individuals on the escort vessel Ishka is marked as Exhibit B.

Because there are two different crews, the crew members flying down will have only one-way fares. The crew sailing down to Tahiti has only return fares. In the event a crew member is unable to return to Honolulu aboard Hokule'a, the Polynesian Voyaging Society will be responsible for his or her air fare to Hawaii.

Sincerely,

POLYNESIAN VOYAGING SOCIETY

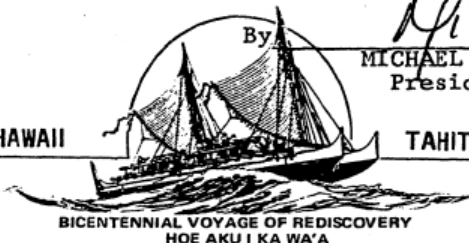
By

Michael A. Tongg
MICHAEL A. TONGG
President

MAT:cs
Enc.

HAWAII

TAHITI



ZCZC SAH946 FPN061 526/574
 HRXQ BY FPYA 131
 PAPEETERP 131/121 27 1605

2090
 ETATPRIORITE
 FRANSULAT CONSULATE OF FRANCE ROOM 706 130 MERCHANT ST
 HONOLULU HAWAII 96813

70232
 RVBE DU 4 FEVRIER 1980 PARVENU LE 19 FEVRIER CONCERNANT
 VOYAGE HOKULEA PRIMO RESSORTISSANTS AMERICAINS PEUVENT ENTRER
 SANS VISA POUR SEJOUR INFRIEUR A UN MOIS STOP PROROGATION SUR
 PLACE SERA FAITE STOP RESSORTISSANTS AUTRES NATIONALITES DEVRONT
 SE PRESENTER DIRECTION POLICES URBAINES PAPEETE DES LEUR ARRIVEE

Michael Tongg 523-2441

Answer your letter, February 4, 1980, which arrived Feb 19 concerning Hokule'a voyage - American citizens can enter French Polynesia for one month without visa, visa might be issued in French Polynesia if need be. Citizens from other countries can get visas on arrival.

Before Hokule'a leaves Hawaii, the President of the Polynesian Voyaging Society must directly send to our French Customs in "Fare Ute, Papeete-Tahiti, French Polynesia" a list of the equipment for which duty-free is wanted and also a list of members of the crew leaving Tahiti on the Hokule'a (High Commissioner of the Republic and Chief of Territory, Affaires Administratives, Papeete-Tahiti, French Polynesia) with agreement in writing that the President will be responsible for their trip back home if need be - the other members of the crew will have to have their return airplane tickets on arrival.

574 FRANSULATPAGE3/21

VOYAGE DE LES RAPATRIER EFFECTIVEMENT PAR HOKULEA STOP AUTRES
 PERSONNES DEVRONT DETENIR A LEUR ARRIVEE BILLETS RETOUR PAR VOIE
 AERIENNE
 HAUSSAIRE

COL NIL

Reply via RCA: call 537-2521

Reply via

ESCORT VESSEL

In future it might be preferable to use a larger vessel, such as the 60 foot or so albacore boats that have a full compliment of radar, electronic navigation, fresh water evaporators etc., on board. The additional expense might save headaches.

If a smaller motor-sailer is to be used the following should be considered, some of which will also apply to the use of a larger ship as well.

Some care should be taken to check out the abilities of the ship and her captain and crew. References should be solicited from different sources, especially from those who have sailed with her before.

The point should be forcefully and repeatedly made that escorting is much more difficult than sailing alone. There is more maneuvering, sail handling, laying to, and so on. And it may be necessary to work closely with the captain of the canoe in changing the cruise plan if circumstances warrant. Contingency plans for various emergencies should be worked out and put in writing as part of the sailing directions for both canoe and escort.

The two most obvious things to be checked on are sailing capabilities and navigation capabilities. The boat should have the capacity to do reasonably well in relation to the canoe--which does well in light air--under sail alone. She should have a full complement of sails including Genoa, whisker-poles, and spinnaker, add all the necessary gear to efficiently handle any sailing situation, including heaving-to with sea anchors. The boat should also have an electronic log, knot meter and wind speed and direction indicator on board. A depth indicator-recorder and radar would be helpful also, but not essential. The navigator should be familiar with working out sights on all celestial bodies, i.e., sun, moon, planets and stars. Other electronic navigation equipment would be helpful, even just an RDF.

Highly desirable would be at least a three day cruise with the canoe, out of sight of land, to train and test out the escort vessel, (add the canoe) under as many different circumstances as possible, strong winds, light winds, hove-to, towing, running under sail alone, taking navigation fixes and so on.

The boat should also have its own VHF radio on board. Other radios may be supplied as necessary, but the skipper should have some idea of proper radio procedures and be familiar with radio communications to some degree.

STATEMENT OF INCOME AND EXPENSES
POLYNESIAN VOYAGING SOCIETY

Polynesian Voyaging Society - Hokule'a

Balance Forward 3/31/80 21,821.10

Income:

| | | |
|-----------|---------------|-----------|
| Donation: | 1,100.00 | |
| Donation: | 27,100.00 | |
| Donation | <u>300.00</u> | 28,500.00 |

Expense:

| | | |
|---------------------------------|-----------------|-------------|
| Cash (petty) | 200.00 | |
| Marlene Among | 500.00 | |
| Hawaiian Telephone | 16.79 | |
| Hilo Hawaii Hotel | 30.25 | |
| Abraham Ah Hee | 168.00 | |
| Y. Hata | 337.63 | |
| Art Nelson Sailmaker, Inc. | 73.70 | |
| Roy Benham | 71.00 | |
| Charles Larson | 49.42 | |
| Jan Dill | 238.00 | |
| Chad Baybayan | 27.00 | |
| Pat Aiu | 122.00 | |
| Aloha Hawaii Travel | 444.00 | |
| Kanaka'Eu'Eu | 77.22 | |
| LM&N Corporation | 1,194.00 | |
| Buddy McGuire | 29.00 | |
| Slims Power Tools, Inc. | 143.89 | |
| RCA Global | 9.86 | |
| Hawaii Sports Center | 888.20 | |
| Sports Hawaii | 124.80 | |
| Slim Holt-Hawaii | 91.47 | |
| Continental Travel Service | 682.00 | |
| FHB (Telegraphic Transfer) | 7,009.90 | |
| Marlene Among (Cocktail party) | 200.00 | |
| Marlene Among | 500.00 | |
| Wally Froiseth | 50.25 | |
| Kenai Air Hawaii | 126.60 | |
| Kam Travel Service, Inc. | 3,874.72 | |
| Trophy Center, Inc. | 31.20 | |
| Art Nelson Sailmaker | 1,746.24 | |
| Hawaii Clipping Service, Inc. | 19.03 | |
| Kanaka'Eu'Eu | 325.22 | |
| Foundation for Study in Hawaii | 50.40 | |
| Radio Call Corporation | 52.20 | |
| Dixon Stroup | 5.51 | |
| Wedemeyer Au | 81.00 | |
| Investors Equity Life Insurance | <u>1,800.00</u> | (21,390.50) |

Ending Balance: 19,026.22

Bank Balance: 31,864.57

Less Outstanding Checks:

| | | |
|--------------------------|------------------|-------------|
| Trans Pacific Instrument | 103.60 | |
| Wally Froiseth | 1.90 | |
| Nathan Wong | 10.00 | |
| Tava Taupu | 128.00 | |
| Tava Taupu | 32.00 | |
| Steve Somsen | 71.96 | |
| Steve Somsen | 49.00 | |
| Siegfried Ramler | 11.22 | |
| Sexton Quality Foods | 110.76 | |
| Marlene Among | 18.16 | |
| Luau Supply | 412.88 | |
| Allen Akina Design | 72.80 | |
| Bruce Blankenfeld | 98.00 | |
| Amfac Marine Supply | 313.72 | |
| Aloha Hawaii Travel | <u>11,404.35</u> | (12,838.35) |

Balance as of 4/30/80

19,026.22

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STATEMENT OF INCOME AND EXPENSESPOLYNESIAN VOYAGING SOCIETY

Polynesian Voyaging Society - General

| | | |
|----------------------------|-----------------|-----------------|
| Balance Forward 3/31/80 | | 995.46 |
| Income: | | |
| Membership | 370.00 | |
| Membership | 165.00 | |
| Membership | <u>1,097.00</u> | 1,632.00 |
| Expense: | | |
| Bishop Museum | 50.00 | |
| DOT Harbor Division | 10.00 | |
| IBM | 61.62 | |
| Hawaiian Telephone | 33.38 | |
| Hawaiian Telephone | 91.63 | |
| Bernice P. Bishop Museum | 50.00 | |
| DOT Harbor Division | <u>10.00</u> | (306.63) |
| Ending Balance: | | <u>2,178.84</u> |
| Bank Balance: | | 2,340.83 |
| Less Outstanding Checks: | | |
| Kahaluu Coalition | 20.00 | |
| Hawaiian Telephone | 112.37 | |
| DOT Harbor Division | 10.00 | |
| Hawaii State Tax Collector | <u>19.52</u> | (151.89) |
| Balance as of 4/30/80 | | <u>2,178.84</u> |

Polynesian Voyaging Society - Children's Book Project

| | |
|-------------------------|---------------|
| Balance Forward 3/31/80 | 519.15 |
| Income: | -0- |
| Ending Balance | <u>519.15</u> |
| Bank Balance: | 519.15 |
| Less Outstanding Checks | <u>-0-</u> |
| Balance as of 4/30/80 | <u>519.15</u> |



R/V Varua R/V Serenity

RECEIVED JAN - 8 1980

Marine Environmental Research, Inc.

P.O. Box 116 • Cortez, Florida 33522 • U.S.A. • Telephone 813/758-8129 • Cable Address: VARUA
 Gett-Box-3144 - Pago Pago, American Samoa 96799 • Telephone 633-1526 • Cable Address: NHLSOM •
 P.O. Box 88023 Honolulu, Hawaii 96815 Tel: 808/523-8019 Cable: MERPAC

5 January 80

Ric Martini, Ph.D.
 Director of Research

TO:
 Polynesian Voyaging Society
 173 C South Kukui
 Honolulu, HI, 96813

This letter should serve to summarize our needs and expectations concerning the escort of the Hokule'a by the R/V Varua; I would also like to touch upon the publicity/fundraising activities underway prior to departure.

When I originally contacted the Society in September, and as indicated in my letter of 12 October, I was confident that sufficient lead-time existed for us to plan and organize a productive research program which would serve to support the vessel enroute. As it is now less than two months until the proposed departure date, and we are only now able to begin firm planning, the situation is far more complex.


I would estimate that assuming that we use a volunteer crew, keep engine use to a minimum, and plan to transfer a minimal amount of ship's stores to the Hokule'a, a 35-40 day maximum duration would require \$12,000.. Were we to install a radar system with optimum range we would need an additional \$6,000.

To obtain these funds I would like to publicize the project and seek (a) contributions for (or the loan/gift of) the radar and (b) 8 research assistants for the voyage. The RA's would be asked to make a tax-deductible contribution of at least \$2000, to offset the costs of their support and as a grant towards the research projects, and they would be expected to assist in the research but not the operation of the vessel. Since we are new to the islands I would like to request that the PVS assist me in arranging for publicity and in contacting potential participants starting almost immediately (if not sooner!).

As far as direct costs to the PVS during the escort, I would simply expect that you would reimburse us for gas used for shuttles enroute, and for any ship's stores taken from the Varua during the passage. Members of the Society (1-2) would be expected to contribute \$30/d; additional people would be asked to participate as RAs, since space is limited and we will need to meet the costs.

I will look forward to hearing from you concerning research plans and storage requirements, as well as safety/navigation outlines. I will be in Lahaina next week, but I will be checking with the answerphone in our office daily, and could get in touch with you as required. In view of the time remaining, I would urge you to consider the above at your earliest convenience.

Sincerely,


Ric Martini, Ph.D.
Director of Research

GORDON KEAWE-A-HEULU PII'IA, CAPTAIN



HOKULE'A

7 January 1980

TO : Captain of VARUA

FROM : Captain of HOKULE'A

SUBJECT : EXPECTATIONS OF ESCORT VESSEL VARUA BY CAPTAIN OF HOKULE'A.

1. As Captain of the Hōkūle'a, I am primarily concerned with the area of SAFETY to both vessel and crew. Areas relative to research, carrying of foods and supplies, or whatever arrangements are to be made between you and the Polynesian Voyaging Society in other areas are not of my concern. These areas are the responsibility of the Steering Committee.
2. As requested by the U.S.C.G., an escort vessel has been recommended because of the unique design and structure of the Hōkūle'a. In this regard, we are dealing with SAFETY. This is very evident especially when considering the non-instrumental navigation to be utilized by us in the '80 trip. Thus, as Captain of the Hōkūle'a, I will rely upon you and your crew to aid us in time of need to be determined by me. Basically, this will occur only when there is a danger of loss of life and/or vessel out at sea. As we know, there are many opportunities that can arise out at sea which may warrant an undesirable situation. Man overboard at nite, structural damage due to storms, and so on. SAFETY will be exercised to avoid these unforeseen situations as much as possible.
3. As mentioned at the last Steering Committee meeting, we do expect to carry our own doctor aboard. However, if deemed necessary, I may have to call upon you out at sea if the situation calls for medical attention beyond our capability. Our doctor and your medical person should discuss our medical capabilities prior to departure.
4. As Captain or Master, I will have the final authority to call off the non-instrumental navigation experiment. This will only occur if there exists a danger to us (atolls or bypassing target area, etc.). Prior to making any final decision out at sea, I will consult with you. It is my intention to be successful in the non-instrumental navigation experiment, even when our navigator may feel that he has exhausted all means in reaching land.
5. I would like to set up a system of communication between you and myself prior to departure. I would like to discuss this with you.

Fred Rush

[REDACTED]
Crimore, N.S.W.
2090 Australia
Phone: [REDACTED]

c/o Port Captain
[REDACTED]
Papeete, Tahiti

65 foot ketch
Lloyd specifications
Yacht Lancastre

Communication Equipment:
Sea Scan radar
Radio - getting new one

Two double berths to spare

Has two crew of his own

Can take four extra individuals
one must be a navigator - double.

Requests info background on the
crew that will be going with
him - sailing exp., etc. and
background on the trip.

1/11 Use Thorsson will call
Fred Rush ing. about
communication equip.

January 4, 1979

Michael Tongg will write to Ric Martini
Marine Environmental Research to confirm
the participation of PVS and the MER and
Varua as the official escort vessel for
Hokule'a.



R/V Varua R/V Serenity

Marine Environmental Research, Inc.

P.O. Box 116 • Cortez, Florida 33522 • U.S.A. • Telephone 813/758-8129 • Cable Address: VARUA
~~Catt Box 3111 • Pago Pago, American Samoa 96799 • Telephone 633-1526 • Cable Address: NHILSON~~
P.O. Box 88023 Honolulu, Hawaii 96815 Telephone 808/523-8019 Cable Address: MERPAC

5 November 79

Ric Martini, Ph.D.
Director of Research

Mr. Michael Tongg
President
Polynesian Voyaging Society
173 C South Kukui
Honolulu, HI 96813

Dear Michael,

This letter will serve to summarize our conversation of this date concerning the proposed schedule for the R/V Varua as it affects the Hokule'a expedition.

R/V Varua is scheduled to begin a five week research program on March 1, 1980, collecting physical and biological oceanographic data and recording weather information during the passage from the Hawaiian Islands to Papeete, Tahiti. The time of actual departure from the Hawaiian Islands is flexible, with personnel prepared to work here, becoming familiar with the new equipment etc., should weather conditions be unsatisfactory for the Hokule'a beginning her passage precisely on the first. Similarly, early arrival in French Polynesia would pose no difficulties for us.

The vessel is scheduled to return on 1 June, again with a 5 week program, departing from Papeete Tahiti.

Over the intervening period (6 April - 31 May) the vessel time has been allocated as follows:

6 April - 19 April: Society Islands, data collection and collection of specimens for ciguatoxin assay (RIA or ELIZA)

20 April - 10 May: Conducting marine education program "Introduction to Marine Science" visiting the Society, Tuomotu, and Marquesas Islands

11 May - 31 May: data collection and specimen collection for ciguatoxin survey, Marquesas and Tuomotus.

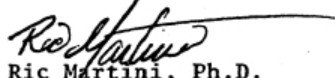
I have discussed the escort duties with Captain Nilson at greater length, following our phone conversation this morning, and feel that it would be best if R/V Varua were to escort the Hokule'a to Tahiti before undertaking any of the collection projects planned for the individual island groups, since the personnel involved in the data collection underway are not the same. For

this reason I do not see how it would be possible for us to cut down on the time spent in the southern Pacific. Nevertheless, I feel that the potential inconvenience to the crew would be more than offset by the advantages of having a vessel of Varua's capabilities and character involved, particularly at no cost to the Society.

Finally, should the Society elect to consider this further, I would like to receive additional details on the Society personnel who would be requesting vessel support for the passage.

Thank you for your time, and I will look forward to hearing from you following the various committee meetings next week. If you would like any additional information, prior to that time, please do not hesitate to contact me.

Sincerely,


Ric Martini, Ph.D.
Director of Research

R/V VARUA
SPECIFICATIONS

United States Registry No. 241612

Certificate of Registry for Oceanographic Research, under Title
46 USC Sec. 441

Tonnage: 43 net, 50 displacement

Dimensions: 93' overall, 73' on deck, 60' on waterline
16'2" beam, 8' draft

Keel: 30,000 # lead

Sail Plan: Brigantine rig - sail area (fore and aft) 1900 ft.²
sail area (total) 2700 ft.²

Speed under power: 9kn.

Speed under sail: 10+ knots

Construction details:

Composite construction (wood planks on steel frames)

Planking is 2" kauri, fastened with 1/2" galvanized bolts

Decking is 2" kava hardwood, covered with urethane and
non-skid paint

Watertight steel collision bulkhead forward

ALL planking, decking, and fastenings replaced 1976-78

Rigging:

Main and foremast shrouds 3/4" stainless, 5/8" stainless,
1/2" stainless

Stays are 3/4" stainless, 1/2" stainless, 3/8" stainless

ALL new June 1979

Sails: Tanbark dacron, Howe and Bainbridge, new Dec. 1978

Tenders: 13' Boston Whaler with 35hp Evinrude, wheel steering, el. start

Inflatable with 25hp Evinrude, wheel steering, el. start

ALL new June 1979

Liferafts: Two (2) Elliot 8-man cannister rafts, tested, inspected,
and professionally repacked May 1979

Main engine: Caterpillar D330 Turbo, 125hp continuous, 165hp max

Marine gear is twin disc MGS06, 2.97:1 ratio

Propellor is Hyde feathering 30"x18"

Generator:

Engine is John Deere 3 cylinder

Generator is Lima brushless 20KVA type SER, 120/240VAC
single phase frequency, voltage solid state regulated

Electrical System:

| | <u>Batteries</u> | |
|-----------|------------------|------------|
| 12 Volt - | Bank #1 | 220 amp/hr |
| | Bank #2 | 450 amp/hr |
| 32 Volt - | Bank #1 | 250 amp/hr |
| | Bank #2 | 500 amp/hr |

120 VAC System is produced by two 800W LaMarche Invertavolts
from the 32V batteries or directly from the John Deere
generator

240 VAC System is produced by the John Deere generator

A master panel is modulized for ease of hookup for extra
equipment, with a standard 19" mounting rack available

Storage tanks:

800 gals. diesel fuel in internal tanks, with 250 gal. rubber
tanks available if required

110 gals. gasoline in stainless barrels permanently mounted
on deck

456 gals. of fresh water as a reserve, with daily needs
met by Maxim HJ3A Desalinator, producing 8gal/hr.

Refrigeration:

22ft³ freezer, 9ft³ chill box

Boxes are chilled by two independent cooling systems,

(1) mechanical, driven off the caterpillar with an electric
clutch

(2) 240 VAC electric, powered by John Deere generator

Laboratory:

40ft² bench space in main lab area

20ft² additional in navigator's cabin if required

Lab equipment which might be of use to this project

include glassware, Coleman spectrophotometer, Nikon
binocular dissecting scope, A/O Compound microscope,
Microfilm reader, preservatives and collecting gear;
these could be removed along with other research gear
if they are not needed.

A complete darkroom is aboard for the development and printing

of Black and White photographs.

There is an IBM Correcting Selectric II onboard for reports and records.

~~A desktop computer with cassette data storage capabilities, a 64K memory, and separate CRT screen and printer is also available for use by project personnel.~~

~~The laboratory, galley and Main Saloon are fully air conditioned.~~

Special Equipment:

~~Radio~~ *We will probably have added RADAR by the end of the year*

VHF Radio - ~~REGENCY~~ VHF

SSB Radio - Harris RF 230M, 125 W continuous, simplex or duplex for all frequencies between 1.6 and 30MHZ in 100HZ steps via RF252 frequency synthesizer and RF 281 fully automatic antenna coupler

~~Weather chart recorder connected to the SSB~~

Depth sounder - ~~FURUNO 502~~ *FURUNO 502*, 0-400 fms

Cable winch on deck with boom capable of handling $\frac{1}{4}$ miles of 1/4" 7x19 wire rope

10 ACR portable strobes for surface or UW position marking of equipment

ACR Emergency Position Radio Beacon

Full tool shop including 200 amp welder and oxy-acetylene cutting torch

Complete fire-extinguishing system with portable 35# CO₂ backups for fixed 180# CO₂ System for engine room and galley. Engine driven fire pump with deck fittings and hoses.

Extensive medical stores and small pharmacy staffed by M.D.

Miscellaneous:

Berthing - 5 double berths, 9 single berths

Heads - three separate, one shower (fresh or salt)

Sinks - 1 in forecabin, 2 in galley, 1 in lab, 1 in lab head, 2 in aft darkroom/head; all with fresh or salt water

Ground tackle - (2) 200# Danforths, (2) 150# Danforths
with 1400' of 5/8" stud-link chain

Windlass is 240VAC electric with a clutch, returns at 40'/min.

Cooking - (1) Paul Luke propane stove, double gimbaled,
with a four burner top, three burner oven

~~There is no oven~~

All deck space is free of obstructions and running rigging,
as may be seen from the accompanying diagram.

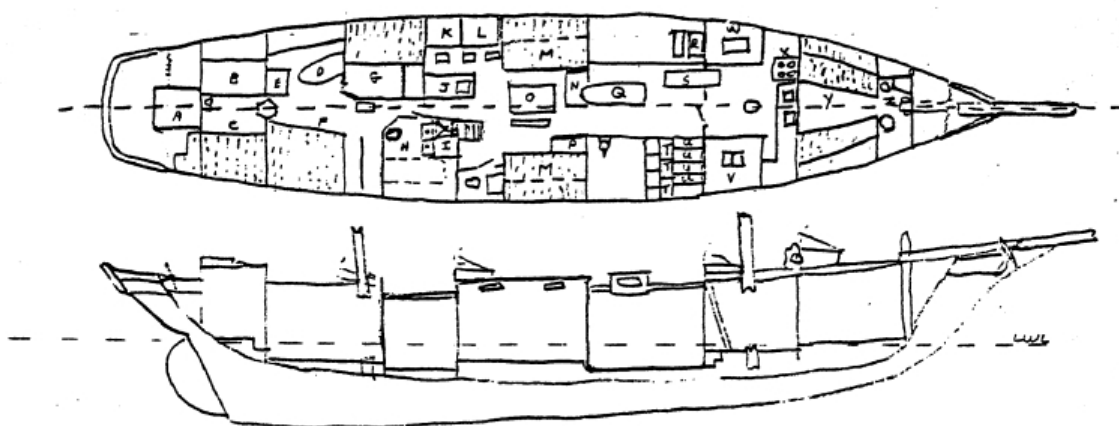
An interior layout sketch is also enclosed.

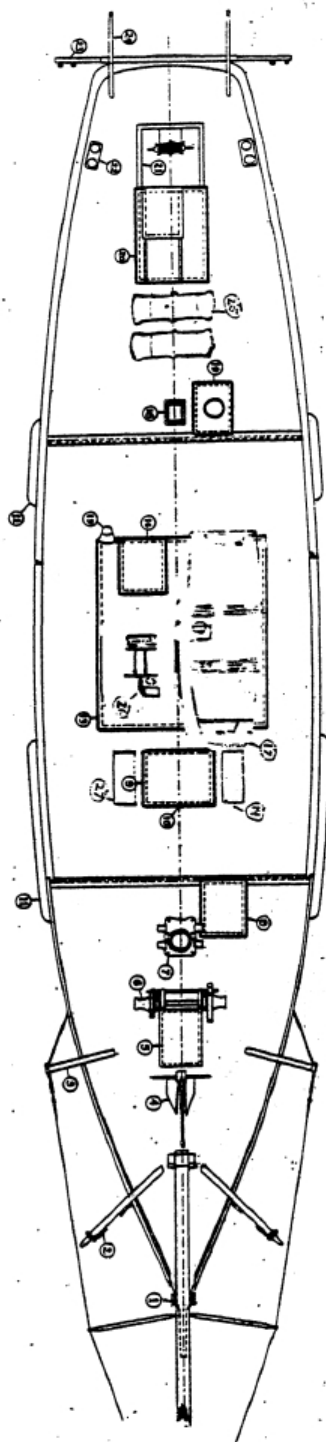
Personnel:

| <u>Name, position (in addition to crewing)</u> | <u>Pertinent experience</u> |
|--|--|
| R. Mitchell Nilson, Master Fully qualified Master of R/V as required by 46 USC 441. | Director of Operations, MER 1976- present Master, R/V Serenity (MER) Master, R/V Rhincodon (Mote Lab) Master, R/V Great White (Mote Lab) Master, R/V Wrack (Shoals Lab) Master, R/V Scomber (Shoals Lab) |
| Frederic Martini, Ph.D., Navigator and fully qualified Alternate Master | Director of Research Programs, MER 1976 - present Chief Scientist, <u>Acanthaster</u> / corals project Chief Scientist, International Dugong survey Master, R/V Serenity (MER) Master, R/V Scomber (Shoals Lab) |
| Kathleen Welch, M.D., Medical Officer and Pharmacist | |
| Paul Heineken, M.S., M.D. Biomedical Officer (part-time) | M.S. Physical Oceanography and Biomedical Engineering, MIT & WHOI |
| Susan Mott, Photographer, Financial Manager | |
| Cook and Seaman | |

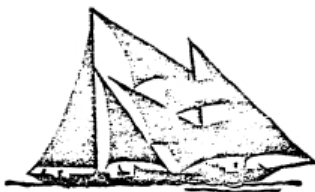
With the berthing compliment of the vessel, ¹⁰ 9 open berths remain.

- A) STEERING WELL
- B) CHART TABLE AND NAVIGATIONAL GEAR
- C) BERTH OR ADDITIONAL LABORATORY GEAR SPACE
- D) LOUNGE
- E) 19" RADIO RACK
- F) MASTER'S CABIN
- G) NAVIGATOR'S CABIN
- H) HEAD AND DARKROOM
- I) SHOWER
- J) LABORATORY STAINLESS WET SPECIMEN COUNTER AND SINK
- K) LAB SPACE I
- L) LAB SPACE II
- M) BERTHING (DOUBLE BERTH OVER SINGLE)
- N) MASTER ELECTRICAL PANEL WITH 19" RACK SPACE
- O) GIMBALLED LAB AND SALOON TABLE
- P) FILE CABINET
- Q) CATERPILLAR DIESEL
- R) REFRIGERATION
- S) JOHN DEERE GENERATOR
- T) LAMARCHE INVERTAVOLTS AND CONSTAVOLT
- U) BATTERIES
- V) FREEZER
- W) CHILL BOX
- X) PAUL LUKE PROPANE STOVE
- Y) FORECASTLE WITH 4 SINGLE BERTHS
- Z) FORECASTLE HEAD AND SINK





- 1) CHAIN ROLLERS
- 2) FORWARD CATHEADS
- 3) AFTER CATHEADS
- 4) ANCHOR
- 5) FORECASTLE HATCH
- 6) ANCHOR WINDLASS
- 7) FOREMAST TABLE AND FOREMAST
- 8) GALLEY HATCH
- 9) ENGINE ROOM HOUSE
- 10) CHAINPLATE
- 11) CHANNELS FOR FORERIGGING
- 12) CHANNELS FOR AFTER RIGGING
- 13) DECK HOUSE OVER LAB AREA AND MAIN SALOON
- 14) PORT GASOLINE TANK
- 15) VENTILATOR
- 16) MAIN COMPANIONWAY
- 17) 13' BOSTON WHALER
- 18) MAINMAST
- 19) HATCH TO NAVIGATOR'S CABIN
- 20) NAVIGATION CABIN HOUSE
- 21) STEERING WELL
- 22) AFTER BOLLARDS
- 23) OUTRIGGERS TO TAKE BRACES
- 24) COMBINATION STERN DAVITS AND ATTACHMENTS FOR PERMANENT BACKSTAYS
- 25) ELLIOT 8-MAN LIFERAFTS (2)
- 26) HYDROGRAPHIC WINCH
- 27) STARBOARD GASOLINE TANK



R/V Varua XXXXXXX

Marine Environmental Research, Inc.

P. O. Box 116 • Cortez, Florida 33522 • U.S.A. • Telephone 813/225-1111 • Cable Address: VARUA
P.O.Box 88023 Honolulu, HI 96815 Telephone 808/523-8019 Cable MERPAC

12 October 79

Dr. Ric Martini
Director of Research

Mr. Michael Tongg
President
Polynesian Voyaging Society
POB 6037
Honolulu, HI 96818

Dear Mr. Tongg,

I would like to request a meeting to discuss the possibilities for the R/V Varua serving as escort vessel for the Hokule'a expedition in the spring of 1980.

I have enclosed a listing of the specifications for the vessel, and feel that there is little doubt that she would be ideal for such a project. In addition, MER has research planned for the area between Hawaii and Tahiti, which could be conducted en route, and a project of short duration for the Societies.

Several questions remain to be answered, however, before we can make any decisions in this regard. Our itinerary is already set through early 80, and we need to know specifics as far as the dates, approximate period of passages, duration of the stay in the Society Islands, etc.. As we would presumably be funding the R/V Varua separately, and our berthing areas are limited, would there be any members of the Society requiring passage and what would be their expectations concerning accommodations and financial contributions?

As we like to make our plans well in advance, particularly when it involves projects which we will be supporting financially, it is imperative that we get together with you at your earliest possible convenience so that the appropriate decisions can be made. Next week would be convenient for us; after that time things will be more complicated, as our local educational programs will be commencing on the 20th.

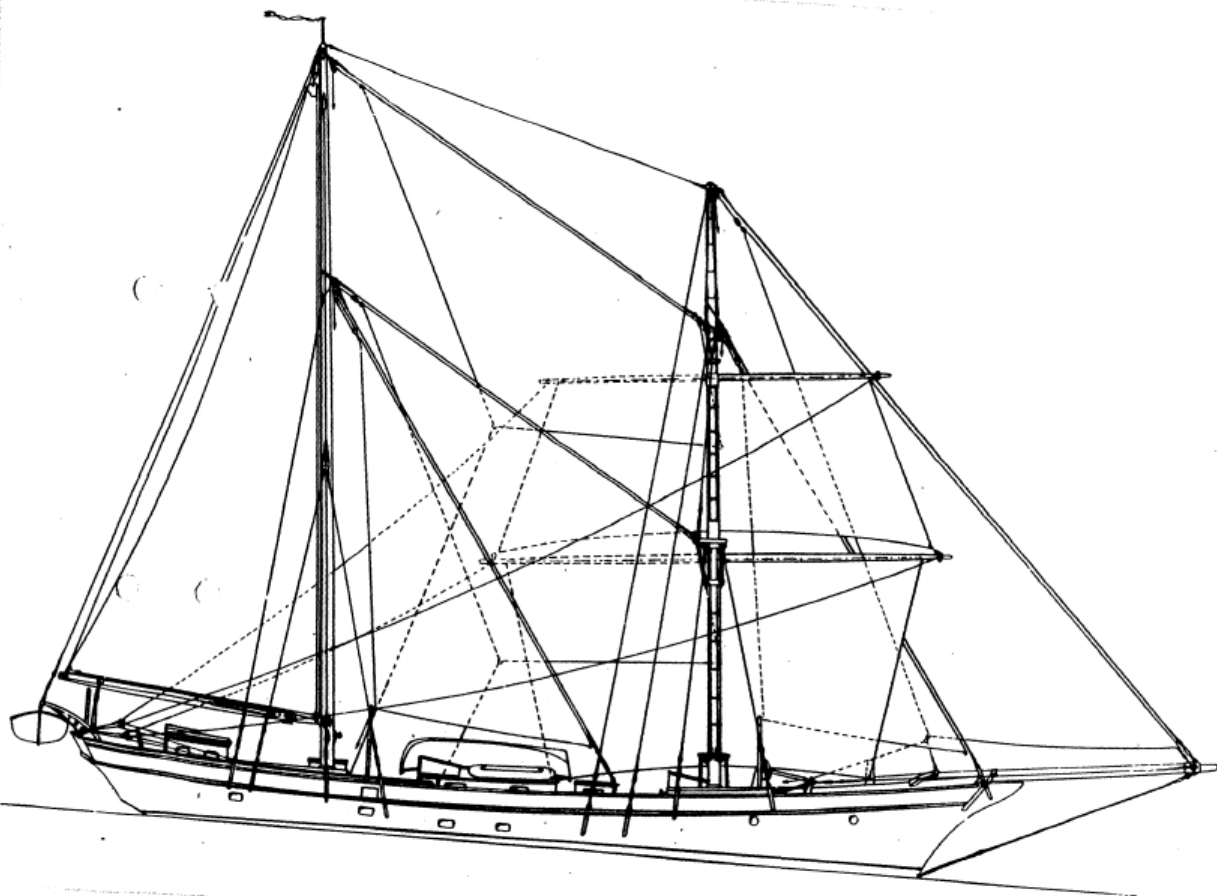
I will look forward to hearing from you concerning the meeting, which could be scheduled for your office or ours, (5320 Federal Building), whichever is most convenient.

Sincerely,

Ric Martini

rr

DOCUMENTS CAPTURED AS RECEIVED



MIRIKITANI and TONGG

Attorneys at Law

173-C South Kukui Street • Honolulu, Hawaii 96813 • Telephone 523-2441

Winston Mirikitani
Ronald P. Tongg
Michael A. Tongg

January 4, 1980

Dr. Ric Martini
Director of Research
Marine Environmental Research, Inc.
P.O. Box 88023
Honolulu, Hawaii 96815

Re: Polynesian Voyaging Society

Dear Ric:

Pursuant to our agreement the Polynesian Voyaging Society has agreed to use the Brigantine Research Vessel, Varua and its ownership entity, the Marine Environmental Research Inc., as the vessel and crew to escort our sailing canoe, Hokule'a to Tahiti commencing the first week of March, 1980.

It is our understanding that the details for the departure and subsequent voyage to Tahiti will be worked out between Ric Martini and our steering committee members or representatives consisting of, Gordon Piianaia, captain, Nainoa Thompson, navigator, and others.

For your information I have forwarded to Woody Loveland of the US Coast Guard the information concerning your vessel the Varua for purposes of assuring us of their support in our mission.

Should you have any further questions on this matter, please feel free to call me at, 523-2441.

Thank you.

Sincerely,

POLYNESIAN VOYAGING SOCIETY

By Michael A. Tongg
MICHAEL A. TONGG
Its President

MAT:gec

cc: ✓ Marlene Among
Nainoa Thompson
Gordon Piianaia

PVS COMMUNICATION INSTRUCTIONS

ISHKA will call CG Radio Station Honolulu daily at 0800 and 1800 (6 PM). If indicated they will make additional schedules as required. Message traffic must be kept to a minimum.

Either Marlene Among or Jan Dill will call the Coast Guard Radio Station (622-1671) each day at about 0730 and 1730 (5:30 PM) and give the CG any messages required to be sent to Ishka. It should be made clear for whom the messages are intended. Prior to calling, make a written copy of the message.

It will be about 0830 and 1830 before the CG will have messages from Ishka. Each time you call in messages at 0730 and 1730 arrange how you will get the return messages from Ishka. Either give the CG a phone number at which you can be reached for at least the next hour and ask them to call you, or say you will call again at 0900 or 1900 (7PM).

If there is to be an alternate PVS member to be authorized to send messages to and from Ishka, be sure that the CG has the name and day and night phone numbers.

A single schedule can easily be missed. Two in a row can occasionally be missed. Three misses in a row indicate some problem, probably with the SSB if all was indicated as normal on the last message received. Ishka will try to make calls by alternate methods such as through the phone company station KMI in California or through other private shore stations. A phone watch is indicated in this case. If two entire days schedules are missed, the CG should be requested to ask passing ships to contact on VHF FM and SSB.

In receiving messages from the Coast Guard, be prepared to fill in all the data in the standard Ishka format. It is suggested that you have duplicated forms for this data. If the Coast Guard refers to Zulu time, this means Honolulu time plus 10 hours. Normally Ishka will use Honolulu times.

A copy of Ishka message format is attached.

On your copy of incoming messages indicate to whom it was delivered and the time.

HOKULEA COMMUNICATIONS INSTRUCTIONS

Communications from ISHKA to Honolulu by SSB will be at 0800 and 1800 daily. Call ISHKA prior to these times to enable Ishka to give an up to date report to Honolulu. Call on VHF FM on channel 68.

Other schedules between HOKULEA and ISHKA will be as set by the captain.

In an emergency, Ishka will make an agreed upon sign such as smoke or flares to request Hokulea to answer on VHF FM. Normally, Hokulea will have their VHF FM sets on only during schedules.

Battery life is important in this voyage. The ship "Pace" station has two batteries, either capable of providing a half hour communications each day during the voyage. Use of low power position will assure adequate battery life. Communications between Hokulea and Ishka should be kept within the half hour planned if possible.

Normally, Hokulea will use the portable VHF FM, reserving the Pace ship station for backup. The portable is provided with three spare batteries. After using the portable, change to a charged battery and charge the removed battery for about twice as long as it was used. Do not overcharge.

Spare microphones and antennas are provided in the spares/tool box. In case you can hear but not transmit, change the mike. Change the antenna if there is a problem not solved by changing batteries and mike or if the antenna appears broken.

Maximum range between Hokulea and Ishka depends on the antenna height on the Hokulea. If Ishka is out of sight, use the Pace ship station on high power if communications are not achieved with the portable.

A spare antenna is provided for the Pace ship station. In case of antenna damage to the mast-mounted antenna, hold off using the spare until necessary if the portable set is providing adequate communications.

Plans call for providing a solar battery charger. This will work automatically to charge the two 12 volt batteries when the sun is up. These batteries are used to charge the portable batteries and to run the Pace ship station. A switch is provided to shift from one battery to the alternate. A voltmeter is provided to indicate the state of battery charge. It should read 13.8 volts when the battery is fully charged and 12 volts when the battery is low. Generally to prevent battery loss, disconnect equipment by the switches provided when they are not in use.

If required, Ishka can charge the 12 volt batteries.

Prior to return from Tahiti to Honolulu, insure that batteries are fully charged.

ISHKA COMMUNICATIONS INSTRUCTIONS

Of primary importance is the VHF FM watch to detect signals from HOKULE'A. Normally the VHF FM should be monitored continuously, on channels 16 and 68. Hokulea will call on channel 68 daily prior to the 0800 and 1800 SSB schedules.

If need arises and Ishka VHF FM monitoring watch is to be discontinued, insure that Hokulea is aware of this and that a signal is arranged for Hokulea to alert Ishka to turn on the VHF FM.

During the daily calls from Hokulea insure that all information is obtained to complete a report to Honolulu on the Hokulea status.

Ishka's VHF FM contains a direction finder. To insure that you are competent in its operation and to assure that it is working, as a standard routine take and note the bearing of Hokulea during each schedule. At the same time as taking the RDF bearing, note the Ishka compass heading so that the magnetic bearing to Hokulea can be computed.

In case of VHF FM defects, change the entire set using the spare set provided in a shipping box. DO NOT THROW OUT THE SHIPPING BOX. It will be required for later use. The spare mike from the alternate set can be used if mike problems are indicated.

Communications to PVS in Honolulu will be via Coast Guard Radio Honolulu using SSB voice transmissions. Daily routine should include turning on the SSB at 0700 and 1700 daily, allowing an hour for the set to stabilize in frequency. Operation sooner than 15 minutes after turn-on will be out of frequency tolerance and may not be understandable (plus FCC citation). Normally communications will be originated by Ishka to the CG. At 0800 and 1800 call the Coast Guard Radio Honolulu on the agreed primary frequency. Call twice if it is indicated. Then if contact is not made, repeat after 3 minutes. If contact is not made yet, the CG will call Ishka at 0805 and 1805. If contact is not made by 0810 or 1810, shift to the agreed secondary frequency and call the CG at 0815 and 1815. CG will call Ishka on the secondary frequency if contact is not made at 0820 and 1820. All times Honolulu local.

On each schedule with the CG, request the recommended primary and secondary frequencies for the next two schedules. If the situation indicates that additional schedules are required, arrange the time of additional schedule and primary and secondary frequencies.

Daily contact with PVS is considered important. If you fail to make contact through the CG Honolulu but hear CG San Francisco, call them and request them to relay messages. (the same frequencies are used) If no contact is made with the CG for three schedules, attempt to call KMI and make a phone call to PVS (808) 841-3966. If unable to contact KMI, try to contact any station or ship heard on Ship/ship frequencies and ask them to relay to the CG if a ship or call PVS collect if a shore station.

ILLEGIBLE

1. Time of fix (Honolulu time).
2. Hokulea position at time of fix.
Lat _____ Deg _____ Min N (WS)
Long _____ Deg _____ Min W
3. Hokulea status (Hokulea operation normal or list specific problem) (COBES)
4. Predicted Hokulea true course and speed
Course _____ Deg _____ Knots True
5. Present wind speed and direction
Wind _____ Knots _____ (compass point as NW, NE)
6. Present primary wave height and direction
Waves _____ Ft _____ Comp point.
7. Present secondary wave system height and direction (or none)
8. Type clouds _____ clouds
9. % cloud coverage _____ percent coverage
10. Estimated cloud height _____ thousand feet
11. Present weather (rain, clear, etc.) weather _____
12. Ishka status. (Ishka operation normal or list deficiencies)
13. Predicted ETA Papeete, or other point. ETA Papeete _____
(Honolulu date & time)
14. Required minimum personal messages. From _____ to _____
and message _____ (COBES)
15. Request recommended primary and secondary frequency for next
two schedules and any required extra schedule.
16. Request any messages from PVS.
17. Receipt for messages and clear channel. Ishka roger and out.

ISHKA primary power is 24 volts DC. There are two sets of 12 volt batteries series connected to provide 24 volts. A voltage converter has been provided to give a source of 12 volts to the SSB and VHF FM. This converter is rated for the SSB only so when using the SSB do not use the VHF FM. A voltmeter has been provided to check voltage. Insure that it reads 12 to 13.8 volts prior to turning equipment on. If voltage drops to 12 volts, battery needs charging. If there is no 12 volts, check fuses in the converter. If still no 12 volts, rewire the 12 volt supply to the midpoint of the two batteries. Turn off equipment prior to doing this and do not turn on again till the meter indicates 12 volts to be present.

NOTE:

Except for military or Coast Guard aircraft, passing aircraft will not be able to communicate with you on either SSB or VHF FM. They monitor 121.5 or 243 Mhz on AM, the frequencies of your EPIRB. If SSB communications fail, the first aircraft or ship in your area will be requested to call you on VHF FM channel 16. Both Hokulea and Ishka should monitor if possible. As no back up SSB is provided and daily reports of status are important, make every effort to relay through the first passing ship using VHF FM.