

MARINE CASUALTY REPORT



Report of the Investigation
into the Casualty of
the Belize registered
Live-aboard Dive Boat

WAVE DANCER

with the loss of twenty lives
in the Port of Big Creek, Stann Creek District, Belize,
on 8th October 2001

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ISO 9001:2000 certified



International Merchant Marine Registry of Belize

Suite 204
Marina Towers
Newtown Barracks
Belize City
Belize
Central America

**Report No. 1/05
Issued January 2005**

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1. PURPOSE AND METHOD OF THE INVESTIGATION

1.1 The Purpose of the Investigation

This casualty is investigated by the International Merchant Marine Registry of Belize (IMMARBE) and is published in accordance with the IMO Code for the Investigation of Marine Casualties and Incidents promulgated under IMO Assembly Resolution A.849(20). The purpose of this investigation is to determine the circumstances of this casualty in order to avoid similar incidents in the future. The conclusions drawn in this Report aim to identify the factors which contributed thereto. They are not intended to apportion blame between or to determine the liability of any of the organizations or individuals involved except so far as is necessary to achieve the said purpose.

N.B. This report is not written with liability in mind and is not intended to be used in court for the purpose of litigation. It endeavours to identify and analyse the relevant safety issues pertaining to the specific accident, and to make recommendations aimed at preventing similar accidents in the future.

1.2 The Method of Investigation

1.2.1 IMMARBE's Committee of Investigation consisted of the following:

- Mr. Angelo Mouzouropoulos FICS, FCI Arb - Director-General of IMMARBE, Chairman of its Committee of Investigation
- Mr. Libardo Brú BSc MSc - Technical Manager, IMMARBE
- Captain A. J. (Sandy) Macpherson M.N.I. - Marine Surveyor
- Mr. Michael Bell – Marine Surveyor
- Mr. Demetrio Cortes - Technical Supervisor, IMMARBE

The following were also co-opted to advise on specific matters:

- Captain Nigel Matthews – Marine Consultant
- James Drummond – Marine Manager, Ince & Co – London

1.2.2 The Members of the Committee of Investigation:

- Conducted examinations of the *Wave Dancer* after the casualty as well as the area where the casualty had occurred.
- Examined the records of the *Wave Dancer* at IMMARBE.
- Took Statements from the surviving crew of the *Wave Dancer* and Captain Jerry Schnabel, Master of the *Belize Aggressor III*.
- Examined statements, Reports, Declarations, Certificates, Procedures, Drawings, Charts and other relevant documents, conducted interviews and corresponded with parties listed in Section 3 hereof.
- Sought independent advice from maritime solicitors and other specialists.
- Convened meetings to progress the investigation and issued a Draft Report.
- Examined the responses to the Draft Report received from persons/organizations (or those acting on their behalf) who had been criticized therein.
- Approved the final Report of Investigation.

1.2.3 The progress of the issuance of the Report of Investigation was delayed principally due to:

- The statements of the 3 surviving passengers which were received as late as the 27th February 2003. As the result of the advice received from their attorneys, the release of these statements to us was delayed until after the settlement of all claims had been effected by the *Wave Dancer's* insurers.

- On 16th July 2003, we were informed that lawyers representing the insurers of the *Wave Dancer* had commenced legal proceedings against the Owners of the *Belize Aggressor III* alleging that the casualty to the *Wave Dancer* had been caused by a collision between these two vessels which had allegedly occurred due to the fault of the *Belize Aggressor III*. This led to our having to examine further evidence.

2. BACKGROUND AND GENERAL DESCRIPTION OF CASUALTY

The live-aboard dive boat *Wave Dancer* sailed from Radisson Fort George at 17.30 on 6th October 2001 with 20 passengers and 9 crew on board for a one week diving holiday. At noon on that day, "Iris" was a tropical storm and was located about 275 miles ESE of Kingston, Jamaica moving West-Northwest at 20 mph with maximum winds of 65 mph. Prior to departure, the Master, Captain Philip Martin had been given clear instructions by Captain Alan Cull of Peter Hughes Diving Inc to closely monitor this storm.

The *Wave Dancer* arrived at Lighthouse Reef at 23.00 hours on 6th October. It departed from there at 07.00 hours, 7th October and arrived at Half Moon Caye on Lighthouse Reef at 07.30 hours, 7th October. Diving commenced at 08.30 hours until about noon. It departed Half Moon Caye on Lighthouse Reef at 12.30 hours, 7th October and arrived Long Caye on Lighthouse Reef at 13.00 hours on that day. Diving commenced at about 14.00 hours until 18.00 hours and there was a night dive from 20.00 hours until 21.00 hours. It departed Long Caye at 21.15 hours and proceeded to a night mooring inside the atoll. In the meantime, "Iris" had been upgraded to a hurricane and at 06.00 hours on 7th October, it was centred about 45 miles South-Southwest of Kingston, Jamaica. This was also 745 miles East of Belize City. According to the Chief Meteorologist of Belize, Carlos Fuller's Report, "it was now apparent that Iris posed a definite threat to the country." Consequently, the National Emergency Management Office (NEMO) of Belize issued three bulletins on that day, the third of which was at 20.37 hours Belize time and declared Phase 11, Red 1 hurricane watch for the entire country of Belize and reported that the Government of Belize had also upgraded the Hurricane Watch to a Hurricane Warning for the entire country. Hurricane "Iris" was expected to make landfall in Belize within about twenty-four hours.

Captain Philip Martin decided to remain at Lighthouse Reef on the night of 7th October and to depart from there at 06.30 hours on 8th October in order to take

refuge at the Port of Big Creek. The evacuation of Belize City had already begun at the time the *Wave Dancer* had departed Lighthouse Reef for the Port of Big Creek. At this time, hurricane "Iris" was predicted to make landfall later on that day. The *Wave Dancer* arrived at Big Creek at approximately 14.30 hours and secured to the dock Port Side to in front of the *Belize Aggressor III*, another live-aboard dive boat, at approximately 15.30 hours, 8th October with its bow protruding beyond the dock by over 30 ft.

The Port of Big Creek is situated in the Stann Creek District of Belize and next to the village of Independence. It is about 75 miles South of Belize City. It is a private port and on lease to Toledo Enterprises Ltd which is 50% owned by Fyffes and 50% by Banana Enterprises Ltd. This port is used for the export of bananas. According to Mr. Antonio Zabaneh, a Director of Banana Enterprises Ltd, they allow vessels to use Big Creek as a port of refuge from storms and when there are no banana ships in port, to use the dock as well. The vessels seeking refuge there do so at their own risk, they do not pay any dues or charges whatsoever and do not receive any services from Toledo Enterprises Ltd or Banana Enterprises Ltd. Both Big Creek and the village of Independence are within the coastal area. The dock at Big Creek is 167m (547 ft) long. It is situated approx. 1 mile inland from the coast and is approached via a channel which had been dredged to 6.7m (22 ft.) in 1989. The commercial operation of this port is the responsibility of Toledo Enterprises Ltd whereas the Belize Port Authority acts as the sole regulatory body. In that capacity, it is responsible for security including security guards, the provision of boarding officers and pilots.

Hurricane "Iris" began to hit the Port of Big Creek at about 19.30 hours on the 8th October. It was described by the National Weather Service in Miami as "an extremely dangerous Category Four Hurricane". The point of landfall of the center of the eye was between the town of Monkey River and the Southern tip of Placencia. Big Creek is within that range. After the event, according to Belize's Chief Meteorologist Carlos Fuller, "based on Belize radar fixes and infrared

satellite imagery, Iris made landfall around 8:00 pm near Monkey River. Maximum sustained winds had been measured by dropsonde several hours earlier at 146 mph. The Dvorak satellite technique estimated the strength at landfall at 150 mph. There were very likely higher gusts at landfall.” He also stated that “the northern eyewall passed over Placencia, Independence and Big Creek producing extensive damage.”

The *Wave Dancer* broke away from its moorings at about 20.30 hours. There was a collision between the stern of the *Wave Dancer* and the bow of the *Belize Aggressor III* at about the time the *Wave Dancer* broke away from the dock. The *Wave Dancer* drifted, grounded and capsized resulting in the loss of 20 lives, those of 17 passengers and 3 crew.

3. SOURCES OF INFORMATION

- 3.1 Crew List
- 3.2 Guest Manifest
- 3.3 The Statements of the Master and surviving crewmembers of the *Wave Dancer* including that of Angela Luk, Assistant Cook who had left the dive boat shortly after its arrival at Big Creek.
- 3.4 The Statement of Mr. Charles Ryan Vernon, the agent in Belize for the *Wave Dancer*
- 3.5 The Statements of the three surviving passengers
- 3.6 Interviews with Peter Hughes and Captain Alan Cull of Peter Hughes Diving Inc., Miami Lakes, Florida, U.S.A.
- 3.7 Interview and Statement of Mr. Antonio Zabaneh – Chairman of Independence Village, Chairman of Banana Growers' Association, President of the National Village Council Association, Director of Banana Enterprises Ltd.
- 3.8 Interview, Report and Statement by Captain Jerry Schnabel of the *Belize Aggressor III*.
- 3.9 Interview with the Belize Port Authority – Mr. Alberto F. Mahler, Ports Commissioner and Major Andrew C. Lewis, Deputy Ports Commissioner
- 3.10 The Statements of three leading officers of the *Amy J*
- 3.11 The Statement of Earl Young, Master of the tug boat *Miss Gayle*
- 3.12 The interviews with relatives of the deceased: Mrs. Beverley Wade, Bernadette Williams, Alberto Hall, Shawn Lawrence
- 3.13 The Statement of Camille N. Estell, Front Office Manager of the Radisson Fort George Hotel, Belize City
- 3.14 The Statement of Mr. Glenford Eiley – Council Chairman for Placencia Village.

- 3.15 The Statement of David Williams, Commissioner of Police
- 3.16 The Statement of William A. MacDonald, SSGT (SSI) Army Physical Training Corps.
- 3.17 The Statement of Timothy McClune, Captain Royal Engineers
- 3.18 The Statement of Fernando Rosado, Corporal of Police
- 3.19 Interview with Mr. John Barillas, Port Security Guard at Big Creek
- 3.20 Mooring Arrangement signed by 2nd in Command Captain Frank Wouters
- 3.21 Mooring Lines Condition Report dated 18th April 2002 by Edward J. Miller, Surveyor/Vice President of Rush Johnson Associates.
- 3.22 Interview with Marlow Ropes, U.K.
- 3.23 Copy of "Stability Test & Evaluation" by Blancke Marine Services, New Jersey, U.S.A. dated 10th June 2000
- 3.24 The *Wave Dancer's* Standard Check-in-Procedures and Peter Hughes Standard Operating Safety Procedures
- 3.25 The *Wave Dancer's* Hurricane Plan
- 3.26 The Registry File for *Wave Dancer*
- 3.27 The Survey Report by Mr. Michael Bell, Marine Surveyor
- 3.28 Survey Report dated 10th December 2001 by Edward J. Miller, Surveyor/Vice President of Rush Johnson Associates
- 3.29 The visits to Big Creek and inspection of the vessel at Big Creek by the Director-General and staff of IMMARBE on 11th October, 1st November 2001 and 6th September 2002.
- 3.30 The National Emergency Management Organization of Belize (NEMO) Declarations and data relating to Hurricane Iris from Belize's National Meteorology Service, U.S. National Hurricane Center, National Weather Service, Miami
- 3.31 Report on Hurricane Iris by Carlos Fuller, Chief Meteorologist, Belize

- 3.32 Report dated 18th April 2002 by Walter A. Lyons, Ph.D., CMM President and Senior Scientist at Forensic Meteorology Associates Inc., U.S.A.
- 3.33 Photographic and video tape evidence
- 3.34 Chart of Big Creek and Approaches.
- 3.35 The Medical Certificates of Causes of Death for the 20 deceased certified by Dr. Mario Estradabran, Medical Practitioner and our interview with him.

4. PARTICULARS OF VESSEL

Name : *Wave Dancer* (ex Super Squirrel II)

Registration No. : 01921046

Port of Registry : Belize City, Belize

Owners : *Wave Dancer* Ltd.
P.O. Box 103,
Maclaw House, Duke St.,
Grand Turk,
Turk & Caicos Islands

Managing Agents : *Wave Dancer* (Belize) Ltd.
1506 Coral Grove,
Belize City, Belize

Recognized Organization : Panama Maritime Documentation Services Inc.

Gross Tonnage : 211.54

Net Tonnage : 78.42

Overall Length : 29.30m/120 ft.

Breadth : 7.50m/25 ft.

Depth : 2.90m/7 ft.

Wind Profile : Windage area of 2,115 sq. ft.

Number of Decks : 3

Year of Build/Builders : 1975 by Gulf Craft Inc, Patterson, Louisiana, USA
as a Passenger Vessel. It was converted to a
Live-aboard Diveboat by Network Marine
Shipyard, Belle River, Louisiana, USA in
1991/completed in January 1992.

Type : Live-aboard Dive Boat

Propulsion : Twin Screw Diesel
General Motors 12V 71TI

Material of Hull : Aluminum

Maximum Speed : 10 knots

Capacity : 20 passengers. Total capacity of life-saving
equipment is for 36 persons

General Arrangement Plan – see Attachments 1(a) and 1(b).

5. STRUCTURE OF COMPANIES

- 5.1 The *Wave Dancer* is owned by *Wave Dancer* Ltd. of P.O. Box 103, Maclaw House, Duke St., Grand Turk, Turks & Caicos Islands.
- 5.2 *Wave Dancer* (Belize) Ltd. of 1506 Coral Grove, Belize City, Belize is the operating company whose Managing Director is Mr. Peter Hughes. Mr. Charles Ryan Vernon is an employee of this company and acts as Agent for the *Wave Dancer* in Belize.
- 5.3 Peter Hughes Diving Inc. of 5723 NW 158 St., Miami Lakes, FL 33014 U.S.A. is the marketing, sales and reservation company whose President is Mr. Peter Hughes. This Company is engaged in providing passengers hereinafter referred to as “guests” for the *Wave Dancer* as well as other live-aboard dive boats.
- 5.4 The guests make their reservations through Peter Hughes Diving Inc. This entails the payment of a deposit and the issuance of a Contract stipulating the terms and conditions of the services to be provided. They sign a “Waiver of Claims, express assumption of the risk, release of Liability and Indemnity Agreement” (“Waiver Agreement”).
- 5.5 The *Wave Dancer* as well as another live-aboard Dive Boat the Belize-registered *Belize Aggressor III* which is owned and operated by another company (with no relation to the *Wave Dancer*) were both chartered by the Richmond Dive Club of Richmond, Virginia for their members.
- 5.6 Island Dreams Travel were the travel agents who arranged to charter the *Wave Dancer* on behalf of the Richmond Dive Club from Peter Hughes Diving Inc. for the period 6th October to 13th October 2001.

6. FINDINGS

6.1 **The *Wave Dancer* was registered in Belize on 5th February 1992.** It remained under the same ownership from that date until after the casualty on 8th October 2001. Throughout the aforementioned period it had operated as a live-aboard dive boat with no record of any major casualty affecting its hull or machinery. However, we have been informed that two passengers had died whilst diving:

- Mr. Jerry McCallum passed away whilst diving on 29th August 1996.
- Mrs. Edwina “Winnie” Hammond passed away whilst diving on 14th August 1999.

In neither of the abovementioned cases was any allegation of fault made or any action brought against the Owners of the *Wave Dancer*.

6.2 **At the time of the casualty, this vessel had the following Certification:**

- Permanent Patent of Navigation issued by IMMARBE and valid until 29th June 2003
- Ship Station License issued by IMMARBE and valid until 29th June 2003
- International Tonnage Certificate (1969) issued under the authority of the Government of Belize on 29th January 1992 – permanent validity
- International Load Line Certificate issued on 3rd March 2000 on behalf of the Government of Belize by Panama Maritime Documentation Services Inc and valid until 25th October 2004

- Passenger Ship Safety Certificate for Non Convention Vessel operating in the national waters of Belize and within 20 nautical miles from land and valid until 14th January 2002.

The vessel held a valid License issued by the Belize Tourism Board on 17th April 2001 to operate as a Live aboard Passenger Vessel (Class 2) in Belizean waters until 31st December 2001.

6.3

With regard to stability

- Prior to its purchase by *Wave Dancer* Ltd. at a Public Sale on 14th August 1991, the *Wave Dancer* was called Super Squirrel II and had served as a Passenger Vessel (Fishing/whale watching). It had been constructed at Gulf Craft Inc. in accordance with the requirements of USCG subchapter H for passenger vessels in excess of 150 passengers. According to the Certificate of Inspection dated 1st May 1990 issued by the U.S. Coast Guard, it was suitable “for service in the Atlantic Ocean and the Gulf of Mexico not more than one hundred miles from land, between East Port, Maine, and Brownsville, Texas while not on International Voyage” carrying 165 passengers/total persons allowed 175. Also, it was permitted to carry 342 passengers/total persons allowed 350 on the same route but not more than twenty miles from land.

This vessel was converted to a live-aboard Dive boat by Network Marine Shipyard, Belle River, Louisiana, USA. The conversion, which included the insertion of a third deck, was completed in January 1992. Furthermore, on 16th January 1992, this vessel was inspected by Hydro-Clear Inc. and its Surveyor Mr. Raymond Thompson who were authorized to do so on behalf of IMMARBE. Also, a naval architect, Mr.

Randal R. Monceaux, acting on behalf of IMMARBE, had issued a Stability Letter dated 28th January 1992 confirming that after the conversion “this vessel’s stability characteristics are within the guidelines set forth by the U.S. Coast Guard Standard.” This vessel was subsequently registered at IMMARBE on 5th February 1992.

A Stability Test and Evaluation was carried out by Blancke Marine Services New Jersey, USA on 10th June 2000. It concluded that the *Wave Dancer* was suitable for its intended purpose and that it was capable of unlimited operation in Caribbean waters.

6.4 **The Crew**

6.4.1 At the time of this casualty, the number and certification of her 8 crew (9 less 1 crewmember, Angela Luk the Assistant Cook, who left of her own volition at Big Creek a few hours prior to the casualty) were as follows:

<u>RANK/STATUS AFTER CASUALTY</u>	<u>NAME</u>	<u>NATIONALITY</u>	<u>QUALIFICATION</u>
Master. Survivor.	Philip Martin	New Zealand	UK Certificate of Competence Yachtmaster Offshore with Commercial Endorsement issued 26 th January 2000. PADI Openwater Scuba Instructor PADI Medic First Aid Instructor

Chief Officer/Engineer (hereinafter referred to as the 2 nd Captain by which he was known onboard). Survivor.	Frank Wouters	U.S.A.	U.S.C.G. Master of Steam or Motor Vessels of not more than 1600 Gross Tons upon near coastal waters issued 27 th August 2001.
Head Diving Instructor. Survivor.	Thomas Baechtold	Swiss/ Australian	Australian Recreational Ship Master License, Medical First Aid Instructor with several specialities in diving
Diving Instructor. Deceased.	Aaron Stark	U.S.A.	Instructor's Certificate by PADI
Dive Master. Survivor.	Bart Stanley	Belizean	Divemaster's Certificate by PADI
Chef. Deceased.	Eloisa Johnson	Belizean	-
Stewardess. Deceased.	Brenda J. Wade	Belizean	-
Multi-purpose Crewmember. Survivor.	Eleno Cortez	Belizean	-

6.4.2 Experience

Captain Philip Martin: Born 28th June 1968. His employment at sea commenced in 1993. Prior to joining the *Wave Dancer*, he had no previous experience as Master of any commercial vessel. The vessels he had previously sailed on were mainly engaged in voyages in the Mediterranean, U.K., Australia and New Zealand. He stated to us that he had completed "one season" in the Caribbean (although not in the hurricane season). He joined the

Wave Dancer as 2nd Captain in February 2001 and thereafter was promoted to Captain in May 2001.

2nd Captain Frank Wouters: Born 13th December 1963. His employment on the *Wave Dancer* commenced on 30th July 2001. He had no previous experience in sailing in Belize but had some experience of hurricane zones//hurricane force winds. It was his employer's intention to promote him to Master on the *Wave Dancer* in due course after satisfactory completion of a period of service as 2nd Captain.

Thomas Baechtold – Head Diving Instructor: Had 7 years' experience on live-aboard dive boats and dive centers.

Bart Stanley – Dive Master: Had been employed on *Wave Dancer* since November 2000. He had also acted as relief 2nd Captain. Being Belizean and having dived in Belize for several years, he had a good knowledge of these waters and dive sites.

Aaron Stark – Diving Instructor: Had joined the *Wave Dancer* in September 2001 and was on his first contract on this vessel.

The Chef Eloisa Johnson, Stewardess Brenda J. Wade and multi-purpose crewmember Eleno Cortez: had all served for several years on this vessel.

6.4.3 **Contracts of Employment**

Whereas the non-Belizean crewmembers have each signed individual contracts of employment, none of the Belizeans had done so. The latter received salary slips at the end of each voyage and were paid by cheque by *Wave Dancer* (Belize) Ltd.

6.5 **This vessel's movements** from the date of the boarding of the guests in Belize City on Saturday, 6th October 2001 were as follows:

- Departed Radisson Fort George at 17:30 hours, 6th October
- Arrived at Lighthouse Reef at 23:00 hours, 6th October

- Departed Lighthouse Reef at 07:00 hours, 7th October
- Arrived Half Moon Caye on Lighthouse Reef at 07:30 hours, 7th October.
Diving commenced at 08:30 hours until about noon.
- Departed Half Moon Caye on Lighthouse Reef at 12:30 hours, 7th October
- Arrived Long Caye on Lighthouse Reef at 13:00 hours, 7th October
Diving commenced at about 14:00 hours until 18:00 hours
Night Dive from 20:00 hours until 21:00 hours
- Departed Long Caye on Lighthouse Reef at 21:15 hours for a more secure mooring inside the atoll which had been specifically installed by *Wave Dancer* (Belize) Ltd.
- Departed the atoll at Lighthouse Reef at 06:30 hours, 8th October
- Arrived Big Creek at 14:30 hours and secured to the dock Port Side to in front of the *Belize Aggressor III* at approximately 15:30 hours, 8th October

A map of Belize is in Attachment 2.

Hurricane Iris reached Big Creek at approx. 19:30 hours on 8th October

6.6 **The Weather Reports, Broadcasts and NEMO Declarations** in Belize regarding “Iris” which have been examined are:

6.6.1 The Tracking of “Iris” submitted to us by the National Meteorological Service of Belize showing the timing of the NEMO Declarations, all in Belize local time as shown in Attachment 3

6.6.2 The official track of Hurricane “Iris” as determined by the U.S. National Hurricane Center

6.6.3 The Notes of the Radio Broadcasts in Belize from 7th – 9th October

- 6.6.4 The Marine Forecasts in Belize for the 7th and 8th October
- 6.6.5 The General Weather Forecasts in Belize 6th – 9th
- 6.6.6 The NEMO Declarations Nos. 1 – 5 issued on 7th & 8th October are as shown in attachment 4(a), (b), (c), (d) and (e).
- At noon on 6th October “Iris” was a tropical storm and was about 275 miles ESE of Kingston, Jamaica moving West-Northwest at 20 mph with maximum winds of 65 mph.
 - At 18:00 hours on 6th October, Hurricane “Iris” was located about 190 miles ESE of Kingston, Jamaica with maximum winds of 75 mph and moving to the West at 17 mph.
 - At 06:00 hours on 7th October, “Iris” was centred about 45 miles South-Southwest of Kingston, Jamaica. This was also 745 miles East of Belize City. **According to the Chief Meteorologist of Belize, Carlos Fuller’s Report, “it was now apparent that Iris posed a definite threat to the country.”**
 - **At noon Belize time/2pm EDT on 7th October, NEMO issued its first bulletin, a hurricane watch from Belize City northward. This information was also contained in National Hurricane Center (NHC) Bulletin Advisory Number 12A at 2pm EDT (Noon Belize Time).** The Marine Forecast issued on local radio stations at 2pm also announced a **“hurricane watch in effect for coast of Belize from Belize City Northward.”**
 - **In its second bulletin issued at 17:44 hours on 7th October, NEMO extended the hurricane watch to the entire coast of Belize.** This information was relayed by NHC in their advisory Number 13A issued at 8pm EDT (18:00 hours Belize time). The General Weather Forecast issued on local radio stations at 5pm announced that a

“hurricane warning in effect for coast of Belize”. Also in the evening weather report at 6pm it was announced that **“a small craft warning is in effect for coastal waters of Belize.”**

- **In its third bulletin of the 7th October which was issued at 20:37 hours Belize Time, NEMO declared Phase II, Red 1 hurricane watch for the entire country of Belize and reported that the Government of Belize had upgraded the Hurricane Watch to a Hurricane Warning for the entire country.** This information was also contained in the NHC Advisory Number 14 issued at 23.00 hours EDT (21:00 hours Belize Time).
- **At 06:00 hours on Monday 8th October, in its 4th Bulletin, NEMO declared that Belize was now under Red II Hurricane Warning for the entire country. Iris was classified as a Category 4 hurricane and was considered extremely dangerous with maximum sustained winds in excess of “140 miles per hour;” “a 15ft storm surge and battering waves”.** Those persons living in the cayes, along the coasts and other low-lying areas who have not completed their evacuation plans are urged to begin evacuating now.
- **In its 5th Bulletin at 11:00 hours, NEMO declared that “Residents along the coastal areas from Belize City southward should seek safe shelter in secure buildings on higher ground” and “directed the evacuation of people living on the coastline and river banks in Belize, Stann Creek and Toledo Districts, and will be providing buses to facilitate the evacuation.”**

- **At 08.00 hours EDT (06:00 hours Belize Time) on 8th October, Hurricane Iris was described by the U.S. National Hurricane Centre (NHC) as “an extremely dangerous Category Four Hurricane” which was moving fast in a Westerly direction at 20 m.p.h. “Storm surge flooding of 13-18 ft above normal tide levels along with dangerous large battering waves are likely near and to the right of where the center of the hurricane crosses the coast.”** Landfall was predicted at 21.15 hours EDT (19:15 hours Belize Time) on 8th October. “Iris” began passing onshore between 21.30 hours and 22.00 hours EDT (19.30 – 20.00 hours Belize Time). The point of landfall of the center of the eye was between the town of Monkey River and the Southern tip of Placencia. Big Creek is within that range. After the event, according to Belize’s Chief Meteorologist Carlos Fuller, “based on Belize radar fixes and infrared satellite imagery, “Iris” made landfall around 8:00 pm near Monkey River. Maximum sustained winds had been measured by dropsonde several hours earlier at 146 mph. The Dvorak satellite technique estimated the strength at landfall at 150 mph. There were very likely higher gusts at landfall.” He also stated that “the northern eyewall passed over Placencia, Independence and Big Creek producing extensive damage.”
- The NEMO declarations and weather reports were all relayed to the public in Belize by Love FM & KREM (Belize Radio Stations) virtually concurrently with their issuance.

6.7 **Statements given to the investigation team by Crew regarding weather:**

6.7.1 The Captain and 2nd Captain were monitoring the tropical depression in the Eastern Caribbean Sea since noon on 5th October.

6.7.2 Captain Alan Cull of Peter Hughes Diving Inc had instructed the Master on 5th October both verbally and by email to monitor the storm.

6.7.3 According to the 2nd Captain, at about 13:00 hours on 7th October: “our guests did ask me information with regards to the weather forecast in the light of the tropical depression and I gave them the weather fax print out and discussed with the guests the possibility of going to the Blue Hole on the following morning (Monday, October 8th) because the forecast predicted the hurricane to arrive in the Belize border/Yucatan on Wednesday/Thursday 10th/11th. At about 14:00 hours, I called the national weather service Hurricane Centre in Miami from the satellite phone and asked for the predicted tract and current location of Iris. I was given 6 hours projection of Iris for the next 3 days, which showed Iris heading to the Mexican Yucatan peninsula. I shared with the guests this information. Thereafter, I checked the weather fax at about 16:00 hours and established that Iris’ landfall was still projected for the Mexican Yucatan on Tuesday, October 9th, 2001. Thereafter, according to the other steward staff (catering staff) they had heard on Belize radio that San Pedro was being evacuated on that evening and they expressed concern for their families. During the course of the afternoon, I requested Christy McNeil, Group Leader, to conduct a poll as to whether or not to return to Belize City with a view to being accommodated ashore or stay on the boat and proceed South. The vote was unanimous to remain on the boat.”

- 6.7.4 According to the Assistant Cook, Angela Luk: “on Sunday, 7th October at about noon, whilst I was preparing lunch, I heard Belize Radio in the galley that the hurricane was heading Northwest. On one of the reports we heard that the hurricane would be landing near to Belize City.” “On Monday, 8th October at 06:00 hours we heard on the radio that the hurricane had been upgraded to category 4 and that it was still coming to the Belize City area.”
- 6.7.5 At 19:30 hours on 7th October, the Captain informed all passengers of the current weather forecast which according to him the Miami Hurricane Center had indicated to the 2nd Captain that the tropical storm was expected to hit the Northern Yucatan Peninsula of Mexico on late Monday, October 8th. Also, he stated that Belize Radio had also given the same forecast. “I informed the guests that I intended to proceed South to Big Creek to seek shelter in order to be well away from the forecast landfall of the storm.”
- 6.7.6 The Captain stated that “At 06:00 hours on October 8th, I listened to Belize Radio forecast. They stated that Tropical Storm Iris had been upgraded to hurricane status category 1, and was expected to hit landfall between Dangriga and Belize City. I prepared to depart for Big Creek.”
- 6.7.7 According to the Captain and 2nd Captain, at approx. 19:30 hours on 8th October: “the winds rose to hurricane force.” The winds had abated to about 10 miles per hour by approx. 22:00 hours that night.
- 6.7.8 Thomas Baechtold, Head Diving Instructor and video/photopro had stated that after the vessel had capsized, he: “came out near the propellers which were moving. I was blown out of the water by a tornado like gust onto the mangrove where I held on.” According to him, he was thrown a distance of over 100 metres. He also stated that: “the wind abated slightly about 20 minutes later.”

6.8 **Statement by a surviving passenger Mary Lou Hayden regarding weather**

6.8.1 On the 7th October, “I spent most of the day in the salon. Periodically the 2nd Captain brought weather faxes they had received in the pilot house. These faxes were several pages in length, with symbols and measurements, as well as the map of the Caribbean and Central America/Mexico. I believe we saw 3 faxes, the last of which was seen about noon. I was not aware of anyone listening to a weather radio nor sharing information with us.”

6.8.2 On the topic of voting: “Christy McNeil was asked to poll us each individually as to our preference to disembark in Belize City or stay with the boat. I believe this was done after dinner on 7 October. At that time we were told the hurricane was weak and heading to the Yucatan Peninsula. We were assured that the boat was heading away from the storm, that is was a “hurricane hole”, and that the crew would stay with the boat. None of us had been in a hurricane before, and believed we would be fine on the boat. It is my personal opinion we did not have enough information and experience to make this decision. Only Christy knew if it was an unanimous decision.”

6.8.3 On the subject of taking refuge ashore in Big Creek, she stated “I was never asked nor did I take part in any discussion to leave the boat and take shelter in a bank building.”

6.9 **The following decisions were taken by the Captain:**

6.9.1 To sail from Radisson Fort George, Belize City at 17:00 hours on 6th October.

6.9.2 To allow the guests to dive at Half Moon Caye on Lighthouse Reef from approx. 08:30 hours to about noon on 7th October.

6.9.3 To allow the guests to dive at Long Caye on Lighthouse Reef from approx. 14:00 hours until 18:00 hours on 7th October.

- 6.9.4 To allow the guests to dive at Long Caye on Lighthouse Reef from approx. 20:00 hours until 21:00 hours on 7th October.
- 6.9.5 To inform the guests on the evening of 7th October that he intended: “to proceed South to Big Creek to seek shelter in order to be well away from the forecast landfall of the storm” which according to his statement: “was expected to hit the Yucatan Peninsula of Mexico on late Monday October 8th.”
- 6.9.6 To remain at the atoll on Lighthouse Reef on the night of 7th October.
- 6.9.7 After listening to “Belize Radio forecast” at 06:00 hours on October 8th in which, according to the Captain’s statement, “they stated that Tropical Storm Iris had been upgraded to hurricane status Category 1 and was expected to hit landfall between Dangriga and Belize City. I prepared to depart for Big Creek. At the same time an RAF helicopter flew over us with a sign “hurricane.” We departed at 06:30 hours.....”
- 6.9.8 The Captain stated that “at 06:40 hours, I called Charles Vernon, our agent in Belize City and informed him of my intended itinerary and asked whether he wanted us to proceed to Belize City.” Charles Vernon informed the Captain that there was: “nowhere to accommodate the guests there because Belize City was being evacuated.” The decision to proceed to Big Creek was therefore agreed.
- 6.9.9 During the voyage to Big Creek, the Captain: “instructed the crew to secure the vessel in accordance with the Hurricane Plan Procedures.” He also contacted Peter Hughes Inc. Miami on two occasions by satellite phone and informed them of his intentions to proceed to Big Creek to which they agreed.
- 6.9.10 At Big Creek, he decided to secure his vessel at the dock, Port Side to, in front of the *Belize Aggressor III*, and according to him, leaving

a gap of between 10-15 ft. between the two vessels. “We put on extra mooring lines, a total of between 12 and 14 lines ranging between 1” and 2” in diameter.” He stated: “Thereafter I spoke to Captain Jerry of *Belize Aggressor III* and discussed our lines and ensured that there was enough slack (10ft to 15ft) in the lines for the potential storm surge. I inspected my vessel to ensure that all was tied down securely.”

6.9.11 With regard to the decision to remain on board, the Captain stated that: “at approximately 16:30 hours, Mr. John Barillas, Port Security Guard, acting on his own initiative, came to my vessel, and informed me and my guests that he had heard that we might be able to be accommodated at the Bank. I enquired as to what facilities (toilets, food, sleeping accommodation) were available at the Bank for my guests and he replied there were none. He did not inform me or my passengers of any pre-arranged method of transportation to the Bank. Christyn McNeil, a guest, took a poll of the passengers and they voted to remain onboard in the same way as the guests of the *Belize Aggressor III* had decided. Glen Prillaman also decided we should remain on the boat on behalf of the passengers. No other shore based official came to the vessel thereafter.” The “Bank” is a building in the nearby village of Independence.

6.9.12 The Captain decided to check the lines at 19:30 hours when the winds rose to hurricane force. He “found them to be secure.” “We taped all windows at approx. 20:00 hours and informed all guests to remain in doors and where they were. The majority of the guests were in the salon.”

6.9.13 At approximately 20:30 hours the Captain “went to the main deck to check the lines.” He stated: “I encountered hurricane force winds and corrugated roofing on deck. There was some structural damage to the boat stanchions for the handrails astern. Visibility

beyond our vessel was zero. I proceeded to the main salon and instructed the guests to remain in place because of the risk of flying debris outside. There was no other perceived danger to the safety of the vessel or to any of the passengers at this point.”

The following additional information should be noted:

- In his evidence, 2nd Captain Wouters has stated to us that “The Captain informed the guests at the time of the pre-night dive meeting that he intended to proceed South on Monday, October 8th to be well away from the forecasted landfall of the storm.” In a subsequent statement to us, after further questioning by us, 2nd Captain Wouters has also stated that **“on the evening of October 7th after dinner I had become increasingly concerned about the hurricane and believed the best and perhaps only thing to do was go to Belize City. Captain Martin had gone to his cabin just behind the wheelhouse immediately after dinner. I knocked on his door. I told him I believed it was best to go to Belize City immediately. I attempted to persuade him that we could drop off the passengers at a hotel and we could take the boat to an area deep in the mangroves with just a skeleton crew. He rejected the idea. I returned twice more. Each time the discussion became more heated until we were both shouting. This is the argument I believe several other people heard. It was a major disagreement that ended only when Captain Martin informed me that he had made the decision to remain where we were for the night and go to Big Creek the next morning and slammed the door.”** There was no reference to this incident in Captain Martin’s statement and he has not denied that this had occurred in subsequent correspondence with us.

- In relation to 6.9.5, in his statement Bartholomew Stanley-Dive Master and photographer stated that on the evening of 7th October: “...apart from being a Dive Master, I am also a relief second Captain, got in touch with the American, Captain Frank. **I then told Captain Frank that in a situation like this, I know that the vessel would be taken back to Belize City. The guests would be taken off along with the crew and sheltered in a safe place.** The Captain then along with two other crew members would take the vessel to the lagoon at Big Creek for safety.” “Captain Frank then called over Captain Phillip Martin and relayed the same information I gave him in my presence. That we must take back the guests to Belize, inform their families and put them in a safe place. **Captain Martin response was that we can’t do that. He must get in touch with the office in Miami, Florida and the shore agent Mr. Vernon in Belize City as to the safety of the guests. Captain Frank then told Captain Martin to put the guests at Fort George Hotel. Captain Martin response was putting guests at hotels was not in the plan. Captain Frank told Martin it should be. Captain Martin then mentioned that the guests had already paid their money and he will see how the weather would be the following morning and what would be the latest on the weather fax.** Captain Frank then told Captain Martin that in cases like Hurricane Iris, he must take charge and make his decision. The Captain did not make any decision so the vessel remain moored in the lagoon at Lighthouse Reef.”
- In relation to 6.9.5, in her statement Angela Luk, Assistant Cook, confirms Bartholomew Stanley’s statement about the meeting with Captain Martin on the night of 7th October:

“....we went to speak to Captain Philip Martin and Eloisa told him that in the case of hurricane Mitch, the vessel returned to Fort George Marina and dropped off the local crew and any guest who wanted to get off as well. He replied that if we let you three go who will cook and clean the cabins? We went to bed. Some time after 23:00 hours that night, the Captain sent Bart Stanley to wake us up to secure everything in the kitchen. He said that we might leave tonight to go to Big Creek or Belize City. We went back to bed again.”

- In relation to 6.9.8 there is a written statement by Norman Pennill, General Manager and Camille N. Estelle, Front Officer Manager, both of the Radisson Fort George Hotel and Marina: “...on Monday October 8th, 2001, we were advising all our hotel guests to make all necessary arrangements to seek further shelter inland due to the fact that Belize City residents were advised by the National Emergency Management Organization that Belize City was on a hurricane advisory warning of the impending arrival of Hurricane Iris to hit the mainland of Belize City within 24 hours.”
- In relation to 6.9.10 above, after correcting an earlier verbal statement that it was 6 ft., the Captain stated that the slack on the mooring lines was 10ft. and after the statement was submitted to him for signature, he amended it to 10 – 15 ft.
- In relation to 6.9.10 above, the 2nd Captain Frank Wouters stated: “We secured port side to in front of “Belize Aggressor III with our bow protruding some 25 –30 ft beyond the dock and secured with 12 – 14 lines (2” – 1” diameter, the latter quadrupled). I put sufficient angle on the lines to

compensate for an anticipated approximate 10 ft. surge in a hurricane situation.”

- In relation to 6.9.10 above, Dive Master Bart Stanley stated that the distance between the stern of the *Wave Dancer* and the bow of the *Belize Aggressor III* was less than 6ft. Also, the slack in the ropes varied at about 8-10 ft. maximum. **Furthermore, at the time of mooring, he had personally left about 8ft. slack in the mooring line securing the port aft mooring bitt to the dock. Thereafter, some of the lines had been re-arranged.**
- In relation to 6.9.10 above, the Master of the tug boat *Miss Gayle* stated that the distance between the stern of the *Wave Dancer* and the bow of the *Belize Aggressor III* was less than 6ft. Furthermore, that the *Wave Dancer* broke away from her moorings about when the surge had reached its height somewhat in excess of 6 inches above the dock.
- In relation to 6.9.13, the 2nd Captain stated that at about 20:30 hours: “I saw Captain Phil inspecting our mooring lines. I instructed Eleno Cortez (Chico) to start the engines as a precautionary measure at about 20:30 hours.”
- In relation to 6.9.10 above, one surviving guest, Mary Lou Hayden, has stated that the distance between the stern of the *Wave Dancer* and the bow of the *Belize Aggressor III* was “about 3 ft.”
- In relation to 6.9.10 above, Captain Jerry Schnabel of the *Belize Aggressor III* has stated that the distance between the stern of the *Wave Dancer* and the bow of the *Belize Aggressor III* was 15 ft – 20 ft.
- In relation to 6.9.11 one surviving guest, Mary Lou Hayden, has stated: “I was never asked nor did I take part in any

discussion to leave the boat and take shelter in the bank building.”

6.10 **The Dock at Big Creek:** At the time of the casualty, the dock at Big Creek – see Attachment 5, accommodated the *Wave Dancer* (120 ft. long), the *Belize Aggressor III* (93 ft. long), the tugboat *Miss Gayle* (70 ft. long) and barge (195 ft. long). The distance from the dock to the mangroves where the *Wave Dancer* was found lying after the casualty was approx. 400 ft. The normal distance from the top of the dock to the waterline is approx. 7 ft. At low tide, this distance would increase by about 1 ft. On 8th October low tide was at 19:25 hours at about which time the hurricane hit. In the area near the mangroves where the *Wave Dancer* was found after the casualty, the depth is 7ft. at a distance of about 20 ft. from the mangroves. It then increases to about 22 ft.

On 8th October, several vessels including yachts had sought refuge in Big Creek from approaching hurricane “Iris”.

6.11 **Safety.** Our findings are as follows:

6.11.1 The Captain stated that on 6th October: “The guests boarded at 15:00 hours. They were checked in by the host which included verification of divers’ certification cards, liability releases and waivers, return flight details. Thereafter they were shown to their pre-allocated cabins and the deck crew gave them a cabin orientation, which included all safety features in their cabin (life jackets, smoke detector, fire extinguisher). They then unpacked and assembled their diving equipment. At 17:00 hours, a safety briefing was given in the salon by myself in compliance with Peter Hughes Standard Operating Safety Procedures which included slides.” We have examined copies of the aforementioned procedures. The statement of a surviving passenger, Mary Lou Hayden, confirms that the aforementioned procedures were carried out.

- 6.11.2 Dive Safety briefings and Dive Site briefings were given on the 7th October at Half Moon Caye and at Long Caye. In the latter location, a Night Dive Safety Briefing was also given. The statement of a surviving passenger, Mary Lou Hayden, confirms that the aforementioned briefings were carried out.
- 6.11.3 Whilst on the voyage to Big Creek on 8th October, the Captain: “instructed the crew to secure the vessel in accordance with the Hurricane Plan procedures.” We have examined a copy of the aforementioned procedures. Apart from the standard requirements of securing and checking, the Plan also states:
- “Contact local port authority and tell them of your movements i.e. where you are heading (and at what time) where you plan to seek shelter, number of crew and guests onboard and any other relevant information.”
 - “Contact shore manager – advise boats plan and liaise with, for current forecasts etc as local knowledge and experience in dealing with hurricane in this area cannot be underestimated.”
 - “If time permits, move boat to Big Creek (approx. 8 hours from Belize City).”
 - “Water, blankets, flash lights, spare batteries etc plus grab bags for emergencies to be made available.”
 - “Where possible disembark guests – if not, brief all guests on what current situation is and boats plan plus where onboard guests should remain with life jackets – i.e. main salon, move them away from windows and remain on floor.”
- 6.11.4 According to the “Mooring Arrangement” diagram signed by the 2nd Captain Wouters (Attachment 6), the boat was secured by 11 mooring ropes ranging between 1” and 1½” in diameter. Eight were made of nylon and three of polypropylene, two of which were

quadrupled. Both Captain Martin and 2nd Captain Wouters had stated that there was some 10 – 15 ft between the stern of the *Wave Dancer* and the bow of the *Belize Aggressor III*. There is a divergence between the Statements of Captain Martin and 2nd Captain Wouters as to how much slack there was in the mooring lines – the former stated after 2 corrections that it was 10 – 15 ft whereas the latter maintained that it was 10 ft. Also, Dive Master Bart Stanley stated that the slack in at least one rope was about 8ft. Captain Jerry Schnabel states that on the *Belize Aggressor III* he had left 15 ft of slack for an anticipated “storm surge of 12 ft according to the local radio forecast.” He estimated that the actual storm surge had been about 10 ft. According to Earl Young, Master of the tug boat *Miss Gayle*, the aft rope of the *Belize Aggressor III*, at about the height of the surge, “was really tight and the boat was listing slightly. I thought that she would be the next to break loose”.

The condition of the mooring ropes of the *Wave Dancer* inspected by Rush Johnson and Associates is described as “satisfactory” and “at the failure area of the ropes there were no signs of any defects or deficiencies.” We concur with the findings of the aforementioned.

6.11.5 According to all those interviewed, there was no heavy drinking of alcoholic drinks or partying at Big Creek. The guests were served dinner and some had had drinks with their meal.

6.12 **The Casualty.** We find from the examination of the documents and interviews of the crew the following facts:

6.12.1 At about 20:30 hours, the Captain went to the main deck to check the lines. He: “encountered hurricane force winds and corrugated roofing on deck. There was some structural damage to the boat stanchions for the handrails astern. Visibility beyond our vessel was zero.” At the same time, the 2nd Captain had ordered Eleno

Cortez to start the engines “as a precautionary measure.” He then conversed with the guests for about 5 minutes in the salon where all but three of them were gathered. They were not wearing life jackets neither did they have these next to them. After the mooring lines had parted, some crewmembers were shouting “get your life jackets.” The 2nd Captain “felt that a mooring rope had parted and the vessel was moving to the right. I went into the wheelhouse and activated bridge control and put the port engine forward and the starboard engine in reverse and turned the helm hard to starboard in order to kick the stern back into the dock. This did not have the desired effect in view of the hurricane force winds. I could not see through my wheelhouse window due to the storm but sensed that the vessel was free and out of control being pushed by very high wind, my wheel being amidships. I made a futile attempt to obtain some sort of control with the engines but to no avail. I saw a glow of lights come across the bow indicating that the wind was turning the vessel. **I then felt that we had gone aground and had heeled to port which accelerated into capsizing the vessel.** I found myself in the water and still in the wheelhouse under water. I swam through the wheelhouse door.” The fact that the vessel grounded is further confirmed by the Captain when he stated that he: “felt a jolt and the boat capsized” and also by the Dive Master Bart Stanley when he stated that: “the vessel rocked more violently and I heard a big thud and it began to list to Port and rolled over and capsized.” Thomas Baechtold, the Head Diving Instructor described how he: “saw the bow of the *Belize Aggressor III* sweeping our stern from starboard to port. Our boat became loose and drifted off, flooded and capsized within seconds.” The contact damage to the *Belize Aggressor III*'s bow on the port side is shown in Attachment 7.

6.12.2 The 2nd Captain of the *Belize Aggressor III*, John Garraway, had stated at the time the *Wave Dancer* came away from the dock: “the wind was blowing in excess of 150 m.p.h. and possibly up to 200 m.p.h.” He had also stated: “that a tornado was present at this point and he had to pull himself and crawled on deck holding on to the rails of the starboard side to keep from being blown off the deck.” This observation was also made by Thomas Baechtold, Diving Instructor of the *Wave Dancer* when he stated: “I was blown out of the water by a tornado like gust onto the mangrove where I held on.” According to Earl Young, Captain of the tug boat *Miss Gayle* minutes before the casualty: “when the wind shifted to the Southeast the Hurricane then came in much stronger. I believe in the maximum strength that it was coming with rain and the water started to raise about 6 inches over the dock.” “I would go down into the kitchen of the tug and look through the window and see the water raising....”; “....I notice the boat *Wave Dancer* which was tied to the dock with the stern out from the dock and the bow facing the wind, which I then believe had its stern rope burst away, this time not even more than thirty seconds I notice everything burst away from the boat, which started to drift to the mangroves and thereafter I didn’t saw anything it just disappear.”

After being blown off the dock, stern first, the *Wave Dancer* had drifted quickly across the channel towards the mangroves, grounded, rolled over and flooded within what was described as “seconds”.

6.12.3 According to the various statements of the survivors, at the moment when the *Wave Dancer* came away from the dock they were:

Captain Martin: on his way to the salon in order to get to the bridge

2nd Captain Wouters: in the salon and subsequently on the bridge

Thomas Baechtold – Diving Instructor:	“in the corridor entrance to the main deck”
Bart Stanley, Dive Master:	“in the doorway of the galley “ next to the salon
Eleno Cortez, multi- purpose crewmember:	“on the main deck”
David M. Debarger:	in his cabin #3
Richard Patterson:	in the alleyway outside David M. Debarger’s cabin #3
Mary Lou Hayden:	in the alleyway just outside her cabin #9

The 17 guests and the 3 crewmembers who perished were all in the salon area. According to Bart Stanley, the Dive Master, “the guests from the starboard side were thrown violently to the port side.” Out of the survivors, Bart Stanley was the only one near the salon area: “I was under water and felt trapped.” “Since I knew the boat very good I swam trying to find a way out. I then came across the Starboard exit door facing the wheelhouse.” Also, according to Captain Martin, after the boat capsized he “swam to the surface, then dived back down to try to open the salon door, but could not open it.”

6.12.4 According to reports and statements, during the hurricane the following took place in the Port of Big Creek and surrounding area:

- The *Belize Aggressor III* sustained contact damage on the port side of its bow when it came into contact with the stern of the *Wave Dancer*. One of its two forward spring lines had parted and was quickly replaced. Two windows broke in the salon, one in the wheelhouse and one in the Captain’s quarters.

- According to eye witnesses, the tugboat Miss Pamela was blown away by the storm and being unmanned, collided with several boats: the *Tuscan*, the *Miss Lou*, the *Mariposa*, the *Nanny*, the *Talisman*, the *Emerald Isle*, the *Lady Alexandra*, the *AMY J*.

6.12.5 In the village of Independence, next to the port of Big Creek “seventy percent of the buildings had their roofs blown away”, the 3 and only hotels all had their roofs blown off and one of them had lost its 2nd floor, there were telephone poles lying in the street, the bank building had a pole through its roof. “Other coastal towns such as Placencia were very badly battered resulting in the loss of many houses rendering some 13,000 people homeless. Also, pine forests and banana plantations were seriously damaged”. Nevertheless, the only persons who lost their lives due to Hurricane “Iris” were the 17 guests and 3 crew on the *Wave Dancer*.

6.13 **The Rescue.** Our findings are as follows:

6.13.1 After the boat rolled over the life rafts were afloat but still attached to the boat, “deployed as designed.” Captain Martin called for survivors and 6-7 persons responded. He ordered them to get into the life rafts and “to push them clear off the boat.” He: “then crawled along the hull forehead and climbed into the tender to try to start it. The fuel canister had been blown off by the storm.” He then swam across the 400 ft channel to the *Belize Aggressor III*, obtained their tender with a capacity of 5-6 persons and together with a crewmember (Steve) from the *Belize Aggressor III* returned to the *Wave Dancer*. In the meantime, 2nd Captain Wouters who was on a life raft: “started banging on the hull and yelling in order to get a response from anyone who was trapped inside. There was a sudden emergence of people surfacing from the vessel. I grabbed as many as I could and helped three of them (survivors) into the life raft.” At this point there were 7 known survivors. Upon

his return to the *Wave Dancer*, Captain Martin found one life raft free from the vessel with survivors on it. He: “pulled three guests from the life raft into the tender. Further attempts were made to find survivors by banging on the hull and trying to break windows but all they had was an oar. At this point a voice was heard from the mangroves. It was Thomas Baechtold, Head Diving Instructor. He swam out to the life raft. There were now a total of eight survivors. Captain Martin took the three guests on the tender to the *Belize Aggressor III*.” “Captain Martin then returned back to the life raft and picked up the remaining crew and returned them to the *Belize Aggressor III*.” He returned back to the *Wave Dancer* together with Steve and: “found Glenn Prillaman facedown and not breathing next to the boat.” “I pulled him into the tender, gave him mouth to mouth whilst returning to the *Belize Aggressor III*. He showed no sign of life.” According to the 2nd Captain Wouters, Glenn Prillaman was placed “onto the dive deck of the *Belize Aggressor III* and immediately performed CPR for at least 2 minutes. He was foaming at the mouth, blue in the face and had no pulse. CPR was administered for some 20 minutes to no avail.” “He then returned to the *Wave Dancer* with Steve and Thomas Baechtold.” “Upon arrival there the tender’s engine failed.” Tom Baechtold and Captain Martin swam to the vessel and found 5 persons with no sign of life. They pulled them into the remaining life raft which was still secured to the *Wave Dancer*, freed the life raft and together with Thomas Baechtold, they swam with it across the channel to the *Belize Aggressor III*. Just before their arrival there, 2nd Captain Wouters swam out to help them push it to the *Belize Aggressor III*. **According to 2nd Captain Wouters “some of the deceased had head injuries and were bleeding from the ears”.** He then returned to the *Wave Dancer* with one of the passengers from *Belize Aggressor III*. They found Aaron Stark,

diving instructor, afloat with “no sign of life”. He: “dived down inside the salon via the windows and found Eloisa Johnson in an unconscious state with no sign of life and pulled her to the surface.” He: “dived down again and found Christyn McNeal and pulled her to the surface also unconscious.” They “placed them into the dinghy and took them to the *Belize Aggressor III*.” Captain Martin then spoke: “to what appeared to be an officer of the Belize Defense Force in camouflage uniform, who was on the dockside by himself, and asked for assistance. **He had radioed, but said that he was unable to help us and he was only responding to 911 calls, and helping injured people.** I insisted that we needed help. By this time, the winds and abated to about 10 miles. The officer declined and left. By this time it was approximately 22:00 hours and we remained on the *Belize Aggressor III*. Jerry Schnabel, the Captain of the *Belize Aggressor III* was trying to contact authorities to seek help with no success.”

6.13.2

At about 21:30 2nd Captain Wouters informed Charles Vernon, the agent in Belize of the casualty: “We need divers, blankets and ambulances.” Vernon phoned the British Army headquarters (BATSUB) in Ladyville and requested “helicopters, rescue divers to go to Big Creek.” After a second phone call to BATSUB, the latter informed him that they did not have any ready/assembled and that the earliest they could fly any of them was at 07:30 hours on the 9th. He also tried to phone the CEO of the Ministry of Health and CEO of the NEMO headquarters in the capital Belmopan, but could not reach them. Together with two friends, Vernon then left his home in Ladyville (near Belize City) at 23:30 hours by car in order to go to Big Creek. On his way, he stopped at Belmopan and visited the NEMO headquarters there. He spoke to the CEO of the Ministry of Health and requested body bags but none were available there. Upon arrival at Big Creek at about 05:00 hours on the 9th, he

contacted Dr. Peter Allen a local doctor for medical assistance and they all went to the *Belize Aggressor III*. Dr. Allen arranged a meeting at the Mayor's house (Mr. Tony Zabaneh) with the Chief of Police in order to make further arrangements which included the provision of a boat, a container for the effects from the *Wave Dancer* and a watchman.

6.13.3 At approx. 07:00 hours on the 9th, Captain Martin together with Bart Stanley – Dive Master, Thomas Baechtold – Head Diving Instructor and David, a guest of the *Belize Aggressor III*, with full scuba equipment, “dived into the upturned vessel until approx. 08:30 hours and were unable to locate survivors.”

The first external assistance in the rescue operations arrived at approx. 08:30 hours on the 9th in the form of divers from the British Army personnel/divers who were flown in by a BDF Defender. They proceeded to dive in order to find survivors. They found the body of one guest – Cheryl Lightbound. In the meantime, Charles Vernon, the agent in Belize, had arrived on the scene. The Captain and Charles Vernon spoke to a female officer of the British Army at about 09:30 hours and informed her that they suspected that there were other bodies in the mangrove. At about this time, the Minister of Works, Transport, Citrus and Banana Industries – the Hon. Henry Canton arrived on the scene. Vernon also phoned the American Embassy in Belize City as well as the Coroner David Coye and informed them of the situation. A British Army Gazelle helicopter arrived, flew over the mangrove and the bodies of a further 8 deceased were eventually recovered from about 100 metres in the mangrove. Body bags arrived and the bodies were placed into them by the BDF. Later that afternoon, Peter Hughes arrived in Big Creek together with Captain Cull of Peter Hughes Inc, Miami.

- 6.13.4 The last two deceased (Mr. & Mrs. Cox –guests) were found on the 11th of October. “All persons were now accounted for – there were eight survivors (three guests and 5 crew) and 20 deceased.”
- 6.13.5 Mr. David M. Debarger, a surviving guest on the *Wave Dancer* and Vice President of the Richmond Diving Club is reported to have thanked Peter Hughes for coming so quickly to Belize and for the efforts of the crew of the *Wave Dancer* in the rescue operation. Also, 10 guests on the *Belize Aggressor III* are reported as having left a financial reward to the surviving crew of the *Wave Dancer* for their efforts during the rescue operations.
- 6.13.6 The three surviving passengers were flown to Belize City in the afternoon of the 9th on the same plane that had brought Peter Hughes and Captain Cull to Big Creek. They were taken directly to the U.S. Embassy there. Thereafter they were lodged at the Radisson Fort George Hotel and were repatriated to the USA on the 10th October.
- 6.14 **The Deceased.** Our findings are as follows:
- 6.14.1 According to the agent Vernon, he tried to locate a truck to transport the deceased from Big Creek to Belize City from 09:30 hours on 9th October onwards but with no success.
- 6.14.2 All the deceased whose bodies were recovered on the 8th and on the morning of the 9th, 10 in all, were identified by 2nd Captain Wouters in the presence of the Police and their personal possessions were removed by the Police. Agent Vernon then transported the 10 deceased to the Karl Heusner Memorial Hospital in Belize City in his van. Agent Vernon then returned to Big Creek.
- 6.14.3 A further eight deceased were transported from Big Creek to the Karl Heusner Memorial Hospital in Belize City in the afternoon of 9th October on a BDF truck which had been arranged by Dr. Peter Allen.

- 6.14.4 The staff at Peter Hughes, Inc had informed the next of kin of the deceased U.S. nationals.
- 6.14.5 Two deceased who were found on the 11th October were flown to Belize City on that afternoon.
- 6.14.6 Photographs of all the deceased except one, Eloisa Johnson, were taken by Fernando Rosado, Corporal of Police as well as their fingerprints. The deceased were all examined on the 11th October by Dr. Mario Estradabran at the Karl Heusner Memorial Hospital. He issued a "Medical Certificate of Causes of Death" for each one in which he attributed the cause of death to "asphyxia by drowning." During an interview with Dr. Estradabran at a later date, he expressed the opinion that death in these circumstances would have occurred in less than 2 minutes.
- 6.14.7 On the 12th October, the articles recovered from the deceased U.S. nationals were handed over by the Officer Commanding Eastern Police Division to Mrs. Sylvia Sanchez at the U.S. Embassy.
- 6.14.8 16 deceased U.S. nationals were repatriated to Richmond, Virginia and 2 U.S. nationals were cremated in Belize City. 2 Belizean crewmembers were buried in Belize City on the 11th and 12th October.
- 6.14.9 The personal effects of U.S. citizens which were found onboard the *Wave Dancer* were sent to the U.S. Embassy in Belize on 2nd November and mid-November 2001.
- 6.14.10 The personal effects of the two deceased Belizeans Brenda Wade and Eloisa Johnson were delivered by 2nd Captain Wouters at Big Creek dock on 2nd and 3rd November, respectively.
- 6.15 **The surveys of Damage to the vessel.** Our findings are as follows:
- 6.15.1 These surveys were conducted by the various interested parties:

- On behalf of the Owners: by Peter Hughes, Captain Alan Cull
- On behalf of the *Wave Dancer's* underwriters: by 3D Marine Consultants & Surveyors and Rush Johnson Associates
- On behalf of the Belize Port Authority: by Mr. Michael Bell, Marine Surveyor on 3rd November 2001
- On behalf of the Flag State, Belize: by the International Merchant Marine Registry of Belize – Mr. Angelo Mouzouropoulos, Director-General, Mr. Libardo Brú, Technical Manager and Mr. Demetrio Cortes, Technical Supervisor.

6.15.2 Loose Equipment, mainly diving and life-saving equipment, as well as mooring ropes, the aft port bitt or Sampson post and other items were placed in a container and are now in the custody of 3D Marine in Belize City. The capstan and foredeck section were forwarded on the supply vessel *Victoria* to Miami. The equipment in Belize City was inspected by the representatives of the International Merchant Marine Registry of Belize.

6.15.3 A Wreck Removal Order was issued by the Belize Ports Authority on 22nd October 2001. The Owners of the *Wave Dancer* entered into a “WRECK FIXED 99” removal contract with Titan Maritime LLC. The *Wave Dancer* was rolled and partially raised on 1st November. She was then floated and removed alongside the dock on 2nd November 2001.

6.15.4 The *Wave Dancer* was found extensively damaged and was declared a constructive total loss.

6.16 **Insurance.** Our findings are as follows:

6.16.1 The Owners of the *Wave Dancer* had Hull & Machinery as well as Third Party Liability cover. Details of these were not made

available to us. However, we were informed that disclosure was subsequently made known to the attorneys acting for the claimants.

6.16.2 The contract between Peter Hughes Diving Inc. and Island Dreams Travel who were acting as agents for the Richmond Dive Club in the chartering of the *Wave Dancer* contained the following clause:

“Trip Insurance: We strongly recommend that every passenger purchase comprehensive accident, medical, baggage and trip cancellation/ interruption insurance when space is reserved. Trip insurance will protect you from financial disappointment in the event of unforeseen circumstances prevent the vessel from making its scheduled trip. In the event it is necessary to cancel or interrupt a charter due to weather or any matter beyond the control of Peter Hughes Diving, Inc., there will be no refund or credit issued. We also recommend diving accident insurance. Please inquire with our reservation office for assistance.”

6.16.3 Owners’ underwriters appear to have honoured their obligations in effecting the settlement in respect of this casualty.

7. CONCLUSIONS

7.1 **The *Wave Dancer's* records**

Examination of the *Wave Dancer's* file in our Registry established that there is no record of any casualty affecting its hull or machinery from the date of her registration on 5th February 1992 until the date of this casualty on 8th October 2001. Furthermore, the Owners, their crew, their lawyers and agent in Belize have co-operated fully with our enquiries into this casualty.

7.2 **The *Wave Dancer's* certification**

The Certificates of the *Wave Dancer* at the time of the casualty on 8th October 2001 were valid and in compliance with the requirements of the Registration of Merchant Ships Act, 1989 (as amended by Act No. 5 of 1996). Furthermore, it held a valid License to operate as a Live aboard Passenger vessel (Class 2) in Belizean waters until 31st December 2001 which had been issued by the Belize Tourism Board.

7.3 **The *Wave Dancer's* stability**

The Stability of the vessel is considered satisfactory as evidenced by the Certificate of Inspection dated 1st May 1990 issued by the U.S. Coast Guard, the Stability Letter issued by naval architect Mr. Randolph R. Monceaux dated 28th January 1992 and the Stability Test and Evaluation carried out by Blancke Marine Services, New Jersey, U.S.A. on 10th June 2000 that it "is suitable for its intended purpose" as a live-aboard dive boat and capable of operation in Belizean waters as well as "unlimited operation in Caribbean waters."

7.4 **The *Wave Dancer's* Manning**

We are satisfied that the *Wave Dancer* was adequately manned with a qualified crew onboard at the time of the casualty. However,

it should be noted that both Captain Martin and 2nd Captain Wouters had little or no prior experience of sailing in Belizean waters during the hurricane season. Nevertheless, the Dive Master Bart Stanley, who had also acted on at least one occasion as relief 2nd Captain, had several years' of such experience.

7.5 **Safety**

The total number of passengers and crew onboard the vessel was within the capacity for which it was certified. We are satisfied that the check-in procedures for the guests as well as the safety briefing in compliance with Peter Hughes Standard Operating Safety Procedures which included slides were properly conducted. Also, that Dive Safety briefings, Dive Site briefings and Night Dive Safety Briefings were properly conducted.

7.6 **Discipline**

We are satisfied that from the time of its departure from Radisson Fort George on Saturday, 6th October until the time of the casualty in Big Creek there had not been any excessive imbibing of alcoholic drinks onboard neither by the guests nor the crew and that proper discipline was maintained throughout.

7.7 **Monitoring of Weather forecasts/advisories**

Despite the clear instructions given by Captain Alan Cull of Peter Hughes Diving Inc to Captain Philip Martin both by phone and by email on 5th October to closely monitor the storm, we conclude that Captain Martin failed to do so on Sunday, 7th October in that:

The Captain, in his evidence to us, advised us that he was not aware of the three NEMO Declarations which were mirrored in the National Hurricane Centre's Miami Advisory 12A at 2pm EDT (noon Belize Time), Advisory Number 13A issued at 8pm EDT (18:00 hours Belize Time) and Advisory 14 issued at 11pm EDT (21:00

hours Belize Time) nor to the numerous General Weather Forecasts and Marine Forecasts issued on local radio stations. **These indicated that at noon Belize time there was a hurricane watch from Belize City northward. As of 17:00 hours Belize Time this was extended to a “hurricane warning in effect for the coast of Belize”. At 18:00 hours Belize Time, the evening weather report had announced “a small craft warning is in effect for coastal Belize waters.” Both the Captain and the 2nd Captain appear to have been under the mistaken impression as late as 19:30 hours that Iris’ landfall “was still projected for the Northern Yucatan Peninsula of Mexico on late Monday, October 8th.”** In this regard, we refer to the statement of Mary Lou Hayden, one of the surviving guests, who stated that in relation to weather faxes **“I believe we saw 3 faxes the last of which was seen about noon.”** Also, in his statement, the Captain stated that the Belize Radio forecast on 8th October at 06.00 hours had upgraded the “tropical storm to hurricane 1 status (refer to 6.7.6 above) whereas in fact, that weather forecast had upgraded it to a Category 4 hurricane (refer to 6.6.6 above). If the Captain and 2nd Captain had closely monitored the weather forecasts and Advisories, they would have known. Furthermore, the Captain had failed to clearly define the responsibility for monitoring the weather and for ensuring that he was aware of the latest weather information. In answer to our criticisms concerning the monitoring of weather forecasts, 2nd Captain Wouters stated to us “I was never directed to do any of this by Capt. Martin nor did he ever say I was solely in charge of weather information. I attempted to gather as much information as possible out of my own concern for the passengers, the crew and the vessel.”

The Hurricane Plan

- **On Sunday 7th October, the Captain failed to comply with the Hurricane Plan which required him to “contact shore manager – advise boats plan and liaise with, for current forecasts etc as local knowledge and experience in dealing with hurricane in this area cannot be underestimated.”**

There is no record or mention of any communication between the Captain and/or 2nd Captain with the agent Charles Vernon in Belize nor with any of the staff of Peter Hughes Diving Inc in Miami on Sunday, 7th October. However, the Captain has stated to us that he had tried to contact Charles Vernon but had not succeeded in doing so. Charles Vernon as well as the other Peter Hughes personnel in Miami all have denied receiving any messages from Captain Martin either directly or on any answering machines. Furthermore, neither the Captain nor the 2nd Captain listened to the local Belize radio stations themselves and were apparently satisfied with receiving morsels of such information from their catering staff.

- *Wave Dancer* (Belize) Ltd who were described by Owners' representatives as the operating company whose employee in Belize, Mr. Charles Vernon, acted as agent of this vessel was and should have been aware of the 3 NEMO Declarations issued on Sunday 7th October as well as the Weather, Marine and other broadcasts made on the radio stations in Belize on that day. Not having heard from the Captain, **the Agent should have initiated contact with the vessel in order to acquaint himself with its whereabouts and the Master's intentions in view of the weather forecasts as well as to advise him in relation thereto.**
- **We are satisfied that the Captain did order the crew to secure the vessel in accordance with the Hurricane Plan**

Procedures on the voyage to Big Creek. However, we would remark that the taping of windows in accordance with the hurricane plan procedures was not completed until about 20:00 hours, approx. half an hour after the hurricane made landfall at Big Creek.

- **The Captain did not comply with the requirement of the Hurricane Plan by failing to supply guests, inter alia, with flashlights and to instruct them to “remain with life jackets” and “remain on the floor” in accordance with the hurricane plan.** Although life jackets were available on the main deck, attached to the deck head of the deck below, they clearly could not be reached in time in the event of a casualty such as the one which occurred. We do not accept the Captain’s attempted justification that: “Never in my wildest dreams would I have thought the boat could possibly capsize whilst tied to the dock” because:
 - The weather forecasts had indicated that “Iris” was a Category 4 hurricane and that the storm surge on the coast would be 13-18 ft. Although approx. one mile from the coast, the *Wave Dancer* could have been subjected to a substantial surge of about 12 ft.
 - Vessels can break their moorings or become damaged by other vessels or objects in such weather conditions for a number of reasons and the necessity to use life jackets cannot be excluded.

7.9

Voting by Guests

The polling which took place of the guests on the afternoon of 7th October as to whether or not to return to Belize City with a view to being accommodated ashore or to stay on the boat and proceed South could not have been based on any better knowledge of the

weather situation than that which the Captain and/or 2nd Captain possessed regarding several important developments (see 7.7 above). Furthermore, voting by guests is nothing more than an indication of their preferences but not a means by which a Captain arrives at his decision with regard to safety matters.

7.10

The Captain's decision to remain at Lighthouse Reef on the night of 7th October

Although there is no specific reference in the Captain's statement to a difference of opinion between himself and the 2nd Captain on the evening of Sunday 7th October, we do give weight to the statements of 2nd Captain Wouters, Bartholomew Stanley – Dive Master and Angela Luk - Assistant Cook in this regard. We accept that the latter two Belizeans, having heard the broadcasts on a Belize radio station earlier on that day and having more experience than both the Captain and 2nd Captain with hurricanes in Belize, should show concern and wish to disembark the guests and themselves. We also accept that the 2nd Captain Wouters had expressed the same opinion to the Captain. Furthermore, it was evident by their demeanour during the submission of statements by both the Captain and 2nd Captain that some serious disagreement had occurred between them during this voyage. **As the result of the Captain's decision to remain at Lighthouse Reef on the night of Sunday 7th October based on his mistaken belief that "Iris" landfall was still projected for the Northern Yucatan Peninsula of Mexico on late Monday 8th", the opportunity to land the guests at Belize City prior to its evacuation was missed.** Belize City was approximately 5 hours steaming distance from Lighthouse Reef and could have been reached on the evening/night of 7th thus enabling the evacuation of passengers and non-essential crew. Furthermore, this would have allowed sufficient time for the *Wave Dancer* to be taken from Belize City by a skeleton crew to a suitable

place of refuge such as Big Creek prior to Iris' landfall on the 8th PM.

7.11 **The decision to proceed to Big Creek on 8th October**

Having lost valuable time on Sunday 7th October by remaining on Lighthouse Reef and in view of the evacuation of Belize City on the morning of Monday 8th, the decision taken by the Captain in conjunction with Charles Vernon, the Agent in Belize at approx. 06:40 hours on the 8th which was subsequently condoned by Peter Hughes Inc, Miami, to proceed South to Big Creek, a designated port of refuge in their Hurricane Plan, was an understandable course of action in the circumstances in which they now found themselves.

7.12 **The *Wave Dancer's* Mooring Arrangements**

Whereas the condition of the mooring ropes is considered satisfactory, the place where the vessel docked at Big Creek as well as the Mooring Arrangements (Attachment 6) were unsatisfactory:

- The bow protruded beyond the dock by over 30 ft thus exposing the section of the vessel to the hurricane winds. As events transpired, it is unlikely that this less than satisfactory mooring position caused the loss of the *Wave Dancer*, as the storm surge was so high as to lift its deck above the height of the dock thus exposing the entire windage area of the boat to the hurricane winds and not just the exposed bow.
- The existence of mixed moorings, nylon and polypropylene - the polypropylene ropes would take all the loading due to their respective stretch characteristics – polypropylene has only 10% whereas nylon has 30%.

- There were no effective aft spring lines to prevent the vessel from moving aft.
- The quadrupled polypropylene rope leading from the Port Quarter, while looking to provide strength, was short in length and received much of the strain, particularly in view of the direction of the very strong offshore wind as well as the effect of the surge thus resulting in the aft Port Quarter mooring bitt failure.

7.13 **The decision to allow the guests to remain onboard at Big Creek**

Mindful that:

- The NEMO Declarations **did not amount to a mandatory evacuation of the coastal area**
- The intervention by Mr. John Barillas, Port Security Guard, suggesting that the passengers disembark and walk to the “Bank building” in Independence for shelter **did not amount to an order but only at the utmost, a recommendation**
- The “Bank building” was in the coastal area and just above sea level. It was not on higher ground away from sea level which the NEMO declarations had recommended people to evacuate to. Furthermore, after enquiries, it was evident that there were no facilities there.
- The Agent Vernon’s statement that he had tried to find accommodation and that he did not succeed in doing so.
- The decision which had already been made by the Master and passengers on the *Belize Aggressor III* which was moored aft of the *Wave Dancer* to remain onboard and the fact that the guests on both these vessels were all from the Richmond Virginia Dive Club and had discussed the *Belize Aggressor III*’s decision

- The Hurricane Plan of the *Wave Dancer* states “where possible disembark guests.” However, apart from the “Bank building” there was no other alternative accommodation offered to the Captain to which the guests of the *Wave Dancer* could be evacuated.
- According to the evidence given by both Mr. Antonio Zabaneh, a Director of Banana Enterprises Ltd and that of the operators/agents in Belize of the *Wave Dancer*, Big Creek was a well-established port of refuge and that the *Wave Dancer* and other vessels had used it for that purpose in the past with guests remaining onboard during storms

we are prepared to accept that the decision by the Captains of both vessels and their respective Agents for their passengers to remain onboard was a considered one. Furthermore, we are mindful of the fact that had they evacuated to the “Bank building” and any of the passengers had been injured there, both Captains would have had to justify that decision too. It should be borne in mind that the roof of the “Bank building” had been damaged by a telegraph pole and it is quite possible that persons could have been injured by this or other hazards e.g. flooding. **Therefore, in our view, both remaining onboard the *Wave Dancer* as well as moving to the “Bank building” entailed risks, the exposure to which would have been avoided by the taking of appropriate action to disembark the guests on 7th October both by the Captain and by the Agent Vernon. Notwithstanding the above, events did prove that the evacuation to the “Bank building” was the safer option because none of the local inhabitants who took refuge there were injured. Furthermore, it would have been more compliant with vessel’s Hurricane Plan, the NEMO declarations and the recommendation of the Port Security Guard.**

7.14 **The Casualty**

Examination of the evidence leads us to the following conclusions:

7.14.1 The extreme weather conditions prevailing at the height of the category 4 hurricane with “tornado-like gusts” were, in our view, the dominant cause of the loss of the *Wave Dancer*. The storm surge, which, based on the evidence was at about 10 ft. coupled with the aft movement of the boat resulted in that the slack in its mooring lines which, according to our findings varied between 8 - 10 ft., was fully taken up causing a sudden abnormal tension on the mooring lines at the time when its port aft mooring bitt or Sampson post was torn from the main deck and bulwark attachments – See Attachments 8 & 9. Examination of the port aft mooring bitt has shown that it had been welded to the deck as well as to the frames below deck.

7.14.2 There was a collision between the bow of the *Belize Aggressor III* and the stern of the *Wave Dancer* at about the time the *Wave Dancer* broke away from the dock. In this regard, the statement of Thomas Baechtold, the Head Diving Instructor of the *Wave Dancer* is quite clear as to the sequence of events when he stated that he “saw the bow of the *Belize Aggressor III* sweeping our stern from starboard to port. Our boat became loose and drifted off, flooded and capsized within seconds.” This may indicate that a collision with the *Belize Aggressor III* caused the *Wave Dancer* to break away from the dock. However, analysis of the mooring arrangements of both these vessels leads us to the following conclusions:

- The *Belize Aggressor III* was held by two forward and two aft spring lines. Also, the Captain of the *Belize Aggressor III* has stated that he “observed known markers onshore in relation to the Aggressor during the storm and I estimate that we never moved forward or aft more than 3 to 4 ft.”

- The evidence suggests that the *Belize Aggressor III* remained alongside throughout the hurricane, with no loss of mooring lines, other than earlier in the evening a lost fore-spring which was swiftly replaced. With an effective fore-spring in place, any ranging ahead by the *Belize Aggressor III* would in our view have been limited to less than the 10 feet needed to make contact with the *Wave Dancer*.
- For the bow of the *Belize Aggressor III* to have moved across the *Wave Dancer's* starboard quarter to her port quarter, the *Belize Aggressor III's* bow would have either had to move against the berth (which is highly unlikely) or would have needed to be about 25 feet off the berth (the breadth of the *Wave Dancer*). Such a distance off the berth is not consistent with the slack we understand the *Belize Aggressor III* had on her ropes and such a movement seems extremely unlikely against the prevailing wind direction.
- We have already commented on the *Wave Dancer's* unsatisfactory mooring arrangements under 7.12 above. We have concluded that it had no effective spring lines to prevent it from moving aft for the following reasons:
 - The “back spring” was too short and failed to run parallel with the boat for a distance sufficient to provide good protection against ranging. Once the storm surge was at its peak, the rope’s short length, coupled with the fact that the ship’s fairlead was substantially higher than the mooring bollard on the jetty, would have rendered the value of this spring almost useless.
 - The four polypropylene ropes would have served little purpose. They were neither breast ropes (which

should be perpendicular to the berth and constitute the main mooring to keep a boat alongside a jetty), nor spring ropes.

We conclude therefore, that there exists little evidence that the *Belize Aggressor III* moved significantly from its moored position at the material time for it to have caused the contact with the *Wave Dancer*. We are of the view that the inadequacy of its mooring arrangement allowed the *Wave Dancer* to move appreciably astern and strike the *Belize Aggressor III*.

7.14.3 The following material failings may have contributed to the contact with the *Belize Aggressor III* and to the ultimate loss of the *Wave Dancer*.

- **Rope Slack:** Although the Captain stated that he tended to the mooring lines during the hurricane, we are of the opinion that there can be little doubt that the slack of between 8 – 10 ft. would have been taken up and the ropes would have been under severe strain, particularly the polypropylene ones which have little elasticity.
- **Back Spring:** In the absence of any dedicated breast rope, much of the strain for keeping *Wave Dancer* alongside would have been taken up by the inadequately arranged back spring. Additional weight would also have been applied to this rope as the sole mooring that inadequately prevented the *Wave Dancer* from ranging back in the storm surge. It seems likely, therefore, that during the height of the storm, when all slack had been taken up, the “back spring”, as the main weight-bearing rope, failed, thus transferring the strain to other moorings, particularly the four polypropylene ropes astern.

- Quadrupled polypropylene ropes: Once the “back spring” rope had parted there was nothing to prevent the *Wave Dancer* from moving astern the distance of about ten feet required for contact to occur with the *Belize Aggressor III*. During this astern movement the only ropes with any realistic chance of arresting the *Wave Dancer*’s movement would have been the four polypropylene ropes located at the stern. Given their inflexibility, it seems likely that as these ropes took on the full weight of the *Wave Dancer* moving aft, and as their combined strength was greater than the boat’s Sampson post, to which they were attached, the Sampson post was ripped out from its base and lost overboard.

It is worth noting that the range of the polypropylene ropes, swinging on the axis of the shore mooring, would have been about 10 feet. It is likely, therefore, that the failure of the Sampson post would have occurred simultaneously with the *Belize Aggressor III* contact.
- Stern Rope: to allow the *Wave Dancer* to continue to swing away from the berth, the stern ropes would have had to part. This may have occurred as a result of a) contact with the bow of *Belize Aggressor III*, or b) too much weight on the ropes, (particularly the mixed rope where there would have been a natural weakness between the polypropylene and nylon connection), once the four polypropylene ropes had gone.
- With the stern rope and the four polypropylene ropes gone, there would have been no further impediment to the stern of the *Wave Dancer* moving quickly away from the berth, damaging the port side of the *Belize Aggressor III*’s bow in the process and resulting in the consequential parting of almost all the remaining mooring lines including the

wrenching of the forward-most shore mooring pile (see Attachment 10) from the ground as well as the vessel's capstan and foundation being partially torn from the deck (see Attachment 11).

7.14.4 **Despite the extreme weather conditions, the Captain failed to order the engines to be started and for the wheelhouse to be manned either by himself or the 2nd Captain.** It was the 2nd Captain who had ordered the starting of the engines “as a precautionary measure” but instead of going into the wheelhouse, he proceeded to the salon where he conversed with the guests “for about 5 minutes.” It was only after he had felt that a mooring rope had parted and that “the vessel was moving to the right” that he went to the wheelhouse. In our opinion, in view of the strength of the hurricane, by the time the 2nd Captain had covered the distance between where he was standing in the salon and the wheelhouse by exiting through one of the salon doors onto the exposed deck and entering into the wheelhouse and “had activated bridge control and put the port engine forward and the starboard engine in reverse and turned the helm hard to starboard in order to kick the stern back into the dock”, whatever chance there might have been of such a manoeuvre succeeding moments earlier had been lost due to the parting of most, if not all, of the mooring lines. At the time this occurred the Captain, having heard the engines, was on the way to the wheelhouse via the salon.

7.14.5 We conclude that having broken away from the dock, the vessel was uncontrollable and was seized by the 150 m.p.h. winds (gusting in excess of that), was turned with its starboard side fully exposed to it whilst drifting rapidly across the channel, grounded and with its windage area of 2,115 sq. ft. against the category 4 hurricane wind gusting in excess of 150 mph, it was rolled over onto its port side with consequential flooding of all its empty

compartments. Some diesel oil from the bunker tanks spilled out of the vessel. References to a grounding are contained in the statements of at least three survivors. After the casualty, the vessel was found near where it had grounded in the vicinity of the mangroves with approx. 3 ft. of its starboard side showing above water (see Attachment 12).

7.15 **The Loss of Lives**

Due to the very short time between the vessel breaking free from the dock and rolling over, those guests who were still in the salon as the vessel rolled over were thrown from the starboard to the port side. Due to the element of surprise, disorientation and flooding coupled with a sensation of entrapment, death as the result of asphyxiation due to drowning would have ensued in less than two minutes. In his statement, Bart Stanley – Dive Master, described how the guests in the salon “were thrown violently” as well as the feeling of being “trapped.” Due to his knowledge of the boat, he swam trying to find a way out, finally exiting from the “starboard exit door facing the wheelhouse.” Not being in the salon area proper, he had not been thrown violently and was therefore more able to concentrate his efforts for survival. Also, the Master had described how he had “dived back down to try to open the salon door, but could not open it.”

7.16 **The Rescue**

Captain Philip Martin is to be especially commended for his energetic and determined efforts in the rescue of his crew and the surviving passengers. The surviving crew are also to be commended as are certain crewmembers and guests on *Belize Aggressor III*, Charles Vernon and Peter Hughes and Captain Cull, the British Army for their assistance. It is clear that the Belize Defense Force’s resources were stretched to the full in dealing with emergencies in the coastal villages resulting from the devastation

caused by hurricane “Iris” and could not assist during the night of the 8th. The first external assistance in the rescue operations arrived at approx. 08:30 hours on the 9th in the form of divers from the British Army. **The lack of local resources to deal with such emergencies in this sparsely populated country emphasizes the need for proactive action in order to avoid risks at an early stage when a hurricane watch is announced as well as the need for the provision of road transport facilities by the operators of such vessels in order to evacuate their guests away from coastal areas to safe shelters inland on higher ground.** Our recommendations in this regard are contained in Section 8 of this Report.

7.17 **The Deceased**

We are satisfied that the procedures in dealing with the transportation of the deceased from Big Creek to Belize City, although initially a little slow, were nevertheless conducted properly. Also, the checking of personal effects and their handing-over to relatives or the U.S. Embassy by the Police, the examination of all the deceased by Dr. Mario Estradabran at the Karl Heusner Memorial Hospital as well as the repatriation of the deceased U.S. nationals were properly and efficiently conducted.

7.18 **Captain Philip Martin**

Despite his thoroughly commendable efforts in the rescue operations as well as the fact that he was unfortunate in having to deal with a demanding situation so early in his career and during his first tour of duty as Master, we are nevertheless of the opinion that Captain Philip Martin failed in the areas described in 7.7, 7.8, 7.10, 7.14.3, 7.14.4 above. Consequently, we will be submitting a copy of this Report to the issuing authority of his Certificate of Competence in the U.K., namely the Maritime & Coastguard Agency and drawing their attention to his performance. In the

meantime, he is banned from serving on any vessel registered in Belize pending our being notified of the outcome of the decision by the U.K. Maritime Coastguard Agency and our subsequent review of that decision.

7.19 **2nd Captain Frank Wouters**

Despite his excellent performance in the rescue operations, 2nd Captain Frank Wouters may be criticized for his failure to monitor properly the weather forecasts on 7th October referred to in 7.7 above. Even though the responsibilities for monitoring the storm/hurricane may not have been clearly defined by the Captain, having assumed that burden, 2nd Captain Wouters should have continued the monitoring of it until such time as he had transferred that responsibility back to the Captain or to someone else designated by the Captain. He also failed to man the wheelhouse after he had ascertained the extreme weather conditions and the need to order the starting of the engines “as a precautionary measure” referred to in 7.14.4 above. Despite the aforementioned failings, he did take due note of the weather information given to him by the catering staff who had been listening to a local radio station and had tried hard to convince the Captain to proceed to Belize City on the night of 7th October in order to disembark the guests. However, due to the failings ascertained, he is banned from serving on any vessel registered in Belize for a period of five years from the date of the issuance of this Report.

7.20 **Coverage of Hurricane “Iris” within Belize**

NEMO, the National Meteorology Service of Belize as well as the radio stations in Belize are to be commended for their comprehensive coverage and advice in relation to hurricane “Iris”.

8. RECOMMENDATIONS

Our findings and conclusions indicate that the following additional measures will assist in preventing similar casualties in the future:

- 8.1 **At the same time that a Hurricane Watch is declared by NEMO for any part of the Coast of Belize, all live-aboard passenger carrying recreational craft operating in Belizean waters and registered and/or licensed to operate in Belize, with the exception of craft being utilized in the evacuation of the cayes and other coastal areas, should be ordered to cease recreational activities and return to port in order to disembark their passengers and non-essential crew.** A Hurricane Watch is issued when it has been established by the National Meteorological Service of Belize that the hurricane poses a real threat to Belize. It is normally issued approximately 36 hours prior to the anticipated landfall of a hurricane. This measure is deemed necessary because:
- Belize's coastline extends approximately 175 miles from the Northern Border to the Southern Border. The anticipated track of a hurricane may have a 100 miles margin of error at the time it is issued.
 - hurricanes can change direction as can be seen from the experience of hurricane "Iris" whose landfall was predicted by the National Hurricane Center, Miami per their Advisory at 11am EDT (9am Belize Time) on Sunday, 7th October as being on the East Coast of Yucatan Mexico/ Northern Border of Belize. However, as we all know, the hurricane veered towards the South and within 34.5 hours actually made landfall in Southern Belize with its eye being between Placencia and Monkey River Town.

- Vessels such as the *Wave Dancer* have a normal service speed of about 9 knots (approx. 11 m.p.h.) in fair weather. This may decrease substantially if rough seas and/or adverse winds are encountered. Fast moving hurricanes such as “Iris” may move at the rate of 22 mph. Therefore sufficient time must be allowed for such vessels to reach a suitable port safely from any part of Belize’s coastal waters as well as for the disembarkation and transportation of their passengers to suitable locations for shelter.
- Hotel accommodation (away from the coastal areas) and other facilities e.g. transport are relatively scarce, especially when a hurricane is approaching and local residents and others move inland.
- The failure to evacuate its passengers in Belize City applies equally to the *Belize Aggressor III* which arrived there at about 23:00 hours on 7th October. After bunkering, it sailed at 02:00 hours on 8th October for Big Creek with all its guests onboard and a full crew despite a “hurricane warning in effect for the coast of Belize” having been declared by NEMO. Furthermore, there have been cases of loss of life at sea onboard pleasure craft and passenger carrying vessels in Belize during previous hurricanes.
- The live-aboard passenger vessels are often manned with non-Belizean seafarers and their passengers are generally non-Belizeans who are often not familiar with hurricanes on this coast. Furthermore, in view of the short duration of their holidays, normally one week, there is the inevitable temptation to engage in recreational activities for too long rather than to seek shelter as soon as a hurricane watch is declared.

The necessity to take proactive action at an early stage in order to ensure the safety of vessels and their passengers cannot be over-emphasized.

- 8.2 **The NEMO bulletin announcing a Hurricane Watch should incorporate recommendation 8.1 above which should also be repeated in subsequent bulletins. The same applies to the broadcasts of the Marine Forecasts issued by the National Meteorological Service of Belize.**
- 8.3 The operator or his agent in Belize should have at all times the use of appropriate means of transportation in order to take all the passengers upon disembarkation to a secure shelter outside the coastal areas and on higher ground.
- 8.4 The Agents in Belize or the Operators or the Masters of live-aboard passenger vessels should notify the Belize Port Authority of the location of their vessels at the time the NEMO Bulletin had announced a Hurricane Watch for all or any part of the coast of Belize, the name of the ports/places where they will be disembarking their passengers together with their ETAs as well as the ports/places where they will moor their vessels during the hurricane together with their ETA. Confirmation of their arrivals, disembarkation of passengers and mooring at the ports/places of refuge should also be given to the Belize Port Authority. Their operating procedures and Hurricane Plans should reflect this important requirement.
- 8.5 Apart from receiving the Weather Reports/Advisories from the National Weather Center in Miami, the Masters of live-aboard passenger vessels operating in Belizean waters should listen to the General Weather Forecasts and Marine Forecasts announced on the radio station(s) in Belize (e.g. Love FM). Their operating procedures and Hurricane Plans should reflect this important requirement.

- 8.6 In addition to the normal survey requirements for statutory certification, all live-aboard passenger vessels registered at IMMARBE should be the subject of an annual General Safety Inspection (Flag State Inspection). This recommendation was already implemented in 2002.
- 8.7 Live-aboard passenger vessels operating in Belizean waters should be inspected annually by the Belize Port Authority.
- 8.8 The purchase of Third Party Liability insurance by Owners should be made compulsory. This covers, inter alia, Owners' liability to passengers and crew in respect of death or personal injury, loss or damage to their luggage and personal effects as well as other third party liabilities e.g. damage to docks, pollution etc. The *Wave Dancer* had Third Party Liability insurance but this requirement was not mandatory at the time of the casualty as a condition of Registration of live-aboard passenger vessels. This recommendation has since been implemented by IMMARBE.
- 8.9 Belizean nationals serving on live-aboard passenger vessels should have contracts of employment which are evidenced in writing. These should specify, inter alia, the right to disembark in the event of a hurricane as well as the details of the insurance cover in the event of death or personal injury.
- 8.10 It is recommended that every live-aboard passenger vessel operating in Belize should have at least one navigating officer onboard who has experience in navigating these waters. IMMARBE should issue Minimum Safe Manning Certificates to such vessels which, inter alia, should incorporate this recommendation.
- 8.11 Vessels should not utilize mixed moorings. Ropes onboard should either all be made of nylon or all from polypropylene.

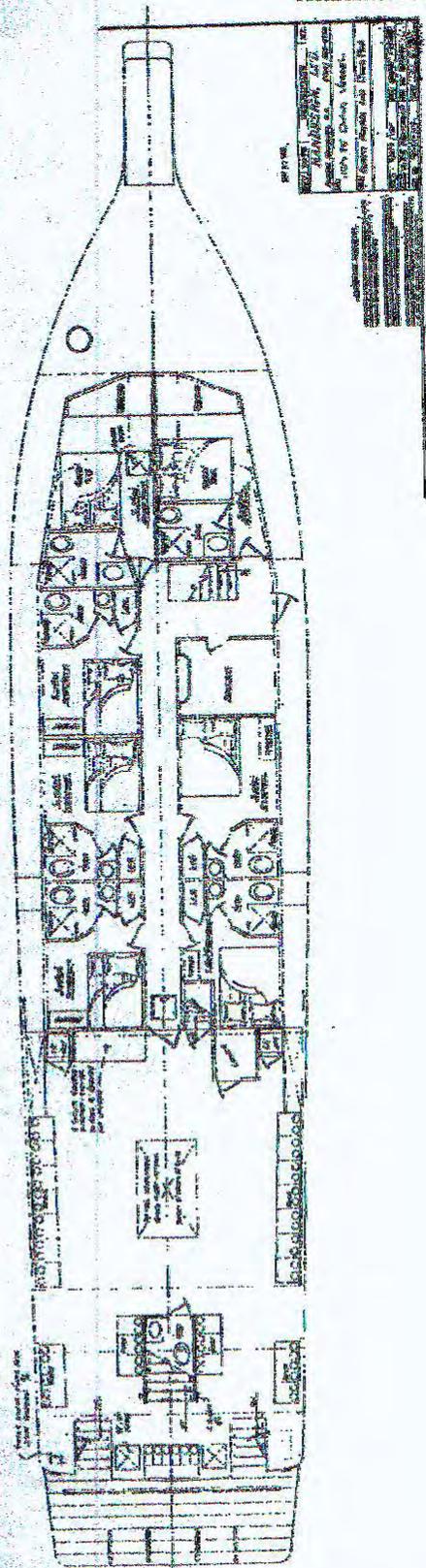
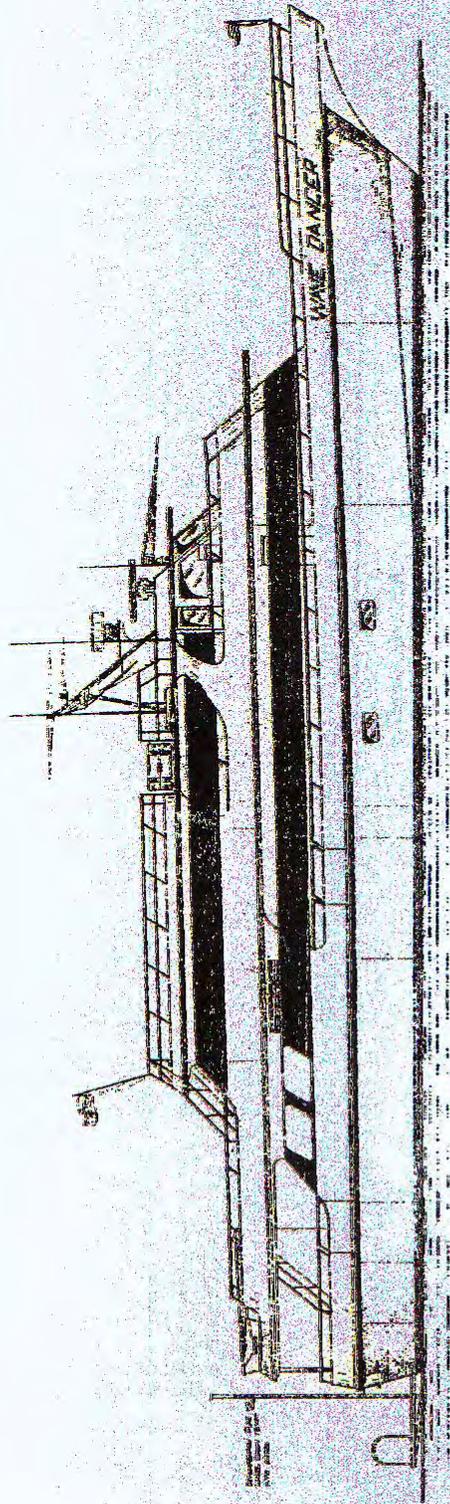
N.B. On 20th August 2002, we issued Interim Recommendations incorporating most of the abovementioned measures. These were submitted to the Solicitor General, the Belize Port Authority, NEMO, the Minister of Tourism, the Chief Meteorologist of Belize. NEMO has confirmed that the recommendations appertaining to them were implemented in 2003.

SUBMISSIONS

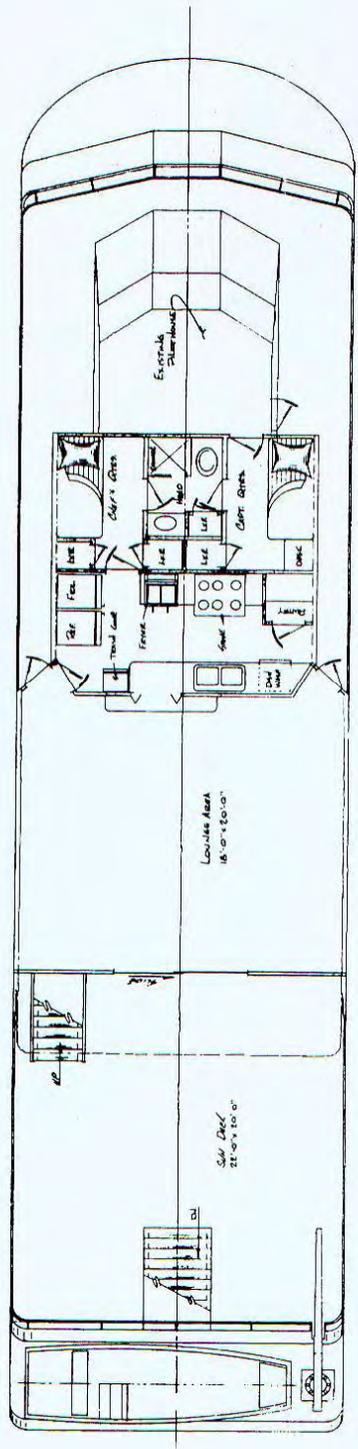
- 9.1 In the event that the conduct of any person or organization is criticized in a Casualty Investigation Report, it is our policy that a copy of the draft report be given to that person or organization so that they may have an opportunity to rebut the criticism or offer evidence not previously available to our Administration.
- 9.2 Copies of the draft report were forwarded to the following:
- Captain Philip Martin and 2nd Captain Frank Wouters of the *Wave Dancer*
- Peter Hughes Diving Inc., Miami – Mr. Peter Hughes and Captain Alan Cull
- Wave Dancer* (Belize) Ltd. – Mr. Peter Hughes and Mr. Charles Ryan Vernon
- Captain Jerry Schnabel of the *Belize Aggressor III* (extracts only)
- The Owners of the *Belize Aggressor III* (extracts only)
- 9.3 Submissions on the draft report were received from
- Rustemeyer & Co. – Solicitors acting on behalf of Captain Philip Martin
- 2nd Captain Frank Wouters
- Peter Hughes Diving Inc. Miami
- Wave Dancer* (Belize) Ltd.
- Captain Jerry Schnabel of the *Belize Aggressor III*
- The Owners of the *Belize Aggressor III*

Issued: January 2005

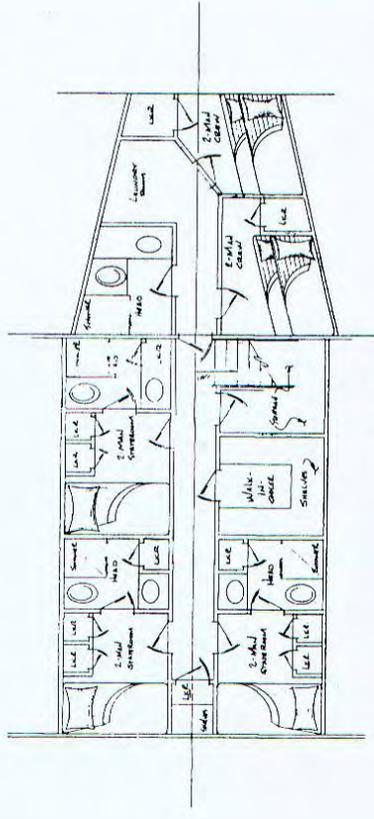
Attachment 1(a)



SHIP NAME	WAVE DANCER
SHIP NO.	123456789
REGISTRATION NO.	123456789
REGISTRATION STATE	MASSACHUSETTS
REGISTRATION DATE	12/31/2010
REGISTRATION EXPIRES	12/31/2011
REGISTRATION FEE	\$100.00
REGISTRATION TAX	\$10.00
TOTAL FEE	\$110.00



—Upper Deck Plan—
—1/8" = 1'-0"—



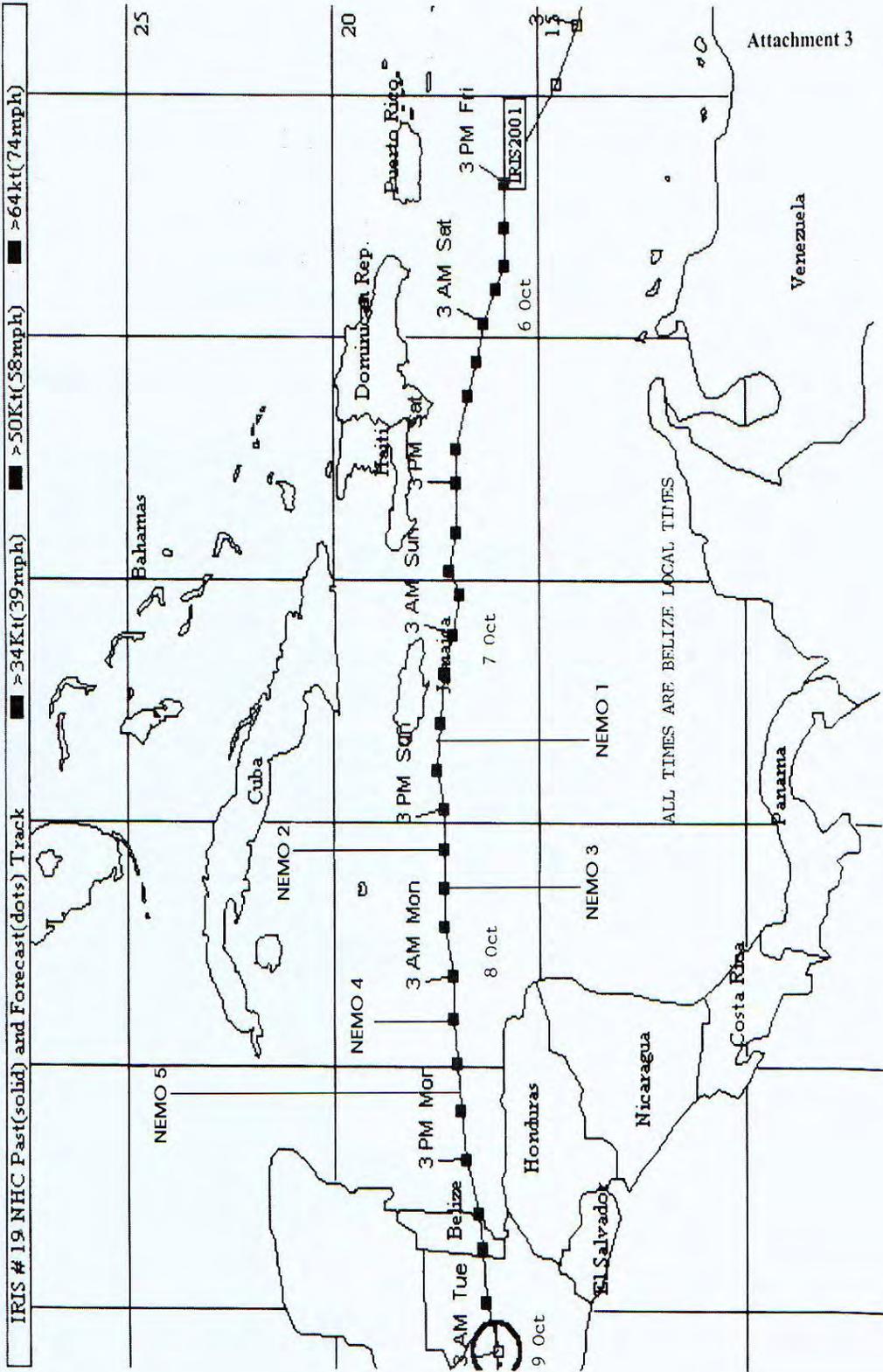
—Lower Deck Plan—
—1/8" = 1'-0"—

FOR REFERENCE ONLY

REV.	DATE	DESCRIPTION	BY
		RANDSICAN, LTD.	
		Randolph, Massachusetts, U.S.A. (603) 886-8786	
		SIZE: 110' x 25' Chivalry Vessel	
		TITLE: Plan/Deck/Deck / General/Deck	
		SCALE: 1/8" = 1'-0"	SHEET: 5/11
		DATE: 01/24/2024	NO. 1101
		FILE NO. 01/24/24	SHEET 5/11

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**Office of the Prime Minister
Belmopan, Belize, Central America**

Please Quote

**NEMO 2001/IRIS
Sunday, 07 October 2001**

No. 1

The National Emergency Management Organization (NEMO) has declared the preliminary phase of the disaster management plan for Belize as Hurricane Iris continues to move in a westerly direction and may threaten the northern coast of Belize.

A hurricane watch has been declared from Belize City northward. The Government of Mexico has also issued a hurricane watch for the east coast of Yucatan from Cabo Catoche southward.

At nine a.m. this morning, the center of Hurricane Iris was located near Latitude 17.4 north, longitude 77.9 west, or about 680 miles east of Belize City. Maximum sustained winds are near 85 miles per hour. Iris is moving toward the west near 17 miles per hour and this motion is expected to continue and intensify during the next 24 hours. Tropical storm force winds could begin to affect San Pedro, Ambergris, as early as 5 o'clock Monday evening, and the storm could make landfall near Corozal Town as a Category 2 or Category 3 hurricane early Tuesday morning.

All operational committees of NEMO have been activated, and Committee chairpersons are required to convene meetings of their Committees today.



Attachment 4(b)

**Office of the Prime Minister
Belmopan, Belize, Central America**

Please Quote

**NEMO 2001/IRIS
Sunday, 07 October 2001**

No. 2

The National Emergency Management Organization (NEMO) has extended the hurricane watch from Belize City southward to the Toledo District as Hurricane Iris continues its westward movement with a chance that it may move south of due west.

A hurricane watch is now in effect for the entire coast of Belize from the Corozal to the Toledo Districts. The preliminary phase of the Disaster Management Plan for Belize covers the entire country.

The Government of Honduras has issued a tropical storm warning and a hurricane watch for the north coast of Honduras and the adjacent islands.

Hurricane Iris continues to move toward the west near 18 miles per hour, with maximum sustained winds near 85 miles per hour. Strengthening is forecast during the next twenty-four hours and there is a chance that Iris may move south of due west.

The National Emergency Management Organization (NEMO) has activated its operational committees throughout the country of Belize and preparations are underway to respond to the threat of Hurricane Iris. Persons living at the cayes and near low-lying coastal areas are advised to remain on the alert and pay keen attention to information from NEMO and the Belize Weather Bureau on the progress of the storm.

Tel.: 501-8-22345/22346
E-Mail: primeminister@belize.gov.bz

Fax: 501-8-20071



**Office of the Prime Minister
Belmopan, Belize, Central America**

Please Quote

NEW PAGE ONE

**NEMO 2001/IRIS
Sunday, 07 October 2001**

No. 3

At nine o'clock tonight, the National Emergency Management Organization (NEMO) declared Phase II, Red I hurricane watch for the entire country of Belize. The second phase of the Hurricane Preparedness plan is declared when a hurricane threatens Belize within twenty-four to thirty-six hours.

The Government of Belize has also upgraded the Hurricane Watch to a Hurricane Warning for the entire country.

A red flag with a single black circle in the center will now be flown on all public buildings.

At nine o'clock tonight the center of Hurricane Iris was located near latitude 17.3 degrees north and longitude 81.3 degrees west or about 455 miles east of Belize City. Iris was moving west at 18 miles per hour, with maximum sustained winds increasing to 90 miles per hour.

NEMO has directed all its operational committees countrywide to implement their action plans and advises the general public, particularly those living at the cayes, along the coast and in low-lying areas, to begin to take precautionary measures with a view to evacuation at first light tomorrow.

The Housing and Shelter Committees should ensure that hurricane shelters are prepared for occupation and manned by BDF wardens, police officers, Red Cross and Medical Personnel. Shelters will be opened to the public where and when it is appropriate. NEMO shall decide when public shelters will be opened

NEMO advises further that all schools should be closed tomorrow (Monday) as most schools will be used as Hurricane Shelters.

The Medical and Relief Measures Committee is advised to screen all patients in Government hospitals and infirmaries and those who are in a fit condition to return to their homes should be discharged.

The public is urged to listen to their local radio or television stations for the latest hurricane advisories and to take every precaution as the hurricane continues on its present path.



**Office of the Prime Minister
Belmopan, Belize, Central America**

Please Quote

**NEMO 2001/IRIS
Monday, 08 October 2001**

No. 4

Belize is now under Red II Hurricane Warning for the entire country as Hurricane Iris intensifies and moves toward the coastline. With maximum sustained winds in excess of 140 miles per hour, Iris is now classified as a Category Four hurricane, and is considered extremely dangerous. Forecasters expect the hurricane to make landfall in Belize sometime later today.

At six o'clock this morning, the center of Hurricane Iris was located near latitude 17.1 north and longitude 84.0 west or about 285 miles east of Belize City. Iris is moving toward the west at 20 miles per hour, and this motion is expected to bring the center of the hurricane inland over Belize sometime later today. Maximum sustained winds have increased to 140 miles per hour; hurricane force winds extend up to 25 miles from the center, and tropical force winds extend outward up to 115 miles.

The National Emergency Management Organization considers Hurricane Iris a dangerous storm. Those persons living in the cayes, along the coasts and other low-lying areas who have not completed their evacuation plans are urged to begin evacuating now.

Hurricane shelters will be open to the public as appropriate. Stay tuned to your local radio station for information on shelter openings.



**Office of the Prime Minister
Belmopan, Belize, Central America**

Please Quote

**NEMO 2001/IRIS
Monday, 08 October 2001-10-08 11:00 am**

No. 5

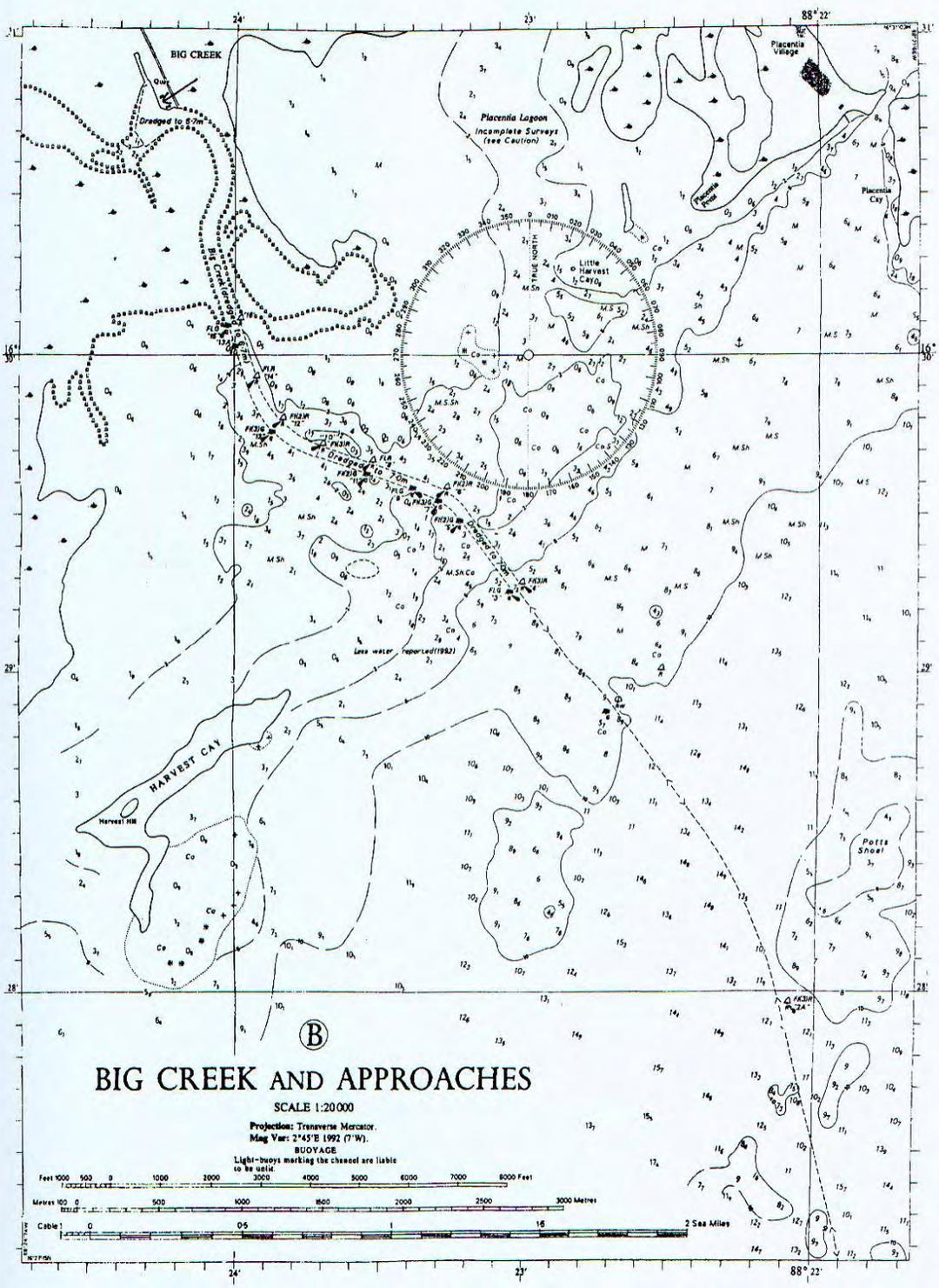
The National Emergency Management Organization (NEMO) met this morning at ministerial level under the chairmanship of Prime Minister Hon Said Musa to assess the nation's state of preparedness in the face of Hurricane Iris, the category four storm now threatening Belize.

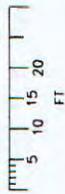
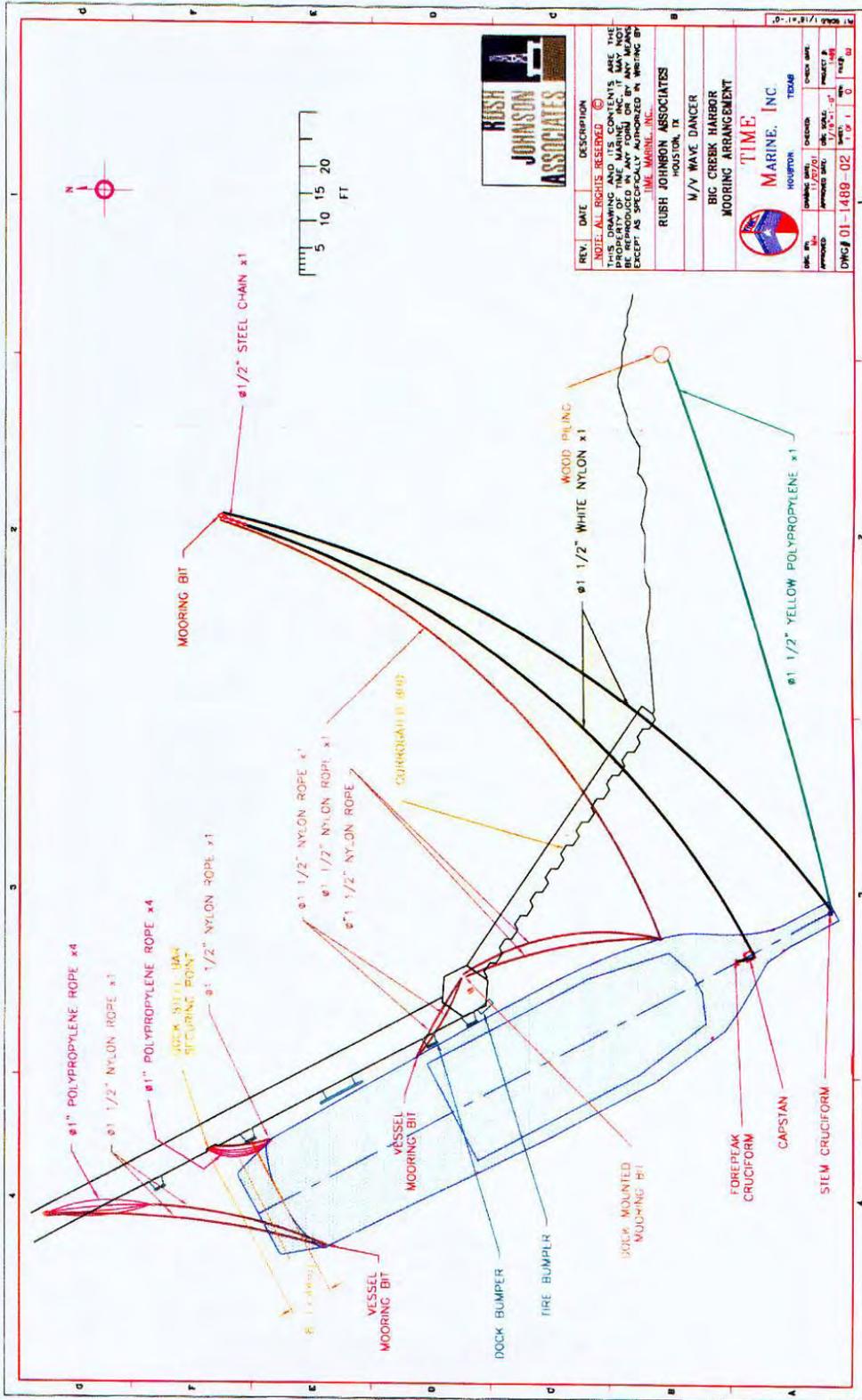
The Prime Minister and NEMO received a special briefing from the Chief Meteorologist, Carlos Fuller, who emphasized the seriousness of the threat posed by Hurricane Iris. On its present track, Iris is projected to make landfall early tonight somewhere between Dangriga and Monkey River, bringing with it the full force of the Category Four hurricane, that is, 140 mile per hour winds, a 15 foot storm surge, and battering waves. A storm surge of about five feet or higher could be expected from Ladyville south to Dangriga. Residents along the coastal areas from Belize City southward should seek safe shelter in secure buildings on higher ground.

NEMO has directed the evacuation of people living on the coastline and river banks in the Belize, Stann Creek and Toledo Districts, and will be providing buses to facilitate the evacuation. Hurricane shelters will be open as of mid-day today. Those who go to the shelters are reminded to take food, medicines and water along with them.

All NEMO committees are fully operational and are on a state of alert to prepare Belize for the impending threat of Hurricane Iris. The Prime Minister is scheduled to address the nation shortly after midday today.

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M/V WAVE DANCER BIG CREEK HARBOR MOORING ARRANGEMENT		
TIME MARINE, INC. HOUSTON, TEXAS		
DATE	DESIGNED BY	CHECKED BY
11/27/01	W. J. J.	W. J. J.
DATE	APPROVED BY	PROJECT NO.
11/27/01	W. J. J.	1489
DWG# 01-1489-02		



Contact Damage To *Belize Aggressor III*'s Bow



Port aft mooring bitt



Port Aft Quarter – Main Deck



Forward-most Shore Mooring Pile



Patch Where Forward Capstan Removed



The Capsized *Wave Dancer*

**MARINE CASUALTY REPORT
ISSUED IN JANUARY 2005
*M.V. WAVE DANCER***

ERRATUM

The sentence on Page 59 in Section 7 Para 7.18 in Line 7 referring to Captain Philip Martin's Certificate of Competence should read:

“Consequently, we will be submitting a copy of this Report to the U.K. Maritime & Coastguard Agency as well as to the issuing authority of his Certificate of Competence in the U.K., namely, the Royal Yacht Association/Department of Transport Marine Directorate.”

JANUARY 2005

