ERRVA

OIL&GAS UK

Emergency Response & Rescue Vessel Management Guidelines

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May 2018

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MASTER'S DISCRETION

The owner, charterer or manager of a ship or any other person shall not prevent or restrict the Master of a ship from taking or executing any decision which, in the Master's professional judgement, is necessary for the safe navigation of the ship.

(Reference: SOLAS CH V Ord. Reg.4 of MS (Safety of Navigation) Regulations 2002 SI 1473)

OIM RESPONSIBILITIES AND FUNCTIONS

The Installation manager plays a key role in the offshore Installation's safety management system. The Installation manager will be responsible (to the duty holder) for the day-to-day management of the offshore Installation and in charge of the health, safety and welfare of persons on or about the Installation, including ensuring the maintenance of order and discipline.

(Reference: Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995, Regulation 6, Guidance Note 43, extract.)

The manager's functions include command and control of the offshore Installation in an emergency where this is part of the arrangements made under regulation 6 of the Prevention of Fire and Explosion, and Emergency Response Regulations.

(Reference: Offshore Installations (Prevention of Fire and Explosion and Emergency Response) Regulations 1995, Regulation 6). CO-OPERATION

Safety requires co-operation between everyone who has a contribution to make to ensuring health and safety on the offshore Installation or in activities involving the Installation. The scope of regulation 8 of the Offshore Installations and Pipeline Works Regulations is therefore very wide and includes operators, owners, concession owners, employers, employees, managers and people in charge of visiting vessels or aircraft.

(Reference: Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995, Regulation 8, Guidance Note 56.)

NOTE

Throughout these Guidelines wherever the terms "OIM" or "Master" are used, this should be interpreted as meaning OIM, Master or their respective delegates.

References

Emergency Response & Rescue Vessel Survey Guidelines. Oil & Gas UK / ERRVA

Guidelines for the Management of Emergency Response for Offshore Installations – Issue 3, Oil & Gas UK.

OPITO Approved Emergency Response Standards for Standby Vessel Crew

The Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995 .

The Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995 and Guidance.

SOLAS CH V Ord. Reg. 4 of MS (Safety of Navigation) Regulations 2002 SI 1473

Code of Safe Working Practices for Merchant Seamen

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, IMO

HSE Offshore Technology Report, OTO95-038, Review of Probable Survival Times for Immersion in the North Sea, January 1996

ACRONYMS

ACoP	Approved Code of Practice
ARPA	Automatic Radar Plotting Aid
BROA	British Rig Owners Association
C&C	Command and Control
CPA	Closest Point of Approach
DC	Daughter Craft
DEFRA	Department for Environment, Food and Rural Affairs
EPIRB	Emergency Position Indicating Radio Beacon
ERRVA	Emergency Response and Rescue Vessels Association
ERRV	Emergency Response and Rescue Vessel
ERP	Emergency Response Plan
ETA	Estimated Time of Arrival
FRC	Fast Rescue Craft
HSE (OSD)	Health and Safety Executive (Offshore Safety Division)
IADC	International Association of Drilling Contractors -North Sea Chapter
ISM Code	International Management Code for the Safe Operation of Ships and for Pollution Prevention
IUOOC	Inter-Union Offshore Oil Committee
MCA	Maritime and Coastguard Agency
MNTB	Merchant Navy Training Board
MOB	Man Overboard
MRCC	Maritime Rescue Co-ordination Centre
OIM	Offshore Installation Manager
OPITO	Offshore Petroleum Industry Training Organisation
OPRC	Oil Pollution Preparedness, Response and Cooperation
OSCP	Oil Spill Contingency Plan
OSC	On-Scene Co-ordinator
PFEER	The Offshore Installations (Prevention of Fire, Explosion and Emergency Response) Regulations 1995 (SI 1995 No.743)

PLB	Personal Locator Beacon
POB	Persons on Board
PPE	Personal Protective Equipment
ROV	Remote Operated Vehicle
SAR	Search and Rescue
SEERAD	Scottish Executive Environment and Rural Affairs Department
SI	Statutory Instrument
SITREP	Situation Report
SMC	SAR Mission Co-ordinator
SOPEP	Shipboard Oil Pollution Emergency Plan
SRU	Search and Rescue Unit
TCPA	Time to Closest Point of Approach
TEMPSC	Totally Enclosed Motor Propelled Survival Craft

* Since 1.8.98, the terms “On-scene Commander” and “Commander Surface Search” have been deleted in favour of the single term “On-scene Co-ordinator”

Definitions and Explanation of Terms

Data Card	Data Cards are supplied to the ERRV Master by the Installation duty holder and may be of two types, i.e. the Installation Data Card and/or the ERRV Data Card. Installation Data Cards include details of: • arrival procedures • marine hazards posed by the Installation • checks to be made prior to approaching the Installation • cargo reception facilities • communication frequencies (For a specimen of the above refer to the "Guidelines for the safe management of offshore supply and rig move operations (North West European Area)") ERRV Data Cards may either supplement the Installation Data Card or be sufficient in themselves. In the latter case they should include the above information plus details of:- • evacuation equipment • escape routes • reporting arrangements • emergency response actions (Refer Appendix A for further details.)
Daughter Craft	"A high speed manoeuvrable craft which will have an enclosed cabin for crew and survivors, deployed from an ERRV (mother ship) for the purposes of rescue and recovery of survivors and marshalling or towing of TEMPSC's or life rafts. The subsidiary role of the Daughter Craft may be to provide close standby and cover for helicopter operations whilst the ERRV is engaged elsewhere. Section 3.11 of these Guidelines state the Functions / Operating Limits / Working Hours that a Daughter Craft is governed by when operating away from the ERRV (mother ship).
Duty Holder	The offshore installation Operator or the Owner of a mobile installation having responsibility under the Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations (PFEER)

Escape	The process of leaving the Installation in an emergency when the evacuation system has failed; it may involve entering the sea directly and is a 'last resort' method of getting personnel off the Installation. (PFEER ACOP, Para. 159)
Evacuation	The leaving of an Installation and its vicinity in an emergency in a systematic manner and without directly entering the sea. (PFEER ACOP, Para. 19)
Fast Rescue Craft	A high-speed, manoeuvrable craft which may have an enclosed cabin for crew and survivors, deployed from an ERRV for the purposes of rescue and recovery of survivors and marshalling or towing of TEMPSC or life rafts.
Good prospect of being recovered, rescued and taken to a place of safety	Arrangements designed to give a good probability - in all but the most severe storm conditions and sea states - of rescuing, recovering and taking to a place of safety persons who evacuate or escape from an Installation, or who fall overboard or are involved in a helicopter ditching on take-off or landing. (PFEER ACOP Para. 155
Installation	A structure which is, or is to be, or has been used, whilst standing or stationed in water or on the foreshore or other land intermittently covered with water, for exploration for or exploitation of mineral resources or related purposes. Examples of types of structures are:- • fixed production platforms • floating storage units • mobile offshore drilling units • flotels • floating production, storage and offloading units.

On-going, On-board Development and Training Programme	A programme designed to consolidate the onshore initial and specialist training undergone by ERRV crews and to enhance their knowledge, skill and understanding of their roles. The programme may also make provision for location specific emergency contingency training.
On Scene	The optimum location close to the 'Scene of Incident, where an ERRV and/or Rescue Craft (DC or FRC) could provide immediate assistance to persons in the sea, following an initial assessment of the incident itself.
On-Scene Co-ordinator (OSC)	A person designated to co-ordinate on-scene SAR operations. The OIM of a stricken installation assumes the role of OSC at the outset of an incident but this must be confirmed with the SMC at the earliest opportunity. In the event of an evacuation the ERRV master may be asked by the SMC to assume the role while recognising that the priority is to save life. If other options are available, the most suitable asset will be appointed by the SMC.
Place of Safety	An onshore or safe offshore location or vessel where medical treatment and other facilities for the care of survivors are available. (PFEER ACOP, Para. 152 & 165) (See Annex 12- Oil & Gas UK definition of Place of Safety)
Recovery	Removal of survivors to a Place of Safety. (PFEER ACOP, Para. 165)
Rescue	Removal of persons from the sea. (PFEER ACOP, Para 165)
Safety Zone	An area considered to be contained within a 500-metre radius of an Installation and commonly referred to as the “500 metre Zone”.
Search and Rescue Mission Co-ordinator (SMC)	A person in charge of the SAR operation until rescue and recovery has been affected. Coastguard will assume SMC role for all major incidents and/or where operator requests SAR facilities from the rescue services. IAMSAR defines SMC as “SAR Operations are normally carried out under the direction of an SMC, who is usually the supervisor of a Rescue Co-ordination Centre (RCC) or Rescue Sub-Centre (RSC) watch team. “ In all SAR incidents, HM Coastguard will retain the role of SMC. Down mannings, handled entirely in-house by the Duty Holder are not treated

as SAR. In Emergency Evacuations i.e. where the IAMSAR emergency phases – Distress or Alert – have been declared are clearly SAR and the SAR operation will come under the overall co-ordination of HM Coastguard.

Introduction

These Guidelines are intended to provide Masters and crews of ERRV's, OIM's and other relevant offshore personnel, with general guidance on the conduct of their activities as part of the effective arrangements for the recovery and rescue of personnel.

These Guidelines do not cover Merchant Shipping statutory requirements and are not specific to any particular field or Installation. For details of a specific Installation refer to the appropriate Installation Data Cards which complement these Guidelines. (Ref. Appendix A for an example of an Installation Data Card for vessels standing by Offshore Installations).

These Guidelines complement the Industry "Emergency Response & Rescue Vessel Survey Guidelines".

Whilst in transit, mobile units, e.g. drilling or accommodation units, are not regarded as Installations and normally do not require an ERRV. However, in the event that an ERRV is employed as an escort, the Master should act in accordance with the relevant sections of these Guidelines.

ERRV's which incorporate other duties in their work scope should seek further guidance from publications relevant to these operations, e.g. "Guidelines for the safe management of offshore supply and anchor handling operations (North West European Area)"

These Guidelines are a living document and after experience in their use or changes in operating practice, may need to be reviewed and amended.

Suggestions for amendments should be sent to either:-

Oil & Gas UK	The Chairman
3rd Floor	ERRVA Ltd.
The Exchange 2	Ardene House
62 Market Street	56 Bon Accord Street
Aberdeen	Aberdeen
AB11 5PJ	AB11 6EL
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1 GENERAL GUIDANCE

1.1 Fundamental Duties of an ERRV

The fundamental requirements which an ERRV must satisfy are that it should be capable of:-

- Rescuing from the water or recovering persons and providing them with medical aid.
- Acting as a "Place of safety" in accordance with PFEER.
- Providing on scene co-ordination, as required, in accordance with relevant Installations' Emergency Response Plan (ERP)
- Participating fully in the execution of the Installation collision avoidance strategy e.g. to monitor the Safety Zone, warn approaching vessels and the Installation of the risk of collision and prevent same where possible
- Acting as a reserve radio station

In the event that the emergency response and rescue vessel is utilised in an additional role then an assessment should be made of any additional risks involved, in particular any that could impact on its rescue and recovery role. The risk assessment should be carried out by knowledgeable, experienced and capable persons closely involved with the work. All risks should be considered together, and mitigating or remedial measures should be put in place to reduce the total residual risk to an acceptable level. Where the assessment has used the terms low, medium and high the residual risk should not be high. A copy of the details of the risk assessment should be kept on board the ship and should be made available to surveyors and other interested parties at their request.

The "Guidelines for the Safe Management of Offshore Supply and Rig Move Operations (North West European Area)" applies to all vessels engaged in the carriage of cargo, towing, anchor handling and supply operations relative to offshore operations in the United Kingdom. ERRV crews engaged in these operations should be familiar with and operate to these guidelines.

1.2 Legal Requirements – PFEER

The Offshore Installations (Prevention of Fire, Explosion, and Emergency Response) Regulations, 1995 (SI 1995 No. 743) (PFEER) is the principal legislation governing offshore emergency response.

Regulation 17 of PFEER states that:

"The duty holder shall ensure that effective arrangements are made, which include such arrangements with suitable persons beyond the Installation, for:

a) recovery of persons following their evacuation or escape from the Installation and

b) rescue of persons near the Installation and

c) taking such persons to a place of safety

and for the purposes of this regulation arrangements shall be regarded as being effective if they secure a good prospect of those persons being recovered, rescued and taken to a place of safety."

The Approved Code of Practice (ACoP) accompanying the above regulation states that:

"There are many circumstances for which only a suitable vessel standing by will provide effective arrangements and in these circumstances, such a vessel will need to be provided.

Such vessels may be shared between Installations provided that this does not compromise the objective of securing a good prospect of recovery and rescue."

The ACOP also sets out criteria for vessels standing by Installations. (Such vessels are commonly known as ERRV's .

In United Kingdom territorial waters adjacent to Northern Ireland, the Offshore Installations (Prevention of Fire, Explosion and Emergency Response) Regulations (Northern Ireland) 1995 (SI 1995 No. 345) apply.

1.3 Other Guidelines and Standards relating to ERRV's

The following documents also directly relate to the operation of ERRV's:

- Guidelines for the Management of Emergency Response, Oil & Gas UK
- Emergency Response & Rescue Vessel Survey Guidelines. (Issued jointly by Oil & Gas UK, ERRVA, IADC and BROA to provide information on technical standards for ERRVs and their equipment.)
- OPITO Approved Emergency Response Standards for ERRV Crew. (Details the levels of competence required by ERRV crews and the means by which these are achieved and demonstrated.) Standards under review and will be revised when review complete.
- NMD Regulation of 16 October 1991 No. 853 concerning Standby Vessels, (Norwegian Maritime Directorate construction, equipment and manning regulations for ERRVs)
- OLF 016 – Rev 1 – 01 December 2005, (Norwegian standard for ERRV Operations)
- NOGEPA Industry Guideline No. 6 – Code of Practice for Safety Standby Vessels, (Netherlands Code of Practice for ERRV Operations)

1.4 Responsibilities of OIM and ERRV Master

The OIM is in charge of the Installation, and responsible (on behalf of the Installation's duty holder) for the safety of the Installation and those on board. (Ref. "OIM Responsibilities and Functions")

The Master of the ERRV is responsible for the health, safety and welfare of his crew and the safety of the ERRV at all times. (Reference: SOLAS CH V Ord. Reg.4 of MS (Safety of Navigation) Regulations 2002 SI 1473)

1.5 Planning and Co-operation

The duty holder should provide the ERRV with appropriate information from the Installation Safety Case and Emergency Response Plan (ERP) to permit the Master and crew to perform their duties effectively. The circumstances under which an ERRV is expected to undertake its emergency role are included in the Installation's ERP.

Consultation between the duty holder and the ERRV operator in the compilation of the ERP should include:-

a) ERRV capabilities and required performance standards

b) The responsibility of the Master of the ERRV for the organisation and control of:-

I. The search for and rescue of survivors in the sea

II. The recovery of persons from boats or rafts used in an evacuation

III. Other vessels proceeding to assist.

c) Clear guidelines in respect of the responsibility of the Master of the ERRV and the OIM, for the transfer of responsibility from the OIM and the circumstances under which the Master should act as On-scene Co-ordinator;

d) An agreed procedure for the transfer of responsibility of the control of search and rescue to the relevant Search and Rescue Organisation and

e) Involvement in implementing the duty holders' collision avoidance strategy. This may include the

f) Detection of threatening vessels, the monitoring and challenging of such vessels together with the

g) Co-ordinating and communication of the response and developments to the Installation.

h) Any additional information specific to a particular Installation extracted from the safety case and/or Installation ERP.

An ERRV Emergency Response Plan for Offshore Emergency and/or Evacuation or Escape is included as Appendix B and an example of a Collision Avoidance Strategy covering point (d) is included in Appendix C. All the above may be entered on the Installation specific Data Card.

It is important that as soon as the ERRV Master is aware any circumstances affecting the ERRV's ability to undertake its role and/or achieve agreed performance standards, that he advises the OIM accordingly.

1.6 Installation Emergency - Contingency Planning

The ERRV operator and Master should jointly prepare contingency plans covering the response of the ERRV in any emergency situation affecting the Installation.

1.7 ERRV Manning

The crew of an ERRV should be as shown below. Certification where not noted should be appropriate to Flag State requirements.

ERRV Group	Total Manning	Grade 1 Seaman (minimum)	Grade 2 Seaman (minimum)	Advanced Medical Aiders	FRC Crew
A	15	2	3	2	9 incl. 3 Cox'n
B	12	2	2	1	6 incl. 2 Cox'n
C	9	2	1	1	4 incl. 2 Cox'n

NOTES ON TABLE:

a) The total manning shown for a Group C ERRV assumes that only one Fast Rescue Craft is manned and in use at any one time.

b) The Master or Chief Officer should have at least two months sea service on an ERRV.

c) At least two crew members other than the Master should each have two month's ERRV experience.

d) Advanced Medical Aiders should not be the Master or a member of a Fast Rescue Craft crew.

e) Where Daughter Craft are carried, the Total Manning may require to be increased to reflect the frequency of deployment.

f) Where the ERRV is required to undertake the carriage of cargo, the Competency of the Master and Mates must be appropriate to the role.

g) The roles of Group A, B and C ERRVs covering a single Installation are defined as:-

I. Group A ERRV is one acting as ERRV for an Installation which is manned by particularly large numbers, significantly i.e. over 300, such as during the hook-up and commissioning phases of field development.

II. Group B ERRV is one acting as a ERRV for an Installation which has a manning level falling between those attended by Group A or C ERRVs.

III. Group C ERRVs act only as ERRV for an Installation which is manned by very small numbers, e.g. up to about 20, in the southern sector of the North Sea and some sheltered areas.

h) For ERRVs covering more than one Installation reference should be made to the specific sharing arrangements.

1.8 Crew Fitness

All crew members must undergo medical examination to current medical standards (ENG 1) at two yearly intervals.

When determining if a crew member is fit to work on an ERRV, due consideration must be given to the role that the individual crew member is to carry out and the level of physical work that such a role will entail, in which case additional physical tests may be required.

1.9 Periods of Duty

In recognition of the conditions likely to be experienced on vessels standing by offshore Installations, the period of duty on board should, under normal circumstances, be limited to a maximum of twenty-eight days on location plus an allowance for the passage to and from port.

Crew members should be granted the same or longer period ashore between voyages as their preceding period on location. Crew members should be encouraged to take their full leave. However, if demanded by exceptional operational requirements and with the agreement of the crew member, individuals may return to sea after a minimum of seven days ashore. Irrespective of this, the overall aim should be to seek a balance of sea time and leave over a reasonable period.

1.10 Training

All members of the crew should receive training appropriate to their role in accordance with the Statutory Requirements laid down in STCW as a qualifying standard, and with any additional industry requirements laid down by OPITO and which comply with the principles of the Mutual Recognition Document (MCA / MNTB / 2002) to avoid unnecessary duplication of training.

Operators and Masters of ERRVs should maintain a full record of all crew certification and crew should carry their own personal record of training. The duty holder or appropriate Regulator should make all certification available for inspection.

1.11 English Language Fluency

In view of the importance of unambiguous and accurate communication in an emergency, seafarers whose natural language is not English must be able to demonstrate a good understanding of the English language, both written and spoken, to the MARLIN standard.

2 ROUTINE OPERATIONS - MOBILISATION TO LOCATION

2.1 Pre-Sailing and On-Passage Checks

Before sailing, checks should be performed to ensure the ERRV and its crew is fully able to undertake all relevant duties on arrival at location.

All ERRV systems should be checked and proven operational for the standby role prior to commencing duties on location. Deficiencies which affect the ERRV role should be notified to the OIM.

2.2 Pre-arrival Documentation Check

On arrival at location the ERRV should, as a minimum, be in possession of:-

- These Guidelines;
- Oil & Gas UK Emergency Response and Rescue Vessel Survey Guidelines;
- Oil & Gas UK Guidelines on Emergency Response for Offshore Installations
- Data Cards for the Installation being covered (either Installation Data Card or ERRV Data Card or a combination of both as required);
- Documented procedures for sharing of ERRVs (if applicable);
- Documented procedures for Daughter Craft operations (if applicable);
- Documented procedures for PLB system operations (if applicable);
- Documentation as noted under Section 1.5, where not contained in the Data Card(s);
- Other documentation required by Merchant Shipping legislation;
- OIR 13 HSE/OSD Infringement of Safety Zone Report;
- Oil & Gas UK Guidelines for Ship/Installation collision avoidance.
- Oil & Gas UK Emergency Locator Beacon and PPE Grab Handles Guidance for Offshore Rescue Crews

2.3 Information to be Exchanged by Installation and ERRVs

Reporting arrangements may vary depending on the assigned Installation and reference should be made to the appropriate Data Card for information.

The incoming ERRV should be briefed by the ERRV being relieved on relevant Installation and field activities or conditions.

The OIM should provide the Master of the incoming ERRV with details of the Installation's drills and exercises programme and ensure that the ERRV is included wherever this is appropriate. In turn the OIM should be briefed on the ERRV exercise programme for the tour of duty. (Ref. Section 5.4)

2.4 Entry to Safety Zone

Entry to the Safety Zone will normally be subject to permission from the Installation OIM. Refer to the appropriate Installation Data Card for procedure.

In an emergency, and always navigating with extreme care, the ERRV may enter the Safety Zone without permission and on the initiative of the Master.

The ERRV pre-entry to 500 metre safety zone check lists to be compatible with requirements of Installation Data Card. Checks to be performed from Installation in addition to ERRV checks.

3 ROUTINE OPERATIONS - ON LOCATION

3.1 Positioning

As a general rule, an ERRV should take station such that it maintains the optimum position for rescue and recovery purposes as agreed with the assigned Installation(s). The positioning of the ERRV should be appropriate to ongoing activity in the vicinity and should not hazard the ERRV, the Installation or manoeuvring of other vessels. At all times the appropriate rescue and recovery response times should be achievable.

In cases where an ERRV covers more than one Installation, special provisions will apply and reference should be made to the Installation operator's procedures.

3.2 Errant Vessel Collision Risks to Installations

ERRVs should always be aware of the vulnerability of Installations to impact by vessels. For this reason it is imperative that all marine movements in the vicinity are monitored. (For information on a specific Installation's vulnerable areas refer to the appropriate Data Card.)

Although the responsibility for monitoring marine activity in the vicinity lies with the duty holder, the ERRV should assist in this respect. In order to intercept any vessels on a potential collision course with the Installation(s) a radar, AIS, radio and visual watch should be maintained at all times around each manned Installation The ERRV should always be in a position to warn the OIM of any potential collision well before such could occur and in sufficient time for the OIM to muster the Installation personnel. (Ref. Section 3.6.3 and Appendix C)

ERRVs will often be required to play an active role in the duty holder's collision avoidance strategy. The latter will include minimum times for Installation personnel mustering and making ready to evacuate if necessary (Ref. Appendix A, f). As such, the OIM in consultation with the Master should endeavour to ensure that such a role is co-ordinated with other duties that the ERRV is required to undertake. Any conflict between work-roles should be communicated to the Installation OIM and resolved as soon as it becomes apparent.

A video or still camera with sufficient film and batteries should be retained onboard.

A digital camera may be used if a secure system of quarantining the memory card and original images is used.

3.3 Manoeuvring within the Safety Zone

Before entering the Safety Zone the Master of the ERRV or Coxswain of the rescue craft should ensure that he has completed all checks described on the appropriate Data Card, familiarised himself with the location of hazardous areas within the Safety Zone and has obtained permission to enter the Safety Zone from the OIM. (Ref. Section 2.4)

3.4 Fishing

3.4.1 Fishing Vessel Activity

The ERRV Master should inform the Installation OIM of any fishing vessel activity observed within the vicinity of pipelines or other assets. The OIM should inform the ERRV of the appropriate action required in accordance with the ERP.

Fishing vessels considered to be encroaching on the mooring spreads of mobile Installations should be warned of the hazard by the ERRV and referred to the Installation for precise details of the mooring pattern.

3.4.2 Fouled Nets

In the case of fishing vessels reporting gear fouled on pipelines or other subsea assets, the ERRV should relay details directly to the Installation. The position of the fishing vessel should be determined as accurately as possible by the ERRV and logged. Communications between the fishing vessel, ERRV and Installation should also be logged.

If required to leave station to render assistance or determine the position of a fishing vessel, this should be done with the knowledge and agreement of the Installation OIM.

3.4.3 Fishing from ERRVs

Fishing from ERRVs is prohibited within the area of both surface and sub-surface Installations. Lost hooks and lines present a significant threat to the safety of divers, ROV operations and the integrity of the ERRV.

3.5 Loss of Equipment to Seabed

Any ERRV which loses equipment over side should, as soon as practicable, report the loss and the position at the time of loss to the Installation. The details should be entered in the ERRV's log.

3.6 Close Standby

3.6.1 Definition

Close standby is the position taken by an ERRV (or DC or an approved alternative), near to an Installation to provide rescue and recovery arrangements within the required response times.

When considering the various factors affecting the decision to adopt close standby, the OIM in consultation with the Master should bear in mind that shipboard mechanical survivor recovery devices are severely limited in their capability to be used close to an Installation and have none of the freedom of deployment of a rescue craft.

It should be noted that rescue craft are often unable to safely get underneath many offshore installations, even in calm weather. Such scenarios should be subject to a site specific risk assessment involving both the ERRV and Offshore Installation personnel.

When an ERRV (or DC or an approved alternative) is engaged on close standby it should remain dedicated to that activity and maintain the optimum position for affecting a rescue.

At no time should an FRC be used for independent standby.

3.6.2 Planning and Communications with over side Work Parties during Close Standby

The Installation OIM should advise the ERRV Master (or DC Coxswain) of the number of persons in an over side working party and test radio communication on an agreed frequency. Communication integrity should be maintained throughout the period of close standby. The ERRV Master (or DC Coxswain) should be advised by the OIM of the work progress, any suspension and the estimated and final completion times.

When requested to provide such support the Master should take the following actions:-

1. Establish details of personnel at risk, including numbers and locations.

2. Ensure that personnel and equipment on the vessel are at the required state of readiness.

3. Ensure that the vessel is maintained in a position relative to the facility and the environment such that rescue facilities can be deployed in the most expeditious manner.

4. Ensure that the terminology to be used has been agreed and understood by all involved.

5. Ensure that communication have been established and are maintained with the watch- men responsible for monitoring the activities of each work party.

In addition, the Master should ensure that those responsible for work understand that a visual watch of the various work-sites cannot be maintained from the vessel. Any request to maintain such a watch should be challenged, since this could compromise the safe navigation of the vessel and would be impossible where several work-sites are involved.

In the event of poor visibility or other conditions making it difficult for the ERRV (or DC) to meet the rescue and recovery response times, over side work should cease. The ERRV Master (or DC Coxswain) should then inform the OIM of his inability to meet the response time performance standard and request permission to withdraw. This communication should be logged. In forecast worsening conditions, their effect on safe recovery of DC to the ERRV should also be considered. (Refer Appendix F)

3.6.3 Radar Watch during Close Standby

Bridge watch keepers should be aware of the detection limitations of radar due to height of aerial, blind sectors, attenuation of signal by precipitation, wave length in use etc. and should use other means at their disposal to monitor traffic such as visual sighting, AIS etc.

When possible and after consultation with the OIM, the ERRV should reposition temporarily to permit monitoring of previously masked areas.

3.7 Helicopter Operations

3.7.1 Notification of Helicopter Operations

Proposed helicopter flights to and from an Installation should be advised to the ERRV by the Installation OIM. The ERRV Master should advise on the ERRV's ability to provide effective rescue and recovery arrangements.

The OIM should advise the ERRV Master of helicopter movements in adequate time to permit the ERRV or DC to reach the optimum position from which to affect a rescue.

3.7.2 Positioning during Helicopter Operations

When helicopter operations are scheduled, the ERRV (or DC where appropriate) should be in a position to respond to a ditching in the vicinity of an Installation within the relevant rescue and recovery response times. The ERRV Master will consider the weather, sea conditions and required field coverage and take position accordingly. (Ref. Section 3.1)

The ERRV or DC should avoid taking position directly beneath the projected flight path of the helicopter.

Where conditions change such that the agreed response times are prejudiced, the ERRV Master should advise the Installation OIM and this communication should be logged. (Ref. Appendix F)

3.7.3 Cover by ERRV and Daughter Craft

When Daughter Craft are included in arrangements for covering helicopter operations, crews should be briefed by the Master on their responsibilities. Radio communication between ERRV and DC should be regularly checked.

3.8 Personal Locator Beacons (PLB)

The OIM should inform the Master when PLB equipment is to be used.

Where PLB equipment is provided, the Master should ensure that locator equipment on board is activated whenever relevant operations are advised. Malfunction of any part of the equipment should be reported immediately by the Master to the OIM and logged. Adequate training should be provided to the ERRV crew prior to utilisation of the equipment.

The duty holder and ERRV operator should ensure before deployment of the vessel that the PLB and locator equipment are compatible.

3.9 Surveillance

3.9.1 Watch Keeping

At all times on location, a visual, radar and radio watch should be maintained on the bridge to monitor marine and aviation activity in the area and alert the Installation in accordance with the requirements of the emergency response plan. Monitoring should include a pollution watch in the vicinity of the Installation.

3.9.2 Security

The ERRV should promptly report to the Installation any vessels which appear to present a potential threat. (Ref. Section 3.2)

Without prejudice to its own safety, the ERRV should endeavour to prevent unauthorised vessels from entering the Safety Zone.

Any communication with unauthorised vessels, which have a potential to enter the Safety Zone, should be logged together with available details of flag, name, identifying marks, Port of Registry or any other information which helps to identify the vessel. Where possible, photographic evidence should be obtained. Photographs should where possible include Installations and/or other vessels which permit an assessment to be made of distance and scale. The position of the vessel relative to the Installation should be plotted by radar. All breaches of the safety zone should be reported both verbally and in writing to the OIM. Appendix K contains a copy of HSE/OSD OIR 13 Infringement of Safety Zone report form – it is the responsibility of the duty holder (Installation) to complete the form and forward to the HSE.

3.9.3 Buoyed Moorings Check

In the case of Installations with buoyed moorings, the buoy pattern should be checked as instructed by the Installation and any buoy missing, adrift, damaged or riding low in the water reported immediately to the OIM.

Where rescue and recovery duties are not compromised and an ERRV has the capability to safely recover a drifting buoy, it may do so after advising and receiving permission from the Installation. If recovery of the buoy presents an unacceptable risk to personnel or the ERRV's equipment (especially survivor recovery and rescue equipment) it should not be attempted and the buoy’s position and drift reported to the MCA.

3.9.4 Installation Navigation Aids/Marks

At intervals agreed with the Installation, the ERRV Master should monitor the Installation navigation aids, including associated navigation marks and report any failures.

When required by the Installation OIM, a reportable navigation aids check should be performed. Ref. Appendix D for a typical checklist.

3.10 Rescue and Recovery Equipment

3.10.1 Checks of Equipment

All equipment critical to recovery and rescue operations and safety of the ERRV and crew should be tested in accordance with the ERRV's Planned Maintenance System.

3.10.2 FRC Deployment

FRCs cannot operate autonomously from the Mother vessel and are constrained by visibility, weather equipment levels and communications.

While on location an ERRV should not normally deploy FRC for any purpose other than an emergency, testing of FRC and/or launch and recovery systems or crew training. Any request to utilise FRC for other duties should be agreed in advance by the Installation OIM, the ERRV operator and the Master. The final decision on whether or not to launch a FRC lies with the Master in consultation with the FRC coxswain.

Except in the case of a Group C ERRV, it should be possible for two FRC to operate simultaneously. However, the second craft should not be launched until the first is operating satisfactorily. (Ref. Section 1.7, Notes on Table)

3.10.3 FRC Crew Pre-Launch Briefing

The ERRV Master and the FRC Coxswain should have a clear understanding of the FRC's task before it is launched. The Coxswain should be briefed with sufficient information to permit him to commence the task and minimise risk to personnel. FRC coxswains should be responsible for ensuring that their crewmen are properly briefed and equipped for FRC operations.

3.10.4 FRC Handling

FRC speed and manoeuvring should always be appropriate to the prevailing sea conditions to ensure the safety of crew and survivors and minimise any further injury to the latter.

3.10.5 Proximity to Installations

When manoeuvring in close proximity to an Installation, FRC crews should be aware of its configuration and associated hazards. (Ref. appropriate Data Card.) FRC speed should be regulated appropriately and the craft manoeuvred with great care.

Except in an emergency, FRC should not proceed under an Installation without obtaining permission from the OIM and be subject to a full risk assessment process in order to establish levels of acceptability.

3.10.6 FRC Radio Communications

FRC should not be deployed from the ERRV until the FRC radios have been checked for operation. When deployed the FRC Coxswain should provide situation reports to the ERRV Master at agreed intervals.

If it is necessary for a FRC crewman to board a TEMPSC or similar craft, the crewman transferring should always be equipped with a radio and remain in contact with the FRC and/or ERRV.

3.11 Daughter Craft (DC)

Appropriate sections of 3.10 should also be applied to DC operations.

3.11.1 Daughter Craft Functions

The prime purpose of DC is to rescue and recover persons in an emergency.

Subsidiary roles may be to provide close standby and cover for helicopter operations whilst the ERRV is engaged elsewhere.

The deployment of the DC should not compromise the ERRV's ability to perform its rescue and recovery activity.

3.11.2 Daughter Craft Operating Limits

Daughter Craft shall be constructed and operated under provision of MCA Harmonised Small Commercial Vessel Code. To permit them to operate independently from their ERRV, DC requires a Loadline Exemption issued by the Maritime and Coastguard Agency. The Loadline Exemption details the conditions under which the DC may operate.

A typical Loadline Exemption may include:-

- Maximum wind/sea state for normal operation;
- Maximum distance of operation from the mother ERRV during normal operations;
- Maximum continuous working hours for the DC crew.

In the event that it is intended to apply for a loadline exemption exceeding 10 nautical miles then the procedure detailed in section 5.4.2 of the Emergency Response and Rescue Vessel Survey Guidelines must be followed prior to any application to the MCA.

3.11.3 Daughter Craft Crew Working Hours

DC Crews are subject to fatigue when the craft are deployed for extended periods. In normal conditions a period of duty should not exceed four hours inclusive of the transit time to/from its work location. After a period of duty, a DC crew should be permitted a rest period on the ERRV, normally at least as long as their last period of deployment. The crew may carry out their normal duties on the vessel during this period. The setting of performance standards for DC should take crew fatigue into account.

3.11.4 Daughter Craft Response Times

DC when deployed should be able to meet the rescue and recovery response times in the prevailing conditions taking due account of the condition of casualties, i.e. in all circumstances the care and welfare of the casualty shall take precedence.

3.12 Transfer Operations

3.12.1 Personnel Transfer between Installation and ERRV

Masters and OIMs should comply with the duty holders and ERRV operator's procedures for the transfer of personnel. Transfer should not proceed until any conflict between the procedures has been resolved. Personnel transfer may proceed in an emergency or for special circumstances on agreement between the Master and OIM after suitable risk assessment.

(Ref. The Code of Safe Working Practices for Merchant Seaman, Chapter 31 section 31.7, is relevant to this activity.)

3.12.2 Ship to Ship Transfer of Personnel by FRC

Ship to ship transfer offshore carries the risk of injury to personnel and damage to equipment that may be vital to emergency response. Before deciding to proceed, all aspects of the transfer should be considered by both Masters and fully risk assessed. (Ref. Appendix E for checklist and note that the Code of Safe Working Practices for Merchant Seaman is also relevant.)

3.13 Weather Affecting Standby Cover

3.13.1 Exceptional Weather

If an ERRV is unable to maintain station because of exceptional weather conditions, the Master should advise the OIM of the Installation. As far as the safety of the ERRV and crew permits, the Master should endeavour to remain within the normal operating radius of the Installation, maintaining radio contact at intervals agreed with the OIM. (Ref. Appendix F)

3.13.2 Adverse Weather Working Policy

The ERRV should be supplied with relevant details of the appropriate Installation adverse weather working policy. However, nothing contained within the Policy with respect to the various weather limitations should prevent the Master from setting temporary lower limits in situations where he believes an unacceptable risk to his ERRV and crew is present. In this event, the OIM should be informed. (Ref. Appendix F)

3.14 Communications

3.14.1 Communications Status

All communication equipment should be maintained in good working condition.

In addition to Flag state and Installation specific requirements, ERRVs are equipped with aeronautical radio facilities providing both communication and direction finding.

During service at its assigned Installation(s), an ERRV should maintain a listening watch on all frequencies required by the OIM. (Refer to appropriate Data Card for required radio frequencies.)

3.14.2 Change of Status

Any circumstance which affects the efficiency of the ERRV while on station should be communicated by the Master to the OIM and ERRV operators and logged.

3.14.3 Notification to ERRV of Installation Operations

The OIM should ensure that the ERRV is kept advised of any operation which may affect its role. Such operations may include but not be limited to:-

- Flaring of gas or oil including cold flaring and gas venting
- Activation of overboard discharges or vents
- Planned movement of marine or helicopter traffic
- Planned diving or remotely operated vehicle operations
- Planned over side working
- Planned anchor handling operations
- Planned manning of normally unattended Installations
- Radio silence periods

3.15 ERRV Records

Every ERRV should maintain in the English language a complete record of events on board the ERRV and of those observed on and in the vicinity of the Installation.

3.16 ERRV Sharing Methodology

In determining the feasibility and requirements for sharing of ERRV's, attention is drawn to the contents of Appendix M as a guide to the methodology to be used.

4 ROUTINE OPERATIONS - DEPARTURE FROM LOCATION PROCEDURES

4.1 Handover to Relieving ERRV

The ERRV on station should advise the Installation OIM of an impending change-out and should not leave the vicinity without his permission.

The ERRV on location should not hand over to the relieving ERRV until:

- The relief ERRV is on location and the relieving ERRV Master has confirmed to the OIM that the ERRV, its equipment and its crew are operational.
- The relief ERRV Master has been briefed on all relevant information relating to the Installation(s) to be covered. The briefing to include work or operations in progress. (Ref. Section 2.3)
- Any other requirement noted on the appropriate Data Card has been met.

5 VALIDATION AND VERIFICATION OF RESCUE AND RECOVERY ARRANGEMENTS

5.1 Assessment Methodology

The Duty Holder must establish performance standards that provide a good prospect of recovering and rescuing persons from the water in all but the most severe storm conditions and sea states.

In developing appropriate performance standards, account should be taken of relevant information including:

- The compatibility, type and performance of protection likely to be worn, e.g. survival/immersion suits, thermal clothing, spray hoods and lifejackets;
- The period for which people in the water might reasonably be expected to survive and subsequently recover after receiving medical attention on the ERRV or other place of safety;
- The number of persons likely to be in the sea;
- The weather and sea conditions likely to be encountered.

Duty Holders should ensure that the choice of survival equipment is reflected by and compatible with their established performance standards. Guidance may be obtained from the HSE Offshore Technology Report OTO 95 038, "Review of Probable Survival Times for Immersion in the North Sea", issued December 1995.

5.2 Validation Trials

It is the responsibility of the duty holder to ensure that independently witnessed Validation Trials have been conducted to demonstrate that specified rescue and recovery performance standards can be met and should be carried out on an annual basis, per crew, as a minimum, but consideration should be given to further validations taking place following significant variation to operational circumstances. All validation trials should be suitably recorded to enable all times/results to be formally extrapolated to accurately calculate the ERRVs performance at the upper sea states.

The purpose of the following is to achieve a common approach to validation of performance standards, to ensure effective arrangements, i.e. arrangements which secure a good prospect of recovery and rescue and taking survivors to a place of safety, as required by Regulation 17 of the Offshore Installations (Prevention of Fire and Explosion and Emergency Response) Regulations, 1995, (PFEER). (Ref. Section 1.2 for details of Regulation 17.)

5.2.1 Overview

The objective of validation trials is to test the vessel and crew for the "worst expected case" which can be demonstrated by trialling two distinct scenarios, namely;

- Scaffold collapse (4) persons overboard
- Multiple (21) persons in the water (helicopter ditching or Installation abandonment)

The scaffold collapse above relates to a work-party, who all enter the water whilst conducting planned overside work. This work is being carried out within the usual weather limitations and with close standby cover provided by FRC stowed on the ERRV and DC afloat, where fitted. Thus the worst case scenario for this event would be a maximum distance of approximately 500 metres transit to rescue 4 persons and in weather up to 3.5m significant wave height. The exercises however may be carried out in more benign weather conditions and validated by means of computed extrapolation subject to meeting the timing criteria below.

For the multiple (21) person trial, the worst case scenario would be up to 7m sea conditions and the incident occurring at the most distant location being supported (with the ERRV in a sharing capacity) involving a full helicopter payload or predicted number of persons who may be forced to escape to sea after a fire / explosion, for example i.e. up to 21 personnel. Some duty holders may have specific performance standards for such an incident using FRC or DC and as such would require computer extrapolation of the results up to the maximum FRC / DC sea state of 5.5m from the maximum expected distance.

The exercises above may be carried out in more benign weather conditions and validated by means of computed extrapolation, subject to meeting timing criteria below.

For validation of the Baseline Performance Standards the following procedures are suggested for survivor recovery trials in liaison with the ERRV operator.

5.2.2 Baseline Recovery & Rescue Performance Standards

The objective of these recommendations is to provide a baseline standard for rescue and recovery in all but the most exceptional conditions and sea states. However, compliance with the Performance Standards noted herein, does not necessarily ensure a good prospect of rescue and recovery.

Baseline standards should be subject to regular review in accordance with good safety management custom to take account of improvements in equipment, knowledge and practice. Any review should be directed towards minimising personnel exposure to harm or associated physical and mental stress.

Duty holder's may set performance standards that differ from those denoted below if it can be demonstrated that the expected number of persons in the water or expected survival time has been robustly predicted.

5.2.2.1 Personnel falling into the sea during overside work

Where personnel enter the sea and timed from the point at which the ERRV is alerted,

- a rescue craft should be launched within two minutes;
- a rescue craft should be in position to rescue the first casualty within four minutes and
- up to 4 personnel should be rescued within 10 minutes and taken to a place of safety within 20 minutes by FRC or DC, to ensure due regard for the care and condition of the casualty
- the safety and well-being of rescued personnel is always the prime consideration

5.2.2.2 Random Personnel Overboard

Although not a reasonably foreseeable event, a rescue craft should at least be launched or the ERRV making way to the search area, within two minutes of the alarm being raised.

5.2.2.3 Helicopter Ditching

In the event of a helicopter ditching within the 500m zone, up to 21 personnel should be rescued and taken to a place of safety within 2 hours. In this case, rescue craft should be launched or the ERRV making way towards the search area, within two minutes of being alerted to the incident.

5.2.2.4 Installation Escape to the Sea

A rescue craft should be launched or the ERRV making way towards the search area, within two minutes of being alerted to the incident, and up to 21 personnel should be rescued and taken to a place of safety within 2 hours.

5.2.3 Safety During Trials

The safety of the ERRV crew and Installation personnel is fundamental, and measures will be taken to reduce any unnecessary risk to those personnel participating in the trials, particularly during marginal environmental conditions and night time exercises. Risk assessments will be in place for all tasks associated with the trials and crew fully briefed on the trials and all safety measures and controls identified in the risk assessment.

All trials will be carried out at the discretion of the ERRV Master, who retains 'right of veto' over all operations in liaison with the Installation(s) OIM(s), if undertaken on location. A 'STOP' policy should be in place and planned trials may be terminated by any of the participants at any stage if it is perceived that the safety of the vessel, crew, Installation or Installation personnel is being jeopardised.

If the 'STOP' policy right is invoked, a full debrief and review of events will take place immediately, and any recommended and agreed corrective action implemented.

If a rest period is required due to fatigue caused by the more labour-intensive tasks, any crew-member, at any point during the trials, whether it be mid exercise or between exercises, has the right to call 'time out' and should be actively encouraged to do so. This stoppage can be accommodated by stopping timing and restarting once all involved feel fit to continue.

In the event of a 'real emergency' during an offshore trial, the vessel will revert to 'emergency standby' status under the instruction of the affected Installation's OIM.

Depending on the seriousness of the emergency situation, a contingency strategy may include the rescue of any remaining mannequins, which might cause unnecessary problems or confusion during emergency response by the ERRV should the event escalate or lead to real casualties in the water. However, the Master's initial response and priority will be directed towards the incident.

5.2.4 Location of Validation Trials

Validation trials should preferably take place with the third party assessor onboard the ERRV to provide a full appreciation of the rescue conduct, co-ordination and performance of the crew.

Trials may take place offshore or in coastal waters but not in unrealistically sheltered areas, however calm conditions are acceptable. Trials should only take place in close proximity to the shore, if the conditions further offshore are considered to be too adverse and unsafe. The reasons for this should be clearly recorded in the trial report.

5.2.5 Validation Trial Type and Frequency

All ERRVs will be subject to annual validation trials, per crew, which will, as a minimum, incorporate all of the below scenarios (three (3) trials in total) in the presence of an independent witness.

a. MOB - Simulate a Man Overboard (MOB) incident during a close standby situation; this to assess compliance with the applicable Performance Standard. This will normally necessitate rescuing up to four (4) persons from the water, from a distance of circa 500m with one (1) Rescue Craft.

b. Helicopter Ditching / Escape to Sea – Simulate a multiple casualty rescue with all operational Rescue Craft (DC / FRC) to simulate a Helicopter Ditching or Installation Escape to Sea scenario; this to ensure compliance with the applicable Performance Standard. This will necessitate simulating the rescue of multiple persons (21) from the water from a distance not less than 1 nautical mile (nm).

c. Helicopter Ditching / Escape to Sea – Simulate a multiple casualty rescue with the ERRV's Mechanical Recovery Device to simulate a Helicopter Ditching or Installation Escape to Sea scenario; this to ensure compliance with the applicable Performance Standard. This will necessitate simulating the rescue of multiple persons (21) from the water from a distance not less than 1 nautical mile (nm).

5.2.6 Extrapolation of Validation Trial Results

It is accepted that ERRVs and Rescue Craft may respond to emergencies in conditions greater than it is considered safe or practical to undertake trials or exercises in. To accommodate this and demonstrate performance standards can be achieved in the conditions where emergency response may be required or expected, all annual validation trials will be extrapolated to the upper operating limits for that particular rescue method by appropriate methods.

Duty holders should ensure that they have an understanding of the mathematical processes and techniques utilised in the Validation Process, that they are well founded and effectively demonstrate a robust assessment of performance in the upper sea states that can be evidenced and justified.

Duty holders should be aware of the limitations of theoretical extrapolation in measuring performance and support this with a robust verification trial regime in a range of sea conditions as required in section 5.3.

5.2.7 Independent Witnessing and Record Keeping

All validation trials will be facilitated and witnessed by a specialist independent assessor who will be responsible for recording all trial activities on the R&R Validation Trial Record Sheets (see Appendix G). A written report with comments on the general conduct and any observations made during the trials may accompany these record sheets along with the full extrapolated results within a full trial report which must be retained by the duty holder for at least 5 years and made available to regulatory bodies and independent verification bodies when required.

The specialist independent witness will have the relevant offshore maritime experience and qualifications to undertake the role as well as suitable coaching and training in maritime search and rescue, casualty handling and major emergency response and co-ordination.

The specialist independent witness must be completely independent and not be part of the vessel or offshore Installation crew / personnel.

The specialist independent witness must not assist in any way that could improve or influence vessel or crew performance during any timed validation trial. The specialist independent witness may offer advice and tips when preparing for the trial or briefing the Master and crew or during any debrief in order to share and encourage good practices and improve future performance.

5.2.8 Relationship with Other Trials and Exercises

It is desirable to compile as much R&R Trial Data as possible for each vessel. All other exercises conducted should be recorded on the relevant forms provided (see Appendices G & H). Any additional Trial Data gathered, particularly in higher sea states, during verification trials or other exercises may be used to compare results with and verify the extrapolated predictions at the upper sea states calculated during the validation trial process.

5.2.9 Validation Trial Recommended Code of Practice

5.2.9.1 Mannequin Type and Weight

Mannequins used for validation trials should be of a type suitable in simulating the characteristics of a human casualty in the water. Mannequins should be ballasted to simulate a realistic weight for the physical handling of casualties to simulate realistic drift characteristics in the prevailing weather conditions; in addition to the wave actions created by the vessel's wash and bow wave etc when manoeuvring alongside. An acceptable weight has been determined equating to circa 60kgs.

5.2.9.2 Mannequin Number / Amount

The full and correct number of mannequins should be deployed for Rescue Craft and Mechanical Recovery Device Trials in accordance with the relevant Performance Standard. Where it is not possible to use the optimum amount (e.g. a damaged mannequin is identified that is either a safety concern or cannot be correctly weighted, a reduced number may be used; however this number should never be less than 90% of the full amount for validation trials. Alternatively, it is possible to redeploy a small number mannequins, following their initial rescue from the sea, at the start (not the end) of the trial to simulate the correct amount.

5.2.9.3 Mannequin Deployment and Dispersal

The mannequins should be distributed and spread to simulate the worst case scenario for person in the water at the upper sea states. However, sound 'seamanlike' practices should be adopted to ensure that trials are not unrealistic or impossible to complete. It is recommended that mannequins are deployed one at a time with sufficient intervals between releases to ensure tight grouping is avoided. As a guide, the initial distribution of the mannequins should be an area approximately equivalent to the physical size (length / width) of any Installation being supported or a typical offshore installation for vessels with no defined location. Whilst emergency training teaches casualties in the water to group together this does not simulate the worst case scenario and mannequins must not be tied together in pairs or groups. Mannequins that randomly drift together into pairs or small groups is likely and acceptable.

5.2.9.4 Casualty / Mannequin Handling

Good rescue practices should be employed for the physical handling of mannequins as if they were real casualties during all trials. Mannequins should be recovered from the water in a horizontal aspect to avoid the likelihood of post immersion collapse in a real emergency.

In addition to ensuring that any casualties are rescued from the sea in a horizontal posture, utilisation of the cradles or nets used as recovery aids may reduce the risk of avoidable back injury to Rescue Craft crews.

Handling of mannequins will, if practical, be conducted by at least two crew members. Protective gloves should be worn at all times when handling mannequins and particular care should be taken to avoid trapping hands and fingers between the mannequin and the vessel or rescue craft structure and in the pinch points of articulated joints and limbs.

Mannequins must not be left in any Mechanical Recovery Device for any longer than necessary. Leaving the Mechanical Recovery Device trailing in the water to rescue multiple casualties in one go risks the occupants being pinned underwater and may lead to drowning.

In reality, the transit back to the mother vessel by FRC or DC would not be undertaken at high speed with potentially injured casualties on board so the same approach should be expected for trial purposes. Therefore, the transit back to the ERRV should not be a hurried event and caution should be stressed by those responsible for this part of the exercise. FRCs and DCs should return at a speed that is safe and comfortable for any survivors on board and not just the crew. This time is however, still a fundamental component of the trial as FRC / DC are not considered to be a "Place of Safety" and times must be recorded until all casualties are aboard the ERRV.

5.2.9.5 Positioning of the ERRV / Rescue Craft during Trial Rescue Operations

Throughout the trials the Master / Coxswain should position and handle the vessel / craft with due consideration to offshore hazards and the effects of adverse weather.

The ERRV and Rescue Craft will avoid any 'close quarter' situation with any Offshore Installations and / or nearby vessels and will comply with the Duty Holder / Owner's Policy and Procedures with regard to operating distances within the 500 metre Safety Zone.

If the trials are being conducted in relatively benign weather conditions the vessel / craft should be manoeuvred in a manner that would be acceptable or achievable at the upper sea states, although best safe speed should be used in the conditions being experienced at the time with due consideration for the safety of the vessel / craft and crew.

The following actions should be avoided: -

- Exposing casualties in the water to increased risk of injury from the vessel's propulsion units
- Lying beam on to the sea for longer than necessary
- Operating the Mechanical Recovery Device on the weather side of the vessel
- Launching and recovering Rescue Craft on the weather side of the vessel.

5.2.9.6 Utilisation of Equipment and Resources

The vessel / crew should utilise all equipment and resources available to them at the time of the trials to aid a timely and effective execution of the rescue such as: -

- Posting suitable lookouts to locate and monitor the location of all casualties / mannequins
- Use of boathooks, mate savers, poles and lines to assist recovery of casualties / mannequins. Any device that could potentially injure a casualty should not be used.
- Use of binoculars and search lights to aid location of casualties / mannequins
- Liaison with installation personnel (at the scene) to aid location of casualties / mannequins, for close standby MOB only
- Use of electronic or manual plotting techniques to calculate probable drift of casualties / mannequins
- Use of appropriate search patterns and techniques to aid location of casualties / mannequins
- Regular communication with and feedback from all parties to effectively monitor and manage the rescue.

5.3 Ongoing Verification and Recording of Trials Data

5.3.1 Overview

It is important, for both rescuers and survivors, that both rescue equipment and personnel are trialed in conditions somewhat similar to those in which they are expected to provide cover. Rescuers need to develop skills to enable them to perform successfully the necessary tasks to rescue survivors without endangering themselves or the survivors. Rescue arrangements should have their performance verified by valid methods to demonstrate, in all but exceptional weather conditions, their compliance with regulatory requirements. Such trials should not expose rescue personnel to unacceptable risks.

This document provides guidance regarding the planning and execution of rescue performance trials to determine overall performance of rescue arrangements in the various geographic areas around Great Britain, as detailed in Table 1 of Appendix H.

5.3.2 Crew Safety

Prior to any exercise being conducted a risk assessment is to be undertaken which shall take cognisance of the scope of the exercise, the equipment to be used, and the prevailing weather conditions. An incremental increase in the sea state for subsequent exercises will lead to improved confidence and capabilities in such conditions.

To enhance the safety of the crew performing these trials, exercises should be split into manageable separate components each of which are individually timed. This would avoid unnecessary repetition and speed for non-critical operations. In reality, the transit back to the mother vessel would not be 'against the clock' so the same approach should be adopted for exercise purposes.

Multiple casualty exercises should be undertaken with fewer mannequins whose weight in water shall not exceed 60 kg, and so reduce the likelihood of fatigue related or manual-handling incidents.

Ideally each ERRV should carry 3 mannequins, and for exercises involving simulating the recovery of larger numbers of casualties, once the mannequins are recovered, they should be reused and the average times extrapolated by computation, after allowing for the time taken between exercises.

If a rest period is required due to fatigue caused by the more labour-intensive tasks, any crew-member, at any point during the trials, whether it be mid-exercise or between exercises, has the right to call 'time out' and should be actively encouraged to do so. This stoppage can be accommodated by stopping timing and restarting once all involved feel fit to continue.

5.3.3 Number of Verification Trials

As a minimum, to provide a level of confidence in the data recorded, at least ten verification trials should be conducted at the higher sea states by the crew of the ERRV during the course of twelve months. (See Appendix H column 4 of Table 1: Significant Wave Heights (swh) that have 5% Annual Exceedance for UKCS Areas and Worst Months Exceedances for that Condition)

New trials data should be collated frequently, with an interval not greater than one month.

5.3.4 Distribution of Trials

Trials should be conducted across the entire range of sea states for the area of operation, after taking cognisance of the Adverse Weather Standards for Emergency Response and Rescue Vessels as defined in Appendix F. As a minimum, the distribution of trials conducted should reflect the actual frequency of occurrence of the various sea states, with trials being undertaken in the higher sea states to confirm the validity of the extrapolated data from the annual validation trials.

Additionally, trials shall be conducted in those conditions where it is reasonably foreseeable that rescue might need to be undertaken; this is particularly the case regarding rescue during hours of darkness.

Such night trials should be conducted to establish what, if any, degradation in performance occurs. The trials should be risk assessed and initially conducted in benign weather conditions to expose the rescue personnel safely to the conditions, so that skills can be developed, and equipment tested. Trials should be conducted at sufficient frequency to ensure performance is retained.

The objective of all trails is to test the vessel and crew for the "worst expected case" which can be demonstrated by two distinct scenarios, namely;

- Scaffold collapse (4) persons overboard
- Multiple persons in the water (helicopter ditching or Installation abandonment)

The scaffold collapse above relates to a work-party, who all enter the water whilst conducting planned overside work.

The exercises should be further expanded where an ERRV, with one or more daughter craft and FRCs, supports more than one offshore installation, where its ability to meet the Baseline Recovery and Performance Standards as defined in Section 5.2.2 shall be demonstrated.

5.3.5 Record Keeping and Independent Witnessing

All trials shall be recorded on the ERRVA Record Sheet for All Launch and Recovery of FRC/Daughter Craft/Dacon Scoop Exercises as included in Appendix H of these Guidelines.

When it is determined by the Duty Holder that independently witnessed Verification Trials are to be undertaken, and the format of the trials agreed with the master of the ERRV, thereafter, the ERRV will report to the responsible party on the offshore installation, witnessing the progress of the exercise, which shall also be recorded as a witnessed verification exercise on the ERRVA Verification Record Sheet in Appendix H.

Such records shall be retained for a period of five years.

5.3.6 Adverse Weather Policies

Any Duty Holder adverse weather policy that may apply to the installation, should be in accord with the overall rescue performance standard, as demonstrated when undertaking trials in higher sea states.

5.4 On-going, On-board Training

Emergency response and rescue vessel crews perform an On-going, On-board Development and Training Programme developed by an OPITO-approved training provider, in accordance with Statutory Requirements as laid down in STCW 95 and industry approved courses as laid down by OPITO.

The purpose of the programme is to consolidate the onshore initial and specialist training undergone by emergency response and rescue vessel crews and to enhance their knowledge, skill and understanding of their roles.

Where an individual cannot be present on the vessel to complete an observed assessment by a training provider, he will be permitted to take the assessment onshore by an OPITO approved training establishment.

The programme may also make provision for location specific emergency contingency training. The emergency response and rescue vessel Master should provide the OIM with an outline of the intended exercises which require installation input and request his co-operation as soon as practicable after arrival on station. (Ref. Section 2.3)

Wherever practicable, installations should co-operate in the execution of such exercises. Conversely exercises planned for the installation which involve the emergency response and rescue vessel, should be discussed in advance with the Master.

5.5 Communications during Exercises

Procedures should be in place such that radio communications do not cause confusion by being mistaken for those generated by a real situation. Transmissions should be prefixed by terminology agreed with the Installation and intended to avoid confusion.

If a real emergency situation develops during an exercise, all concerned should be informed, the exercise abandoned and an appropriate rescue and recovery response commenced.

5.6 Record Keeping

Records of activity during an exercise should be kept in a format which replicates that required by a real emergency. In addition to written logs, incident status boards should be maintained to provide the Master with information that will assist his response to an emergency.

Results of all trials and exercises should be recorded in a standard format (Ref. Appendix H) and forwarded to the duty holder and ERRV operator. The ERRV operator should maintain these records on an industry standard database as evidence of validation and verification.

5.7 On-going, On-board Training

Emergency response and rescue vessel crews perform an On-going, On-board Development and Training Programme developed by an OPITO-approved training provider, in accordance with Statutory Requirements as laid down in STCW 95 and industry approved courses as laid down by OPITO.

The purpose of the programme is to consolidate the onshore initial and specialist training undergone by emergency response and rescue vessel crews and to enhance their knowledge, skill and understanding of their roles.

Where an individual cannot be present on the vessel to complete an observed assessment by a training provider, he will be permitted to take the assessment onshore by an OPITO approved training establishment.

The programme may also make provision for location specific emergency contingency training. The emergency response and rescue vessel Master should provide the OIM with an outline of the intended exercises which require installation input and request his co-operation as soon as practicable after arrival on station. (Ref. Section 2.3)

Wherever practicable, installations should co-operate in the execution of such exercises. Conversely exercises planned for the installation which involve the emergency response and rescue vessel, should be discussed in advance with the Master.

5.8 Drills and Exercises

Drills and exercises are to be undertaken on a regular basis and in accordance with HSE Guidelines on the Use of Trials Data to Determine the Overall Rescue Performance and Confirm Regulatory Compliance whereby each drill or exercise is recorded on the ERRVA Record Sheet for all Launch and Recovery of FRC / Daughter Craft / Mechanical Recovery Device Exercises set out in Appendix H section 4.0 – ERRV Launch and Recovery Exercises

Drills or exercises should not be undertaken where this presents an unacceptable risk to the ERRV and or crew. The assessment of this risk must be undertaken by the ERRV Master. The manual handling aspects of recovery of a mannequin present risk of injury to the FRC / DC crew and the mannequin weight in the water should not exceed 60 kg.

5.9 Communications during Exercises

Procedures should be in place such that radio communications do not cause confusion by being mistaken for those generated by a real situation. Transmissions should be prefixed by terminology agreed with the Installation and intended to avoid confusion.

If a real emergency situation develops during an exercise, all concerned should be informed, the exercise abandoned and an appropriate rescue and recovery response commenced.

5.10 Record Keeping

Records of activity during an exercise should be kept in a format which replicates that required by a real emergency. In addition to written logs, incident status boards should be maintained to provide the Master with information that will assist his response to an emergency.

Results of all trials and exercises should be recorded in a standard format (Ref. Appendix H) and forwarded to the duty holder and ERRV operator. The ERRV operator should maintain these records on an industry standard database as evidence of validation and verification.

6 EMERGENCY RESPONSE

6.1 Primary Scenarios

The ERRV may be called upon to respond to four primary scenarios where persons may have to be recovered or rescued from the sea.

6.1.1 Person(s) Falling from the Installation

Both working and off duty personnel are at risk of falling from the Installation into the sea. Personnel working in areas where an increased risk of entering the sea exists should be equipped with appropriate PPE and have planned rescue arrangements already in place. Where these arrangements involve the ERRV, the Master and crew should be aware of their roles and responsibilities and react accordingly.

6.1.2 Helicopter Ditching in the Vicinity of the Installation

Helicopter flights are planned events and operate within certain criteria, e.g. the duty holders Weather Working Policy. All relevant information regarding the flight should therefore be known and contingencies planned, e.g. moving the ERRV to an appropriate position to assist in achieving response times.

6.1.3 Escape of Installation Personnel to the Sea

Escape from an Installation may involve personnel using escape devices, life-rafts or entering directly into the sea. A spread of entry points to the sea should be expected and reference should be made to the appropriate Data Card for information on the Installation escape routes

6.1.4 Recovery of Persons following Evacuation by TEMPSC

Persons who have evacuated the Installation by TEMPSC may require to be recovered from such craft. Whilst a TEMPSC is not designated as a place of safety, persons in them should be at less risk than those who may be in the sea or in escape equipment such as life rafts. Therefore, it would be reasonable to assign a comparatively lower priority to recovery of personnel from TEMPSC than that given to the rescue of personnel who have escaped from the Installation by other means. The effect of weather and sea conditions on the safe transfer of survivors from a TEMPSC to the ERRV should also be considered.

6.2 Emergency Situations

Timely warning of situations which have the potential to develop into major incidents requiring intervention by the ERRV must be communicated by the OIM to the Master.

6.3 Emergency Response Actions

6.3.1 Command and Control Handover Procedures

If possible, the OIM of an Installation affected by an emergency will act as On-scene Co-ordinator (OSC). If evacuation of the Installation is unavoidable, the OIM should transfer this role to others outside the Installation. This could be the ERRV Master or the OIM of a nearby Installation. (Ref. Appendix 2 and Oil & Gas UK Guidelines for the Management of Emergency Response.)

In the event of a catastrophic incident or complete communication loss with the Installation, the ERRV Master should immediately adopt and maintain the role of OSC until relieved of that duty.

Upon assuming the role of OSC, the ERRV Master should inform MCA MRCC immediately and issue a distress relay message. Thereafter contact should be maintained by relaying information as the situation requires and permits. The Master should act in accordance with the ERP for the Installation.

The role of OSC necessarily places a workload upon the ERRV Master and crew that may affect their efficiency in the rescue and recovery roles. Although circumstances such as operation at a remote location may make this inevitable, where resources allow, the ERRV Master should consider transferring the OSC role to another vessel if this will benefit the rescue and recovery effort. Transfer of the OSC role may allow the ERRV to concentrate its full attention on search and rescue but should not be undertaken without the prior knowledge of the OIM and/or Coastguard and then only after they have appointed another OSC.

6.3.2 Positioning of ERRV under Emergency Conditions

Because of the varying conditions that might exist, no definitive instructions can be given for stationing of the ERRV under emergency conditions. However, Masters should bear in mind the following:

- Coxswains of Installation TEMPSC are trained to steer upwind from the Installation on a course approximately 30 deg. off the wind, for 1.5 miles, before heaving-to.

- Gas, smoke, oil and debris drift from an Installation, under the influence of both wind and wave, thus creating a danger area over and upon the sea. Masters of ERRVs should always bear this in mind before making any decision to move downwind to recover personnel from the sea.

- Major explosions may occur on the Installation.

- In the case of ditching, a helicopter may be just below the sea surface or survivors may be ascending to the surface. Consideration should be given to maintaining the ERRV out with the crash site and deploying rescue craft with instructions to manoeuvre with extreme care.

- Fouling or snagging hazards on and around casualties such as descender devices, lines or harnesses worn by rope access technicians for example

6.3.3 Search and Location

Searches conducted by both ERRV and rescue craft should be co-ordinated by the ERRV Master and unambiguous reporting procedures agreed in advance. The ERRV and FRC crews should be familiar with the means of disabling PLBs as per OGUK guidelines.

6.3.4 Radio Discipline/Communications

If the Installation state of alert changes, the OIM should inform the ERRV Master.

Strict radio discipline is to be maintained during an emergency and emergency frequencies used only for the passage of essential information or instructions.

In the event that the Installation OIM is unable to transmit a Distress, the ERRV Master should broadcast a Distress Relay message as appropriate to the circumstances.

6.4 Survivor Management and Transfer

Survivors should be handled in an efficient and professional manner having due regard to their medical condition.

Each ERRV should carry a contingency plan for the safe transfer of casualties for further treatment out with the ERRV which takes account of the various modes of transport that may be used and varying weather conditions.

The medical condition of casualties should be stabilised if possible and external medical advice sought if necessary. Casualties being evacuated from the ERRV should be tagged with details of their identity, medical condition and any medical treatment applied.

Where doubts exist over the advisability of transfer, e.g. the medical stability of the person is uncertain, the advice of a doctor or other appropriately qualified person should be sought.

6.5 Emergencies Occurring Out with Assigned Area of Operation

An ERRV must as required by law and if required by the Rescue Authorities proceed out with its assigned area for the saving of life. Prior to departing the Master must inform the OIM of the installation to which it is assigned. An ERRV may only proceed to assist with the saving of property out with its assigned area of operation with the prior permission of the OIM of the Installation to which it is assigned. Once permission is given the Master of the ERRV should notify the Rescue Co¬ordinator of his availability, his ETA and his vessel's rescue & recovery capability.

The OIM of the installation to which the ERRV is assigned must take all necessary precautions to ensure the requirement for rescue & recovery arrangements is no longer reasonably foreseeable after suitable risk assessment.

6.6 Helicopter Winching Operations

6.6.1 The Decision to Winch

The decision to commence a winching operation whether for an emergency, drill or other circumstance should be taken jointly by the ERRV Master and the helicopter Pilot. After winching has commenced, either may veto continuation of winching if it is considered that an unacceptable risk to the safety of the ERRV and/or the helicopter or their respective crews is present or likely to arise.

For drills or non-emergency winching operations, the Master of the ERRV should ensure that the Installation OIM is briefed on the intended operation, the necessary permission granted and all parties concerned in agreement that performance standards are not compromised. Under emergency circumstances, the Master may act on his own initiative.

6.6.2 Radio Communications during Winching Operations

The officer in charge of the ERRV deck crew should ensure that radio communication between the deck and the bridge is maintained throughout the winching operation. Any malfunction should be immediately reported to the bridge and rectified before continuing with winching.

While the helicopter is hovering over the ERRV noise levels will be extremely high such that hand¬held radios alone will probably be inaudible. Consideration should be given to the use of radio-helmets or headsets which reduce interference to communications from external noise.

6.6.3 Permitted Air Band Radio Frequencies

By permission of the Civil Aviation Authority, ERRVs may transmit and/or receive on certain defined air band frequencies. (See para. 6.5 of the ERRV Survey Guidelines) These are:

- 121.5 MHz, receive only, as part of a Direction Finding facility, to assist the ERRV to locate a ditched helicopter by homing on to the emergency locator beacon.

- 123.10 MHz, transmit and receive, restricted to SAR communications concerned with aeronautical emergencies or ERRV/aircraft communications concerning the safety of life.

- The air band frequency assigned to the Installation with which the ERRV is associated to transmit or receive communications. This is to be used solely to enable a guard to be maintained such that the ERRV may react quickly to a distress call from a helicopter.

6.6.4 Winching Operations Procedures

Refer to Appendix J.

7 ENVIRONMENTAL EMERGENCIES

7.1 Oil Spills

Although not a fundamental duty, some ERRVs are equipped with an oil dispersant spraying capability and may be required to use it by the OIM. Spraying should not be performed if by doing so the rescue and recovery arrangements for the Installation are compromised.

7.2 Reporting of Spills

Any ERRV sighting an oil spill should report it immediately to the nearest Installation. In accordance with National and International Guidelines, the ERRV should also advise details of the spill to the MCA as soon as possible.

If so instructed by the OIM and where the recovery and rescue role is not compromised, the ERRV should monitor the spill and report the situation at agreed intervals. A request may be made by the Installation to the ERRV to obtain an oil sample – at least two oil sample kits should be retained onboard. Where, in the opinion of the ERRV Master it is safe to do so, such requests should be complied with.

7.3 Circumstances in which Oil Dispersant may be used

ERRVs carrying oil dispersant and spraying equipment should test the equipment with water only and use dispersant solely upon the instruction of the Installation OIM.

Wherever possible, oil spills should be allowed to degrade and disperse naturally and without churning spills with propellers (except during the application of dispersant). Exceptions to this policy are:

- where the safety of the Installation is at risk or
- important populations of birds are at risk or
- there is a likelihood of coastal pollution.

7.4 Approval for and Guidance on the Use of Dispersant

The OIM should obtain all necessary approvals to use dispersant before instructing the ERRV Master to begin spraying operations.

Where there is an oil spill contingency plan in place, the ERRV Master should act in accordance with the guidance provided.

7.5 Spraying Techniques

ERRV speed, spray system type and nozzle size all affect dispersant application rate per unit area. Thus these variables should be adjusted to suit the oil film thickness and its viscosity. Several passes with agitation of dispersant and the sea surface provided by fire hoses, monitors or the ship's wake may be

necessary to achieve complete dispersal. In rough sea conditions, such additional agitation may not be necessary.

Initial deployment of vessels may be on a trial and error basis but once the best method of working is determined then this should be adhered to. Haphazard spraying is a waste of resources.

7.5.1 Circular Slicks

Spraying vessels normally work from the outer edge to the centre using the full width of the spray pattern for maximum coverage.

7.5.2 Long Slicks

Spraying vessels normally work up and down and across the width of the slick.

7.5.3 Blow-out

A blow-out situation would be expected to result in a long, broad, continuous slick, driven by wind, current and tide. The co-ordinated efforts of several spray vessels will probably be needed and the spray pattern may vary depending on circumstances. A suggested spray pattern might involve one or more vessels making zigzag passes across the flow, while avoiding the source of the blow-out and its vicinity, where the crude will be rapidly de-gassing and posing an additional explosion hazard. Continuous spraying may be desirable (dispersant stocks permitting) but during the hours of darkness may be less effective if the margins of the slick are difficult to detect.

7.6 Oil Spill Training and Exercises

Regular training and exercise should be carried out as per the vessel's SOPEP/SMPEP manual and in accordance with the installation's Oil Pollution Emergency Plan (OPEP). These are requirements under Annex 1 MARPOL 73/78 and the OPRC Convention.

In addition, particular attention should be paid to the safe and efficient operation of dispersant spray equipment, as per company and manufacturer's procedures. Advice may also be obtained from the Regulatory Authorities SEERAD and DEFRA. Additional information can be found in the MCA web site <www.mcga.gov.uk> reference, Environmental, Counter Pollution, SToP and inf Notices. SToP notice 2\94.

7.7 Oil Spill Sampling

ERRV's may be requested to take samples of Spilled Oil. It is important that the correct procedures be followed, otherwise the sample will not be admissible in court and further more would not be usable for finger print analysis.

A detailed example of good practice can be found in the MCA website SToP notice no 4\01.

Oil spill sampling, collection and handling guidance can be summarised as follows:

At least one sealed sample of each pollutant is required by English Law, whereas five sealed samples are required by Scotland and Northern Ireland.

At least one additional sample should be retained by the vessel.

An oil sample for analysis should be as large as is reasonably practicable. The minimum amounts needed for full analysis are:-

- Un weathered oils that are liquid and substantially free of water. (100ml)
- Oil exposed to sea's surface and forming water-in-oil emulsion "Chocolate Mousse" (500ml)
- Tarry lumps as found on beaches (20-50mg)

(The preferred sample container is glass, as plastic and metal containers can interfere with subsequent finger printing analysis.)

When liquid samples are skimmed off the surface of the sea, care should be taken to ensure that the sample contains sufficient oil, and is not water or water with a thin film of oil on top.

Oil or lumps of tarry / waxy pollutant deposited on rocks or other impervious materials should be scraped off and placed directly into a sample container.

The sample container should be sealed with an adhesive label with a signature, stuck on the bottle top in such a way that it has to be broken to open the bottle. The bottle should then be placed inside a plastic bag, which should be sealed with a further adhesive label, as above.

Wherever possible, samples should be stored in refrigerators or cold rooms at less than 5 degrees C in the dark. This is important for samples containing water or sediment, but less for bulk oil. Samples should be securely packed and sealed to prevent in-transit damage.

It is important that the sample is positively identified, particularly when more than one sample is given during a particular incident. The label on each container should provide the following details:

a) Date and time of sampling

b) Description of sampling

c) Position from which the sample is taken (grid reference)

d) Name, signature and contact address and telephone number of sampler and any witness.

Oil Sample Kits comprising 2 kits of 6 bottles to be carried onboard all ERRV's as Statutory Equipment

7.8 Secretary of State's Representative (SOSREP)

Under The Offshore Installations (Emergency Pollution Control) Regulations 2002, the Government has been given the powers to intervene in the event of an incident involving an Offshore Installation where there is, or may be a risk of, significant pollution or where an Operator is, or has failed to, implement effective control and preventative measures.

In this event, the SOSREP (Secretary of State's Representative) will monitor the actions of the Operator and may issue "Directions". These Directions could and may involve the ERRV (Standby Vessel) and must be complied with. Further details can be obtained from the relevant OSCP.

Appendices

A Data Cards

Ensuring the provision and update of ERRV Data Cards is the responsibility of the duty holder. A sample of an ERRV Data Card is shown within this Appendix.

The following notes provide guidance to assist the development of Data Cards.

1. Design

It is important that the information blocks are in a standardised position on the Data Card and that only key information is given. Colours, text and font size should be designed to be visible in the light conditions experienced at night on the bridge of an ERRV.

To assure clarity, currency and user-friendliness over a reasonable lifespan, the card design should incorporate the following: -

- All measurements should be in metric units.
- Operators of multi-Installation locations may consider producing a field plan in addition to the Installation plan.
- The final draft document should be dated and have a revision number.
- The Data Cards should be sufficiently durable to withstand frequent use.

2. Standard Specifications

a) Location information should include:-

- Position given as Latitude and Longitude
- Water depth in metres
- True Installation heading
- Distance from other Installations, shore base, flying times etc

b) Arrival information:-

- Who the Master should contact prior to arrival on location within/out with office hours.
- Any specific arrival procedures requested
- Who is responsible for controlling the ERRV's movements within the Safety Zone?
- Who controls entry to the Safety Zone?

c) Particular Marine Hazards that the Master should be aware of:-

- Any pipeline corridors/exposed risers

- Buoys in the area
- Anchoring information
- Outfalls which cannot be shut down

d) Communication

- Show the station and frequency for all stations that the ERRV will use or should monitor unless provided elsewhere.

e) Installation Schematic

Should be a simple, clear plan diagram (over-complex diagrams should be avoided) incorporating the following information:-

- Installation orientation
- Indicate position of primary and secondary temporary refuges
- True orientation
- Water level outline in blue
- Topside overhang outline in black
- Crane location and radius in metres
- Any exclusion zones
- Riser locations in red
- Information on Installation faces which are worked
- Pipelines in red

f) Evacuation Equipment

Positioning of equipment should be shown on the Data Card by symbols.

- Knotted ropes
- Life rafts
- TEMPSC
- Ladders to sea
- Donut sets
- Other evacuation equipment

g) Personnel on Board

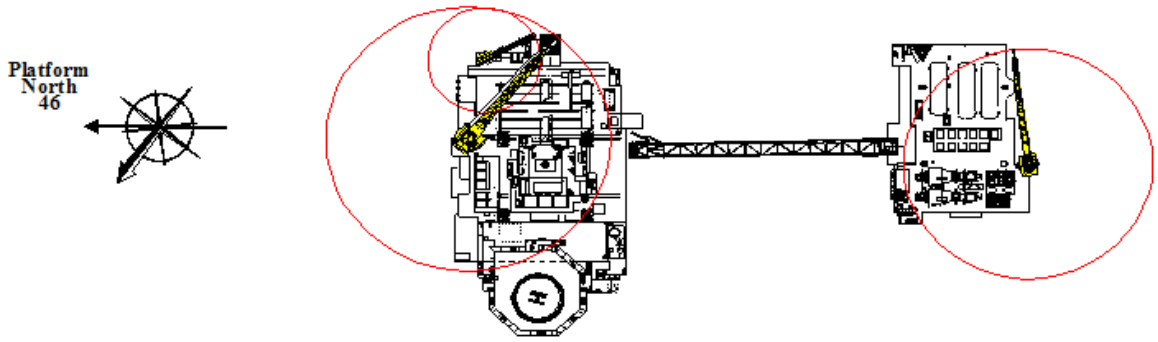
- A box indicating actual and maximum complement

h) Performance Standards (Ref. Appendix G)

- Rescue & recovery performance standards where different from Appendix G
- Any other field specific performance standards e.g. collision avoidance plan and muster times.
- The need to inform the Installation OIM if the agreed performance standards cannot be achieved.

Chevron

CAPTAIN WPPA
UKCS 13/22
ERRV Data Card



Location	13/22 Captain Field	**Specific Marine Hazards**
Latitude	58° 18' 27" N	▶ Pipelines, umbilicals etc.
Longitude	01° 46' 06" W	▶ Flowline corridor to FPSO
Heading	046° (T)	▶ Gas export pipeline
Water Depth	105 metres 345 feet (LAT)	▶ Field shuttle tanker activity
Call Sign	MVGE4	▶ Tidal conditions

POB - Maximum	85	**POB - Actual**	

Communications	**General**	**Emergency**
VHF	Ch. 68 / Ch. 72	Ch. 16
Tel : (via Seafield Ho.) **Tel : Radio Room**	01224 334000 01224 335645	00 871/3/4 145 4217 00 871/3/4 145 4221
Fax : Radio Room	01224 335641	N/A

Helicopters	**Bristows**
Log **Traffic** **Emergency**	129.120 MHz 122.800 MHz 121.500 MHz
Telephone **Tel. (out of hours)**	01224 756214 01224 756321
Fax	01224 756348

Rescue & Recovery Performance Standards

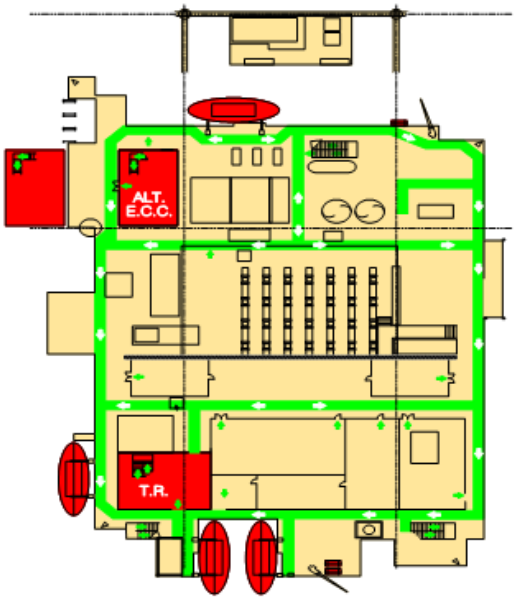
The Rescue & Recovery Performance Standards and Adverse Weather Policy are as detailed in the Emergency Response & Rescue Vessel Management Guidelines

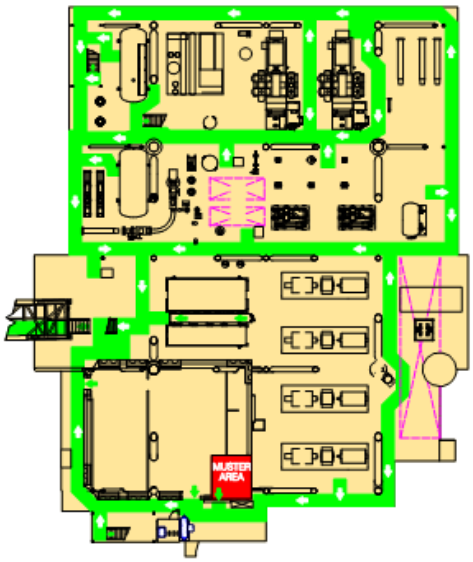
Platform Alarms	**Fire & Emergency**	**Abandon Platform**
Sound	Intermittent	Continuous Variable Tone
Light	Flashing Yellow	Flashing Yellow

Nearby Installations			**Shore Distances**		
Captain FPSO	098° (T) x 0.8 mls.	Chevron	Aberdeen	187° (T) x 71 mls.	
Bleo Holm FPSO	140° (T) x 16.2 mls.	Talisman	Wick	281° (T) x 42 mls.	
Beatrice 'B'	256° (T) x 40.7 mls.	Talisman	Peterhead	180° (T) x 49 mls.	
Beatrice 'A'	255° (T) x 43.3 mls.	Talisman	Sumburgh	009° (T) x 94 mls.	

Before Arrival	
Before arrival at the installation the Master and Bridge Officers should read and understand the relevant sections of : ▶ Emergency Response & Rescue Vessel Management Guidelines ▶ Chevron ERRV Supplementary Rescue & Recovery Procedures - Captain Field location (when applicable)	
Pre-entry Check to be completed in conjunction with Captain WPPA prior to entering 500 m safety zone	
ERRV to confirm to the Installation	**Check:**
That the Master & Bridge Officers are fully aware of the procedures for vessel entry. (Steering offset course, speed, manoeuvring, communication points, physical layout of the installation etc.)	
Main Engines / Thrusters : Fully tested and confirmed to be functional and in satisfactory operating condition.	
Steering Gear : Function tested (main and emergency) and confirmed to be fully operational.	
Joystick : Function tested and confirmed to be fully operational.	
Communications : VHF sets and two-way comms. established with Control Room.	
FRC's, daughter craft, mechanical recovery equipment and other rescue equipment is in good working order.	
Copies of all relevant documents, including industry Guidelines and safety plans pertaining to the installation are onboard and understood.	
Master to record completion of checklist in Vessel Deck Log Book and formally request permission to enter 500 m safety zone and commence ERRV operations.	
Installation to confirm to the ERRV	**Check:**
Confirm ERRV duties and requirements.	
Correct communication channels are being utilised.	
Inform Master of name of any other vessels working at or close to the installation. Also inform Master of other attendant vessels radio working channels.	
Inform Master of the installation drills and exercises programme.	
Confirm that the ERRV can assume role and relieved ERRV can depart.	
Installation to record completion of checks in installation Deck Log Book.	

Lifesaving Equipment Plan





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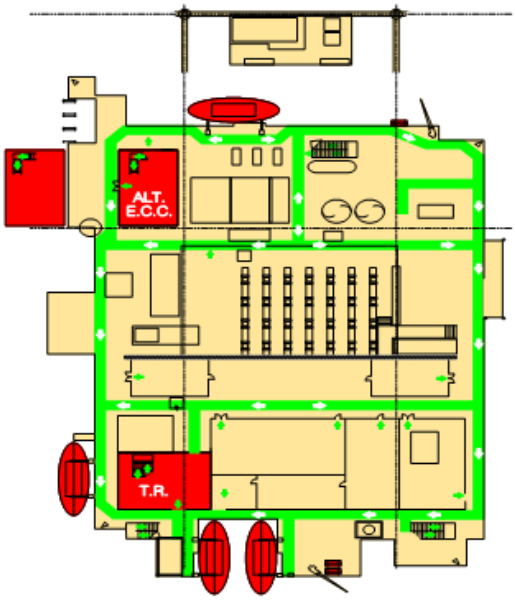
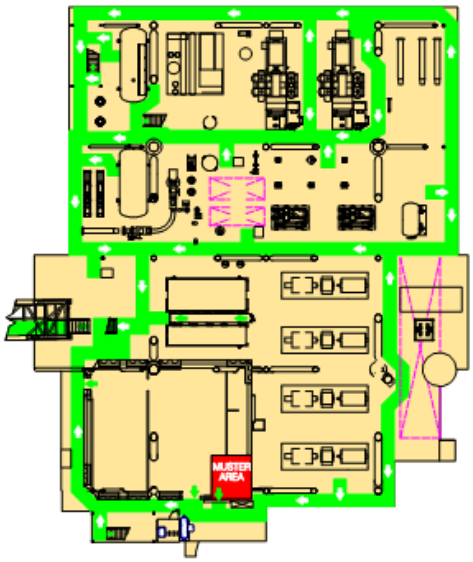




Emergency Response Procedures

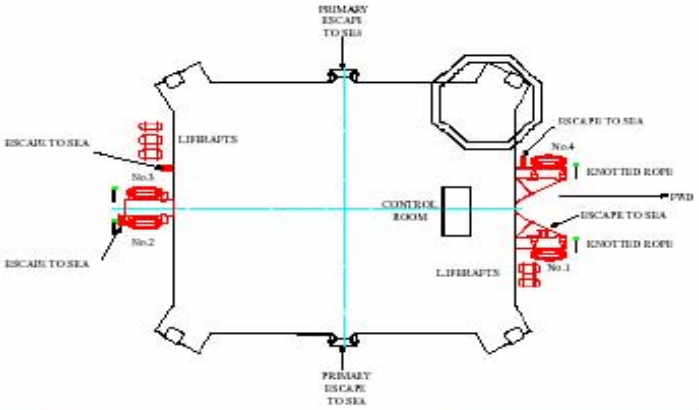
In the event of any emergency, the ERRV Master will take the following actions :

- SOUND ALARM - muster all crews as required - ensuring vital equipment is prepared for utilisation.
- CONTACT INSTALLATION - confirm details of emergency and whether a Mayday or Pan message has been broadcast.
- SEND MAYDAY / PAN SIGNAL on MF 2187.5 and VHF 70 (if not already broadcast by installation), stating which channel will be used to broadcast the message (e.g. MF 2182 / VHF 16). Establish contact with MCA.
- PROCEED - with rescue operations / assistance to the installation as required by the situation.
- In the event of EVACUATION BY SEA / AIR assume the role of ON SCENE COMMANDER until instructed otherwise.
- Once relieved as the On Scene Commander CONTINUE MONITORING of all comm's and continue SAR duties as required.
- When maximum number of survivors rescued, PRIORITY is for MEDICAL TREATMENT by most appropriate means available.

CUE-CF-509-002

Jan. 2008 Draft

NOBLE TON van LANGEVELD
EMERGENCY RESCUE & RECOVERY VESSEL DATA CARD



Block No.	15 / 23a	**Call Sign**	HP-8688
Latitude:	58° 17' 06.708" N	**Rig Heading:**	295° (T)
Longitude:	00° 28' 01.605" E	**Water Depth:**	146 metres

POB – Maximum	125	**POB - Actual**	

Communications	**General**	**Emergency**	**Helicopters** / **Bristows**
VHF	Channel 6 & 67	Channel 16	Log : 128.40 MHz Traffic : 123.00 MHz
Telephone **Other (Fax)**	01224 401580 01224 771176	01224 401600 01224 725154	01224 723151

Cranes	**Port SWL / Radius**		**Stbd SWL / Radius**
Whip	4 Mt @ 42.8m		7.5 Mt @ 43.8m
Main Block	24 Mt @ 8.5m / 4.4 Mt @ 40m		60 Mt @ 10m / 10 Mt @ 40m

Marine Hazards		**Performance Standards**
⇒ 500 metre zone ⇒ Various wellheads, pipelines and umbilicals as per field drawings		Refer to UKOOA Guidelines

Before Arrival

Before arrival at the installation the Master and Watch Keeping Mates should read and understand the relevant sections of the "Guidelines for the Safe Management and Operation of Vessels Standing by Offshore Installations".

General Information

NOBLE TON van LANGEVELD
EMERGENCY RESCUE & RECOVERY VESSEL DATA CARD

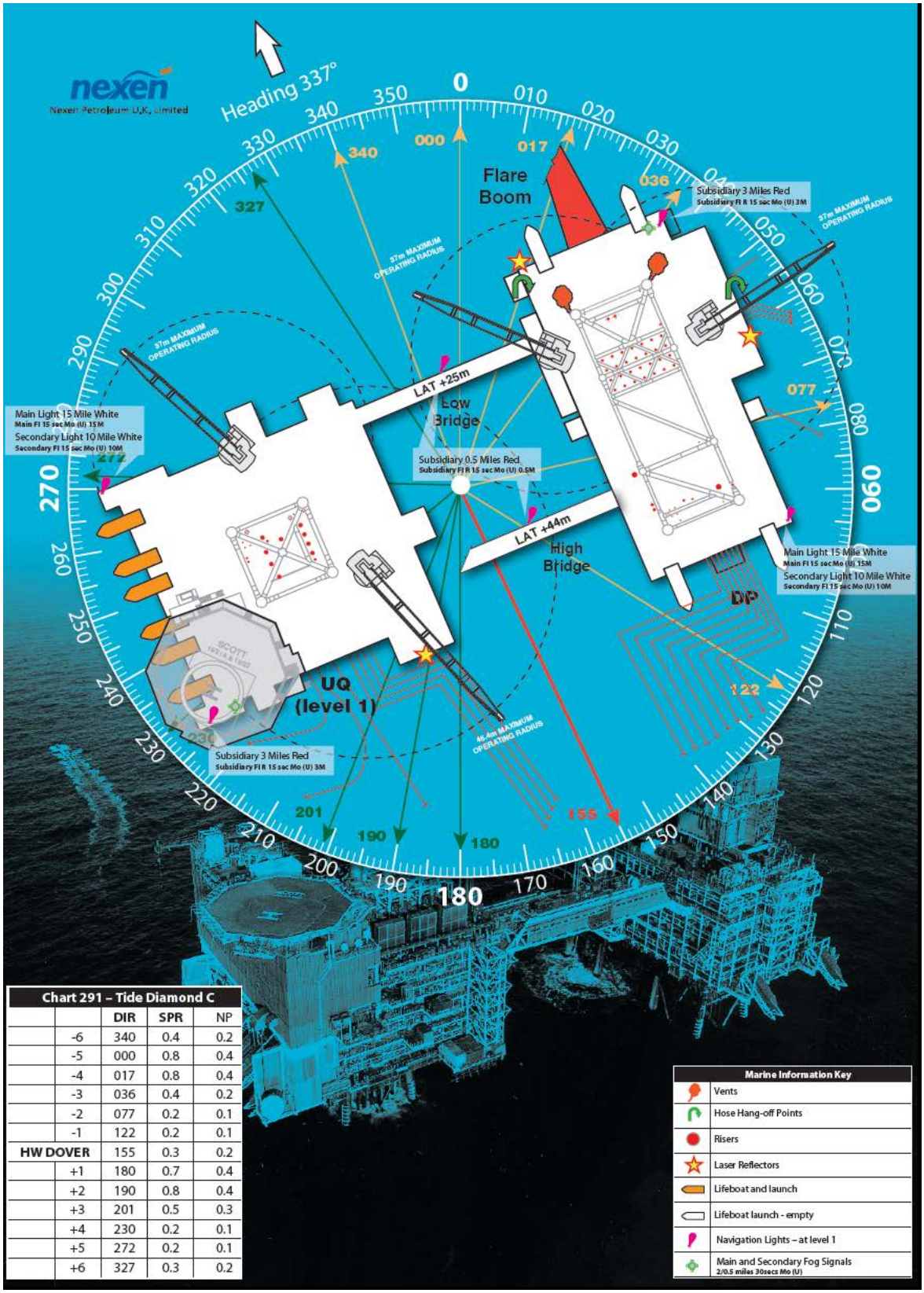
Anchors	Bearing ° (T)	Scope / Type of Chain	Anchors	Bearing ° (T)	Scope / Type of Chain
1	305°	1,372m / 89mm ORQ	7	130°	1,372m / 89mm ORQ
2	342°	1,372m / 89mm ORQ	8	160°	1,372m / 89mm ORQ
3	014°	1,372m / 76mm K4	9	190°	1,372m / 76mm K4
4	040°	1,372m / 76mm K4	10	224°	1,372m / 76mm K4
5	070°	1,372m / 89mm ORQ	11	250°	1,372m / 89mm ORQ
6	100°	1,372m / 89mm ORQ	12	275°	1,372m / 89mm ORQ
ALL ANCHORS DEPLOYED @ 1,100 METRES (approx.)					

Pre-Arrival Checks		
ERRV to confirm to the Installation	Yes / No	Comments
That Master & Watch Keeping Mates are fully aware of the procedures for vessel entry. (Steering offset course, speed, manouvering etc.)		
Main engines: Tested ahead and astern.		
Steering Gear: Fully functional, (both main & emergency) and confirmed to be fully operational.		
Thrusters: All thrusters running and confirmed to be fully functional.		
Communications: VHF sets and deck speakers tested and two way comms. established with Control Room.		
FRC's, Daughter Craft, mechanical recovery equipment and all other rescue equipment are in good working order.		
Vessel to record completion of checks in log book.		
Copies of all relevant documents, including "Guidelines for the Safe Management and Operation of Vessels Standing by Offshore Installations" and safety plans pertaining to the specific installation are on board and understood.		
Installation to confirm to the ERRV	**Yes / No**	**Comments**
Confirm ERRV duties and requirements.		
Correct communication channels being utilised.		
Confirm that the ERRV can assume role and relieved ERRV can depart.		
Installation to record completion of checks, as appropriate.		Time Date Name

Emergency Response Procedures

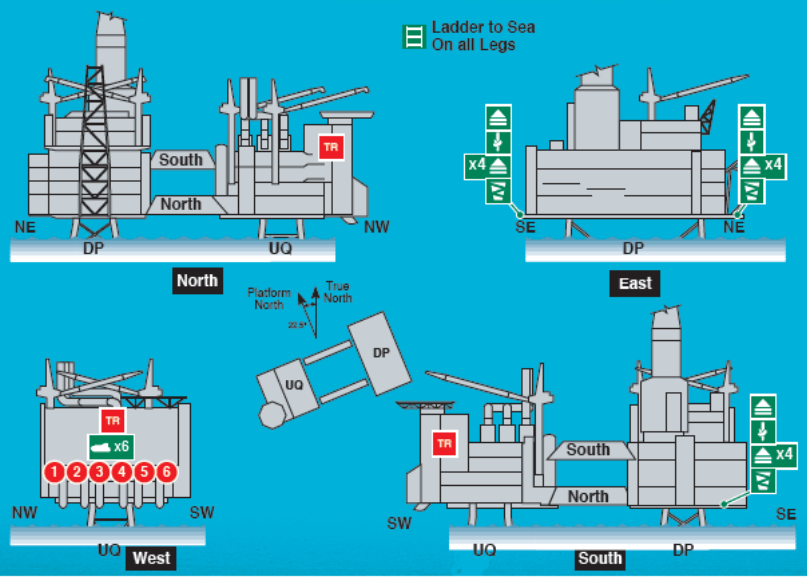
In the event of an emergency, the ERRV Master will take the following Actions :

- SOUND ALARM - muster all crews as required - ensuring vital equipment is prepared for utilisation.
- CONTACT INSTALLATION - confirm details of emergency and whether a MAYDAY or PAN message has been broadcast.
- SEND MAYDAY OR PAN SIGNAL - on MF 2182; VHF Ch 16; Utilise GMDSS if not already broadcast by installation.
- PROCEED - with the rescue operations / assistance to the installation as required by the situation.



		DIR	SPR	NP
	-6	340	0.4	0.2
	-5	000	0.8	0.4
	-4	017	0.8	0.4
	-3	036	0.4	0.2
	-2	077	0.2	0.1
	-1	122	0.2	0.1
HW DOVER		155	0.3	0.2
	+1	180	0.7	0.4
	+2	190	0.8	0.4
	+3	201	0.5	0.3
	+4	230	0.2	0.1
	+5	272	0.2	0.1
	+6	327	0.3	0.2

SCOTT PLATFORM – UKCS 15/22
ERRV Data Card



KEY

- Ladder To Sea
- Knotted Rope
- 45-man TEMPSC — No
- 25-Man Liferaft
- Skyscape
- TR Temporary Refuge

MAX POB – 180

Location	Scott Field – 15/22	**Latitude**	58° 17.35'N
Heading	337° (T)	**Longitude**	00° 12.13'E
Water Depth	140 metres	**Call Sign**	MMLH9

Communications

Nexen House 24 hour Security	[redacted]	**OIM Direct**	[redacted]
		Immarsat A	[redacted]
CCR	VHF CH. 10	**Sat Mini M**	[redacted]
Safety/Calling	VHF CH. 10/16	**Radio Room Fax**	[redacted]
Crane Ops	VHF CH. 68/77	**CCR**	[redacted]

Installation Cranes

Location	**DP(E)**	**DP(W)**	**UQ(N)**	**UQ(S)**
Jib Length	36m	36m	36m	45m
Whip Line SWL	15te	15te	15te	15te
Main Hoist SWL	30te	30te	30te	30te

Installation Alarms

Prepare to Abandon	**Yellow Flashing Light**	**Continuous Warble**
General Alarm	**Yellow Flashing Light**	**Intermittent Audible**
Fire and Gas	**Yellow Flashing Light**	**Intermittent Audible**

Description

Type	**Two fixed double bridge linked platforms**	
	DP Drilling & Production	UQ Utility Quarters
Overall length	**30m**	**50m**
Overall breadth	**64m**	**45m**
Height of main deck	**23m**	**25m**
Overside access	**On all 4 legs**	**On all 4 legs**

Nearest Support

	Name	Distance
Nearest fixed Installation	**Tartan**	**6 miles**
Next Nearest Installation	**Saltire**	**9 miles**
Marine Service Base	**Peterhead**	**79 miles**
Approx. flying time to Dyce	**1 hour**	

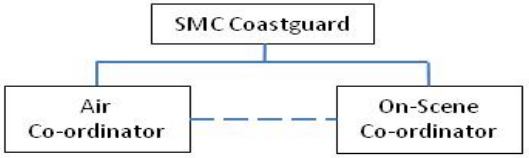
B ERRV Emergeny Response Plan

Appendix B
ERRV Emergency Response Plan for Offshore Emergency and/or Evacuation or Escape

In the event of any emergency on an offshore installation, the ERRV Master will take the following actions:

- Sound alarm – Muster all crew – Ensure all rescue and recovery equipment made ready.
- Contact installation – Confirm whether distress or urgency message has been broadcast.
- Send distress relay or urgency signal on GMDSS DSC 2187.5 kHz and VHF channel 70 if not already broadcast by installation
- Establish contact with Coastguard
- Proceed with rescue and recovery operations/assistance as required by the situation.
- In the event of a catastrophic incident or complete communication loss with installation, assume On-Scene Co-ordinator function until relieved. Confirm this role with Coastguard at the earliest opportunity.
- If relieved as On-Scene Co-ordinator, continue monitoring of all communications and continue search and rescue duties as required.
- After recovery of survivors, priority is to stabilise their condition, if possible, before onward transport.

Organisational Matrix for Offshore Emergency



Definitions

SMC **Search and Rescue Mission Co-ordinator** - The official temporarily assigned to co-ordinate response to an actual or apparent distress situation. For maritime incidents, in the UK Search and Rescue Region, including offshore installation incidents or helicopter ditchings this will almost certainly be a senior uniformed officer at a HM Coastguard Maritime Rescue Co-ordination Centre.

OSC **On-Scene Co-Ordinator** - A person designated to co-ordinate search and rescue operations within a specified area. For offshore installation incidents, HM Coastguard recognise that the Offshore Installation Manager of a stricken installation can assume this role at the outset. In the event of a catastrophic incident to an installation, the master of an ERRV can assume the role of OSC until relieved by the SMC. Immediate lifesaving responsibilities will always take precedence over OSC duties.

ACO **Aircraft Co-Ordinator** – A person or team who co-ordinates the involvement of multiple aircraft SAR operations in support of the SAR Mission Co-ordinator. NB: IAMSAR states the ACO also acts in support of the OSC. For maritime incidents in the UK Search and Rescue Region, including offshore installation incidents or helicopter ditchings, HM Coastguard consider the roles to be of equal importance and both will report independently to the SMC. If two or more aircraft are tasked, an ACO will be appointed via the SMC.

Evacuation PFEER Regulations – "The leaving of an installation and its vicinity, in an emergency, in a systematic manner and without directly entering the sea." This is usually understood to be by the method joined i.e. helicopter, but also relates to evacuation by lifeboat.

In a precautionary, controlled or temporary evacuation (i.e. not distress or urgency) HM Coastguard are unlikely to be involved and the evacuation is likely to take place in controlled conditions by the Operator. Search and rescue terminology does not apply. The use of lifeboats in these circumstances is unlikely.

In an emergency evacuation (i.e. distress or urgency situation) personnel will leave the platform in a controlled manner (feet dry) by helicopter or lifeboat.

Escape PFEER Regulations – "The process of leaving the installation in an emergency when the evacuation system has failed; it may involve entering the sea directly and is a 'last resort' method of getting personnel off the installation.

Evacuation/Escape from Offshore Installation – Responsibilities/Guidelines for ERRV

Evacuation by helicopter (precautionary, temporary or partial) – *not distress/urgency*
- Handled by Operator

- ERRV operates to OIM requirements.
- Takes position for helicopter operations.

Evacuation by helicopter – *distress/urgency*
- Coastguard – SMC
- OIM – OSC

- ERRV operates to OIM requirements.
- Takes position for helicopter operations.

Evacuation by lifeboat – *distress/urgency*
- Coastguard – SMC
- OIM – Initially OSC then Master ERRV until relieved

- Muster of lifeboats/ liferafts, towing of boats/raft clear of danger.
- I/C all communications to Coastguard/operator.

OSC functions:
- Co-ordination of other vessels
- Provision of a lee
- Transfer of personnel.
- Treating of injured.
- Helicopter winching ops.

Escape - Survivors in sea *distress/urgency*
- Coastguard – SMC
- Master ERRV – OSC until relieved.

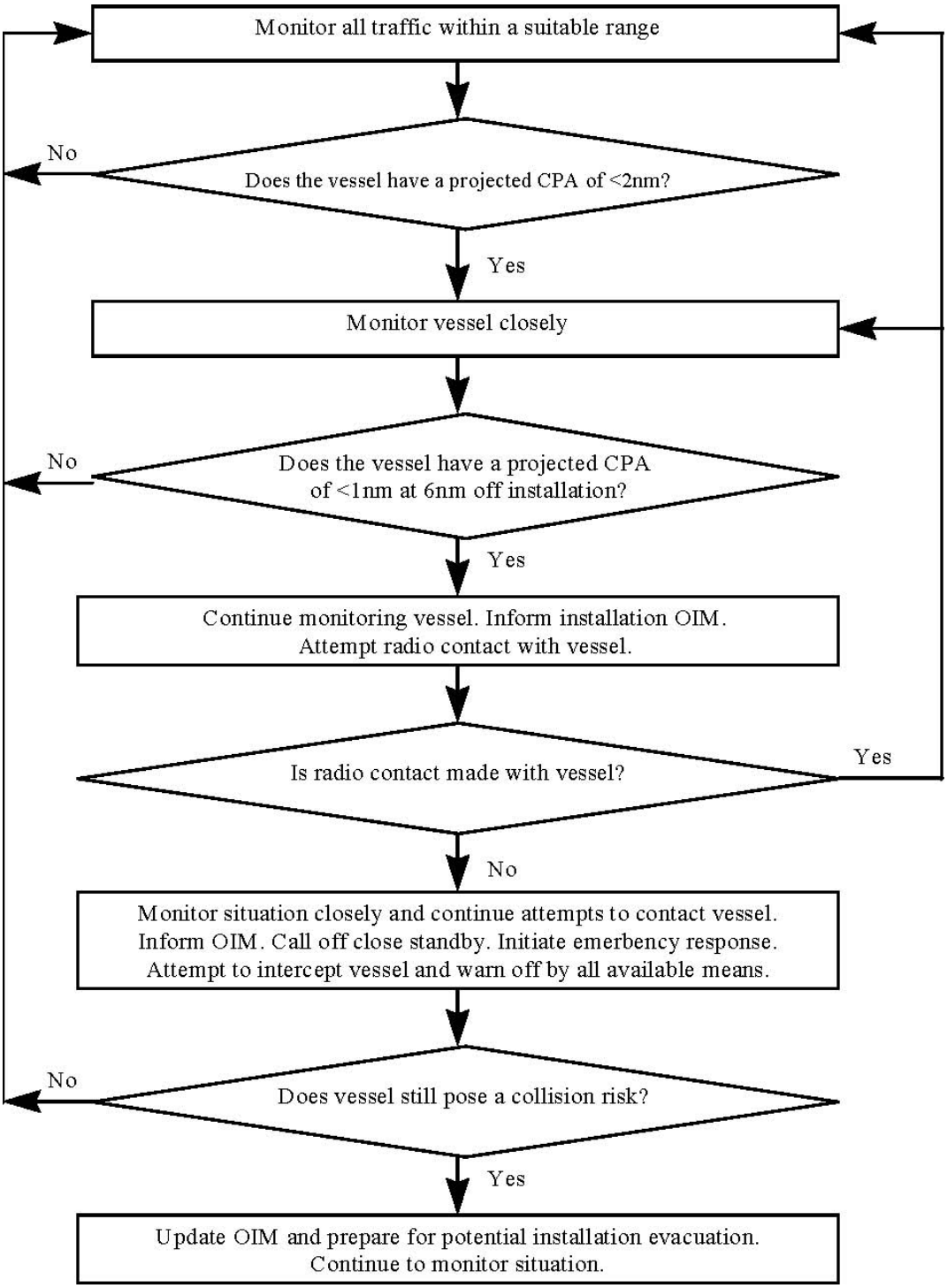
As for evacuation by lifeboat, plus:
- Rescue/recovery of survivors.
- Treatment of survivors.
- Co-ordination of other vessels in search functions.

SAR duties:
- Plotting
- Look out
- Manning of searchlights.

Note: Rescue and recovery always takes precedence over OSC duties

C Example of Collision Avoidance Strategy

Refer Section 3.2)



Approaching Vessel Monitoring Template

(This is a template for tracking approaching vessels – timings should be adapted to suit the particular location and local traffic conditions)

Minutes to Potential Impact	Errant vessel behaviour	Actions ERRV/Installation
60	Approaching	Normal surveillance Plot approaching vessel (s)
45	Collision course with Installation	Continue plotting; intensify monitoring; identify vessel by AIS
30	Maintaining steady collision course	Try to contact approaching vessel by Selective Calling; ERRV cease any non-safety critical work, move towards approaching vessel; alert OIM/Deputy
20	Maintaining steady collision course	Continue close monitoring of situation, continue attempting to contact; prepare to initiate shut down; alert installation personnel
10	Maintaining steady collision course	ERRV attempt to attract attention of vessel by all available means, avoiding collision itself; estimate point of impact; muster personnel at lifeboats away from impact area if possible; initiate shutdown
5	Collision Imminent	Continue efforts to attract attention on errant vessel; continue monitoring of impact location; implement evacuation procedures; ERRV prepare for rescue and recovery

D Typical Installation Navaids Checklist

(Refer Section 3.9.4)

Installation _____ ERRV _____

Date of Inspection _____

Item	Number	Operating in unison?	Comment
Main Light (15 miles)			
Secondary Light (10 miles)			
Red Lights (3 miles)			
Fog Horn (Main – audible at 2 miles)			
Fog Horn (Secondary - audible at 0.5 mile)			
Name Display Board (Visible all round) • North • South • East • West			

1. Lights

- Main, Secondary and red lights flash Morse "U" ·· — signal every 15 seconds
- Secondary white lights activate on failure of the main white lights

(As checking of both main and secondary lights would place the ERRV at a considerable distance from the Installation, this should be arranged via a relief ERRV or other vessel.)

2. Fog Horn

- Sound Morse "U" ·· — signal every 30 seconds
- Weather conditions under which Fog signals checked to be noted under "Comments".

3. Name Boards

- To be illuminated/reflective with 1m. High black lettering on yellow background

4. Completion of Report

- Any failures to be reported immediately to OIM and entered in ERRV's log.

E Ship to Ship Transfer of Personnel by Fast Rescue Craft

(Refer to Section 3.12.2)

All responses should be affirmative and both Masters agreed that the operation may proceed

No.	Check		
1	Is the transfer necessary?	Y	N
2	Are the personnel being transferred sufficiently fit and agile?	Y	N
3	Are the personnel being transferred familiar with the movement of small craft in a seaway?	Y	N
4	Are the prevailing (and forecast) weather and sea conditions suitable?	Y	N
5	Is visibility sufficient and is it forecast to remain so throughout the transfer?	Y	N
6	Is the Rescue Craft's crew performing the transfer, in agreement that it is safe to proceed?	Y	N
7	Are all persons involved in the transfer wearing the correct PPE?	Y	N
8	Are the personnel being transferred, in agreement that it is safe to proceed?	Y	N
9	Are the Masters of the vessels concerned, in agreement that it is safe to proceed with transfer?	Y	N
10	Are all concerned with the transfer sufficiently rested to proceed in safety?	Y	N
11	Is back-up available if an incident occurs?	Y	N

12	Is any equipment being transferred with the personnel stowed such that it will not hazard the operation?	Y	N
13	Is all equipment to be used for the transfer fit for purpose?	Y	N
14	Are the davits on the destination vessel compatible with the Rescue Craft being used for transfer?	Y	N
15	If davit to davit transfer is not available does the destination vessel have a suitable freeboard for personnel transfer?	Y	N
16	Have all other factors which may affect the safety of the operation been satisfactorily addressed? (List and mitigate these)	Y	N

F Adverse Weather Standards for ERRV, Flying, and Overside Operations

(Refer Section 3.13.2)

Offshore Conditions Assessment					Indicative Working Criteria			
Beaufort Scale	**Wind Speed (kts.) 10m. Level**	**Wind Speed (kts.) 100m. Level**	**Sig. Wave Ht. (m.)**	**Max. Wave Ht. (m.)**	**Sig. Wave Ht. Limits (m.)**	**ERRV Operations Ref. Notes 1, 2, 3 & 6.**	**Flying Operations Ref. Notes 2, 4, 5, & 6.**	**Overside Operations Ref. Notes 1, 3, & 6**
5 (Fresh breeze)	17 - 21	22 - 27	2.0	2.5		No limitations	No limitations	No limitations
6 (Strong breeze)	22 - 27	28 - 35	3.0	4.0	3.5	Limit for normal operation of FRC	No limitations	Overside work limit
7 (Near Gale)	28 - 33	36 - 43	4.0	5.5		Emergency operation of FRC only.	No limitations	
8 (Gale)	34 - 40	44 - 52	5.5	7.5	5.5	Limit for emergency operation of FRC.	Aircraft not to engage rotors (45 knots).	
9 (Strong Gale)	41 - 47	53 - 61	7.0	10.0	7.0	Limit for use of mechanical recovery aids.	See note 4 below.	
10 (Storm)	48 - 55	62 - 71	9.0	12.5		No longer good prospect of rescue from sea		
11 (Violent Storm)	56 - 63	72 - 82	11.0	16.0		Safety of ERRV takes precedence over all other operations		
12 (Hurricane)	64+	83+	14.0					

Notes

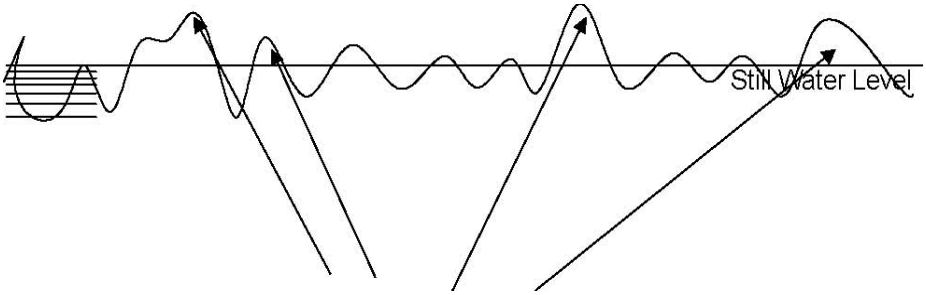
1. For overside working, consideration should be given to the ability of the ERRV to observe and monitor personnel engaged in overside work, e.g. consider effect of fog, heavy rain etc.
2. The decision to suspend flying operations rests with the OIM in consultation with the ERRV Master, HLO and Aircraft Commander.
3. The decision to suspend overside working rests with the OIM in consultation with the ERRV Master.

4. Routine flying operations suspended at CAP1145.
5. Lower limits may apply in sea areas where short, steep seas are experienced. e.g. Southern North sea
6. The assessment of conditions should include the use of hand-held or fixed anemometers and consideration of present and forecast conditions.
7. Other limitations pertaining to heave, roll and pitch of mobile Installations/ERRVs are covered by specific procedures of the helicopter operator concerned.
8. During periods of adverse weather which may affect operations, e.g. reduced visibility due to fog or heavy rain, icing etc., the decision to continue operations rests with the OIM in consultation with the Aircraft Commander and/or ERRV Master.

Significant Wave Height

Forecasters give predictions of "significant" and "maximum" wave heights. It is important to understand the meaning of these terms and how they relate.

Typically, the sea surface is comprised of an ever changing pattern of bumps and hollows that never repeats itself. If these waves were recorded for some time, a random wave pattern would emerge, as shown in the figure below.



Significant Wave Height

Figure 1 Record of Random Sea

Observers estimating the wave height in this random sea, however, will tend to ignore the smaller waves and concentrate on the larger ones, since these are the ones that most concern them. The wave height thus estimated is approximately the same as the "significant wave height".

Observers are therefore concentrating only on these larger waves, which make up approximately one third of all waves. The other two thirds are ignored, these being too small to worry about or hard to recognise as being individual waves.

The Meteorological Office Definitions

Significant Wave Height (HS)

Average height of the highest one third of the waves over a 20 minute period.

Maximum Wave Height (Hmax)

Height of the highest wave in a 20 minute period

Beaufort scale

Specifications and equivalent speeds

Force	Description	Specification for use at sea*	Equivalent speed at 10 m above sea level: Mean *knots*	Mean *metres per second*	Limits *knots*	Limits *metres per second*	Description in forecasts	State of sea	Probable height of waves *metres*
0	Calm	Sea like a mirror.	0	0.0	<1	0.0-0.2	Calm	Calm	0.0
1	Light air	Ripples with the appearance of scales are formed, but without foam crests.	2	0.8	1-3	0.3-1.5	Light	Calm	0.1 (0.1)
2	Light breeze	Small wavelets, still short but more pronounced. Crests have a glassy appearance and do not break.	5	2.4	4-6	1.6-3.3	Light	Smooth	0.2 (0.3)
3	Gentle breeze	Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered white horses.	9	4.3	7-10	3.4-5.4	Light	Smooth	0.6 (1.0)
4	Moderate breeze	Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray.	13	6.7	11-16	5.5-7.9	Moderate	Slight	1.0 (1.5)
5	Fresh breeze	Moderate waves, taking a more pronounced long form; many white horses are formed. Chance of some spray	19	9.3	17-21	8.0-10.7	Fresh	Moderate	2.0 (2.5)
6	Strong breeze	Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray.	24	12.3	22-27	10.8-13.8	Strong	Rough	3.0 (4.0)
7	Near gale	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	30	15.5	28-33	13.9-17.1	Strong	Very rough	4.0 (5.5)
8	Gale	Moderately high waves of greater length; edges of crests begin to break into spindrift. The foam is blown in well-marked streaks along the direction of the wind.	37	18.9	34-40	17.2-20.7	Gale	High	5.5 (7.5)
9	Strong gale	High waves. Dense streaks of foam along the direction of the wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility.	44	22.6	41-47	20.8-24.4	Severe gale	Very high	7.0 (10.0)
10	Storm	Very high waves with long overhanging crests. The resulting foam, in great patches, is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea takes a white appearance. The 'tumbling' of the sea becomes heavy and shock-like. Visibility affected.	52	26.4	48-55	24.5-28.4	Storm	Very high	9.0 (12.5)
11	Violent storm	Exceptionally high waves (small and medium-sized ships might be lost to view for a time behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility affected.	60	30.5	56-63	28.5-32.6	Violent storm	Phenomenal	11.5 (16.0)
12	Hurricane	The air is filled with foam and spray. Sea completely white with driving spray; visibility seriously affected.	-	-	64 and over	32.7 and over	Hurricane force	Phenomenal	14.0 (-)

Probable Height of waves can be assumed to be Significant Wave Height.

FORCE 0
Wind speed less than 1kn.
(Sea like a mirror)

FORCE 1
Wind speed 1-3 kn.: mean 2 kn.
(Ripples with the appearance of scales are formed, but without foam crests)

FORCE 2

Wind speed 4 –6 kn.

(Small wavelets, still short but more pronounced. Crests have a glassy appearance and do not break)

FORCE 3

Wind speed 7–10 kn. mean 9 kn.

(Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray)

FORCE 4

Wind speed 11–16 kn.: mean 13 kn.

(Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered white horses)

FORCE 5

Wind speed 17–21 kn.: mean 19 kn.

(Moderate waves, taking a more pronounced long form; many white horses are formed. Chance of some spray.)

FORCE 6

Wind speed 22–27 kn.: mean 24 kn.

(Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray.)

FORCE 7

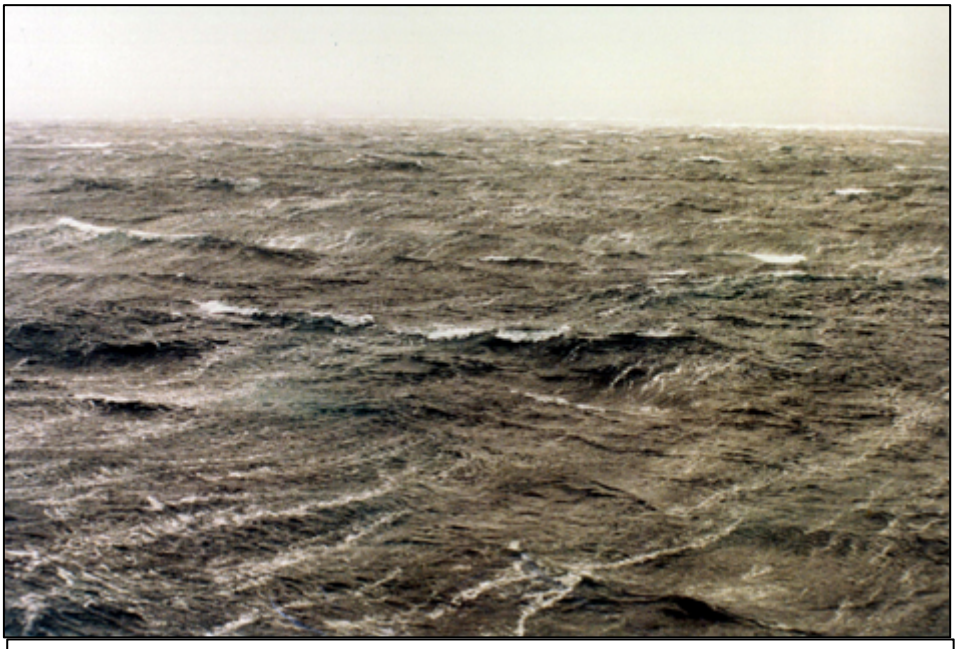
Wind speed 28–33 kn.: mean 30 kn.

(Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.)

FORCE 8

Wind speed 34–40 kn.: mean 37 kn.

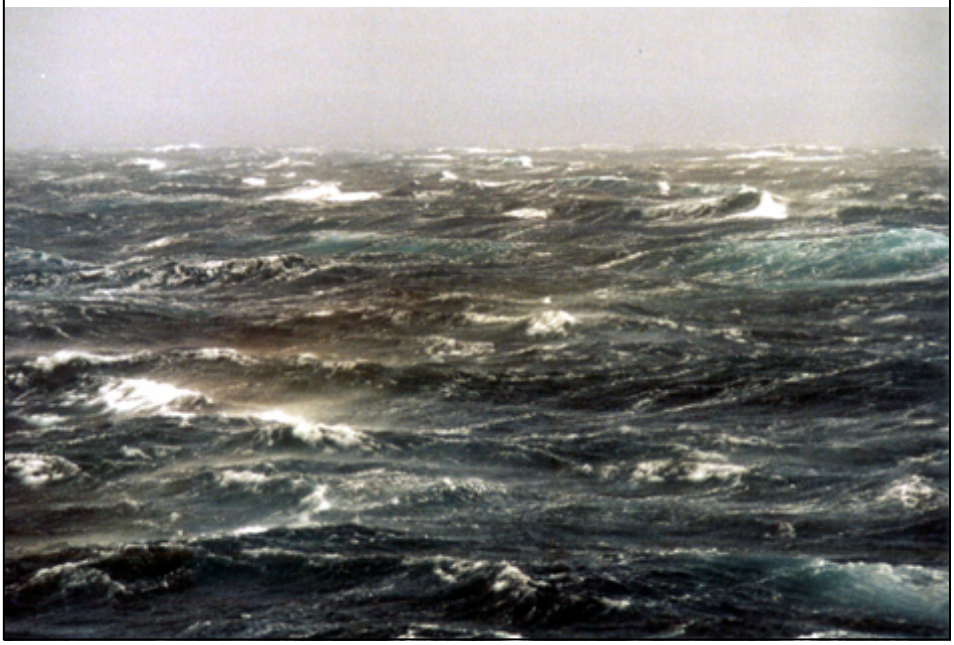
(Moderately high waves of greater length; edges of crests begin to break into spindrift. The foam is blown in well-marked streaks along the direction of the wind.)



FORCE 9

Wind speed 41–47 kn.: mean 44 kn.

(High waves. Dense streaks of foam along the direction of the wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility)



FORCE 10

Wind speed 48–55 kn.: mean 52 kn.

(Very high waves with long overhanging crests. The resulting foam, in great patches, is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea takes a white appearance. The 'tumbling' of the sea becomes heavy and shock-like. Visibility affected.) (The upper and lower photographs illustrate the difference in appearance between the seas viewed along the trough and almost along the wind respectively)

FORCE 11

Wind speed 56–63 kn.: mean 60 kn.

(Exceptionally high waves (small and medium-sized ships might be lost to view for a time behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility affected, small and medium sized ships may be lost from view behind the waves)

FORCE 12

Wind speed 64–71 kn.: mean 68 kn.

(The air is filled with foam and spray. Sea completely white with driving spray; visibility seriously affected.)

Note: the Beaufort wind scale extends up to Force 17 (Up to 118kn), but Force 12 is the highest which can be identified from the sea

G Baseline Standards for Rescue and Recovery

(Refer Section 5)

1.0 Introduction

The objective of these recommendations is to provide a baseline standard for rescue and recovery in all but the most exceptional conditions and sea states. However, compliance with the Performance Standards noted herein, does not necessarily ensure a good prospect of rescue and recovery.

Baseline standards should be subject to regular review in accordance with good safety management custom to take account of improvements in equipment, knowledge and practice. Any review should be directed towards minimising personnel exposure to harm or associated physical and mental stress.

2.0 Performance Standards

2.1 Personnel falling into the sea during overside work

Where personnel enter the sea and, timed from the point at which the ERRV is alerted,

- a rescue craft should be launched within two minutes;
- a rescue craft should be in position to rescue the first casualty within four minutes and
- up to four personnel should be rescued and taken to a place of safety within twenty minutes, having due regard for the care and condition of the casualty.
- the safety and well-being of rescued personnel is always the prime consideration

2.2 Random Personnel Overboard

Although not a reasonably foreseeable event, a rescue craft should at least be launched or the ERRV making way to the search area, within two minutes of the alarm being raised.

2.3 Helicopter Ditching

In the event of a helicopter ditching within the 500m zone, up to 21 personnel should be rescued and taken to a place of safety within two hours. In this case, rescue craft should be launched or the ERRV making way towards the search area, within two minutes of being alerted to the incident.

2.4 Installation Escape to the Sea

A rescue craft should be launched or the ERRV making way towards the search area, within two minutes of being alerted to the incident.

H Verification Trial Weather Table and ERRV Trial Record Sheet

Verification Trial Weather Table 1

SIGNIFICANT WAVE HEIGHTS (SWH) THAT HAVE 5% ANNUAL EXCEEDENCE FOR UKCS AREAS AND WORST MONTHS EXCEEDENCES FOR THAT CONDITION

	2	3			4	5
	Area Average Wave Heights with a 5% Annual Exceedance in meters (swh)	**Winter Months Area Average % Exceedance at 5% Annual Exceedance with Worst Month Indicated**			**Wave height (m swh) that Actual Trials Need to be Conducted up to:** **Allowing for Extrapolation to 50% Above the Data Range**	**% Annual Exceedance for Actual Trial Wave Height**
		Jan	**Feb**	**Dec**		
WoS	6.01	16.99	11.58	8.92	4.0	19.38
NNS	5.20	13.91	11.19	10.64	3.5	18.53
CNS	4.16	13.11	11.52	11.07	2.8	17.90
SNS	2.89	11.50	9.13	11.69	1.9	19.26
EC	3.69	13.05	10.65	16.59	2.5	16.91
CS	5.21	12.71	11.60	16.46	3.5	18.33
IS	3.01	13.40	9.61	13.66	2.0	18.02
HS	6.68	16.58	11.02	8.18	4.5	18.58

Note: WoS - West of Shetland, NNS - Northern North Sea, CNS - Central North Sea, SNS - Southern North Sea, EC - English Channel, CS - Celtic Sea, IS - Irish Sea, HS - Hebrides Shelf

Ref: OTO 2001 030 – 'Wind and Wave Frequency Distributions Around the UKCS'.
(Based on NEXT Hindcast Model)

OIL&GASUK

ERRVA Record Sheet for All Launch and Recovery of FRC/Daughter Craft/Dacon Scoop Verification Exercises

Vessel Name:		Master		Period	
Client		Location		Lat/Long:	

Equipment No:	Description	David/Crane Type/Make/Model	Winch Speed	Equipment No:	Description	David/Crane Type/Make/Model	Winch Speed
1	Port FRC			4	Starboard Daughter Craft		
2	Starboard FRC			5	Dacon Scoop		
3	Port Daughter Craft			6	Other		

Launch or Exercise Date	Equipment Used	Number of Mannequins	Number of PLBs Used	Distance & Bearing from Incident	Times						Wind		Combined & Visual Wave/Swell				Area i.e. (WOS,NNS, CNS, SNS, or IS)	Daylight/ Night Exercise	Comment/Reason for Launch
					Alarm Raised	DC/FRC Launch or Equipment Ready	Arrival on Location	1st Pick-up	Last Pick-up	End of Exercise/ Place of Safety	Wind Direction	Wind Speed Knots	Direction	Significant Wave Height (m)	Visability	Period Seconds			
02/05/2017	1	0	0	3nm/270	09:15	09:17	09:30	09:30	09:30	09:45	SSW	15	SW	3	16	12	CNS	Daylight	
03/05/2017	3	6	6	3.7nm/184	10:47	10:49	11:03	11:07	11:27	11:52	NW	20	NNW	4.2	13	9	CNS	Daylight	Platform initiated exercise
05/05/2017	4	0	0	6nm/205	06:15	06:17	06:50	06:52	06:52	07:23	SE	10	SSE	2.5	15	6	CNS	Night	
07/05/2017	2	3	3	2nm/140	12:42	12:44	12:59	13:10	13:25	13:45	SSE	12	SE	1.7	18	8	SNS	Daylight	Man overboard exercise
09/05/2017	1	0	0	3nm/270	09:15	09:17	09:30	09:35	09:35	09:50	SSW	15	SW	2	16	12	SNS	Daylight	
11/05/2017	3	6	6	3.7nm/184	10:47	10:49	11:03	11:07	11:25	11:57	NW	20	NNW	1.5	13	9	SNS	Daylight	
12/05/2017	4	0	0	6nm/205	05:30	05:35	06:15	06:20	06:20	07:15	SE	10	SSE	3.5	15	6	NNS	Daylight	

Signed Master			Date:		Sheet:

Area Abbreviations: WoS - West of Shetland, NNS - Northern north Sea, CNS - Central North Sea, SNS - Southern North Sea, EC- English Channel, CS - Celtic Sea, IS - Irish Sea, HS - Hebridean Shelf

I Sample Emergency Scenario Checklists

(Refer Section 6)

CHECKLIST A: EMERGENCY NOTIFICATION CHECKLIST

Upon Notification of Emergency	
Activate alarm and issue distress or urgency message	
Crew to Emergency Stations	
Establish communications with Installation and other SAR resources	
Establish nature and location of incident	
Commence Incident Log	
Commence Status Board	
Assume OSC role (if designated or if first ERRV on scene and OIM unable to assume role)	
Establish communications with SMC/OSC as appropriate	

CHECKLIST B: FIRE, EXPLOSION, GAS LEAK, STRUCTURAL FAILURE, MASS EVACUATION AND ABANDONMENT

First Actions	
Locate to Optimum Position	
Assess environmental conditions (weather, sea, tide, visibility)	
Establish ETA at incident	
Brief crew on situation	
Prepare appropriate rescue equipment	
Confirm effective communication with crew, FRC and DC	
Open communication with HM Coastguard (if designated OSC)	
Confirm Distress relay	
Refer to Duty Holders ERP (ERRV Data Card)	
Confirm Installation POB	
Secondary Actions	
Ensure safety of crew (esp. FRC and DC crews)	
Consider affect of weather on Rescue and Recovery options	
Launch FRC/DC and/or prepare overside rescue equipment	
Initiate rescue and recovery arrangements and survivor management	
Maintain SAR and marine support communication with regular SITREP	
Consider location with respect to gas escape, fire and chemical hazards	
Consider location with respect to collapsing Installation structure	
Maintain standard communications terminology	
Provide lee to TEMPSC and/or life rafts	
Transfer and manage survivors	
Plan search including location and detection using ARPA (if available)	

CHECKLIST C: HELICOPTER DITCHING

First Actions	
Proceed to scene of incident	
Assess environmental conditions (weather, sea, tide, visibility)	
Establish ETA at incident	
Brief crew	
Prepare rescue equipment	
Confirm effective communication with crew, FRC/DC	
Open communication with HM Coastguard (if designated OSC)	
Confirm Distress relay	
Refer to Duty Holders ERP (ERRV Data Card)	
Confirm helicopter POB, helicopter details and call-sign	
Secondary Actions	
Ensure safety of crew (esp. FRC and DC crews)	
Consider affect of weather on Rescue and Recovery options	
Launch FRC/DC and/or prepare overside rescue equipment	
Initiate rescue and recovery arrangements and survivor management	
Liaise with Installation radio operator	
Estimate set and drift of helicopter life rafts	
Implement detection and location finding using EPIRB, PLB, radar etc.	
Post lookouts	
Maintain communication with other SAR facilities	

CHECKLIST D: MARINE INCIDENT, ERRANT VESSEL

First Actions	
Inform Installation OIM and maintain communications	
Try to establish communications with vessel	
Try to establish nature of problem	
Ensure HM Coastguard are aware – either through the installation or ERRV	
Assess environmental conditions (weather, sea, tide, visibility)	
Establish set and drift of errant vessel	
Take appropriate action to prevent/minimise impact with Installation	
Establish marine resource availability (especially suitable towing vessel)	
Secondary Actions	
Record communications with errant vessel	
Establish Master's name and intentions	
Record nationality of vessel	
Record port of registry	
Record registration number (if fishing vessel)	
Record type of vessel	
Record length and tonnage	
Record cargo (quantity and associated hazards)	
Calculate CPA and time to CPA	
Establish vessel POB	
Establish POB on Installation hazarded	
Advise errant vessel of nearby hazards, e.g. subsea wellheads and pipelines	

CHECKLIST E: MAN OVERBOARD

First Actions	
Proceed to last sighted position or location of MOB	
Ensure HM Coastguard are aware – either through the installation or ERRV	
Assess environmental conditions (weather, sea, tide, visibility)	
Calculate ETA at MOB	
Brief crew	
Prepare rescue equipment	
Confirm effective communication with crew, FRC and DC	
Refer to Duty Holders ERP on ERRV Data Card	
Confirm number of MOB	
Secondary Actions	
Ensure safety of crew (esp. FRC and DC crews)	
Evaluate recovery options in prevailing weather	
Launch FRC or DC or prepare overside rescue equipment	
Initiate rescue and recovery arrangements and survivor management	
Liaise with Installation radio operator	
Calculate set and drift of POB	
Implement PLB location (if applicable)	
Post lookouts	
Liaise with other SAR support.	

CHECKLIST F: ON-SCENE CO-ORDINATOR

First Actions	
Assume role as soon as required	
Inform other SRU of your responsibilities as OSC	
Establish incident scene and locate to the optimum position	
Assess environmental conditions (weather, sea, tide, visibility)	
Confirm SRU detection systems and search and rescue equipment	
Establish positions of any personnel in sea	
Establish search area	
Initiate the plan of action as directed by SMC	
Secondary Actions	
Maintain detailed record of operations including;	
Areas searched	
Track spacing	
Sighting and leads reported	
Actions taken	
Results obtained	
Establish and assign :	
Separation of SRU	
Appropriate search patterns	
Other SAR search patterns	
Maintain and control on-scene search and rescue communications	
Maintain and control communication with HM Coastguard	

Monitor weather conditions and communicate significant changes to SMC	
Modify operations plan as on-scene conditions dictate and communicate changes to SMC	
Advise SMC of release of SRU.	

CHECKLIST G: POST INCIDENT ACTIONS

Upon Notification of Incident Conclusion	
Make record of Status Board	
Collect and record all information regarding the incident	
Perform and record crew de-brief	
Collect witness statements as appropriate	
Assess crew fatigue	
Assess and monitor crew behavior	
Call for support from Installation if required	
Assess ERRV and equipment damage if incurred	
Stand-down crew and thank them for their efforts	
Request relief ERRV if required	

J Helicopter Winching Procedures

(Refer to Section 6.6)

1.0 Pre-Winching Check-list

Action	Confirmed?
Has the Installation OIM given permission to winch subject to the ERRV Master's Consent?	Ref. Note 1.
Has the pilot briefed the Master on how he intends to perform the winching and requested a particular course and speed?	Ref. Note 2.
Has the ERRV Master given the Helicopter Pilot permission to winch to/from his vessel?	
Has the Master briefed the crew on the intended operation?	
Has the Master warned the deck crew against touching the winchline or winchman before they have been earthed?	
Have all loose objects on deck been removed or secured?	
Have removable obstructions, e.g. ensign staffs, around the Winching Zone, been dismounted where possible or otherwise illuminated (at night)?	
Are all persons who will need to go on deck wearing appropriate PPE including helmets with chin straps fastened?	
Have fire hoses been run out for use with nozzles pointing away from the Winching Zone?	
Are fire hoses secured or pressurised to prevent being dislodged?	
Have wire cutters been placed ready for severing a fouled winching wire?	
Are the deck crew standing clear of but adjacent to the Winching Zone?	
Is a FRC prepared for launch with its crew on standby?	
Has a satisfactory radio check been performed with the deck and FRC crews at their Stations?	Ref. Note 3.
Is all deck lighting pointing down such that the Helicopter Pilot is not dazzled?	
Is a flag, windsock or similar being flown in a prominent, safe position to indicate wind direction to the Helicopter Pilot?	
Is the Winching Zone illuminated by downward-pointing lights?	

Note 1: It is possible that in an emergency obtaining prior consent from the OIM may be impracticable. In such circumstances, winching will be at the Master's and Helicopter Pilot's discretion.

Note 2: The Master should assess whether the requested course and speed will take him out with his operational area and thereby prejudice other operations. If necessary, the Master should advise the Helicopter Pilot accordingly and agree an alternative plan of action.

Note 3: It is strongly recommended that radio helmets or similar means are used on deck to reduce interference with communications from aircraft engine noise.

2.0 Maintaining Course and Speed

Except in an emergency, after winching operations have commenced, the ERRV should not deviate from the agreed course and speed without prior notice to the helicopter pilot.

If, during the course of winching, the Master considers it prudent to abort the operation due to weather or any other circumstance affecting the ERRV, he should immediately inform the helicopter pilot

3.0 Preferred Course - For'd and Aft Winching Zones

Winching operations will usually take place over the aft Winching Zone and, unless requested otherwise by the helicopter pilot, the ERRV should steer with the wind 30 degrees on the port bow. As the helicopter pilot sits on the starboard side of the helicopter, this course should allow him to see the winching zone as he manoeuvres into position.

Some ERRVs are also equipped with a forward Winching Zone that may be used at the Master's discretion. Two choices of operation then present themselves depending on weather conditions, i.e. winching over the forward zone while the ERRV steams astern or winching over the forward zone while the ERRV steams ahead.

In the former case (steaming astern - subject to weather), the ERRV should maintain a course with the wind 30 deg. on the starboard quarter. It is particularly important that the ERRV should advise the pilot of this manoeuvre. The helicopter pilot should then formate on the bow.

In the latter case (steaming ahead), steer with the wind on the starboard quarter.

In all cases, the ERRV's speed should be such that it responds readily to the helm and provides a stable platform.

Whichever location is chosen for winching, the helicopter pilot should brief the Master in advance of his intentions, agree a course and obtain the Master's consent to proceed.

4.0 Lifting Equipment and Techniques

4.1 Single Lift

A strop is lowered and the passenger lifted. Normally a helicopter winchman will be lowered first to supervise the lift from the deck.

4.2 Double Lift

Using this method the helicopter winchman descends and then ascends with the person being transferred. This method is used for small numbers of people and for casualties where any injuries will not be aggravated when lifted in such a way.

4.3 Stretcher Lift

The helicopter winchman descends with the stretcher, supervises the securing of the patient and then ascends with stretcher and casualty.

4.4 Hi-line Transfer

Hi-line transfer is used when a vertical lift is impossible and enables the ERRV's crew to guide the helicopter winchman to the deck of the ERRV. It may be used with any of the above techniques.

Always ensure that lines used in association with Hi-Line transfers can run freely without snagging on personnel or ship's fittings. To assist in this, the Hi-line should be flaked down into a weighted bucket or similar receptacle that does not create a risk of snagging. The bucket should be sited and secured such that it is always visible to the helicopter pilot, i.e. to starboard of the helicopter's line of approach.

Use only sufficient force to guide the helicopter winchman to the deck. Excessive force may affect helicopter handling.

After the Hi-Line is received, do not let go unless unavoidable. The Hi-Line is attached to the hook by means of a weak link with a breaking strain of 300 lb.

5.0 Winching by Lifting Strop

Personnel to be winched-off will usually be supplied with an inflatable lifejacket by the helicopter. This should not be inflated unless an actual emergency threatens the life of the person. Even then, the lifejacket should never be inflated inside the helicopter. Do not equip personnel being transferred with an auto-inflating or solid-buoyancy lifejacket unless an emergency situation makes their use unavoidable.

When being lifted in the strop for single lifts, ensure that the toggle is down as far as it will go. Hold the strop lightly with both hands just below the hook and the elbows close to the body.

6.0 Winching by Stretcher

Where only a single person is to be winched-up in a stretcher and their condition permits, the helicopter will usually prefer to use its own stretcher and strops for transfer. However, where a number of personnel have to be evacuated and/or double handling from the ERRV's to the helicopter's stretcher is medically inadvisable, the ERRV's stretchers and strops should be used.

When transferred, the occupant of the stretcher should be protected from spray and cold and accompanied by a written record (usually a Cruciform National Standard Triage Card) providing information on:

- their identity
- medical condition and
- any treatment received.

All loose ends of stretcher strops should be tucked-in to avoid being whipped across the stretcher occupant by the helicopter downdraft.

7.0 General Precautions

DO NOT touch either the helicopter winchman, helicopter stretcher or winch hook, until they have been earthed. Aircraft can acquire very high charges of static electricity that have to be discharged before handling. Often the helicopter will first dunk the hook in the sea to discharge static electricity.

DO NOT secure any part of the winch wire, winch hook, strop or line to any part of the ERRV. Hold them loosely at all times.

DO NOT shine lights at the helicopter. Ensure ship's lighting, including any used to illuminate hazards, cannot dazzle the helicopter pilot.

DO NOT try to help yourself if being winched into the helicopter. The helicopter crew will do this for you.

K Infringement of Safety Zone Report Form

HSE Health & Safety Executive

Offshore Division

INFRINGEMENT OF SAFETY ZONE REPORT FORM

INDEX

THE ORIGINAL SIGNED COPY OF THIS REPORT SHOULD BE SENT TO:-

Health & Safety Executive
Hazardous Installations Directorate
Offshore Division
Lord Cullen House
Fraser Place
ABERDEEN
AB25 3UB

Where the incident occurred in the area from 52°30'N, off Lowestoft in the North Sea, north-about to the latitude of the Isle of Man, a copy should be sent to:-

Duty Controller
Maritime Operations Centre
Clyde Naval Base
Faslane
Helensburgh
Argyll & Bute

Where the incident occurred in the area from the Isle of Man, south-about to 52°30'N in the North Sea, a copy should be sent to:-

Operations Room
Flag Officer, Sea Training
Grenville Block
HMS Drake
Devonport
Plymouth
PLT 2BG

OIR 13 (12.01)

REPORT OF INFRINGEMENT OF SAFETY ZONE

Guidelines for completing the form

SECTION 2 - ENVIRONMENTAL CONDITIONS

"Nautical Twilight" referred to in this Section is requested to assist in establishing 'Dusk' and hence the degree of darkness in relation to the incident.

SECTION 3 - DETAILS OF THE OFFENDING VESSEL/S

The identification of the vessel/s is important as upon this rests the Prosecutor's ability to obtain details of Master and Ownership which are essential in order to charge the correct person and/or company.

SECTION 5 - NARRATIVE OF EVENTS

Describe actions and movements of offending vessel/s and, where applicable, events of own vessel/s during incident. Specify times of ranges and bearings of vessel/s infringing safety zone/s, together with times, ranges and bearings from fixed installation of own vessel.

Specify ranging system used (e.g., Radar, Laser, etc) and if radar is being used specify radar range in use at the time, that clutter etc. did not raise any doubt and who witnessed these ranges.

If more than one vessel/installation is able to take a radar bearing and distance try to co-ordinate the timing of the observation so that they are taken at the same time - or close to it - which would help corroborate the fact.

Provide a summary of radio communications (e.g. times, channels, what was said by whom to whom). Try to obtain the name of the master/s of the offending vessel/s.

A tape-recording of the radio communications should be taken if at all possible.

NOTE: Visual estimates of distance do not carry much weight unless the offending vessel/s is extremely close to the installation or within a specific reference point such as a buoy. However, such evidence should still be recorded by the witness.

SECTION 6 - TRACK DIAGRAM

In addition to the track of the offending vessel/s show track of own vessel/s with times.

Track diagrams can be submitted on a chart, plan or field diagram in lieu of the format contained in Section 6, provided it contains the information requested in the box at the top of this section.

SECTION 7 - MAIN WITNESS TO THE INFRINGEMENT
SECTION 8 - OTHER WITNESS TO THE INFRINGEMENT

You are reminded that you are providing personal evidence that must stand up in court.

Any reports should be in the first person (i.e. 'I' took the radar distance of ..... 'My' estimate of the distance was .....).

Provide location of witness on installation/platform.

SECTION 10 - PERSON REPORTING THE INCIDENT

This Section should be completed by the person reporting the incident to the Health and Safety Executive, Offshore Division. Any further contact with regard to the actual report would be addressed to this person.

HEALTH AND SAFETY EXECUTIVE - OFFSHORE DIVISION
REPORT OF INFRINGEMENT OF SAFETY ZONE

This form is to be used to report all infringements for investigation by the Offshore Division. If urgent action is required please refer to the Offshore Emergencies Handbook.
Please complete this form in BLOCK CAPITALS

1. INSTALLATION INFORMATION

NAME AND DESIGNATION OF INSTALLATION BEING INFRINGED		FIELD
POSITION (European Datum 1950) (shown in degrees, minutes and decimals of a minute)	LAT:	LONG:
DATE OF INFRINGEMENT:		TIME (GMT):

2. ENVIRONMENTAL CONDITIONS

WIND		SEA STATE		TIDE	
Speed	Direction	Height (m)	Conditions (Calm/Moderate etc)	Rate	Direction

WEATHER (Cloud, snow, mist etc)	VISIBILITY (Estimated distance)	NAUTICAL TWILIGHT (GMT)

3. DETAILS OF OFFENDING VESSEL/S

NAME & NUMBER OF VESSEL	PORT OF REGISTRY	NATIONALITY
DESCRIPTION OF VESSEL (Type, colouring, funnel marking, etc)	WAS VESSEL FISHING? YES / NO (If vessel was pair fishing, give details of other vessel)	

4. PHOTOGRAPHS (To be supplied wherever possible)*

TYPE OF CAMERA	SIZE OF FILM	SIZE OF LENS (Focal length)

*** Photographs must establish two things - the identity of the offending vessel and its distance from the installation. You must therefore try to obtain the following:-**

1. A photograph from the installation, taken from a known height above sea level, showing the offending vessel, a recognisable part of the installation and, if possible, the horizon.
2. A photograph from the vessel showing the offending vessel and the installation.

Page 3

5. NARRATIVE OF EVENTS

(This Section should be completed by the main witness to the iniringement)

Signature of person completing this page	Name (Print)
Position / Job title	Name of installation / Vessel
Date	Signature of corroborative witness

TIME (GMT)	ESTIMATED COURSE & SPEED OF VESSEL/S	DISTANCE OF VESSEL FROM INSTALLATION (IN METRES)	HOW MEASURED (Visual Estimate or Radar) With radar give type of set, range in use and whether variable or fixed marker used.	ADDITIONAL DETAILS (including any communications, VHF channels used, warning signals, manoeuvres, collision, damage, actions by safety boat, assessment of danger and whether incident was isolated or repeated). Complete track diagram of offending vessel/s (overleaf)
				NB. In every incident it is important to detail any specific danger to persons or property.

Page 4

6. TRACK DIAGRAM

(This Section should be completed by the main witness to the infringement)

Signature of person completing this Section	
Name (Print)	
Position / Job title	
Name of Installation / Vessel	
Date	
Signature of corroborative witness	

COMPLETE A TRACK DIAGRAM FOR THE OFFENDING VESSEL/S.

THE DIAGRAM SHOULD SHOW THE PLATFORM OR WELLHEAD, THE OFFENDING VESSEL/S AND HER THEIR COURSE AND SPEED.

Page 5

7. MAIN WITNESS TO INFRINGEMENT

(This Section should be completed by the main witness to the infringement)

Signature		
Name (Print)		
Position / Job title		
Home Address		
Home Tel. No.		
Company / Employer's name		
Telephone:		Fax:

STATEMENT BY WITNESS

NOTE: There must be more than one witness to confirm that:

1. **The offending vessel/s were within the 500 metre safety zone; and**
2. **The distance these vessel/s were from the installation at risk**

Page 6

8. OTHER WITNESS TO INFRINGEMENT

(This Section should be completed by any other witness to the infringement)

ALL WITNESSES TO THE INFRINGEMENT SHOULD COMPLETE SEPARATE STATEMENTS.

Signature		
Name (Print)		
Position / Job title		
Home Address		
Home Tel. No.		
Company / Employer's name		
Telephone:		Fax:

STATEMENT BY WITNESS

NOTE: There must be more than one witness to confirm that:

1. **The offending vessel/s were within the 500 metre safety zone; and**
2. **The distance these vessel/s were from the installation at risk**

Page 7

10. PERSON REPORTING THE INCIDENT

(This Section should be completed by the person reporting the incident to the Offshore Safety Division)

Signature	
Name (Print)	
Position / Job title	
Company	
Company Address	
Telephone:	Fax:

GIVE FURTHER INFORMATION RELEVANT TO THIS INFRINGEMENT BELOW:

12. RADAR PLOTS

Copies of the radar plots from the installation or any of the vessels involved should also be forwarded with this report.

Page 9

L Place of Safety

(Reference Oil & Gas UK Guidelines for the Management of Emergency Response)

PLACE OF SAFETY

PFEER refers to the rescue and recovery of people from the sea and taking them to 'a place of safety'.

The PFEER ACoP states that it must be available in all but 'exceptional' 'weather and sea conditions' and that these 'exceptional' conditions must be defined by the operator.

The following is intended to set out those capabilities that must be available in any place of safety used to meet the PFEER requirements.

1. Casualty Treatment

Means and persons competent in their use must be present at the Place of Safety to treat all those rescued/recovered in ways that provide good prospects of their survival. In particular, these should provide for the initial treatment of the consequences of immersion – e.g. cold shock, drowning, near drowning and secondary drowning, post immersion collapse and hypothermia. They should also provide for the treatment of injuries likely to be sustained in a helicopter crash or when escaping to the sea from an installation – e.g. burns, cuts, abrasions, fractures and internal, back and neck injuries.

2. Conditions at the Place of Safety

These must be suitable to ensure good prospects of survival for all those rescued/recovered to the Place of Safety. It must be possible to provide appropriate care to survivors for an extended period in the event that local conditions do not allow for their early transfer – e.g. through fog, snow, icing or exceptional sea conditions.

3. Casualty Reception

These must be a casualty reception area suitable for dealing with all those who have been rescued/recovered to the Place of Safety and manned by persons competent in receiving casualties.

4. Casualty Monitoring

Means and persons competent in their use must be available at a Place of Safety to monitor and record the personal and medical details of all those rescued or recovered to it for as long as they may remain in it.

5. Communications

Means and persons competent in their use must be present for the transfer, when required, of information to appropriate bodies on shore about the identity and condition of all those rescued/recovered to the Place of Safety and the progress of rescue/recovery operations. Means of communication must be available at the Place of Safety for additional transfer of information from shore – e.g. medical and rescue operation advice.

6. Transfer Facilities

The Place of Safety must incorporate safe and quick access to an area that will enable transfer to a helicopter of those survivors who need immediate intensive medical care.

This area should also be suitable for transfer of medical personnel to the Place of Safety if necessary.

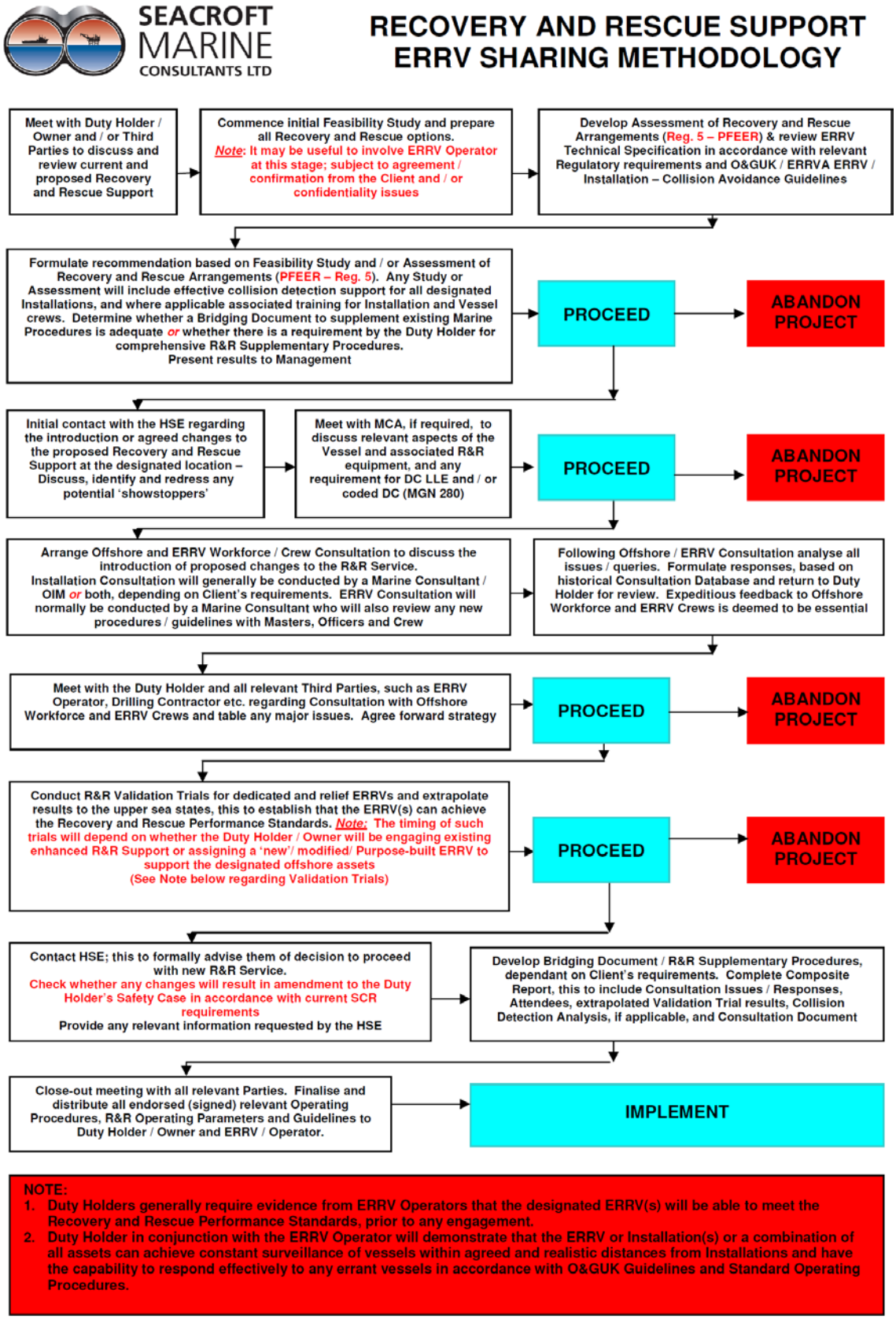
7. Safety from the original cause of the need for rescue and recovery

The risk to the Place of Safety from the original cause of the need for rescue and/or recovery, or any other hazard that develops from it, must not exceed that which would ensure good prospects of survival to all those on board.

8. Safety from Environmental Hazards

The Place of Safety must offer good prospects of survival from any environmental hazards to all those onboard.

M Recovery and Rescue Support ERRV Sharing Methodology



N Use of Non-Certified ERRVs – No Certified ERRVs available

USE OF NON – CERTIFICATED EMERGENCY RESPONSE AND RESCUE VESSELS (ERRVs)

(Extracted from Issue Brief - HSSE/HSE/IB/2006/2 dated 20th. February 2006)

ISSUE BACKGROUND:

The high activity levels in the UKCS has resulted in a shortage of UK based Emergency Response and Rescue Vessels (ERRVs). To meet business demands UK Operators have been employing vessels from other Continental Shelf countries. MCA and HSE have complained that some of these vessels fall below the standards required in the guidelines and may not enable the Duty holders to meet their performance standards, required under PFEER.

ISSUE SENSITIVITIES:

Following the Piper Alpha Enquiry Lord Cullen made recommendations regarding the standards of standby vessels and the training of their crews. Oil & Gas UK in conjunction with the Standby Vessels owners and the Regulators revised the Standby Vessel Code and have revised it several times over the years. The Code is now referred to as Emergency Response and Rescue Vessel Management Guidelines. There is an accompanying publication providing guidance for the survey of these vessels. One of the requirements of the guidelines is that vessels should hold a Certificate of Compliance issued by MCA

Oil & Gas UK RESPONSE:

Oil & Gas UK has met with ERRVA, MCA and HSE to agree interim arrangements for the use of vessels, which do not meet the Certification standards of the Oil & Gas UK/ERRVA Guidelines. Oil & Gas UK has undertaken to reinforce its guidelines to its Member Companies and request that Companies make best endeavours to ascertain the availability of certified vessels before considering a non- certified vessel. ERRVA has undertaken to assist companies in their search for suitable vessels.

ACTIONS REQUIRED:

Companies should endeavour to employ vessels that have been surveyed and issued with a compliance certificate for the appropriate group i.e. Group A, B or C. (See below table on ERRV Manning as extracted from Section 1.7 ERRV Manning from the Operational Guidelines):

ERRV Group	Total Manning	Grade 1 Seaman (minimum)	Grade 2 Seaman (minimum)	Advanced Medical Aiders	FRC Crew
A	**15**	2	3	2	9 incl. 3 Cox'n
B	**12**	2	2	1	6 incl. 2 Cox'n
C	**9**	2	1	1	4 incl. 2 Cox'n

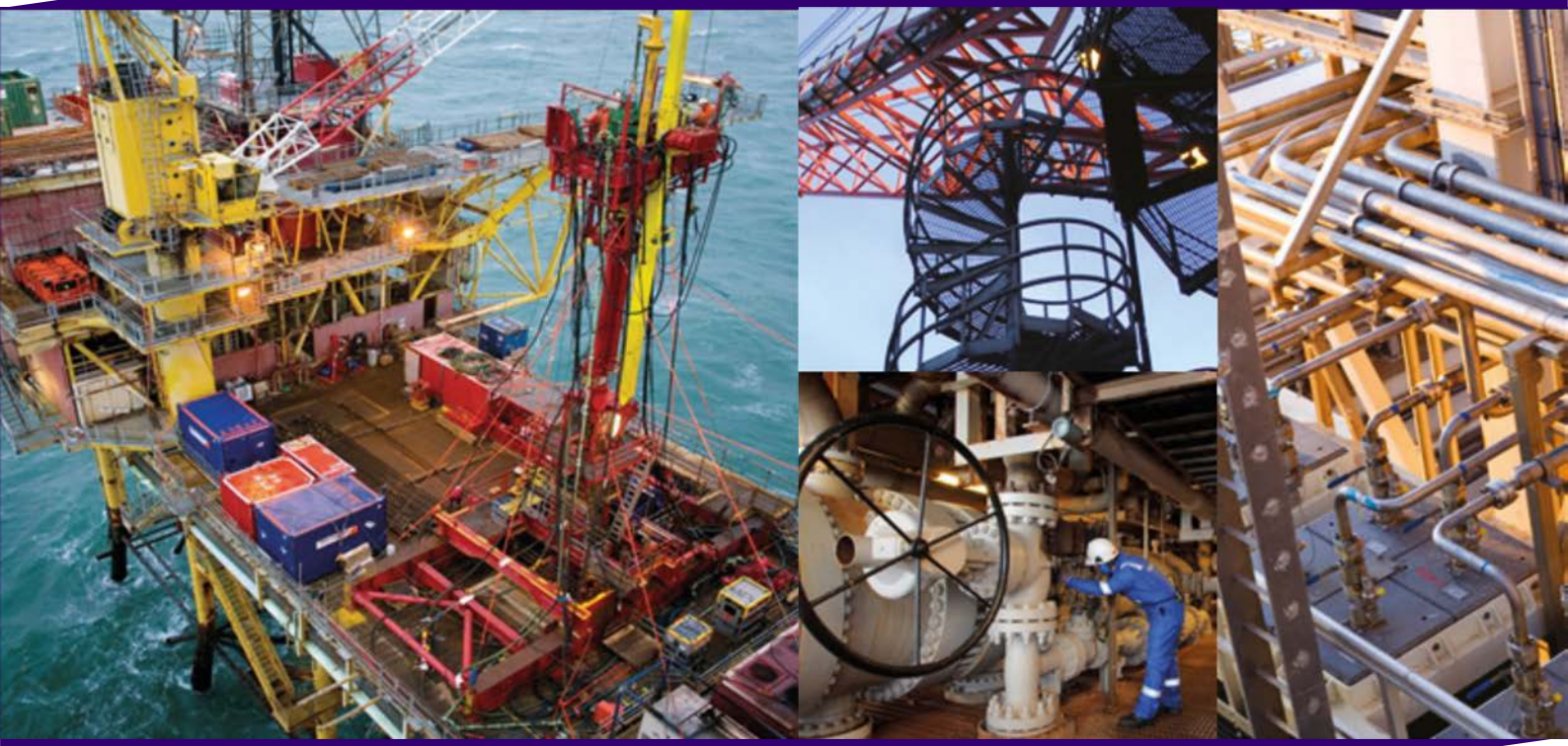
1. **Only if there are NO vessels available under section 1 above, then vessels issued with a certificate, by another European Marine Administration, and substantially meeting the UK guidelines, in particular the need for 12 crew and able to deploy two FRCs at the same time, are considered acceptable. This will be confirmed in writing by MCA and will**

be subject to a time limit of three months, or one well, whichever is greater. These vessels may be inspected by MCA under port state control and to ensure they meet the requirements of the acceptance letter.

2. **Only if there are NO vessels available under sections 1) & 2) above may vessels falling within section 3) be considered as a last resort. Vessel owners/Brokers/Duty Holders who are considering deploying such vessels, <u>that clearly do not meet the guidelines,</u> should liaise with MCA and HSE to consider what arrangements can be put in place to meet required performance standards. A decision can then be made on a case by case basis, whether a single vessel, or a combination of vessels acting together, can meet the performance standards. (See section 4 below relating to HSE requirements for these vessels.) If after assessment the vessel/s is found satisfactory, a letter or email can be sent giving a time limit of 28 days from the Operators specified start time. <u>This acceptance may be renewed subject to confirmation to MCA that vessels under 1 and 2 above are not available.</u> These vessels may be inspected by MCA under port state control, to ensure they meet the requirements of the acceptance letter.**

3. **It is for the duty holder to demonstrate either by a trial or by assessment of previous trials conducted under the supervision of other coastal states.**
   - **That the vessel and its crew are capable of achieving all the relevant duty holders' rescue and recovery performance standards, across the whole operational range.**
   - **That the systems on the vessel, essential to achieving these performance standards, are sufficiently reliable to ensure that failure of the vessel and its crew to meet the performance standards is not reasonably foreseeable.**

OIL&GAS UK



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