Maritime & Coastguard Agency

MARINE GUIDANCE NOTE

MGN 401 (M+F)

Amendment 2

Navigation: Vessel Traffic Services (VTS) and Local Port Services (LPS) in the United Kingdom

Notice to all Port and VTS Authorities, VTS Personnel, Masters and Deck Officers of Merchant Vessels, and Skippers and Watch Keepers of Fishing and Recreational Craft.

This notice is developed from existing international regulations and guidelines and should be read with the publications detailed in Annex 2.

This notice replaces MGN 401 (Amendment) and MGN 401.

PLEASE NOTE: -
Where this document provides guidance on the law it should not be regarded as definitive. The way the law applies to any particular case can vary according to circumstances - for example, from vessel to vessel and you should consider seeking independent legal advice if you are unsure of your own legal position.

Summary

The purpose of this guidance note is to amplify the international definitions of Vessel Traffic Services (VTS) in the UK national context and assist Statutory Harbour Authorities in the implementation of a new VTS or the review of an existing VTS. They will also be used by the Maritime and Coastguard Agency (MCA), as Competent Authority for VTS, when implementing a coastal VTS.

Key Points:

- It defines the UK's interpretation of VTS;
- Provides guidance for determining the need to establish a VTS;
- Defines the responsibilities of those authorities concerned with providing VTS and Local Port Services (LPS) in the UK; and
- It complements the Port Marine Safety Code (PMSC) and the Guide to Good Practice (GTGP) on the management of safety in ports.

Note

This MGN sets the VTS policy for the UK Competent Authority and national VTS Authorities. It aims to promote awareness of the important contribution that VTS and LPS make to the maritime industry and to indicate the approach to VTS adopted in the UK and it is appropriate that all participants in VTS and LPS receive and understand this information.

1 Introduction

1.1 The term VTS is used in this document in the same specific sense as in IMO Resolution A.857(20) and the IALA VTS Manual (as amended) and is used to describe systems that have the functionality specified and are operated by people trained to the IALA V103 standard.

1.2 This Note provides guidance for those harbour authorities with, or proposing, all types of VTS which require operators to be trained to the IALA V-103 standard and providing at least an Information Service (INS). It also identifies the need within the UK for a type of service where a VTS is assessed as excessive. It defines the concept of LPS for national use and gives guidance on when that type of service may be appropriate.

1.3 Two categories of VTS are recognised: port / harbour and coastal. A port / harbour VTS is mainly concerned with vessel traffic to and from or within a port or harbour, while a coastal VTS is mainly concerned with vessel traffic passing through a VTS area.

1.4 In implementing VTS, a Statutory Harbour Authority needs to consider which of the three service types – Information Service (INS), Traffic Organisation Service (TOS) and Navigational Assistance Service (NAS) - it will provide, following policy in this notice and the Guidelines and Recommendations issued by IALA. This will dictate the personnel and equipment requirements. Similar considerations should be taken into account for providing a Local Port Service (LPS) (see section 8 of this note).

1.5 The MCA, as the Competent Authority for VTS, is responsible for UK compliance with Regulation 12 of Chapter V of the SOLAS Convention and the EU Traffic Monitoring Directive and must ensure that future developments in VTS are consistent with UK policy. It is recommended that Statutory Harbour Authorities should consult the MCA about their future plans.

2. Objectives

2.1 It is important to consider the objectives that the provision of a VTS or LPS is intended to achieve. These need to be clearly defined and be subject to regular review. They also need to be reflected in the type of service provided.

2.2 In setting objectives, it may be helpful to recall that the purpose of VTS is to enhance:

- Safety of life at sea;
- Safety of navigation;
- Efficiency of vessel traffic movement;
- Protection of the marine environment;
- Protection of the adjacent communities and infrastructure; and
- Contribute to efficiency of related activities and supporting maritime security.

2.3 The precise objectives of any VTS will flow from a Formal Risk Assessment and will depend upon the particular circumstances in the VTS area and the volume and character of maritime traffic. They will also need to take into account the capability of expertise and technology available, however, it should be recognised that VTSs are seen as an important tool for mitigating risk for any authority charged with responsibility for the safety of navigation.

3 Determining the Need For VTS

3.1 Implementing a VTS allows the identification and monitoring of vessels, longer term planning of vessel movements and the provision of navigational information and assistance. It can also assist in the prevention of pollution, the co-ordination of pollution response and the protection of the marine environment.

3.2 It is strongly recommended that before considering the establishment of a new VTS, or the enhancement of an existing VTS, a Statutory Harbour Authority should conduct a Formal Safety Assessment (FSA) to define the need, the functional requirements and the costs of implementation. This will determine whether a VTS is an appropriate risk control option to enhance the safety of shipping, maritime users, members of the public and the protection of the marine environment.

3.3 The needs analysis process includes the following key steps:

- Preliminary Assessment (Inception);
- Feasibility and Design;
- Formal Risk Assessment; and
- Cost / Benefit Analysis.

3.3.1 Preliminary Assessment (Inception)
The purpose of the Preliminary Assessment phase is to decide the suitability of VTS as an appropriate traffic management option. Where this is confirmed, the information collected will provide the basis for undertaking the Feasibility and Design Study.

3.3.2 Feasibility and Design
The Feasibility and Design phase is intended to identify the functional requirements needed to achieve the desired level of safety and efficiency of the maritime traffic. The foundation for proceeding with this phase is the information compiled in the Preliminary Assessment (Inception) phase and the expected functions and benefits of a future VTS. This input may also give an indication of the desired type of service to be provided by the VTS.

3.3.3 Formal Risk Assessment (FSA)
The Formal Risk Assessment phase is intended to confirm that the measures being designed and introduced will reduce the risk of collisions and groundings in the area to a level considered by the Statutory Harbour Authority to be satisfactory.

3.3.4 Cost Benefit Analysis (CBA)
After completion of the Design and Risk Assessment phases, a Cost Benefit Analysis should be carried out to justify large public and / or private investments such as VTS. CBA forms an integral and essential part of the process for VTS which should be considered in conjunction with the implementation of other traffic management instruments.

Further details on determining the need for a VTS are contained in the IALA Guideline 1018: Risk Management, the IALA Recommendation V-119: The Implementation of Vessel Traffic Services and the IALA VTS Manual.

4 Areas of Responsibility

4.1 Responsibilities of the MCA, as the Competent Authority for VTS, are as follows:

1 Leading on national policy for UK VTS;
2 Providing advice to government on legislation with respect to the operation of a VTS within UK territorial waters;
3 Establishing and reviewing the national standards and definitions for the three service types of VTS;
4 Establishing and reviewing the national standards and definitions for provision of LPS;
5 Assessing the need for coastal VTS within territorial waters but outside the areas of jurisdiction of Statutory Harbour Authorities;
6 Establishing VTS Authorities for coastal VTS, ensuring that necessary arrangements are in place and setting the objectives and types of service offered by them;
7 Establishing and reviewing training standards for all VTS personnel and those who provide LPS;
8 Providing accreditation of organisations involved in VTS training and conducting a regular review of training and training standards. This also involve the approval of individual VTS courses at accredited training organisations;
9 Providing guidelines for VTS personnel and equipment levels;
10 Ensuring that any reporting requirement for incidents involving VTS aligns with the national reporting requirements for navigational incidents;
11 Providing guidance to assist VTS authorities in evaluating the performance of their VTS;
12 Designate VTS and approve VTS Areas in accordance with current regulations;
13 Maintaining a database of declared UK VTS and their capabilities;
14 Audit and review the performance of coastal VTS, recommending and facilitating improvements, where necessary.

4.2 A Statutory Harbour Authority is responsible for assessing the need for VTS and types of service, or the need for LPS, within its own port limits in accordance with the PMSC following the advice provided in this MGN and in IALA Guidelines and Recommendations. Where it is decided that a VTS is required, the Statutory Harbour Authority becomes the VTS Authority within its own port limits.

4.3 In the UK, the powers of individual Statutory Harbour Authorities have been established by or under the Harbours Act 1964 and Harbours Act (Northern Ireland) 1970. They have powers and duties within a defined geographical area. In the context of VTS their responsibilities include the requirement to:

1 Establish the need for a VTS or provision of a LPS by means of a Formal Risk Assessment into the safety of navigation, as required by the PMSC and taking into account the standards established by the Competent Authority for VTS;
2 Establish the service type of VTS or whether a LPS is to be provided, based on the outcome of a Formal Risk Assessment;
3 Ensure that a legal basis for the operation of a VTS is provided for;
4 Ensure the VTS has been delegated the appropriate authority to fulfil its duties;
5 Apply to the MCA for designation of its VTS and approval of its VTS Area in accordance with current regulations;
6 Where a VTS is established, act as a “VTS Authority” as indicated in section 4.3;
7 Publish details and the types of service that are to be provided in the appropriate nautical publications (Admiralty List of Radio Signals Volume 6 part 1);
8 Provide information on all published services, including the details of radio watches, designated frequencies, hours of operation and the defined type(s) of service offered.

4.4 The VTS Authority is responsible for the operation of the service type(s) prescribed within the area designated for each individual VTS. A VTS Authority may initiate the exchange of information with vessels approaching its area of responsibility, in order to ensure the smooth integration of traffic into the VTS area.

4.5 VTS contributes to safety of life at sea, safety and efficiency of navigation and protection of the marine environment, adjacent shore areas, worksites and offshore installations from possible adverse effects of maritime traffic. In pursuance of these objectives, VTS authorities should:

1 Operate the VTS within national and international guidelines and legislation;
2 Ensure that VTS operators are trained to the appropriate UK national requirements based on the IALA V-103 international standards, and that their qualifications are kept current and valid;
3 Establish operating procedures for VTS and for the implementation of emergency contingency plans;
4 Carry out regular training and exercises for VTS personnel in operating and emergency response procedures;
5 Regularly review VTS operations to ensure that the service is harmonised with ship reporting, routeing instructions, aids to navigation, pilotage and port operations as appropriate;
6 Report any apparent infringement of byelaws and directions to the appropriate authority;
7 Maintain appropriate standards of communications on channels assigned for VTS purposes;
8 Ensure that appropriate manning is available to provide the type of service declared taking into account the guidance issued by the Competent Authority for VTS and IALA Guideline: 1045 – Staffing Levels at VTS Centres;
9 Ensure that equipment appropriate to the type of service declared is available, taking into account the guidance issued by the Competent Authority for VTS, IALA Recommendation V – 128: Operational and Technical Performance of VTS Systems and IALA Guideline: 1111 – Preparation of Operational and Technical Performance Requirements for VTS Systems;
10 Ensure that VTS personnel are vested with the appropriate authority and / or delegations required to fulfil their duties;
11 Periodically audit and review the performance of port VTS in accordance with IALA Guideline No. 1101 - Auditing and Assessing VTS and PMSC, recommending and facilitating improvements where necessary.

5 Legal Framework

5.1 The International Convention for the Safety of Life at Sea (SOLAS) Regulation 12 Chapter V (Safety of Navigation) requires contracting governments to arrange for the establishment of VTS where, in their opinion, the volume of traffic or the degree of risk justifies such services. The regulation also requires that:

Contracting governments planning and implementing VTS shall, wherever possible, follow the guidelines developed by the IMO. In relation to the UK, the MCA is the Competent Authority for VTS for the purposes of those guidelines;
The use of VTS may only be made mandatory within the territorial waters of a coastal State.

5.2 The European Union Directive on Community Vessel Traffic Monitoring and Information Systems has been implemented in the UK through the Vessel Traffic Monitoring and Reporting Regulations 2004 Statutory Instrument (SI) No. 2110 (as amended) and forms the legal framework for VTS.

5.3 Under local Acts of Parliament, Statutory Harbour Authorities have duties to protect their harbours and regulate the approaches to them. It will be for each harbour authority to consider what is required as regards the provision of VTS or LPS under its statutory duties and apply to the MCA for designation of its VTS and approval of its VTS Area as appropriate.

6 Liability

6.1 Liability arising from an incident following compliance with VTS guidance can only be decided on a case-by-case basis in accordance with national law. Consequently, a Statutory Harbour Authority / Competent Authority for VTS should take into account the legal implications in the event of a shipping incident where VTS Operators may have failed to carry out their duty competently. Similar considerations should be taken into account in the provision of LPS.

7 Types and Functions of Vessel Traffic Services

7.1 A clear understanding of the distinction between the different service types is fundamental in the choice of service to be provided, its implementation, maintenance and periodic review.

7.2 The purpose of this section is to identify the contribution of VTS and to set out the options available to a Competent Authority for their provision. Figure 1[1] provides an overview of VTS and LPS.

7.3 The prerequisites for VTS and LPS are;

VTS

- Interacts with traffic;
- Responds to traffic situations;
- Authorised by the Competent Authority;
- Staffed by V-103 standard certificated personnel;
- Equipped as appropriate to provide INS/TOS/NAS.

LPS

- Equipped appropriate to task;
- Staffed and trained appropriate to task;
- Does not require to be authorised by the Competent Authority.

7.4 The following is an explanation of each service type as recognised by the UK Competent Authority for VTS;

7.5 Information Service (INS)

7.5.1 Defined by IMO as 'a service to ensure that essential information becomes available in time for on-board decision-making.' An Information Service does not participate in onboard decision making.

7.5.2 This service type involves maintaining a traffic image and allows interaction with traffic and response to developing traffic situations. An INS provides essential and timely marine information to assist the onboard decision-making process, and may include but is not limited to:

- The identity, position, intention and destination of vessels;
- Amendments and changes in promulgated information concerning the VTS area such as boundaries, procedures, radio frequencies, reporting points;
- The mandatory reporting of movements;
- Meteorological and hydrological conditions, notices to mariners, status of aids to navigation; limited manoeuvrability that may impose restrictions on the navigation of other vessels, or any other potential hindrances.
- Manoeuvrability limitations of vessels in the VTS area that may impose restrictions on the navigation of other vessels, or any other potential hindrances: or
- Any information concerning the safe navigation of the vessel.

7.5.3 Further information and guidance on INS is contained in IALA Guideline: 1089 - Provision of Vessel Traffic Services (INS, TOS & NAS) and the current edition of the IALA VTS Manual.

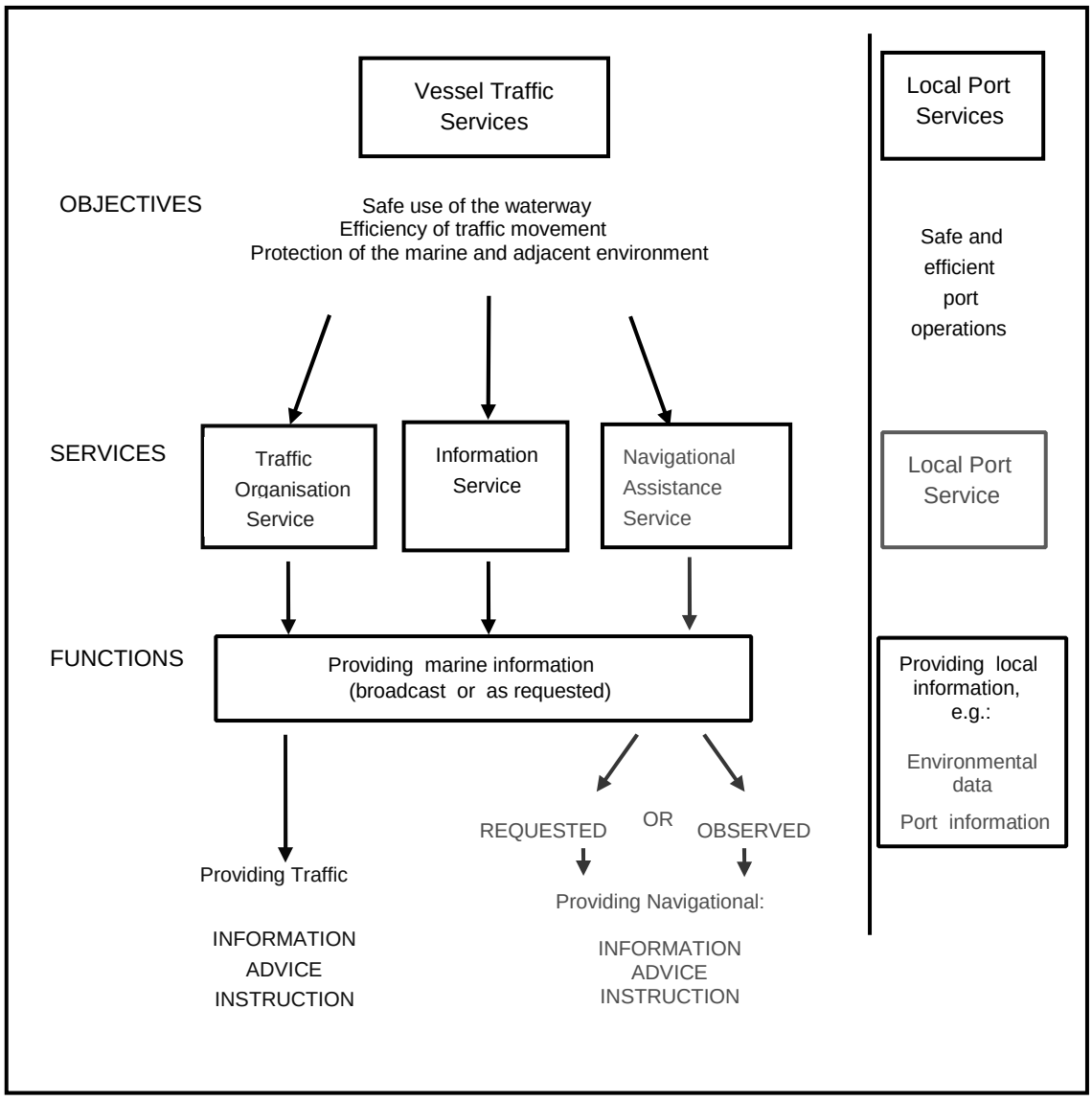

Figure 1 - Types and functions of VTS and LPS

7.6 Traffic Organisation Service (TOS)

7.6.1 Defined by IMO as a service to prevent the development of dangerous maritime traffic situations and to provide for the safe and efficient movement of vessel traffic within the VTS Area.'

7.6.2 This service type provides essential and timely information to assist the onboard decision-making process. It may involve the provision of information, advice and instructions. A TOS should be provided when the VTS is authorized to provide services, such as when:

- vessel movements need to be planned or prioritised to prevent congestion or dangerous situations;
- special transports or vessels with hazardous or polluting cargo may affect the flow of other traffic and need to be organised;
- an operating system of traffic clearances or sailing plans, or both, has been established;
- the allocation of space needs to be organised;
- mandatory reporting of movements in the VTS area has been established;

- special routes should be followed;
- speed limits should be observed;
- the VTS observes a developing situation and deems it necessary to interact and coordinate vessel traffic;
- nautical activities (e.g. sailing regattas) or marine works in-progress (such as dredging or submarine cable-laying) may interfere with the flow of vessel movement.

7.6.3 A Traffic Organization Service should be responsible for separating traffic in the interest of safety. This separation could be defined in space, time and/or distance.

7.6.4 Enforcement may also be carried out within a Traffic Organization Service where the VTS should monitor adherence to applicable rules and regulations and to take appropriate action where required and within the authority of the VTS.

7.6.5 Further information and guidance on TOS is contained in IALA Guideline: 1089 - Provision of Vessel Traffic Services (INS, TOS & NAS) and the current edition of the IALA VTS Manual.

7.7 Navigational Assistance Service (NAS)

7.7.1 Defined by IMO as 'a service to assist onboard navigational decision-making and to monitor its effects, especially in difficult navigational or meteorological circumstance or in case of defect or deficiencies.'

7.7.2 NAS should normally be provided in addition to an INS or TOS. It is a service that provides essential and timely navigational information to assist in the on-board navigational decision-making process. It may also involve navigational advice and / or instruction.

7.7.3 This service type may be provided at the request of a vessel or when a navigational situation is observed and intervention by VTS is deemed necessary. Such assistance requires positive identification and continuous communication throughout the process. It is important that the provision of NAS is recognised. When time permits, acceptance by the vessel of the NAS should be established, and the beginning of navigational assistance should be clearly stated. The end of navigational assistance should always be identified.

7.7.4 Clear operational procedures should be in place for the provision of NAS when requested by a vessel or when observed and intervention is deemed necessary by the VTS. The authorisation of VTS personnel to provide this service should also be identified. VTS Authorities should give careful consideration to training, staffing levels, their qualifications and equipment capability when implementing this type of service. NAS may involve the provision of information, such as:

- Proximity to navigational hazards
- Course and speed made good by a vessel;
- Position relative to fairway axis, navigational features and / or way-points;
- Positions, identities, intentions and any restrictions of surrounding traffic.

7.7.5 NAS may also involve the additional provision of advice and / or instruction, and may include or require:

- The use of message markers (see note);
- The use of a dedicated frequency;

- Restriction of other traffic movement;
- A review of the proposed sailing plan;
- An assessment of the environmental conditions;
- An assessment of the implications of the cargo carried;
- An assessment of the suitability of the vessel to respond to the advice provided including an assessment of linguistic ability;
- Recommendations on measures to maintain the sailing plan noting that any advice on courses and speeds should be result orientated
- A review of vessel characteristics including manoeuvrability relative to the area in which the service is provided and any defects or deficiencies.

Note: IALA recommends the use of message markers as best practice when delivering NAS irrespective of the linguistic ability of the recipient.

7.7.6 When a VTS is authorised to provide NAS to vessels, any communication should be result-oriented only; leaving the details of execution, such as course to be steered or engine manoeuvres to be executed, to the master or pilot on board the vessel.

7.7.7 More detailed information and guidance on NAS is contained in IALA Guideline: 1089 - Provision of Vessel Traffic Services (INS, TOS & NAS) and the current edition of IALA VTS Manual.

8 Local Port Services (LPS)

8.1 Local Port Services is applicable to those ports where it has been identified from their Formal Safety Assessment, as described in section 3, that a VTS is excessive or inappropriate. They will not, therefore, be required to train their operators to the V-103 standard.

8.2 Identification of the threshold between LPS and VTS may be difficult to determine. It is likely to be port specific and will only become clear following the Formal Risk Assessment process, when all mitigating factors have been considered.

8.3 The main difference arising from the provision of LPS is that it does not require to have the ability and / or the resources to respond to developing traffic situations and there is no requirement for a vessel traffic image to be maintained. As such, the training requirement for its operators is less comprehensive and the operators are unlikely to be certified to the V-103 standard.

8.4 Provision of LPS is designed to improve port safety and co-ordination of port services within the port community by dissemination of port information to vessels and berth or terminal operators. It is mainly concerned with the supply of information on berth and port conditions. Provision of LPS can also act as a medium for liaison between vessels and stevedores or allied services, as well as providing a basis for implementing port emergency plans.

8.5 Key considerations will be:

- The equipment deemed necessary;
- The level of operator competence required;
- The complexity of the advice and information required to be exchanged.

8.6 Examples of LPS may include:

- Berthing information;
- Availability of port services;
- Details of shipping movements;
- Meteorological and hydrological data.

8.7 Training for the provision of LPS shall be based on the selection of appropriate modules, or elements thereof, from the V-103 syllabus, depending on the equipment and capabilities used.

9 Managing and Delivering a VTS

9.1 VTS Administrative Requirements

9.1.1 Effective administration and support is essential for the proper functioning of a VTS. Administrative guidance and instructions should be documented and available to all VTS staff.

9.1.2 The extent of the supporting activities is likely to be related directly to the size of the VTS area, the number of sub-areas and sectors, the service being provided and the hours of service of the VTS. The existing administrative infrastructure of the VTS Authority or Competent Authority will also dictate the extent to which additional VTS administrative support will be required.

9.1.3 VTS Authorities will to a greater or lesser extent be involved in the strategy, planning and continuous development of VTS. This will drive the provision of administration support required for the proper operation of vessel traffic services. This will involve:

- Legal;
- Finance;
- Security;
- Personnel;
- Procedures;
- Other activities;
- Equipment and facilities.

9.2 VTS Operational Procedures

9.2.1 Operational procedures are an integral part of a verifiable Safety Management System (SMS) for VTS. A properly implemented quality control system can ensure that the standards set for the type and level of service are consistently maintained and that the service is delivered safely and effectively. A formal Document Control system should be in operation for the SMS documentation.

9.2.2 The development and maintenance of VTS centre specific operational procedures is a continuous process. To ensure the safe and efficient management of the service, it is critical that VTS personnel are made aware of changes and amendments, and auditable and documented processes are developed that enable the early and effective update of operational procedures.

9.2.3 A clear distinction should be made between internal and external operational procedures.

9.2.4 Internal Procedures: Procedures that cover the day-to-day running of a VTS centre or sub-centre, including the operation of systems and sensors, interactions among the staff and the internal management of data.

9.2.5 External Procedures**:** Procedures that govern the interaction with participating vessels and allied services (defined as services actively involved in the safe and efficient passage of the vessel through the VTS area).

9.2.6 A further distinction should be made between routine and emergency procedures.

9.2.7 To achieve a standardised operations / performance within the VTS centre, clearly defined operating procedures, particularly those relating to external communications are paramount. This will assist the user in understanding information or instructions given by the VTS.

9.2.8 It is recommended that the operating procedures are documented in manuals. The responsible authority should assign a person responsible to keep the procedures up to date.

9.2.9 These procedures should be available to all VTS personnel in all applicable locations (e.g. head office, VTS centre, training centre, etc.) in, either electronic and / or printed version. The electronic version facilitates searching within the document and keeping it up to date. These standard operating procedures should be an integral part of regular training and adherence to procedures should be monitored.

9.2.10 Consideration may be given to distributing these procedures (or part of them) to allied services. This could increase efficient collaboration.

9.2.11 It is important to communicate updates to everyone who has access to the operating procedures. Primarily all operational VTS personnel should be aware of any changes made to the procedures and it should be ensured that these changes are well understood and properly implemented. In keeping the procedures up to date, particular attention should be given to the printed copies.

9.2.12 Standard Marine Communication Phrases (SMCP) and Message Markers are recommended to be used during operations at a VTS centre. This should also be reflected in the procedures.

9.2.13 Further information and guidance on operational procedures is available in IALA Recommendation V-127 - Operational Procedures for VTS and the current edition of the IALA VTS Manual.

9.3 VTS Operational Records

9.3.1 The nature of VTS operations is such that there may be a requirement to access, analyse and review previous events. There is a requirement, therefore, for the capture, secure storage, retrieval and presentation of VTS related information which may prove invaluable in justifying the actions of VTS personnel in post-incident analysis as well as improving the efficiency of VTS operations.

9.3.2 Further information and guidance on operational records is available in the current edition of the IALA VTS Manual.

9.4 VTS Equipment

9.4.1 Traffic density, navigation hazards, local climate, topography and the extent of a VTS area sets the requirements for VTS equipment and these factors will have substantial impact on life cycle costs of a VTS and the procurement of VTS equipment. This may include:

- Communications;
- VTS Data System;
- VTS Radar System;
- Closed Circuit TV Cameras (CCTV);
- Automatic Identification System (AIS) and / or;

- Hydrological and Meteorological equipment.

9.4.2 The required features and, in particular, the need for coverage by sensors, e.g. radar, should be determined by an assessment of the service to be provided, the safety level to be achieved and the user requirements of the VTS system. Subsequently, suitable positions for the equipment should be determined by site survey, analysis, simulations and / or site tests to ensure that the required functions and coverage will be provided.

9.4.3 The table at Annex 1 contains details of equipment and capabilities considered to be the minimum for each service type. Variations to equipment capability are permitted and may be appropriate for coverage in specific locations and for equipment redundancy planning. Any reduction below the recommended minimum should be supported by a risk assessment as part of the authority's Safety Management System and to be approved by MCA.

9.4.4 Further information and guidance is available in IALA Recommendation V-128: Operational and Technical Performance Requirements for VTS Equipment, IALA Guideline: 1111: Preparation of Operational and Technical Performance Requirements for VTS Systems, and the current edition of the IALA VTS Manual.

9.5 VTS Personnel, Training and Qualifications

9.5.1 Depending on the size and complexity of the VTS area, the service type provided, as well as traffic volumes and densities, a VTS centre may comprise VTS Supervisors and a VTS Manager alongside VTS Operators and VTS On-the-job Training Instructor(s).

9.5.2 A major factor in the efficient operation of a VTS centre is the standard of competence of its personnel. Recognising that VTS personnel are members of a profession whose principal interaction is with mariners and maritime pilots for the safe management of maritime traffic, their competence needs to reflect that professional responsibility.

9.5.3 In a VTS area, as specified by the relevant VTS Authority, VTS personnel should be capable of interacting with vessel traffic by providing information, traffic organisation and navigational assistance, as and when required by the VTS or vessel concerned. It is for the Competent / VTS Authority to ensure that sufficient and properly qualified personnel are available to undertake these commitments.

9.5.4 In order to discharge the duties required by VTS, all operational personnel shall obtain a VTS V-103 Operator's certificate issued on behalf of the MCA and an appropriate endorsement in a VTS Certification Logbook before being considered competent to act as a VTS Operator.

9.5.5 Full details and guidance on VTS personnel recruitment, training and qualifications is contained in the MCA's Marine Guidance Note (MGN) 434 (as amended) on Training and Certification of VTS Personnel, IALA Recommendations V103 and its associated Model courses and in the current edition of the IALA VTS Manual.

10 Auditing and Reviewing Performance

10.1 The evaluation of a VTS or provision of LPS should determine if the purpose it was implemented for is still relevant and its objectives are being achieved. This requires auditing and reviewing of performance in accordance with the Statutory Harbour Authorities Safety Management System. The evaluation is intended to ascertain the effectiveness of the VTS in meeting its objectives, with respect to mitigating the risks of collisions or groundings in the VTS area.

10.2 The VTS or LPS provided will depend on the result of the Formal Risk Assessment, which in turn will identify the standard and the performance indicators against which the VTS or LPS will be evaluated. In order to be effective, the objectives of the VTS or provision of LPS need to be kept under continuous review, bearing in mind changes in operations, operational methods, personnel and the availability of technology, to ensure that the objectives set for the VTS or provision of LPS remain applicable and are being achieved.

10.3 At the request of a Statutory Harbour Authority, the MCA may assist with the evaluation process, with a view to ensuring compliance with UK best practice and international recommendations appropriate to the designation.

10.4 The overall evaluation of the VTS or provision of LPS should be preceded by an assessment of the effectiveness of the equipment, manning and procedures involved.

11 Promulgation of Details and Types of Service

11.1 Promulgation: Statutory Harbour Authorities should review the details of their VTS / LPS on at least an annual basis. Any changes should be forwarded promptly to the UK Hydrographic Office (UKHO) for inclusion of appropriate details in the Admiralty List of Radio Signals (ALRS) Volume 6 and on Admiralty charts and copied to the MCA for compilation of the UK VTS database.

11.2 Details: As a minimum, the following information should be promulgated where a VTS / LPS is provided;

1 hours of service;
2 VTS type(s) of service;
3 VHF radio frequencies;
4 reporting points in the VTS area;
5 details of service to be provided;
6 format and content of reports required
7 contact details and VTS / LPS call sign;
8 categories of vessel expected to participate
9 area(s) of coverage for the type(s) of service.

12 MCA VTS Centre Audits

12.1 As the national competent authority for VTS in the UK, the MCA has been undertaking audits of UK VTS centres as part of its accountability under both Statutory Instrument 2004 No. 2110 The Merchant Shipping (Vessel Traffic Monitoring and Reporting Requirements) Regulations 2004 and EU Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system.

12.2 A checklist (MSF 2104, as amended) has been developed which assists the audit process in exploring best practice and compliance with IALA VTS recommendations / Guidelines and also UK VTS guidance. This checklist is also being considered by IALA who have worked on the production of an international checklist for VTS. An electronic copy can be obtained by contacting the Navigation Safety Department of MCA for information and audit preparation.

12.3 The anonymised findings of audit are discussed in the UK VTS Policy Steering Group Meeting held every 6 months for the purposes of continuous improvement in the UK VTS sector.

12.4 VTS Authorities are informed in advance when MCA intends to carry out these audits.

13 UK and future VTS

13.1 The developments in VTS world i.e. remote operations, advancement in technology, types of services etc are discussed in the UK VTS Policy Steering Group Meeting. Stakeholders related to VTS attend this meeting. If anyone wishes to represent their employing organisation on the VTS Steering group, then please contact MCA Navigation Safety Branch.

More Information

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LPS / VTS EQUIPMENT AND CAPABILITY TABLE (MINIMUM RECOMMENDATIONS) **Annex 1**

Service/Category	Equipment[1]													Capabilities					
	Communications					Traffic Image[2]			Sensors										
	VHF	RDF (VHF / DF)	Telephone	Facsimile	Email	Manual Plotting Facility	Stand-alone Automatic Radar Plotting Aid (ARPA)	Bespoke VTS Traffic-Image & Information Display System (VTIDS)[3]	Radar	AIS	EOS (CCTV)	Meteorological	Hydrological	Equipment Performance Monitoring	Redundancy	Data Recording	Data Management System	Data Export	Log & Record Keeping
Local Port Service	✓	O	✓	✓	O	✓	O	O	O	O	O	O	O	✓	✓	O	O	O	✓
Information Service (INS)	✓	O	✓	✓	O	O	✓	O	✓	✓	O	✓	✓	✓	✓	✓	✓	✓	✓
Traffic Organisation Service (TOS)	✓	O	✓	✓	O	O	✓	✓	✓	✓	O	✓	✓	✓	✓	✓	✓	✓	✓
Navigational Assistance Service (NAS)[4]	Equipment and Capabilities as appropriate to INS or TOS																		

Key:

✓ Recommended O Optional X Not Recommended

The above table is provided as a guideline and VTS authorities are responsible for defining their equipment requirements based on risk assessment.

Notes:

1. The use of equipment carries with it the requirement that its operators are appropriately trained.
2. Traffic Image systems marked Optional, can either exceed recommended minimum capability or be assessed through Risk Assessment as a possible acceptable alternative
3. VTIDS – VTS Traffic-Image and Information Display System with ENC, RNC or satellite imagery as appropriate - see IALA Guideline 1111 art 10.4.1
4. NAS should be provided in addition to either INS or TOS

EXPLANATION OF EQUIPMENT AND CAPABILITIES

Allied Services
Services actively involved in the safe and efficient passage of the vessel through the VTS area

Automatic Identification System (AIS)
Indicates the use of AIS in the provision of service type declared.

Automatic Radar Plotting Aid (ARPA)
SOLAS mandated ARPA equipment designed for on-board use provides for manual or automatic acquisition of targets and the automatic tracking and display of all relevant target information for at least 20 targets for anti-collision decision making. It also enables trial manoeuvres to be executed.

Chart - Electronic Navigational Chart (ENC)
Official database created by a national hydrographic office for use with an Electronic Chart Display and Information System (ECDIS). An electronic chart must conform to standards stated in the International Hydrographic Organization (IHO) Publication S-57 before it can be certified as an ENC.

Charts – Raster Navigational Chart
A digital image originally scanned from paper charts into an electronic format

Data Export
Indicates the capability to meet the requirements of the EU Directive on Vessel Traffic Monitoring. In this respect, it is recommended that the MCA should be consulted about future developments.

Data Management System
Indicates the use of a fully integrated system that effectively manages all of the information necessary to provide the declared service type.

Data Recording
Indicates the ability to record all operational data concerned with the compilation of the traffic image. This will typically include radar / AIS data and all communications and will permit the replay of data in support of incident analysis.

Electro-Optical System (EOS)
An Electro-Optical System (EOS) consists of imaging devices, such as daylight Closed-Circuit Tele Vision (CCTV), day/night CCTV, Infrared- and laser-illuminated cameras.

Email
Indicates availability of this service, which is connected to the internet system.

Equipment Performance Monitoring
Indicates the ability to monitor the performance of all equipment used in provision of the service type declared, including a planned maintenance system.

Facsimile (FAX)
Indicates availability of this service, which is connected to the shore-side telecommunications network. The ability to send fax through printer and receive same via e-mail may also cover this recommendation.

Geographic Information System (GIS)
Geographic Information Systems is a computer-based tool that analyses, stores, manipulates and visualizes geographic information, usually in a map

Hydrological Sensors
Indicates the availability of the necessary hydrological sensors to provide real-time hydrological information to stakeholders.

Log and Record Keeping – Automatic or Manual
Indicates a means of recording all activities within the area, which may be either electronic or manual. In more sophisticated systems this is likely to be incorporated in the data recording / data management system.

Manual Plotting Facility
Any means for manually maintaining a traffic image i.e. magnetic board or paper chart.

Meteorological Sensors
Indicates the availability of the necessary sensors to provide real-time meteorological information to stakeholders.

Radar
Indicates stand-alone marine or purpose designed VTS radar providing sensor information to VTIDS or ARPA

Radio Direction Finding (RDF)
Radio direction finding equipment in sufficient numbers and at appropriates locations to assist in the confirmation of the source of radio transmissions.

Redundancy
Indicates the presence of sufficient equipment to ensure continuity of the service type declared under realistic fault conditions.

Telephone – Landline
Shore-side telecommunications network with the capability to deal with all operational and emergency demands, including Allied Services.

Very High Frequency (VHF) – Marine Band Radio
VHF radio, capable of working in the marine band on the channels identified and in sufficient numbers to provide the service and channels declared for the area. Typically, simplex channels for primary VTS working frequency and duplex channels for administration. Frequency allocation licenced by Ofcom.

NATIONAL / INTERNATIONAL GUIDELINES AND LEGISLATION **Annex 2**

The following documents provide the framework for VTS Operations:

Source Publication	Title
IMO International Convention for the Safety of Life at Sea (SOLAS V) – Regulation 12	Vessel Traffic Services
IMO Resolution A.857(20)	Guidelines for Vessel Traffic Services
European Union Vessel Traffic Monitoring Directive (VTMD) 2002/59/EU (as amended)	
Statutory Instrument 2004/2110	The Merchant Shipping (Vessel Traffic Monitoring and Reporting Requirements) Regulations 2004 (as amended)
IALA Standard S1040	Vessel Traffic Services
IALA Standard S1050	Training and Certification
IALA VTS Manual (Current Edition)	
IALA Recommendation V-103	Standards for Training and Certification of VTS Personnel
IALA Recommendation V-119	Implementation of Vessel Traffic Services
IALA Recommendation V-127	Operational Procedures for VTS
IALA Recommendation V-128	Operational and Technical Performance of VTS Systems
IALA Guideline 1111	Preparation of Operational and Technical Performance Requirements for VTS Systems
IALA Guideline 1018	Guidelines on Risk Management
IALA Guideline 1089	Provision of a Vessel Traffic Services (INS, TOS & NAS)
IALA Guideline 1045	Staffing Levels at VTS Centres
Harbours Act	
Harbours Act (Northern Ireland)	
Acts, Orders and Byelaws pertaining to individual ports	
Port Marine Safety Code	
Guide to Good Practice	Supplementary information concerning the Port Marine Safety Code

IMO Resolution A.918(20)	Standard Marine Communication Phrases
IMO Resolution A.851(20)	General principles for ship reporting systems and ship reporting requirements.
IMO MSC/Circular 1065	IALA Standards for training and certification of VTS personnel.
IMO MSC 83/INF.2	Guidelines for Formal Safety Assessment (FSA) for use in the IMO rule-making process (MSC/Circ.1023−MEPC/Circ.392)
MGN 434 (as amended)	Training and Certification of VTS Personnel
MSN 1796 (as amended)	Designation of VTS centres in the UK

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