



IALA GUIDELINE

G1167 VTS MANAGEMENT

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1. INTRODUCTION

An efficient and effective vessel traffic service (VTS) relies upon successfully organizing human resources, equipment, systems and facilities as well as the interactions with all parties involved.

Recognizing that VTS providers operate under different environments (for example, VTS as a component of a large department/organization, or VTS as a standalone entity) the regulatory and management framework for a particular VTS provider may vary. Management responsibilities may be delegated to one person or shared between more than one person. The cooperation of all people involved is required to ensure a smooth and consistent operation.

For the purpose of this guidance VTS management is defined as undertaking activities appropriate to achieving the purpose and operational objectives set for the VTS. These activities may involve, among others, organizing the human, financial, logistic, and technical resources.

Good management practices are vital to achieving the obligations of the VTS provider described in paragraph 5.3 of IMO Resolution A.1158(32) *Guidelines for Vessel Traffic Services* [1]:

- 1 ensure the VTS conforms with the regulatory framework set by the competent authority for VTS;
- 2 set operational objectives for the VTS that are consistent with improving the safety and efficiency of ship traffic and protection of the environment. The objectives set should be routinely evaluated to demonstrate they are being achieved;
- 3 ensure that appropriate equipment, systems and facilities for the delivery of VTS are provided;
- 4 ensure that a VTS is adequately staffed and that VTS personnel are appropriately trained and qualified; and
- 5 ensure that information regarding requirements and procedures of the VTS and the categories of ships required to participate in the VTS are promulgated in appropriate nautical publications.

The *IALA VTS Manual* [2] provides a source of reference, including:

- The regulatory and legal framework for implementing and operating VTS.
- The obligations of Contracting Governments and Flag States.
- IALA standards relating to the implementation and operation of VTS and their associated recommendations, guidelines, and model courses.

2. DOCUMENT PURPOSE

The purpose of this document is to assist VTS providers in implementing management activities to facilitate the effective and efficient delivery of VTS and achieve its purpose and operational objectives. This Guideline provides general principles of management processes, describes activities related to VTS management and presents associated competencies and training subjects.

This Guideline is not associated with an IALA Recommendation but is connected to IALA Standard S1040 relating to the implementation and operation of VTS and their associated recommendations, guidelines, and model courses. This Guideline is an informative document and reflects best practices, but with which it is not necessary to comply.

3. PRINCIPLES OF MANAGEMENT PROCESSES

Management is described as undertaking the activities appropriate to achieving defined purposes and objectives by the use of human and other resources. The following principles are indicative of those that should be considered when applying management processes:

- Clear, transparent and unambiguous
- Agile
- Realistic
- Human-centred
- Aimed at the objectives
- Strategically planned
- Consistent

VTS providers may consider using the PLAN -> DO -> CHECK -> ACT (PDCA) cycle when applying management processes. This four-step model assists with managing business processes and ensures a continuous process of improvement. It helps to identify goals and plan actions, deploy the means to achieve them, evaluate the results, and finally check what adjustments might be necessary. The model is designed to operate at all levels and can be applied to all processes.

The PDCA cycle includes:

- 1 Planning: investigating needs, identifying goals and determining courses of action;
- 2 Doing/organizing: implementing courses of action, coordinating resources, motivating and directing people.
- 3 Checking: monitoring and evaluating results, determining adjustments and improvements.
- 4 Act: implement improvements and adjustments.

The PDCA cycle is repetitive and provides an environment of continuous improvement, see Figure 1:

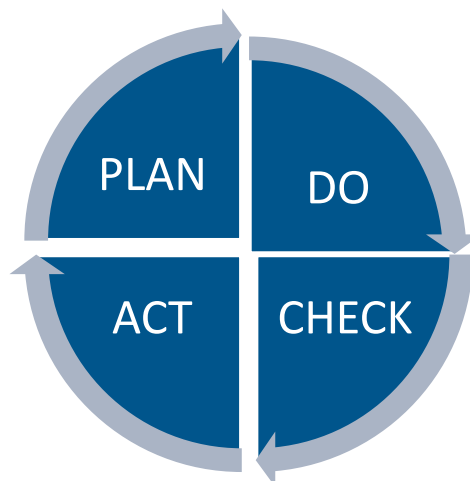


Figure 1 The Plan, Do, Check, Act cycle

Table 1 below describes management activities in the PDCA cycle and sets out two VTS examples.

Table 1 Management Activities in the PDCA cycle

STEPS	CONTENT	MANAGEMENT ACTIVITY EXAMPLE 1	MANAGEMENT ACTIVITY EXAMPLE 2
PLAN	Identification of the goals and what is necessary to achieve them	Set VTS operational objectives and determine key performance measures	Determine staffing levels
DO	Organization and implementation of resources	Implement processes and procedures to achieve the VTS operational objectives	Recruit and train VTS personnel
CHECK	Evaluation of the results	Assess key performance measures to ensure VTS objectives are being met	Review staffing levels
ACT	Improvement and adjustment	Adjust operational processes and procedures	Reorganize staffing levels

4. MANAGEMENT ACTIVITIES

The VTS provider should ensure management activities are in place to ensure the provision of VTS is consistent with their responsibilities as defined in IMO Resolution A.1158(32) and any additional requirements identified by their competent authority. Activities that may be associated with the management of a VTS are described below. In planning and organizing the management framework, these activities could be allocated to one person or may involve multiple people depending on the structure of the organization. The VTS provider should ensure the management structure is optimized for achieving the objectives of the VTS.

4.1. OPERATIONAL

Operational aspects involve managing and co-ordinating the day-to-day operations and the objectives set for the VTS.

Associated activities may include:

- managing day-to-day activities associated with the provision of VTS;
- ongoing evaluation of activities the VTS provides which may impact workload or staffing levels;
- maintaining VTS operational procedures;
- monitoring and managing VTS operational performance;
- interface with allied services and stakeholders; and
- undertake operational needs analysis.

4.2. HUMAN RESOURCES

Human resource aspects involve those related to staffing and human elements within the structure of the VTS.

Associated activities may include:

- establishing policies and processes associated with the selection and recruitment of VTS personnel including the development of job descriptions;
- recruiting VTS personnel considering, for example:
 - the VTS staffing levels;
 - personal attributes;
 - aptitude testing;
 - assessment of prior learning; and
 - satisfying the medical/physical requirements.
- managing employee personnel files (e.g., contracts, hours worked, payroll, sick leave, disciplinary notes);
- managing working schedules and rostering arrangements;
- monitoring the VTS personnel's well-being, staff dynamics and relationships;
- managing human factors and workplace ergonomics; and
- determining long term staffing needs (e.g., succession planning).

4.3. TRAINING

Training aspects involve managing and implementing processes to ensure VTS personnel are appropriately trained and qualified.

Associated activities may include:

- planning and coordinating of VTS training (IALA model courses and other training as appropriate);
- determining training needs for VTS personnel;
- determining training equipment requirements;
- selecting suitable instructors and assessors to deliver VTS centre specific training;
- assessing competencies to determine that VTS personnel are appropriately trained and qualified for their VTS duties;
- undertaking regular VTS performance assessments to ensure that the established competency continues to be met; and
- maintaining training records.

4.4. TECHNICAL

VTS should be provided with appropriate equipment, systems and facilities to effectively accomplish its objectives.

Associated activities may include:

- identifying appropriate equipment, systems and facilities to meet the needs of the VTS;
- procurement and installation of equipment, systems and facilities including maintenance, life cycle management;
- monitoring availability and performance of equipment, systems and facilities;

- responding to equipment outages and ensuring helpdesk functions are 24/7 available to support the VTS centre; and
- ensuring training equipment is provided.

4.5. ADMINISTRATION

Management activities that support the daily administration of a VTS may include:

- Communication/public relations:
 - promoting, protecting and building the reputation of the VTS among its stakeholders, the media and the public; and
 - managing media and public relation issues.
- Regulatory and legal guidance:
 - obtaining and providing advice on regulatory and legal aspects of VTS matters;
 - provide input to the regulatory and nautical matters concerning the VTS; and
 - compliance and enforcement of regulatory provisions.
- Quality/performance activities:
 - maintaining a quality management system including the preparation and facilitation of VTS audits;
 - assessing performance measures to ensure VTS objectives are being met and these are regularly reported to management; and
 - routinely evaluating that the VTS operational objectives are being met, and that the problems identified and defined for implementing the VTS have been mitigated to an acceptable level.
- Governance activities:
 - ensuring the VTS conforms with the regulatory framework set by the competent authority for VTS; and
 - monitoring financial resources.

5. SELECTION AND RECRUITMENT

IALA Guideline *G1156, Recruitment, Training and Assessment of VTS Personnel* [3] sets out the general framework for the selection and recruitment of VTS personnel.

VTS providers should consider their management structure and the roles required to implement the necessary management processes. Detailed job descriptions assist in defining the desired professional profiles. Further, the VTS provider may also identify other specific entry requirements that are necessary for management roles such as being experienced in VTS operations or holding *VTS V-103* qualifications.

In addition to the entry requirements mentioned in IALA Guideline *G1156*, other skillsets specifically related to management activities may include:

- Communication skills
- People management skills
- Agility and ability to perform in stressful and demanding situations
- Leadership skills
- Performance management

6. MANAGEMENT COMPETENCIES

The selection and recruitment process will ensure that an individual already possesses the necessary knowledge, skills and attributes the organization requires. However, it may be appropriate to undertake a training needs analysis to identify areas whether personnel may benefit from supplementary training to meet the specific requirements of the VTS provider.

Table 2 considers training opportunities that may be relevant to an individual depending on the types of management activities for which they are responsible and the competencies required.

Table 2 VTS Management Training Topics

Subject	Training topics that may be considered to acquire the desirable competencies
Understanding VTS operations	Undertaking formal VTS model courses, as appropriate.
	VTS centre familiarization.
	Introduction to maritime operations and fundamentals of the maritime industry.
Emergency response	Emergency management to respond to incidents and pollution events including the activation of contingency plans, business continuity plans, etc.
	Media and public relations enquiries.
	Incident investigation and near miss reporting.
	Leading incident and near-miss debriefings with the VTS personnel.
	Critical incident stress management.
People management	Techniques to assist in the management of personnel.
	Performance management of personnel.
	Coaching and mentoring.
	Interpersonal communication skills to deliver a message to the personnel in a clear manner.
Health and safety	Internal contingency plans.
	Healthy, supportive work environment that addresses psychological and physical safety.
	Monitoring and reporting procedures related to work environment.
Personal attributes	Time management to improve productivity and make better use of time.
	Decision making.
	Leadership development.
Equipment and technology	Technologies and equipment used in VTS.
Project management	The discipline of planning and executing projects.



Subject	Training topics that may be considered to acquire the desirable competencies
Regulatory framework	International as well as local acts, regulations, laws and delegations.
Quality management	Developing, implementing and maintaining a quality management system.
Risk management	Analysis of all the hazards in a VTS area in order to manage and mitigate risks.
	IALA risk management tools.

7. DEFINITIONS

The definitions of terms used in this Guideline can be found in the International Dictionary of Marine Aids to Navigation (IALA Dictionary) at <http://www.iala-aism.org/wiki/dictionary> and were checked as correct at the time of going to print. Where conflict arises, the IALA Dictionary should be considered as the authoritative source of definitions used in IALA documents.

8. ABBREVIATIONS

PDCA	Plan Do Check Act
VTS	Vessel traffic service or vessel traffic services (dependent on context)

9. REFERENCES

- [1] IMO. Resolution A.1158(32) Guidelines for Vessel Traffic Services
- [2] IALA. VTS Manual
- [3] IALA. Guideline G1156 Recruitment, Training and Assessment of VTS Personnel