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| IALA Guideline |

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Guideline on develop a safety culture in VTS

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# Introduction

According to the internationally recognized concept and theory of safety culture, all accidents can be prevented, and all hidden dangers of safe operation can be controlled. Therefore, safety culture plays an irreplaceable role in ensuring the high-quality operation of VTS and realizing the high-quality development of VTS. The process of building a safety culture is essentially the process of advocating advanced VTS safety concepts, regulating the safety behavior of VTS personnel, and improving the safety quality of VTS personnel.

The purpose of this guideline is to provide guidance for the development of a safety culture in the VTS center.

# Definition /characteristics of VTS safety culture

VTS safety culture refers to the sum of VTS personnel's ideology, way of thinking, ethics, values and other spirits, ideas, behaviors and physical state of VTS safety, including internal safety, such as personnel, equipment, and external safety, such as vessel traffic safety in the VTS area . Has the following characteristics:

* Gradually formed in the operation of VTS；
* Accepted and followed by all VTS personnel；
* Has its own characteristics；
* An essential part of VTS operation.

# Principles for developing VTS safety culture

The construction of VTS culture should follow the following four principles: consistency principle, full participation principle, openness principle and sustainability principle.

## Consistency

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## full participation

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## Openness

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## Sustainable

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# Basic framework of VTS safety culture

The basic framework of VTS safety culture includes at least four parts: safety concept culture, safety regulatory culture, safety behavior culture and safety material culture.

Figure 1 Basic framework of VTS safety culture

## Safety concept culture

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## Safety regulatory culture

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## Safety behavior culture

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## Safety material culture

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# Methods for constructing VTS safety culture

The construction of VTS safety culture needs long-term and unremitting efforts. Through a series of activities, the safety ideology and behavior habits of VTS personnel can be cultivated from the four aspects of safety concept, safety system, safety behavior and safety material environment, so as to construct VTS safety culture.

## Safety concept level/aspect: condenses the core concept of safety

The core value of safety is the basic follow of all safety activities carried out by VTS, and it is also the highest level of VTS safety culture construction. Advanced safety values or concepts are the fundamental to guide VTS to effectively carry out safety work and create excellent safety performance.

## REGULATORY CULTURE level: establish a safety system

Safety rules and regulations are the framework of VTS safety culture. It is not only the refinement and concrete realization of VTS safety concepts in business work, but also the embodiment of the achievements of VTS's past safety behavior culture construction. To build a VTS safety culture from the system level, the following key points must be grasped:

## Behavioral culture level: strive to shape excellent safety behaviors

Safety behavior culture is the key to the construction of VTS safety culture, and good safety behavior is the basis of creating excellent safety performance.

## material culture level: build a safe and reliable material environment

VTS material safety culture is the embodiment of VTS safety culture and the objective carrier of safety concept. The construction of safety culture at the material level of VTS is to establish a physical environment that ensures the life and property of VTS personnel to be free from harm, that is, to ensure that all facilities and equipment related to the operation of VTS are safe and reliable, and always in a safe state. VTS should focus on the construction of safety material culture from the following aspects.

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# Factors when developing a safety culture in VTS

## VTS quality management system

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## THE WORKLOAD OF VTS PERSONNEL

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## the differences of cultural

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## emerging technologies and equipment

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## financial support

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APPENDIX 1 The "DuPont" model

"DuPont", as the first company in the world to formulate a safety system, has formed a unique safety culture and achieved an extraordinary safety performance since its establishment more than 200 years. "DuPont" company has made a comprehensive summary of the safety behavior characteristics of organizations and VTS personnel involved in different stages of developing safety culture construction. Through comparison and analysis, it is agreeable to make a preliminary judgement about the state of an organization's safety culture construction process, as well as the direction and goal. The characteristics of safety behavior of the "DuPont" model are summarized as follows: