



MILITARY SEALIFT COMMAND

MSC Safety Management System

Prepared for Military Sealift Command
by Emprise Corporation

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Learning Objectives

- **The overarching objective of this module is to introduce you to the policies, concepts, and principles associated with MSC's Safety Management System**
- **At the conclusion of this module, you will understand and be able to describe the following:**
 - **MSC's safety and environmental protection policies**
 - **U.S. and international safety, occupational health, and pollution prevention standards applicable to MSC ships**
 - **International Management Code for the Safe Operation of Ships and for Pollution**
 - **MSC Safety Management System**



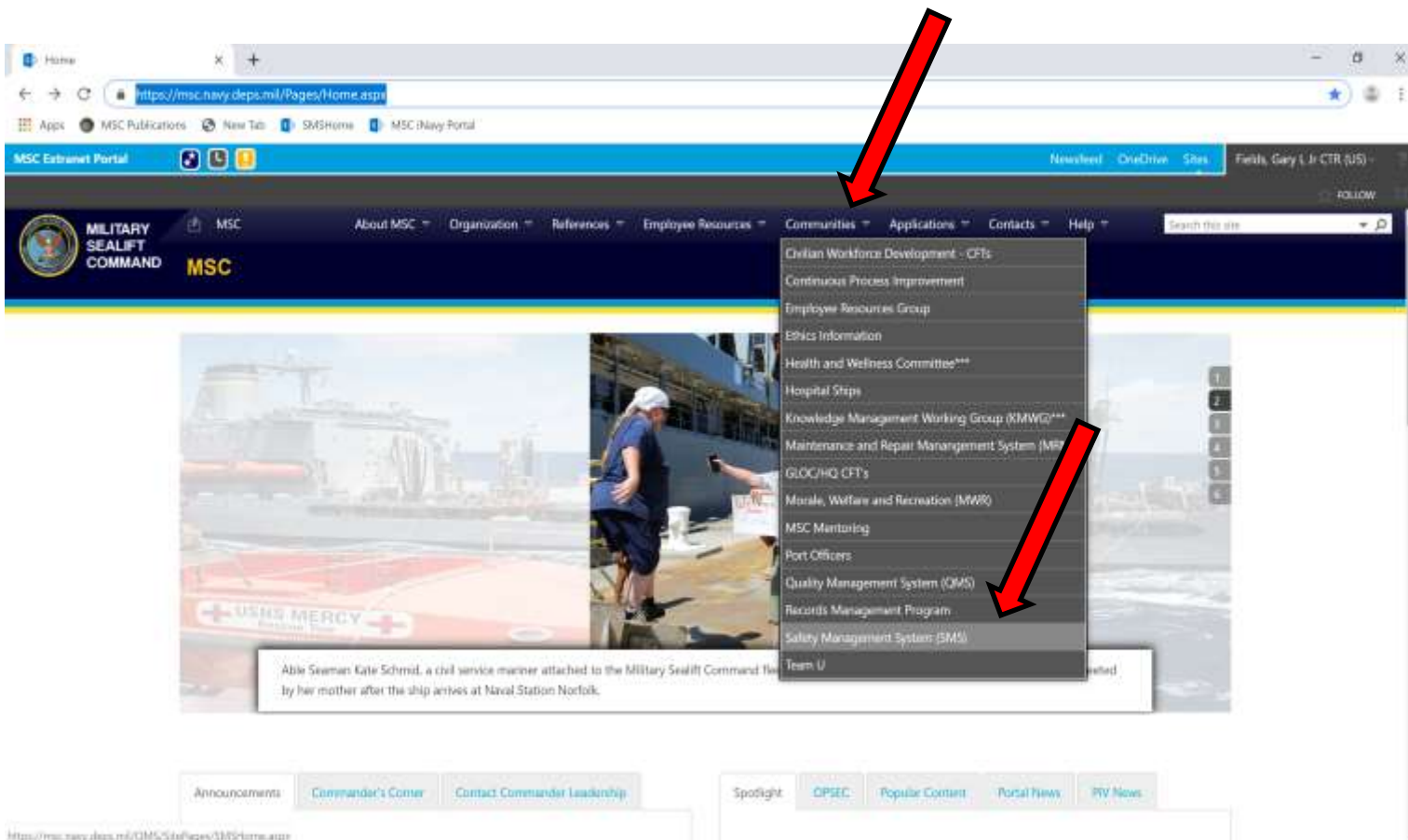
MSC Safety Management System Video

- The following video provides an overview of MSC's Safety management System: <https://www.milsuite.mil/video/watch/video/20125>



MSC SMS Portal

- Accessed via MSC iNavy Portal:
<https://msc.navy.deps.mil/Pages/Home.aspx>





SMS Home Page

The screenshot shows a web browser window displaying the SSMHome website. The URL is <https://msc.navy.deps.mil/QMS/SitePages/SSMHome.aspx>. The page features a navigation bar with links for Quality Management System (QMS), Safety Management System, Create a Finding, MRMS Steering Committee, QMS Steering Committee, and SMS Video. The main content area displays the Military Sealift Command logo and the title "MSC Safety Management Procedures Manual (All Classes)". Below the title, the date of the current release is listed as January 2019. A list of ship classes is provided in a sidebar, with a red arrow pointing to the T-AKE link. The main content area also includes a list of topics covered in the manual, such as Policy Statements and DP Posters, SMS Brief Sheets, Policy Manual, Memos to Masters, Chief Engineers and Shore Staff, Changes to the SMS, IMO Publications and Manuals, ISM Steering Committee Charter & Minutes, Force Protection (FP), SMS Training, and External Documents. A photograph of a ship is visible in the bottom right corner of the page.

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MSC Safety Management Procedures Manual (All Classes)

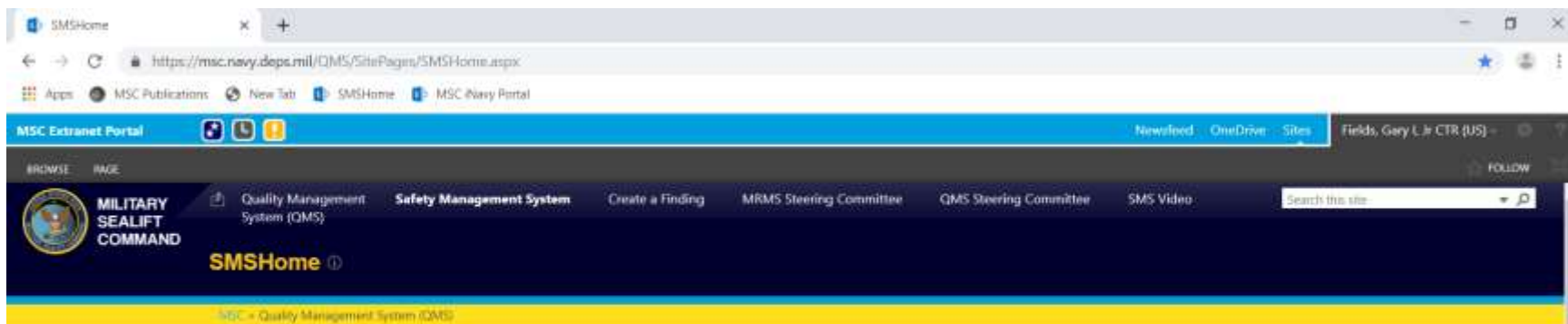
Date of Current Release: January 2019

- Policy Statements and DP Posters
- SMS Brief Sheets
- Policy Manual
- Memos to Masters, Chief Engineers and Shore Staff
- Changes to the SMS
- IMO Publications and Manuals
- ISM Steering Committee Charter & Minutes
- Force Protection (FP)
- SMS Training
- External Documents

T-AH
T-AKE
T-AKE(RM)
T-AO
T-AOE
T-ARC
T-ARS
T-ATF
AS
T-EPF
LCC
T-ESB



SMS Ship Class Homepage



MILITARY SEALIFT COMMAND

SMS Procedures, Checklists, & Forms (T-AKE)

Date of Current Release: January 2019

- SMS Procedures
- SMS Checklists & Forms
- Ship and Shore (SQ) Documents
- Maintenance and Repair Management System
- Fuel Report Card
- Logistics Metrics
- SMS Brief Sheets
- Policy Manual
- Policy Statements and DP Posters
- T-AKE Notices



MSC Safety and Environmental Protection Policies

- **MSC's safety policy is to:**
 - Protect its people
 - Protect its assets
 - Comply with regulatory requirements
- **MSC's environmental protection policy is to:**
 - Prevent pollution
 - Ensure response readiness
 - Conserve resources
 - Comply with regulatory requirements



Safety and Environmental Protection Standards

- **MSC ships subject to complying with variety of U.S. and international safety, occupational health, and pollution prevention standards**
 - U.S. Coast Guard
 - American Bureau of Shipping (ABS)
 - Occupational Safety & Health Administration (OSHA)
 - Environmental Protection Agency (EPA)
 - Federal Communications Commission (FCC)
 - Department of Transportation (DOT)
 - International Maritime Organization (IMO)



Safety and Environmental Protection Interests

- Numerous organizations have regulatory or oversight interests regarding MSC's safety and environmental protection policies and procedures



DOD



DASN Safety



OPNAV 09F



USFFC



USTRANSCOM



NAVSAFCEN



INSURV



ABS



USCG



OSHA



Safety and Environmental Protection Interests (cont.)

- CIVMARs have strong vested interest in MSC's safety and environmental protection policies and procedures





ISM Code

- **International Management Code for the Safe Operation of Ships and for Pollution Prevention**
 - International standard for safe management and operation of ships and pollution prevention



EXXON VALDEZ



COSTA CONCORDIA



Safety Management System

- **ISM Code requires that each ship class have a Safety Management System (SMS)**
 - **SMS is systematic approach to managing safety that includes necessary organizational structures, policies, procedures, and accountabilities**
 - **SMS approaches safety as a critical business process**



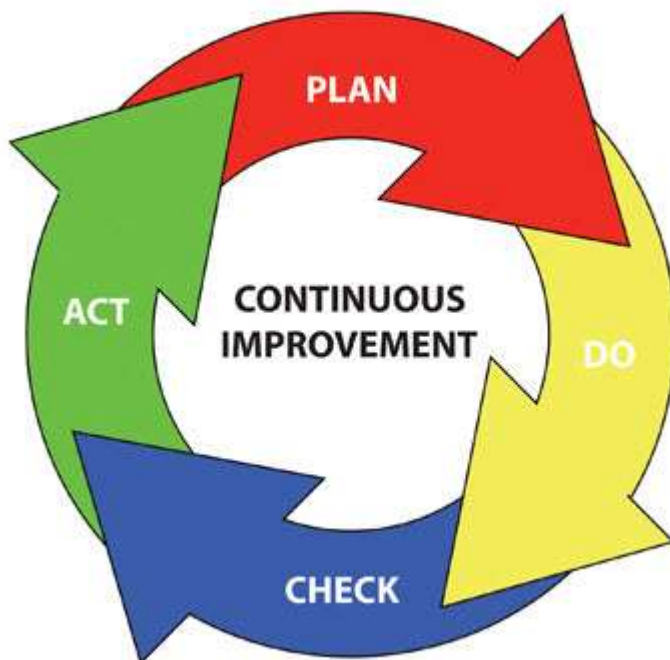
SMS At A Glance

Say What You Do

- *COMSC Instructions*
- *SMS Policy Manual*
- *SMS Procedures*

Improve What You Did

- *Corrective Actions*



Do What You Say

- *SMS Records*
- *Preventive Actions*

Measure What You Did

- *Findings*
- *Internal Audits*
- *External Audits*

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Benefits of SMS

- **Documented procedures for key safety related and pollution prevention related business processes that result in:**
 - **Transparent business processes**
 - **Processes independent of personnel**
 - **Predictable outputs**
 - **Accountability**
- **Better understanding of relationship between each individual's performance and safety and pollution prevention**



MSC SMS





Core SMS Procedures

- **Control of documents**
- **Control of records**
- **Processing findings and corrective action**
- **Preventive actions**
- **Control of nonconforming products or services**
- **Audits**



Control of Documents

- **SMS Policy Manual**
 - Includes only policy level guidance
 - Describes “WHAT” we are supposed to be doing, and sometimes “WHY” we are doing it
- **SMS procedures**
 - Provide detailed (step-by-step) direction regarding “HOW” we are supposed to execute a business process from start to finish
 - Identifies each “doers” specific roles and responsibilities
 - Consist of combination of procedures applicable to:
 - All ship classes
 - Specific ship class



Control of Documents (cont.)

- **SMS documentation maintained on SMS portal section of MSC iNavy portal**
 - SMS policy manual
 - SMS procedures
 - Checklists and forms
 - Ship and shore documents
 - Document libraries
 - Ship audits
 - SMS training
- **Record is proof of past action that provides objective evidence of conformity to SMS requirements**
- **Records are not the same as documents**
- **Records control involves:**
 - What records should be kept and where should they be kept
 - Who is responsible for keeping them
 - How long they are maintained and how they are disposed of



Findings

- **Finding is used to record and track correction of a nonconformity**
 - **Nonconformity can involve:**
 - **Non-compliance with SMS procedure**
 - **Error, omission, or other defect in SMS procedure**
 - **Injury, illness, or environmental pollution mishap**
- **Finding can be initiated by anyone who identifies a nonconformity**
- **Findings are recorded and tracked in QMS Findings Database on MSC iNavy portal**



Processing Findings

- **Stage 1: Finding entered in QMS Findings Database by originator**
- **Stage 2: Designated Person verifies finding is valid and assigns to appropriate assignee for action**
- **Stage 3: Assignee researches nonconformity, documents relevant circumstances, determines root cause, corrects nonconformity, and reports immediate action taken and/or corrective action taken in Findings Database**
- **Stage 4: Designated Person verifies adequacy of corrective action and closes finding**



Corrective Actions

- **Corrective action is action taken to correct root cause for a nonconformity**
 - **Documented in QMS Findings database, along with associated:**
 - Relevant circumstances
 - Analysis of finding
 - Root cause
 - Recommended follow-up action(s), as applicable



Preventive Actions

- Actions taken to identify and correct a problem before it causes a nonconforming (i.e., injury, illness, or environmental pollution)
- Includes proactive steps taken to prevent :
 - Potential nonconformities from occurring
 - Recurrence of previously identified nonconformities



Control of Nonconformities

- **Involves:**

- **Establishing appropriate measures in SMS procedures for detecting and correcting a nonconformity before it results in injury, illness, or environmental pollution**
- **Employees responsible for executing SMS procedures :**
 - **Being familiar with, and committed to adhering to procedures**
 - **Continuously looking for errors, omissions, or other defects in procedures or shipboard practices and conditions**



Internal Audits

- Required annually shipboard and shoreside per ISM Code
- Conducted by MSC employees trained in SMS audit procedures
- Auditors assess MSC personnel responsible for planning, managing, or complying with SMS with regard to their:
 - Familiarity with SMS
 - Ability to produce SMS records that verify SMS is working as designed



External Audits

- **Required twice in every five period, with no more than 30 months between successive audits in order to maintain ISM certification**
- **Conducted by ABS (delegated authority from U.S. Coast Guard)**
- **Auditors assess MSC employees' familiarity with SMS and ability to produce SMS records**



SMS Ashore

- **SMS uses by personnel ashore include:**
 - Personnel placement
 - Planning and managing personnel training
 - Certification maintenance
 - Reports
 - Operational risk management (ORM)
 - Spill management teams
 - Maintenance availability planning
 - TRANSALTs
 - Post-accident drug testing



Operational Risk Management (ORM)

- Effectively managing risk is inherent element of safety management
- SMS is an enabler for operational risk management (ORM)
 - ORM is cyclic process, which includes operational risk assessment, risk decision making, and implementation of risk controls
 - Intent of ORM is to make informed decisions regarding acceptance, mitigation, or avoidance of risk in order to in order to optimize operational capability and readiness



Why SMS Works

- Integrates safety into day-to-day activities
- Commitment to safety from front office to deckplates
- Shipboard procedures largely developed by ship's crew (ownership of procedures)
- Objective records used to verify SMS is being used
- Third-party certification, rather than self-certification
- Transparency – everyone has access to procedures, findings, and reports
- Findings can be submitted by anyone who discovers nonconformity
- Focused on fact finding rather than fault finding (non-punitive)
- Designated Person concept – management commitment to SMS processes
- Focus on continuous improvement for safety and pollution prevention
- Whistle-blower protection



Summary

- **During this module, we have discussed:**
 - **MSC's safety and environmental protection policies**
 - **U.S. and international safety, occupational health, and pollution prevention standards applicable to MSC ships**
 - **International Management Code for the Safe Operation of Ships and for Pollution**
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Additional Information

- For additional information, please refer to :
 - COMSCINST 5100.17D, Military Sealift Command's Safety and Occupational Health (SOH) Program
 - QMS Procedure N02FS-100.01-F, Procedures Comprising MSC's Safety and Occupational Health Manual
 - QMS Procedure N02FS-101.00-AQ, Military Sealift Command Safety and Occupational Health (SOH) Program
 - COMSCINST 3501.1A, Operational Risk Management
 - MSC SMS portal (<https://msc.navy.deps.mil/QMS/SitePages/SMSHome.aspx>)



Final Questions





Revision History

Date	Version	Description	Author
4/8/19	2.0	Revised slide template. Updated content.	Gary Fields
8/7/19	2.1	Verified content is consistent with current COMSC Instructions and QMS and SMS procedures; Added slides 4-6; Added COMSCINST 5100.17D, QMS Procedure N02FS-100.01-F, QMS Procedure N02FS-101.00-AQ, and COMSCINST 3501.1A	Gary Fields



Back-Up Slides



Mishap Reporting

- **Cornerstone of effective safety management is documenting mishaps and near-mishaps to promulgate lessons learned**
- **All injuries and accidents shall be reported to supervisor and MSC Safety Office**
- **All pollution mishaps shall be reported to MSC chain of command and appropriate regulatory bodies**
- **In certain instances, formal investigation must be conducted**



Mishap Classification

- **Per OPNAVINST 5102.1 (series):**
 - **Class A mishap**
 - Total cost of damages > \$2 million or DOD aircraft is destroyed
 - Injury and/or occupational illness resulting in fatality or permanent total disability
 - **Class B mishap**
 - Total cost of damages > \$500,000, but < \$2 million
 - Injury and/or occupational illness resulting in permanent partial disability
 - Three or more personnel are hospitalized for inpatient care (beyond observation) as result of single mishap
 - **Class C mishap**
 - Total cost of damages > \$50,000, but < \$500,000
 - Injury and/or occupational illness involving one or more DOD personnel resulting in one or more days away from work



Risk Reporting Matrix

Risk Reporting Matrix





Likelihood of Occurrence

<i>Level</i>	<i>Likelihood</i>	<i>Probability of Occurrence</i>
<i>5</i>	<i>Near Certainty</i>	<i>~ 90%</i>
<i>4</i>	<i>Highly Likely</i>	<i>~ 70%</i>
<i>3</i>	<i>Likely</i>	<i>~ 50%</i>
<i>2</i>	<i>Low Likelihood</i>	<i>~ 30%</i>
<i>1</i>	<i>Not Likely</i>	<i>~ 10%</i>



Severity of Consequences

Level	Technical Performance/Life Cycle Sustainment	Schedule	Cost
1	Minimal or no impact	Minimal or no impact	Minimal or no impact
2	Minor reduction in performance or supportability; can be tolerated with little or no impact on program	Able to meet key dates	Budget increase or unit cost increase (<1% of budget)
3	Moderate reduction in performance or supportability; limited impact on program objectives	Minor schedule slip; able to meet key milestones with no schedule float	Budget increase or unit cost increase (<5% of budget)
4	Significant degradation in performance or supportability; may jeopardize program success	Program critical path affected	Budget increase or unit cost increase (<10% of budget)
5	Severe gradation in performance or supportability; will jeopardize program success	Cannot meet key program milestones	Budget increase or unit cost increase (>10% of budget)