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Texas Industrial Emergency Services Board (TIESB) Training Criteria		CREATION DATE October 18, 2007
<b>DOCUMENT TITLE</b> Minimum Criteria For Industrial Marine Firefighting Training Program Certification		
<b>DOCUMENT NUMBER</b> SFFMA-TIESB008	<b>DOCUMENT AUTHORS</b> Rodney Kovalcik, George Bud Melder	<b>APPROVERS SIGNATURE</b>

#### FORWARD

The issue of **Industrial Marine Firefighting** training program certification in **Texas** has always been a major concern of industrial members, and of the TIESB. Due to the complexity of this issue, many have varying opinions of exactly how such programs should be structured, and how to ensure meaningful application to all industrial facilities.

Because of those opinions, and the intent to properly address all concerns of the industrial marine community, the TIESB debated the issue over several years to gain agreement on which criteria should be included that would address the proper course of action to develop standards.

The Texas Industrial Emergency Services Board recognizes that each **Marine Firefighting Brigade** is unique and that the major focus of a certification process must help companies deal with conditions and hazards that are limited to those that exist within its operation. With this standard, the TIESB has attempted to allow for flexibility so that each facility can structure its training programs to address the needs of its facility, and to achieve a higher level of training for its **Marine Fire Brigade** members.

This certification program offers to those facilities that choose to participate, the following benefits:

- ⊙ It establishes varying classification levels of criterion that all industrial facilities in the **State of Texas** can use to train members of its **Marine Fire Fighting Brigade** (see [Attachment A](#)).
- ⊙ For emergency response personnel in the marine fire area, it offers the assurance that all response team members have achieved a **minimum** level of competency for the level(s) of marine firefighting performed on site, as determined by site management and described in each member's Organizational Statement.
- ⊙ For **Marine Fire Brigades**, it allows all **Marine Fire Brigade** members to demonstrate their knowledge and ability before being assigned duties that include marine fire fighting.
- ⊙ It offers certification through the most respected fire organization in Texas (State Firemen's and Fire Marshals' Association of Texas).

#### THE PROCESS

The Texas Industrial Emergency Services Board intends for this program to be helpful to all of the industrial marine fire community - those that seek certification and those that do not. Facilities that apply for certification should only submit applications when they have completed all elements of the training program listed in the attached TIESB certification program for the program (or programs) they desire the TIESB to certify.

We suggest that all facilities use the following guide to determine their program status:

- ⊙ Determine the level of certification desired for their personnel.
- ⊙ Define the requirements of what each member must be able to do.
- ⊙ Determine the level of competence of each member before beginning the training for certification.
- ⊙ For those members that are qualified before training, document their competency level.
- ⊙ Present training materials to those not qualified.
- ⊙ Test each member's competency by having him or her demonstrate their proficiency by performing each task outlined in the Certification Programs.
- ⊙ Test each member's proficiency after completing the training.
- ⊙ Re-test if necessary, until all members have demonstrated at least minimum skill levels.

Once the above steps are completed, the facility has determined that all members are **qualified**. The final steps should include:

- ⊙ Documentation that members are certified by a qualified physician to perform emergency response duties.
- ⊙ Documentation of training materials used to qualify members.
- ⊙ Documentation of trainer's credentials.
- ⊙ Documentation of test results.

#### PRE-REQUISITES – INDUSTRIAL MARINE FIRE FIGHTING

The Texas Industrial Emergency Services Board recognizes that it is of major importance that industrial emergency response personnel meet established statutory requirements. In order to comply with these requirements, the TIESB has formally adopted the **National Incident Management System (NIMS)** and has designated it as the Incident Management System for all members that wish to certify their training programs through the TIESB.

NIMS provides a systematic, proactive approach guiding government agencies at all levels, the **private sector** (e.g., industrial members of the TIESB), and nongovernmental organizations to work seamlessly to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life

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and property. NIMS represents a core set of doctrine, concepts, principles, terminology, and organizational processes that enables effective, efficient, and collaborative incident management. The NIMS framework uses a systematic approach for preparedness.

NIMS is based on the premise that the utilization of the NIMS framework will provide emergency responders with a flexible yet standardized system for emergency management and incident response activities. NIMS is flexible because the system components can be utilized to develop plans, processes, procedures, agreements, and roles for all types of incidents and is applicable to any incident regardless of cause, size, location, or complexity. The standardization within NIMS is realized during an incident by organizations that have previously coordinated and practiced using these tools.

With the adoption of NIMS, the TIESB is establishing **recommended** minimum NIMS training criteria that the TIESB has determined is warranted for industrial emergency responders to attain in order to ensure safety and standardization for the industrial community in Texas. These courses may be attained by taking them **on-line** or **classroom/qualified instructor-led**. Note: Support personnel, such as those persons that are typically located in the Emergency Operations Center (i.e., Logistics Section Chief, Public Information Officer, Liaison Officer, and et al.) should also attain this level of training. Free on-line training is available through the Federal Emergency Management Agency (FEMA) and other training providers.

- ◆ **IS-700** (NIMS: An Introduction)
- ◆ **ICS-100** (Introduction to ICS)
- ◆ **ICS-200** (Basic ICS)

The Board also recommends the following NIMS courses be taken to **further** increase the abilities of industrial emergency response team members, as well as support (EOC) personnel.

- ◆ **IS-800.A** (National Response Plan (NRP), An Introduction)
- ◆ **ICS-300** (Intermediate ICS)
- ◆ **ICS-400** (Advanced ICS)

The TIESB further **requires** that training be provided, regardless of the training program(s) that the TIESB member is seeking certification for, in the facility's Incident Command System and each individual team member must demonstrate knowledge and understanding of each function listed in the Incident Command System. The following procedures for handling emergency response are **required** elements to be taught.

- ◆ The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific incident command system (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.
- ◆ The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.
- ◆ Based on the hazardous substances and/or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations, and assure that the personal protective equipment worn is appropriate for the hazards to be encountered.
- ◆ Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.
- ◆ The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.
- ◆ Back-up personnel shall stand by with equipment ready to provide assistance or rescue. Advance first aid support personnel, as a minimum, shall also stand by with medical equipment and transportation capability.
- ◆ The individual in charge of the ICS shall designate a safety official (aka Safety Officer), who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.

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- ◆ When activities are judged by the Safety Officer to be an IDLH condition and/or to involve an imminent danger condition, the Safety Officer shall have the authority to alter, suspend, or terminate those activities. The Safety Officer shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at the emergency scene.
- ◆ After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.
- ◆ When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. DOT and NIOSH criteria.

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**ATTACHMENT A**

**MINIMUM CRITERIA FOR INDUSTRIAL MARINE FIRE BRIGADE TRAINING AND INDUSTRIAL MARINE FIRE BRIGADE TRAINING PROGRAM CERTIFICATION**

**1 PURPOSE**  
 This criterion is the opinion of the TIESB as minimum requirements for **Marine Fire Brigade Training for Program Certification**. A TIESB Marine Fire Brigade member is a member that is trained to meet OSHA 29 CFR 1910.156 and NFPA 600 criterion, **and** has met the knowledge and skills criterion of one or more sections of NFPA 1405 (Guide for Land-Based Fire Fighters Who Respond To Marine Vessel Fires) **and** NFPA 1081 Standard for Industrial Fire Brigade Member Professional Qualifications **and** NFPA 1005 (Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters) criterion (as defined later).

The following requirements are intended to provide a standard for Industrial Marine Fire Brigade Member Training, a method for Industrial Marine Fire Brigade Training Program Certification, and to be used as an evaluation tool by all industrial facilities in Texas to determine minimum criteria for designing and developing an Industrial Marine Fire Brigade Training Program.

**2 APPLICATION**  
 These requirements cover basic marine fire brigade training for fire brigades assigned to respond to marine vessel fires. The TIESB encourages all facility managers to use these requirements to determine if their marine fire brigade training program needs meet or exceed this criterion.

The TIESB has determined that the following standards and regulations, if complied with, will enable the member to meet the minimum requirements of the TIESB for certification. Please note that NFPA standards are revised on an established revision cycle. The TIESB specifies, in this document and on the Yearly Training Summary form, the edition that must be met. A member may follow a more recent version of an NFPA standard if they so choose, but they may not follow an earlier edition.

- ◆ **29 CFR 1910.134** - This regulation outlines the requirements for respiratory protection used by employees in General Industry, Shipyards, Marine Terminals, Longshoring, and Construction.
- ◆ **29 CFR 1910.156** – This regulation outlines the requirements that apply to fire brigades, industrial fire departments and private or contractual type fire departments.
- ◆ **NFPA 600-2005 Ed.** - This standard contains minimum requirements for organizing, operating, training, and equipping industrial fire brigades. It also contains minimum requirements for the occupational safety and health of industrial fire brigade members while performing fire fighting and related activities. This standard applies to any organized, private, industrial group of employees having fire fighting response duties, such as emergency brigades, emergency response teams, fire teams, and plant emergency organizations.
- ◆ **NFPA 1081-2007 Ed.** - This standard identifies minimum job performance requirements (JPRs) necessary to perform duties as a member of an organized industrial fire brigade providing services at a specific facility or site.
- ◆ **NFPA 1005-2007 Ed.** - This standard identifies the minimum job preference requirements for marine fire fighters responsible for firefighting operations aboard commercial/military vessels over 50 feet involved in fire that call at North American ports or that are signatory to the International Safety of Life at Sea (SaLAS) agreement.
- ◆ **NFPA 1405-2006 Ed.** - This guide identifies the elements of a comprehensive marine fire-fighting response program including, but not limited to, vessel familiarization, training considerations, pre-fire planning, and special hazards that enable land-based fire fighters to extinguish vessel fires safely and efficiently. In general, the practices recommended in this publication apply to vessels that call at United States ports or that are signatory to the Safety of Life at Sea (SaLAS) agreement.

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### 3 CERTIFICATION CONDITIONS

- 3.1 All Industrial Marine Fire Brigade Members with fire suppression responsibilities should be trained in all topics as listed in this minimum criterion.
- 3.2 All Marine Fire Brigade Members with fire suppression responsibilities are recommended to take and successfully complete the NIMS-required training that the TIESB has determined is warranted for industrial emergency responders to attain **IS-700** (NIMS: An Introduction); **ICS-100** (Introduction to ICS); **ICS-200** (Basic ICS)].
- 3.3 All Marine Fire Brigade Members with fire suppression responsibilities **must** meet **all** of the requirements of the Industrial Fire Fighter contained in **NFPA 1081**. This will **require** that the training criteria in document **TIESB007 - Minimum Criteria For Industrial Fire Brigade Training Program Certification** be met **prior** to the TIESB certifying a Marine Fire Brigade training program.
  - 3.3.1 Advanced Exterior Level
  - 3.3.2 Interior Structure Level
  - 3.3.3 Fire Brigade Leaders (For Leaders Only)
- 3.4 There are 4 aspects Marine Fire Brigade Members **must** be trained on as listed in NFPA 1005 Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters:
  - 3.4.1 Definitions - Chapter 3
  - 3.4.2 General Requirements – Chapter 4
  - 3.4.3 Marine Fire Fighter I - Chapter 5
  - 3.4.4 Marine Fire Fighter II - Chapter 6 (Optional – The TIESB does not require this level to certify a marine Fire Brigade Training program)
- 3.5 There are 15 aspects Marine Fire Brigade Members **must** be trained on as listed in NFPA 1405 Guide for the Land Base Fire Fighters who Respond to Marine Vessel Fires:
  - 3.5.1 Definitions - Chapter 3
  - 3.5.2 Marine Environment - Chapter 4
  - 3.5.3 Vessel Familiarization - Chapter 5
  - 3.5.4 Vessel Stability - Chapter 6
  - 3.5.5 Organizational Resources – Chapter 7
  - 3.5.6 Special Resource Considerations - Chapter 8
  - 3.5.7 Planning - Chapter 9
  - 3.5.8 Training - Chapter 10
  - 3.5.9 Communications - Chapter 11
  - 3.5.10 Strategy and Tactics - Chapter 12
  - 3.5.11 The National Incident Management System - Chapter 13
  - 3.5.12 Role of the U.S. Coast Guard - Chapter 14
  - 3.5.13 Problems Associated with Marine Fire Fighting - Chapter 15
  - 3.5.14 Post-Incident Activities - Chapter 16
  - 3.5.15 Legal Issues Chapter 17
- 3.6 All Industrial Marine Fire Brigade Members that are assigned fire suppression duties should be physically capable of performing those duties as outlined in 29 CFR 1910.156, NFPA 600 and NFPA 1081.
- 3.7 All Industrial Marine Fire Brigade Members **must** receive training and show proficiency in areas of responsibility before being assigned duties as outlined in 29 CFR 1910.156, NFPA 600, NFPA 1005, NFPA 1405, and NFPA 1081.
- 3.8 All training used for industrial marine fire brigade certification **must** be documented and show the following:
  - 3.8.1 Lesson Plans or Materials presented.
  - 3.8.2 Proof that marine fire brigade members are required to demonstrate proficiency in the area(s) that they are trained/expected to perform.
  - 3.8.3 Instructor's name or name of facility providing training (A&M, BEST, Reno, RTFC, etc.).
  - 3.8.4 Date and time of classes
  - 3.8.5 Student's names and signatures.
  - 3.8.6 Where classes were presented.
  - 3.8.7 Reference material used (i.e. IFSTA, NFPA, etc.)

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- 3.8.8 Signature of a qualified instructor or company representative.
- 3.8.9 Note: NIMS-related training certificates issued by FEMA, DHS, USFA, TFS or other entities should also be kept on file.

- 3.9 Where marine fire brigade training is contracted by an outside agency, the fire training coordinator **must** verify that the material and instructor complies with requirements listed in this document. Training **must** be accomplished by using a prepared lesson plan and must be approved by a company representative and the training coordinator.
  - 3.9.1 Other employees or marine fire brigade members can also instruct marine fire brigade training sessions if they have experience and knowledge in the subject matter, and have been trained in methods of teaching.
  - 3.9.2 The marine fire brigade training coordinator must oversee all marine fire brigade training and education programs to ensure quality and consistency of the training provided.
  - 3.9.3 Each training agency must provide a system of testing that provides appropriate documentation of test results of their test methods. All training records must be maintained for a minimum of 5 years and must be available for inspection if requested.
  - 3.9.4 Instructor Qualifications - As outlined in 29 CFR 1910.156 and NFPA 600, marine fire brigade leaders and training instructors should be provided training and education more comprehensive than that provided to the general membership of the fire brigade. The TIESB requires that the designated Marine Fire Brigade Training Coordinator and instructors attain qualification (preferably certification) utilizing NFPA 1041 (Standard for Fire Service Instructor Professional Qualifications), or an equivalent (e.g., IFSAC certification or Methods of Teaching certification).
- 3.10 The member's marine fire brigade training program should be annually evaluated for its effectiveness.

**4 TRAINING PROGRAM ADMINISTRATION**

Each facility shall be responsible for:

- 4.1 Developing a written marine fire brigade organizational statement. This may be a part of, or separate from, the Organizational Statement required by OSHA for Fire Brigades and Emergency Response Teams (see 29 CFR 1910.156)
- 4.2 Evaluating the effectiveness of the industrial marine fire brigade training program.
- 4.3 A written procedure for implementation of an incident command system.
- 4.4 Developing written standard operating procedures for site specific conditions and hazards.
- 4.5 Determining baseline levels of proficiency, skills and knowledge of all marine fire brigade members. (Each facility will be responsible for determining proficiency levels of the training provided).
- 4.6 Developing testing methods to ensure baseline proficiency, skills, and knowledge are obtained.
- 4.7 Documenting test results.

**5 FACILITY SPECIFIC INFORMATION**

Training should be provided and each marine fire brigade member must demonstrate knowledge and understanding of those conditions and hazards that may be unique to the facility.

**6 ADDITIONAL TIESB REQUIREMENTS**

- 6.1 Self-Contained Breathing Apparatus (SCBA)
  - 6.1.1 In addition to requirements that may be found in 29 CFR 1910.156, NFPA 472, NFPA 600, NFPA 1005, NFPA 1405, and/or NFPA 1081, the TIESB requires that SCBA training **must** be provided to explain:
    - 6.1.1.1 How to don and doff an SCBA properly.
    - 6.1.1.2 The hazards of wearing an SCBA.
    - 6.1.1.3 How to maintain and care for an SCBA.
  - 6.1.2 Each marine fire brigade member **must** demonstrate the ability to function in their assigned duties wearing SCBA without risk to his/her self or to other team members.
  - 6.1.3 Special consideration should be given to maintaining adequate air supplies (e.g., 60-minute cylinders). The 30-minute SCBA for standard fire fighting has frequently proven insufficient in vessel fire fighting.

**7 REFRESHER TRAINING**

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- 7.1 Subject matter presented should be used as a building block to improve skills of all marine fire brigade members.