



# Evaluation of SEAMIST: Training in the Recognition of and Response to Hazmat Incidents



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## Background

Since 2010, Project SEAMIST (South East Area Maritime Industry Safety Training) has been funded by the National Institute for Environmental Health Sciences to provide hazardous materials worker health and safety training to those who work in, or with the maritime industry, including law enforcement, offshore workers, maritime shipping and cruise industry workers, and port/dock workers who may encounter hazardous materials, or respond to the cleanup of hazardous waste. This presentation reports the evaluation results on years 1–5 of the first funding period of the grant.



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## Summary of Trainings Years 1–5

State	Table 1. Summary of Trainings Years 1-5 Total					
	Projected			Actual		
	Courses	Trainees	Contact Hours	Courses	Trainees	Contact Hours
FL	7A	221	1768	47A	992	7936
	5O	106	2544	20O	246	5904
	4T	52	2080	17T	233	9320
	16	379	6392	84	1471	23160
LA	7A	212	5446	22A	728	5824
	7O	137	3264	6O	136	3264
	4T	66	560	1T	14	560
	18	415	9270	29	878	9648
VA	4A	160	1280	3A	39	312
	3O	64	1536	1O	14	336
	3T	60	2400			
	10	284	5216	4	53	648
Total	18A	593	8494	72A	1759	14072
	15O	247	7344	27O	396	9504
	11T	178	5040	18T	247	9880
	447	1018	20878	117	2402	33456

A = "Awareness" 8 hour course  
O = "Operations" 24 hour course  
T = "Technicians" 40 hour course

Projected: proposed in submission  
Actual: trainings actually delivered

Subcontractors:  
Florida- Castle Shipboard (CS),  
BEC Group (BEC)  
Louisiana- Sigma Educational  
Services (SES)  
Virginia- Pacific Atlantic  
Professional Academy (PAPA)

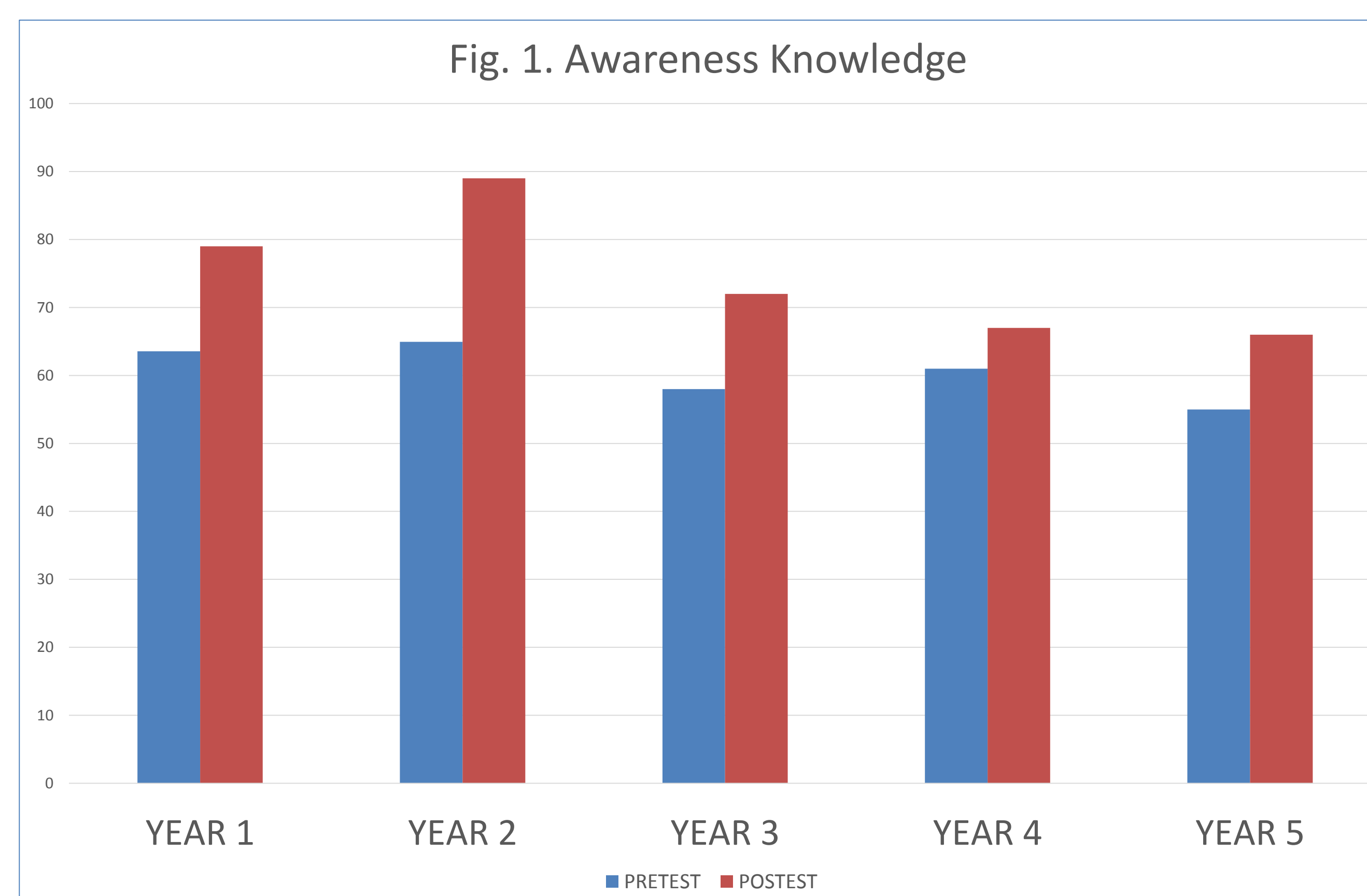
## Pre and Post Test Knowledge

### Procedure and Instrument

SEAMIST trainees completed an evaluation prior to the course (pre-test) and at the end of each course (post-test). Trainees responded to statements that assessed their opinions about the course using a five-point Likert scale, in addition to demographic questions about their organization and job title. The self-administered survey consisted of 16 questions: both multiple choice and true or false.

## Results

Major training populations included law enforcement, onshore maritime workers, safety trainers, ship's crew and compliance officers, in descending order. Trainees were maritime workers on land and at sea, as well as the responders to incidents at onshore maritime facilities, such as ports.



## Course Evaluation

Table 2. Course Evaluation: Selected Quantitative Responses

The goals of this training session were accomplished.	90%-100%
The objectives of this training session were clear/understandable.	91%-100%
This training session provided new information on the subject.	85%-100%
I would recommend this training to others.	85%-100%
I am overall satisfied with this training session.	90%-100%

Source: SEAMIST Course Evaluation, NSU-COM, 2014

Table 3. Course Evaluation Qualitative Comments

Excellent Course	Great refresher	I enjoyed everything
Want to take the next course	Outstanding	Comfortable facilities
This was by far the best 8hr. course I have had.	Best, most comprehensive awareness course I've had.	Classroom interaction was encouraged.
Course content was very interesting. Really enjoyed the activities.	PowerPoint was good.	Useful and helpful materials
Good, informative, excellent course	Highly recommend this course.	Best haz-mat class that I've ever had.

Source: SEAMIST Course Evaluation, NSU-COM, 2014

Table 4. Course Evaluation Qualitative Comments: Instructors

Instructors were friendly, knowledgeable, well trained and engaging.	Displayed great energy with anecdotes presenting knowledge/experience.	Instructors made the course more interesting than others have done in the past.
Instructors were prepared and knowledgeable.	Staff was professional.	Prepared, engaging and knowledgeable instructors
I like that the instructors are very experienced.	Instructors were very good at keeping the class engaged.	Gave good presentation skills/made it fun.

Source: SEAMIST Course Evaluation, NSU-COM, 2014

## Course Evaluation

Table 5. Course Evaluation Qualitative Comments: Course Improvement

Course materials targeted towards specific audiences (e.g., law enforcement, transportation/logistics, and maritime industry) and practical application	Increased use of audio/visual materials (e.g. videos) used in presentation Increased time of training for the amount of materials and presentations
Portable speakers to ensure ability to follow instructor	Use of materials for those with limited IT resources (e.g. no computers)
More visual clues on hazard recognition	More offshore specific
Maybe customize the content to more maritime-specific material.	Desire for more visual clues on hazard recognition
Customize the content to include more maritime level and cruise advising for trashes	Need to review the abbreviations a little more clearly before they are constantly used
When presenting controversial subjects like use of dispersants it would be nice to have the latest references available WRT chemistry, biological testing, etc.	AIDS Receiving an ID card after finished would be great with year, pic, ID number and ERG pics on the back as a fast guide to keep in wallet.
Would like to see more videos	Need for more time with materials

## 6 Month Follow Up

As part of the trainee follow-up, past SEAMIST trainees who participated in the Awareness, Operations and Technician training programs are contacted 6 months after their training to request their participation in a confidential post-training survey. The survey was designed to assess retention and utilization of the course content and to determine future training preferences.

Most noteworthy is that nearly all respondents agreed that they were, "better able to recognize hazardous materials safety concerns while at work," with an average response of 4.4 where 5 is strongly agree and 4 is agree.

Furthermore, nearly all of the respondents indicated that as a result of the SEAMIST training, they are "comfortable notifying my work place or directly addressing hazardous material safety concerns" (average of 4.2, where 5 is strongly agree and 4 is agree).

Importantly, nearly all of the responding trainees indicated that they would encourage coworkers to participate in the SEAMIST training (average of 4.4, where 5 is strongly agreed and 4 is agree).

## Discussion

The training of compliance officers and safety trainers is indicative of Project SEAMIST's reach within the worker safety community in its catchment area, and provides evidence that a maritime-specific set of safety training curricula is welcomed by the maritime industry and those responsible for the safety of its workers. Next steps are to expand existing training courses to include disaster response preparedness in the maritime community.

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