



DEVELOPED BY MITAGS-PMI/PRESENTED BY

# ADVANCED MARITIME VENTURE



INTERNATIONAL STANDARDS  
GLOBAL RECOGNITION  
OBJECTIVE CRITERIA  
RISK MITIGATION  
FOCUSED TRAINING  
REGULATORY COMPLIANCE  
CONTINUAL IMPROVEMENT  
CANDIDATE SELECTION  
EMPLOYEE SCREENING  
CAREER PLANNING

# NSAP<sup>®</sup>

NAVIGATION SKILLS ASSESSMENT PROGRAM



*“The NSAP was a very effective way to accomplish both objectives and provided a valuable tool to identify opportunities for improvement both on an individual and fleet-wide level. It brought broad issues to the surface quickly like overreliance on ECDIS and lack of effective COLREGS application. Of further note is a definite cultural shift after the officers went through the NSAP process: Captains were taking lessons learned back to their vessels to raise the level of watchstanding by mates.”*

*– Captain Scott Craig, Director, Marine Development and Compliance, Crowley Marine Services*

### NSAP<sup>®</sup> DEFINED

The Navigation Skills Assessment Program (NSAP), developed by MITAGS-PMI, is a risk-based measurement tool to assess a mariner’s performance in the simulator, focused specifically on the core skills required of licensed deck officers as defined by international standards and industry best practices. Each NSAP session uses realistic scenario-based exercises geared toward each company’s operation and is assessed by trained and qualified subject matter experts. At the conclusion of the session the participant is debriefed by the assessor/facilitator. The debrief provides an opportunity for the participant to discuss his/her performance with the facilitator and for the facilitator to provide guidance to improve and enhance the participant’s navigational skills. The ultimate goal of the NSAP is to reduce catastrophic maritime incidents by addressing mariner competency and knowledge and use of technology. At the conclusion of the NSAP session a comprehensive report is provided to the company which can be used to determine the allocation of resources to improve specific skills or mitigate specific risks.



*“I’m highly impressed with the work you are doing and the way you go about developing the NSAP<sup>®</sup> product. I also enjoyed meeting and spending time with the MITAGS-PMI Leadership Team, an impressive group of people. And last but not least, it was personally very gratifying to see the Cockpit Resource Management principles we developed at NASA during the 70s and 80s translated so effectively into the marine environment.”*

*– Dr. John Lauber, former Chief of the Aeronautical Human Factors Research Office of NASA*

*“We’ve found NSAP to be a valuable tool for understanding, verifying and enhancing the skills of our captains. Such continuing attention and education is integral to Moran’s commitment to safety and environmental responsibility; it helps us identify and focus on precisely the training, skills and equipment we need to keep our sailors, customers, and the marine environment safe.”*

*– Edward J. Tregurtha, President, Moran Towing Corporation*



*“Development of the Navigation Skills Assessment Program (NSAP®) required the application of psychometric principles and procedures as specified by Progeny Systems Corporation (PSC), which were in accordance with technical, professional, and legal standards. Reliable and valid assessment policies ensure that the performance assessments of deck officers in the NSAP® program are based on job-related criteria as defined by work analysis led by Dr. Hertz (Applied Psychologist at PSC) who is trained as an industrial-organizational psychologist.”*

*– Progeny Systems Corporation*



## DEVELOPED TO HIGHEST STANDARD

The NSAP® assessment criteria are developed to measure mariner performance using the highest psychometric standards in the industry. The minimum standards of competence outlined in STCW Table A-II/1 and A-II/3 are used as the starting point. The scenario is then created using elements and challenges that mariners encounter in the real world—shoals, aids to navigation, traffic, weather, currents, shiphandling, bridge team management, communication, and vessel traffic systems—all of which are integrated into the appropriate regulatory framework of navigation rules, shipboard management systems, and company policies and procedures. As each layer is added, the realism and feasibility of the challenges created by that layer are evaluated by subject matter experts. By creating the scenario element by element, the developers build an assessment that is challenging and yet still within the capabilities of a competent mariner.

The Navigation Skills Assessment Program is developed based on an extensive Job Task Analysis and each assessment element is carefully mapped with Domestic and/or International regulations according to the various responsibilities of the NSAP® participants.

Each of the below NSAP® scenarios include a Re-Assessment component.

### **NSAP® Oceans – Management Level**

Primarily Mgmt Level Deck Officers operating Deep Draft Vessels on Ocean Routes subject to the STCW.

### **NSAP® Oceans – Operational Level**

Primarily for Operational Level Deck Officers operating Deep Draft Vessels on Ocean Routes subject to the STCW

### **NSAP® Workboat**

Primarily for Deck Officers operating vessels of a tonnage less than 3000 ITC operating on Routes subject to the STCW

### **NSAP® River**

Primarily for Deck Officers operating vessels of a tonnage less than 3000 ITC operating on Routes generally not subject to the STCW

### **NSAP® New Hire**

Primarily utilized to assist companies in the hiring process. The NSAP® new hire may be utilized with a ‘cut-score’ upon request.

## REVIEWED BY LEADING EXPERTS

Upon completion of extensive beta testing by mariners with similar skills and experience as the target audience, independent experts in the field of evaluation and assessment are brought in to review the system and methodology.

*“Overall, the assessment MITAGS-PMI West Coast campus has developed for their NSAP® was observed to be sound and well aligned to the performance skills of interest. Specifically, their group of subject matter experts possess an extraordinary wealth of practical ship piloting knowledge and experience, and were able to craft a well-designed exercise that incorporates more than 20 plausible, challenging, and in some cases, unexpected event scenarios to serve as measures for their assessment.”*

*– Evaluated by Alan Koenig, PhD, Markus Iseli, PhD UCLA National Center for Research on Evaluation, Standards, and Student Testing*

The MITAGS-PMI Navigational Skills Assessment Program (NSAP®) was discussed at length with Dr. Barbara Holder, the lead scientist with the Flight Deck Concept Center at Boeing. Dr. Holder believes that PMI’s simulation development team is creating effective training and evaluation for mariners at all levels. Dr. Holder also indicated that the scenario-based testing that is currently being implemented by MITAGS-PMI is in line with what Boeing is hoping to do in the future to supplement their event-based simulation.

## RISK MITIGATION

At the end of each session, the data is compiled, quantified, and analyzed, and the various observations and recommendations are synthesized to create a plan for future skill improvements and other risk mitigations. Ultimately this creates a concise picture of key performance indicators and trends that may require additional actions to help mitigate risk.

At the end of a pre-determined number of NSAP® sessions as determined by the company, a comprehensive NSAP® summary report is generated which reveals the following information:

*“The International Organization of Masters, Mates & Pilots is implementing the NSAP® as the next step in our continuing commitment to provide the highest quality deck officers to our contract companies.”*

*–Don Marcus, President IOMMP*

# NSAP®

*“MITAGS is a maritime industry training establishment with a proven track record and excellent facilities, particularly in ship simulation. The NSAP® is a unique program that objectively measures the skill set of deck officers in the important and highly critical aspect of safe navigation. Both the questions of whether they possess salient skills such as ship handling, leadership, communications and management coupled with adequate knowledge in COLREGS; and whether they can use and tie up such knowledge and skills together to establish good situational awareness--thereby allowing them to make intelligent decisions--are very aptly captured. It is a programme that delivers instant and enduring results.”*

*– Stewart Bankier, LG/HRM Manager, BSM, Bernhard Schulte Shipmanagement (UK) Ltd.*



- Competency/performance gaps
- Areas of strengths
- Recommendations for training

Analysis may also include trends by experience, computer use, education, and other pre-defined areas. Session and summary reports provide management with valuable data to make knowledgeable decisions toward managing human risk factors, recruitment, and retention.

The NSAP® provides companies with a realistic mechanism to safely identify, assess, and control watchkeeping and navigational risk through wheelhouse simulation, feedback, and comprehensive reports.

## MITAGS-PMI AND QSE SOLUTIONS

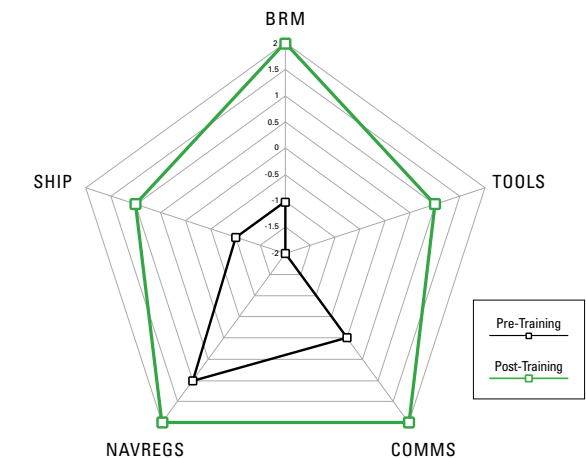
MITAGS-PMI has partnered with QSE Solutions to provide external quality oversight and control for the data collection and objective reports generated by the NSAP® process. QSE Solutions has earned a reputation as one of the most respected and knowledgeable companies providing service to the maritime industry in the fields of quality, safety, environment, and competency management systems.

Analysis of the data and the formulation of both summarized observations and corrective recommendations are a key element to the success of the program. In a continuing effort to improve the skills and performance of mariners, the program endeavors to provide the company and the participant with as much objective data as possible in order to make informed decisions about training and further skill improvements.

## DETAILED ANALYSIS

Upon conclusion of each assessment session, a detailed analysis is provided of the individual raw data and the larger data pool of participants. This analysis allows for extensive comparisons and detailed trend analysis of skill gaps. Reports typically include results based on participant background and other statistics, including license held, number of years in industry, source of education, and geographic operating area, among many others parameters.

The program presently offers reports based on individual sessions, providing immediate feedback on the performance of individual mariners. In addition, the NSAP® generates reports that summarize the performance of an entire com-



pany’s fleet of mariners, allowing for broad comparison of skills as well as analysis of company specific trends or risks. Finally, the program provides an Industry Compilation report that provides comparative analysis of mariner and corporate performance across the entire industry spectrum.

*“The assessment process including the simulation scenarios are scientifically engineered to uncover the true and actual level of competency of a navigating officer giving ship owners/ship managers a vivid picture of risk areas that will need to be mitigated. It provides highly valuable input equal to if not more than what can be gathered from professional/technical interviews, simulation training, workplace (on the job) assessment and performance appraisal combined.”*

*– Captain Terence Uytinban, General Manager, UltraShip Crewing Phils., Inc.*

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## PRESENTED WORLDWIDE

As a result of global demand for an objective tool in risk mitigation, MITAGS-PMI has implemented the NSAP® at various International Training Centers (ITC) throughout the world. By developing a scripted and objective standardized assessment, the NSAP® ensures consistency of methodology and ability to quantify the results for industry trending and analysis. Every NSAP® ITC is vetted through a rigorous training and licensing process and is followed up by regular audits to ensure maintenance of the highest level of quality.

## CURRENT NSAP® LOCATIONS

**Pacific Maritime Institute** – Seattle, USA

**Maritime Institute of Technology & Graduate Studies** – Baltimore, USA

**Philcamsat** – Philippine Center for Advanced Maritime Simulation and Training – Manila, PI

**South Shields Marine School** – Newcastle, UK

**Advanced Maritime Venture** – Supetar, Croatia

**Singapore** – Pending

**India** – Pending

## SCHEDULE AN NSAP® DEMONSTRATION TODAY

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**[www.mitags-pmi.org](http://www.mitags-pmi.org)**

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