

# Oil Spills in Ports

## Prevention, Response & Recovery



Focus on: **The Manager**  **The Specialist**  **Spotlight Programme**  **Hands-on Skills**

### Course Overview

This training course is designed to equip port professionals, terminal operators, and emergency response teams with the knowledge and practical skills required to effectively manage oil spill risks in port environments. The course provides a comprehensive overview of regulatory frameworks (MARPOL, OPRC), spill prevention strategies, risk assessment tools, and early detection systems. Participants will gain hands-on understanding of response tactics, including containment, mechanical recovery, dispersant use, and advanced remediation techniques. Emphasis is placed on environmental impact assessments, wildlife protection, and stakeholder coordination. Through case studies, delegates will apply best practices in real-world scenarios. The course also explores innovative technologies—such as AI, robotics, and green port initiatives—as well as international collaboration protocols. By the end of the course, participants will be able to contribute confidently to oil spill contingency planning, response readiness, and long-term recovery within their operational roles.

Course Objectives		This Course is Ideal For:	
1	Understand key regulations governing oil spill prevention and response in ports.	✓	Port authority personnel involved in environmental safety and emergency planning
2	Identify and reduce risks through assessment and preventive practices.	✓	Terminal operators and oil storage managers responsible for spill risk control
3	Apply response techniques including containment, recovery, and remediation.	✓	Shipping and marine logistics professionals engaged in fuel transfer and bunkering
4	Use modern tools like AI, sensors, and robotics for spill management.	✓	Environmental consultants and spill response contractors
5	Support environmental recovery and long-term ecosystem protection.	✓	Regulatory officers and auditors overseeing compliance with maritime pollution laws

### Course Content

Day	Theme	Coverage
1	Fundamentals & Prevention Strategies	<ul style="list-style-type: none"> <li>• Introduction to Oil Spills in Ports</li> <li>• Legal &amp; Regulatory Frameworks                             <ul style="list-style-type: none"> <li>○ IMO, MARPOL, OPRC, and national regulations governing port spill management.</li> </ul> </li> <li>• Spill Prevention Measures                             <ul style="list-style-type: none"> <li>○ Port design, vessel traffic management, and best practices for bunkering operations.</li> </ul> </li> <li>• Risk Assessment &amp; Hazard Identification                             <ul style="list-style-type: none"> <li>○ HAZOP, FMEA, and risk matrices for spill-prone areas.</li> </ul> </li> <li>• Early Detection Systems                             <ul style="list-style-type: none"> <li>○ Radar, drones, IoT sensors, and satellite monitoring.</li> </ul> </li> <li>• Contingency Planning</li> </ul>

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		<ul style="list-style-type: none"> <li>○ Developing port-specific oil spill contingency plans (OSCPs).</li> </ul>
2	Containment & Response Tactics	<ul style="list-style-type: none"> <li>● Containment Strategies                             <ul style="list-style-type: none"> <li>○ Booms, barriers, and skimmers; selection criteria for ports.</li> </ul> </li> <li>● Mechanical Recovery Methods                             <ul style="list-style-type: none"> <li>○ Vessel-based recovery systems (sweeps, weirs) and limitations.</li> </ul> </li> <li>● Chemical Dispersants &amp; Bioremediation                             <ul style="list-style-type: none"> <li>○ Pros/cons, application techniques, and environmental trade-offs.</li> </ul> </li> <li>● In-Situ Burning &amp; Other Advanced Techniques                             <ul style="list-style-type: none"> <li>○ Controlled burns, herding agents, and gelators.</li> </ul> </li> <li>● Role of Port Authorities &amp; Emergency Teams                             <ul style="list-style-type: none"> <li>○ Command structures, ICS (Incident Command System), and stakeholder coordination.</li> </ul> </li> <li>● Simulation Exercises &amp; Drills                             <ul style="list-style-type: none"> <li>○ Tabletop simulations and live drills for spill response.</li> </ul> </li> </ul>
3	Environmental & Economic Impacts	<ul style="list-style-type: none"> <li>● Environmental Impact Assessment (EIA)                             <ul style="list-style-type: none"> <li>○ Spill trajectories, toxicity thresholds, and sensitive habitats.</li> </ul> </li> <li>● Wildlife Protection &amp; Rehabilitation                             <ul style="list-style-type: none"> <li>○ Oiled wildlife response (birds, marine mammals) and cleanup protocols.</li> </ul> </li> <li>● Economic Consequences of Port Spills                             <ul style="list-style-type: none"> <li>○ Downtime costs and reputational damage.</li> <li>○ Social &amp; Community Engagement - Public communication strategies</li> </ul> </li> <li>● Long-Term Monitoring &amp; Restoration                             <ul style="list-style-type: none"> <li>○ Post-spill ecosystem recovery and monitoring frameworks.</li> </ul> </li> <li>● Case Study:                             <ul style="list-style-type: none"> <li>○ Analysis of a major port spill (e.g., EXXON Valdez).</li> </ul> </li> </ul>
4	Technology & Innovation	<ul style="list-style-type: none"> <li>● Robotics in Cleanup - Autonomous drones, ROVs, and robotic skimmers.</li> <li>● Port Sustainability &amp; Spill-Free Goals (LNG, green fuels)</li> <li>● Waste Handling &amp; Decontamination (Oil, equipment)</li> <li>● International Collaboration &amp; Best Practices (ITOPF, response protocols)</li> <li>● Emerging Technologies (Nanotech, eco-dispersants, smart booms)</li> <li>● Workshop: Developing a Port-Specific OSCP</li> </ul>
5	Policy & Certification	<ul style="list-style-type: none"> <li>● Insurance, Liability &amp; Compensation (CLC, FUND)</li> <li>● Compliance Monitoring &amp; Auditing (Readiness inspections)</li> <li>● Introduction to Responder Certification Standards (IMO &amp; OSRO)</li> </ul>

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	<ul style="list-style-type: none"> <li>• Course Recap &amp; Final Assessment</li> <li>• Closing Session &amp; Certificate Ceremony</li> </ul>
Course Assessment	
<b>Participants will be assessed on:</b>	Upon successful completion of the course, participants will receive a <b>Certificate of Successful Completion</b> , along with a <b>Transcript of Marks</b> showing the performance by grade in each element of assessment and overall.
Participation in sessions	
Completion of exercises & case studies	
Performance in assessments	
Certification	
Course Instructor	
<p>With BSc, MPhil, and PhD degrees from the UK, and over 30 years of experience in refinery technology, operations, and management with several internationally recognised oil companies, this speaker is now a globally respected chemical engineering consultant.</p> <p>As a refinery technologist, he brings extensive operational insight gained through participation in simulation exercises and emergency preparedness planning, contributing to the development and evaluation of oil spill response strategies in complex ship loading and unloading operations.</p> <p>A Chartered Chemist, Member of the Royal Society of Chemistry, and Member of the American Institute of Chemical Engineers, he also holds honorary appointments at several European universities and is actively engaged in advanced research in vacuum distillation, gas recovery, absorption, and pyrolysis.</p>	