



EFFECTIVE ONBOARD ENCLOSED-SPACE TRAINING, EXERCISES & DRILLS

Analysis of an industry-wide seafarer and shore-management survey

953 survey responses

Dates: 26 August – 15 September 2026

Respondents: seafarers across all ranks, shore-based HSQE/DPA and marine superintendents, and other maritime professionals

953 total responses	93.0% seafarers (afloat)	311 distinct ranks represented	8 open-ended questions analysed
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This report summarises qualitative survey findings and is intended to support review of onboard enclosed-space entry training and rescue drill practice. It is not a substitute for a company's own risk assessment, flag/class requirements, or applicable IMO/ILO/STCW obligations.



Executive Summary

This report analyses 953 responses to an industry survey on enclosed-space training, exercises and rescue drills. The overwhelming majority of respondents (886, 93%) identified as seafarers currently serving onboard, spanning 311 distinct rank/designation labels; the remainder were shore-based DPAs, HSQE managers and superintendents. Respondents answered eight open-ended questions covering awareness-building, hazard identification, prevention of unsafe entry, common failure points, rescue-drill content, leadership's role, what makes drills memorable, and gaps in current industry guidance.

Five findings recur across the dataset with striking consistency:

1. Impulsive/instinctive rescue is the single most cited hazard. Respondents repeatedly describe the “would-be rescuer becoming the second casualty” as the leading cause of multiple fatalities and call for stronger training on non-entry rescue and rescuer self-discipline.
2. The enclosed-space register plus visible signage/markings is seen as the most effective way to build awareness of which spaces are dangerous, ahead of formal briefings alone.
3. The permit-to-work system, reinforced by repeated drilling and visible leadership enforcement, is viewed as the most effective control against unsafe entry — more so than posters or written procedure alone.
4. Continuous atmosphere/gas testing and ventilation are the most overlooked steps during real entries, particularly in spaces crew consider “routine” or previously tested safe.
5. Realism and an honest post-drill debrief, more than compliance with a checklist, are what respondents say make a drill memorable and behaviour-changing rather than a box-ticking exercise.

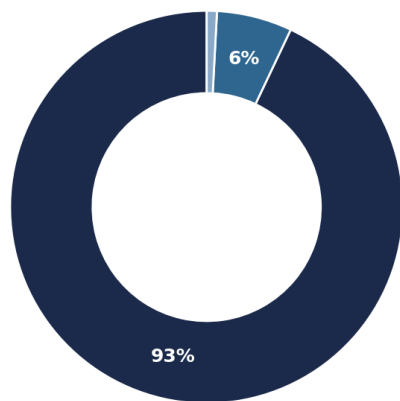
Respondents' suggestions for new industry guidance cluster around human-factors and behavioural training, case studies drawn from real casualties, standardised minimum competencies for entrants'/attendants/rescue teams, and clearer practical guidance on non-entry rescue technique — rather than additional paperwork.



Respondent Profile

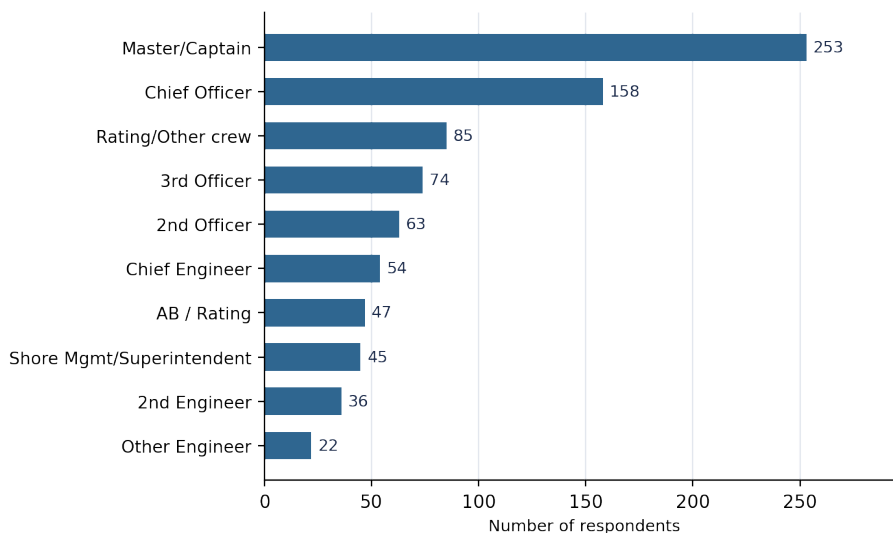
The survey was completed by 953 individuals between 26 August and 15 September 2026. Respondents self-identified their role and, separately, stated their rank or job title in free text; the 311 distinct rank labels were grouped into standard categories below for analysis (abbreviations, capitalisation and spelling variants were consolidated, e.g. “MASTER”, “master” and “Captain” → Master/Captain).

Respondents by role



Seafarer (886)
Shorebased (59)
Other (8)

Respondents by rank / designation (top 10 groups)



Masters/Captains (253) and Chief Officers (158) together account for 43% of all responses, giving the dataset a strongly command-level and senior-officer perspective, though junior officers, ratings, cadets and shore management are all represented in meaningful numbers.

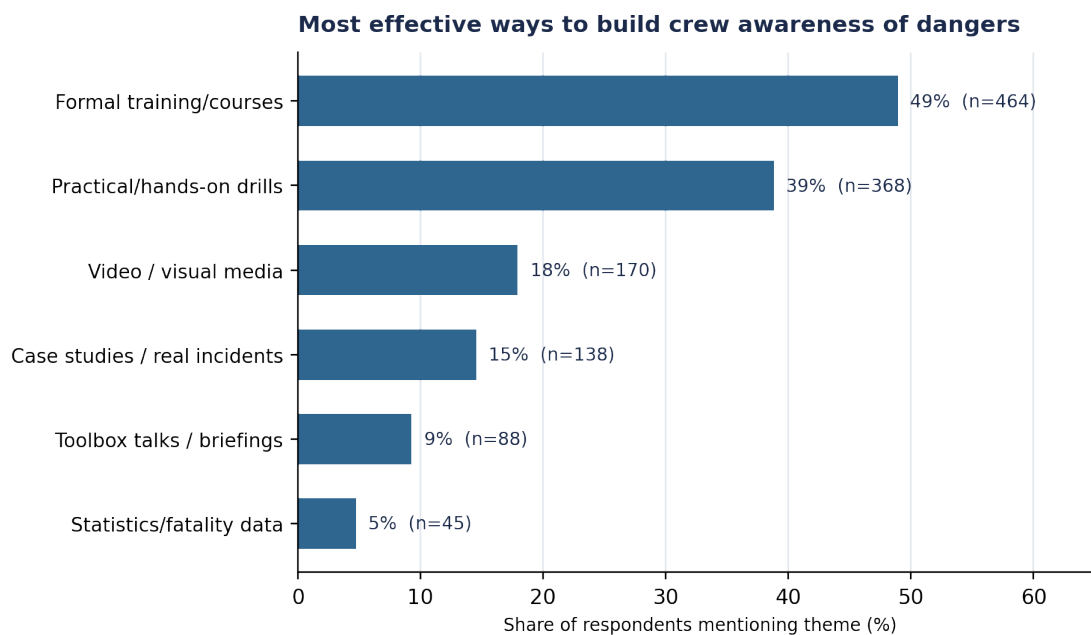


Thematic Analysis by Question

Each question below was analysed using keyword/phrase clustering across all non-blank responses, grouped into 5–8 recurring themes. Percentages show the share of respondents to that specific question whose answer matched the theme; because many answers touch more than one theme, rows do not sum to 100%.

What is the most effective way you have found to help crew understand the dangers of enclosed spaces?

948 responses analysed



Formal STCW-aligned training and courses were cited most often (49%), but practical, hands-on drills were a close second (39%) and were frequently described as more effective than classroom instruction alone. Video/visual media and real-incident case studies also feature strongly, with several respondents stressing that showing what actually killed seafarers has more impact than reviewing a procedure.

“Real-life case studies combined with practical enclosed space entry drills... a single mistake can have fatal consequences within minutes.”

— General Manager, Marine & QHSE — Shorebased

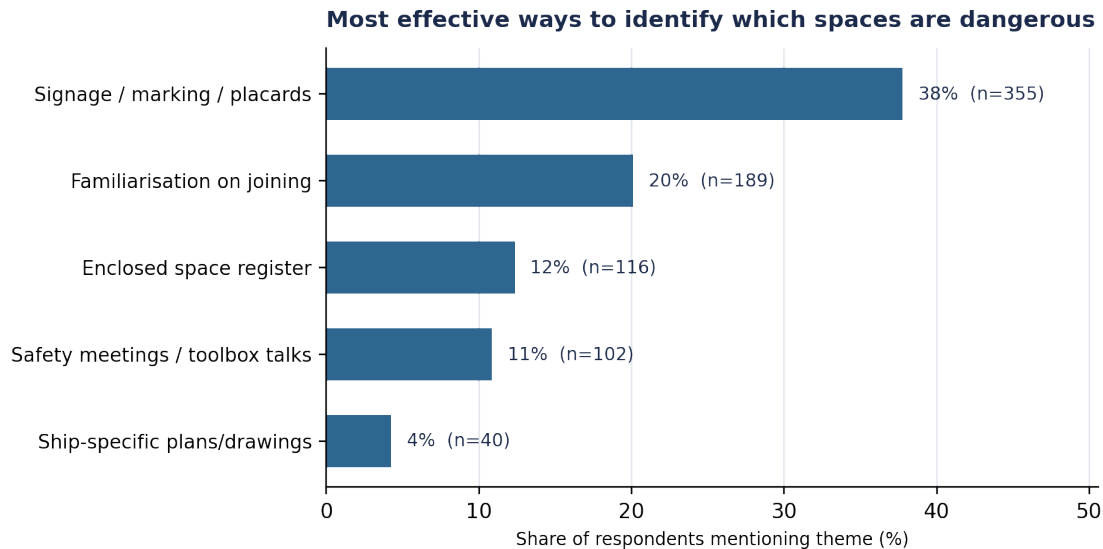
“Real-live training and sharing stories of experiences/near misses.”

— Master/Captain



What is the most effective way of ensuring that all crew are aware which spaces onboard their ship, are potentially dangerous enclosed spaces?

940 responses analysed



A ship-specific enclosed-space register was the most-mentioned formal control (12%), but visible signage, marking and posters at entry points was cited even more often (38%) as the practical, day-to-day method that keeps awareness front-of-mind. Familiarisation on joining (20%) and discussion in safety meetings/toolbox talks (11%) were seen as reinforcing mechanisms rather than substitutes for the register and signage.

"Clearly identify all enclosed spaces... physically mark them onboard, and regularly discuss them during safety meetings, familiarisation, and drills."

— General Manager, Marine & QHSE — Shorebased

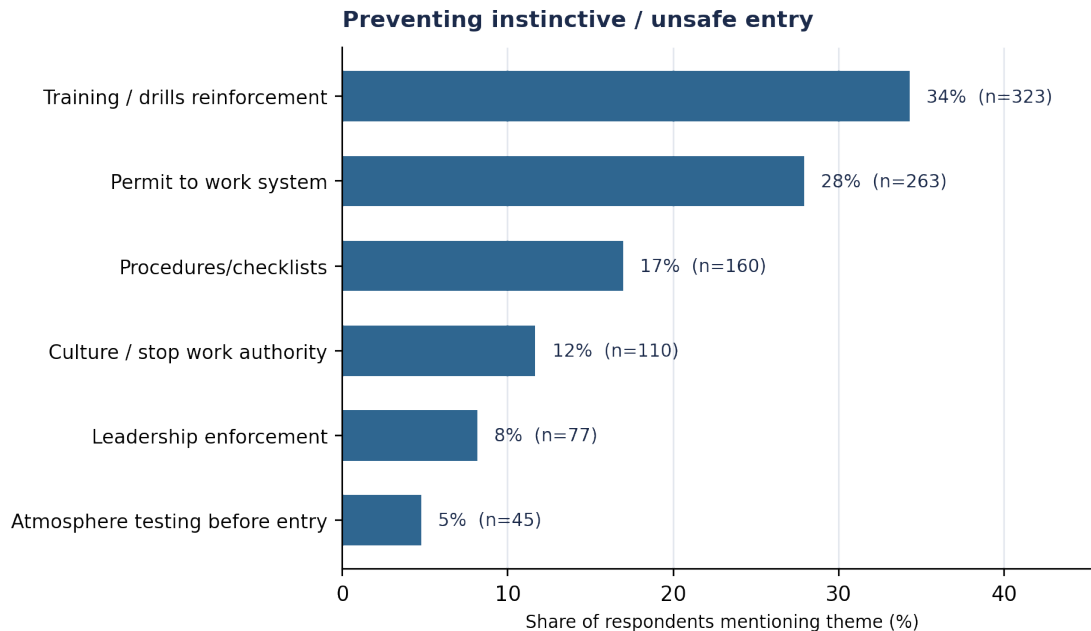
"Poster with all the accessible areas that are considered enclosed space, poster at every entrance."

— MSQ Superintendent



What is the most effective way of ensuring that crew do not instinctively enter an enclosed space without following the required safety procedures?

942 responses analysed



Repeated training and drilling (34%) and strict enforcement of the permit-to-work system (28%) dominate the responses, ahead of written procedures and checklists (17%) taken alone. A recurring theme is that a “stop, assess, permit” mindset (12%) has to become instinctive through repetition and visible leadership enforcement (8%) — paperwork alone was repeatedly described as insufficient.

“Reinforce a simple ‘Stop, Assess, Permit, Test, Ventilate, Communicate’ mindset through repeated drills, toolbox talks, and strong leadership intervention.”

— General Manager, Marine & QHSE — Shorebased

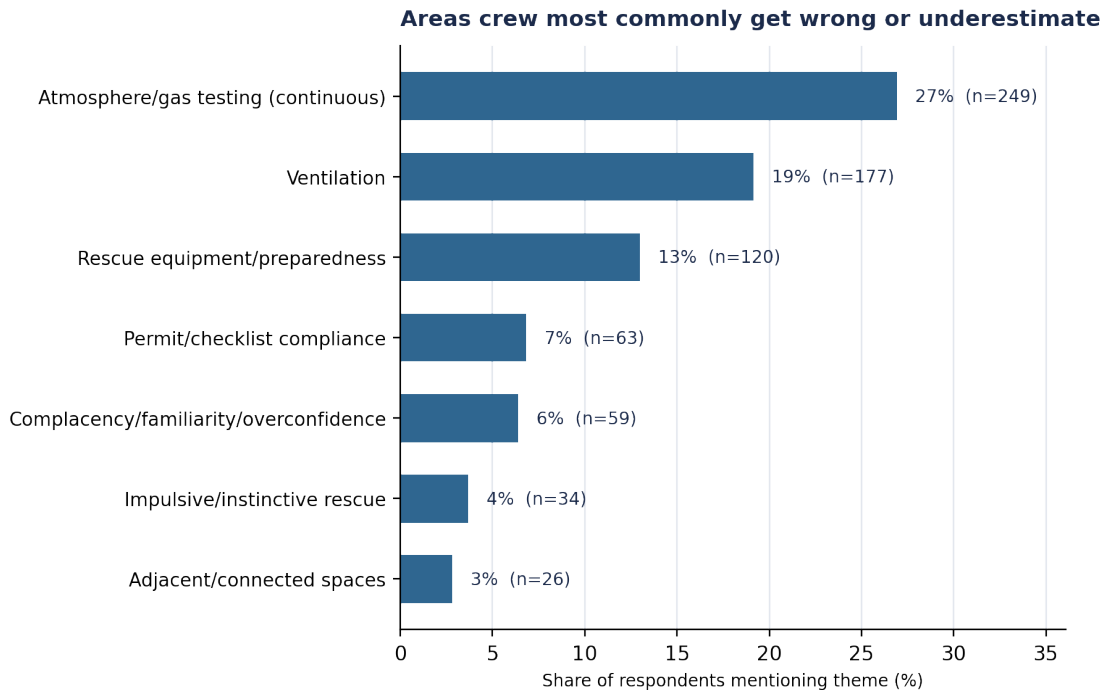
“Strictly imposing the permit to work system.”

— 2nd Engineer



Which areas do crew most commonly get wrong, overlook or underestimate when preparing for, or entering an enclosed space?

925 responses analysed



Atmosphere/gas testing — particularly failing to test continuously or at multiple levels — was the most commonly cited failure point (27%), followed by ventilation being stopped or inadequate during entry (19%). Rescue-equipment readiness (13%) and permit/checklist shortcuts under time pressure (7%) were also frequent themes, alongside complacency in spaces crew consider “routine” (6%).

“Assuming a space is safe because it was entered previously... inadequate atmosphere testing... underestimating oxygen depletion and CO2 accumulation.”

— Head of HSSEQ — Shorebased

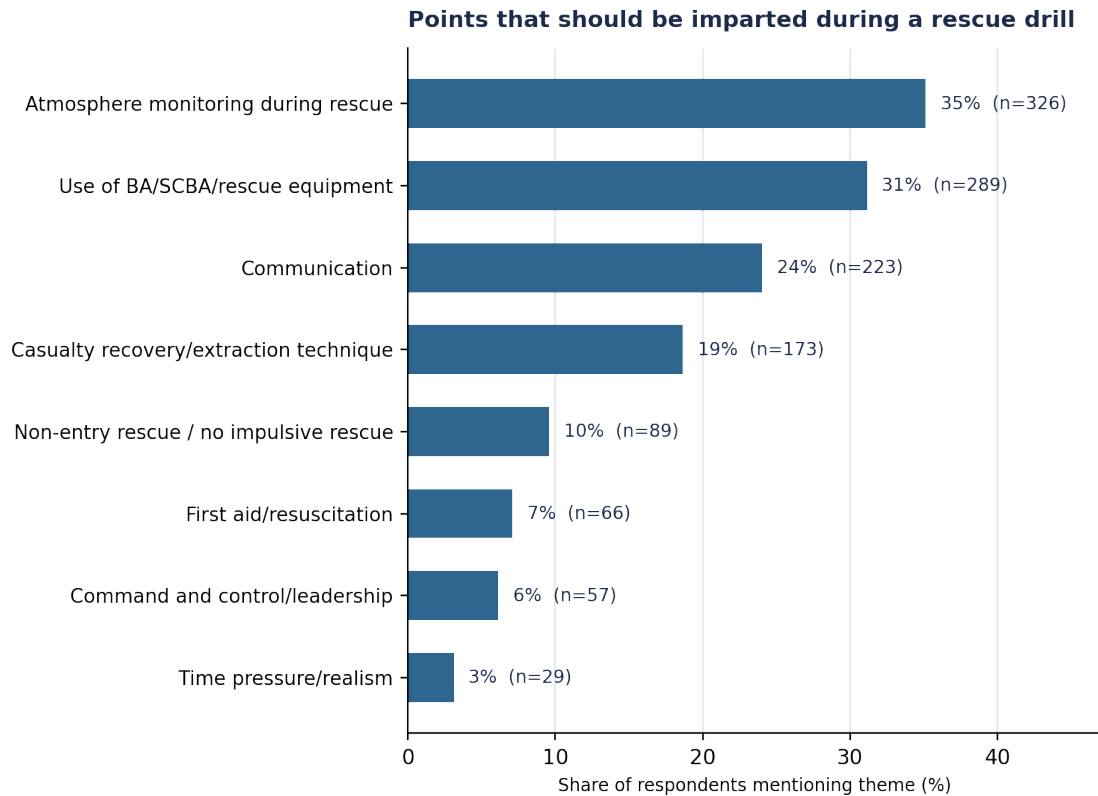
“Frequently entered spaces, such as pump rooms, are often underestimated due to overconfidence.”

— SQIC superintendent / former Master



What are the most important points that you feel should be imparted through an enclosed-space rescue drill?

928 responses analysed



Continuous atmosphere monitoring during the rescue itself (35%) and correct use of breathing apparatus/rescue equipment (31%) were the two most cited priorities, followed closely by communication between entrant, attendant and bridge/ECR (24%) and casualty extraction technique (19%). A strong minority (10%) explicitly stressed non-entry rescue and avoiding a second casualty as the core lesson of the drill.

"The first rescue casualty is often the would-be rescuer who enters without proper protection."

— Head of HSSEQ — Shorebased

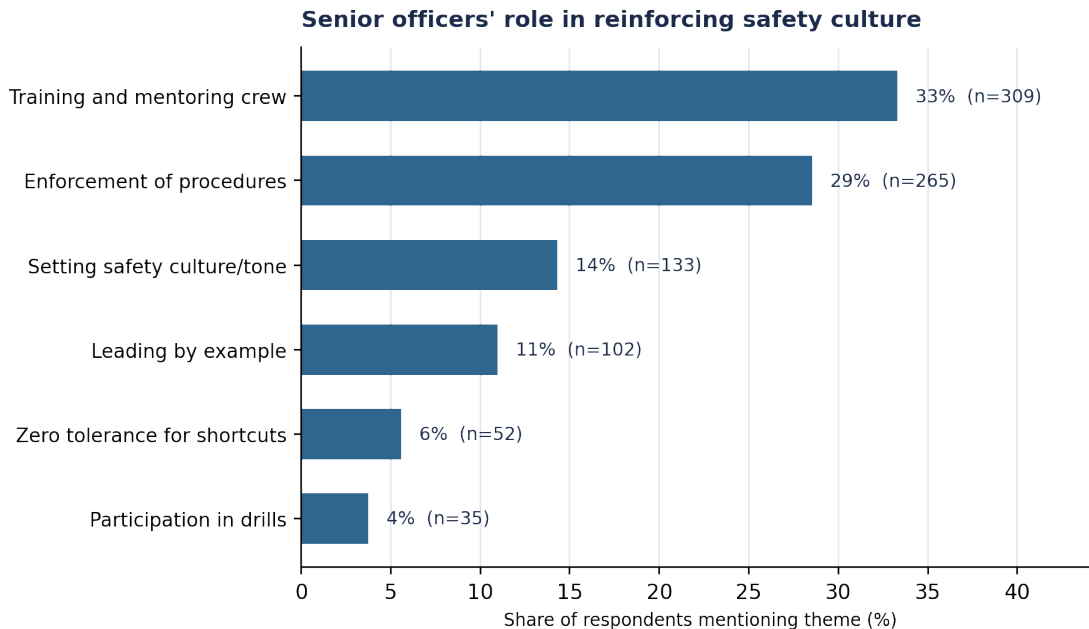
"That we don't need another victim during the rescue."

— 2nd Engineer



What role does senior officers including Masters play in reinforcing enclosed space safety culture onboard ships?

928 responses analysed



Training/mentoring crew (33%) and personally enforcing procedures (29%) were seen as senior officers' primary levers, ahead of setting the overall tone of safety culture (14%) and leading by visible example (11%). Several responses were blunt that a Master or Chief Officer who tolerates shortcuts undermines every other control in the system.

"If senior officers tolerate shortcuts, crew will inevitably follow them. Conversely, visible leadership... make safe behaviour the normal onboard standard."

— HSSQE Manager DPA — Shorebased

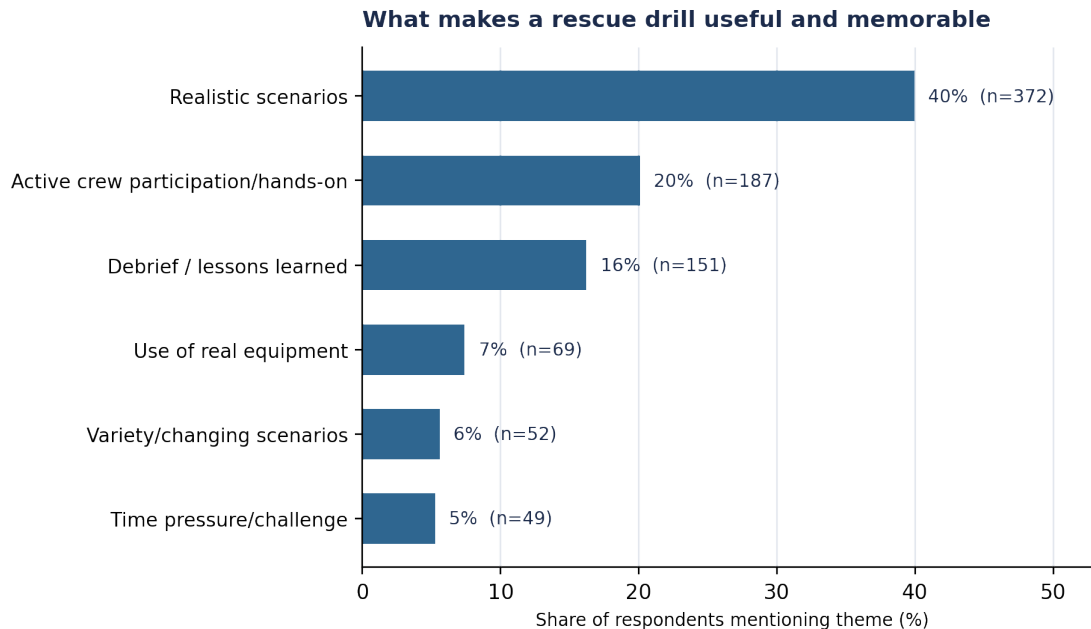
"No enclosed space entry to be made until entry requirements are complied with."

— Chief Officer



What makes an enclosed-space rescue drill useful and memorable, rather than simply another compliance exercise?

931 responses analysed



Realism (40%) is by far the most-cited factor — scenarios that resemble a genuine emergency rather than a scripted walk-through. Active, hands-on crew participation (20%) and a structured debrief discussing what worked and what failed (16%) were the next most common themes, with several respondents specifically valuing variety and unannounced timing (6%) to prevent drills becoming rehearsed rather than tested.

“The drill should be realistic rather than just going through a checklist. Crew should have clear roles and actually use the rescue equipment.”

— Chief Officer

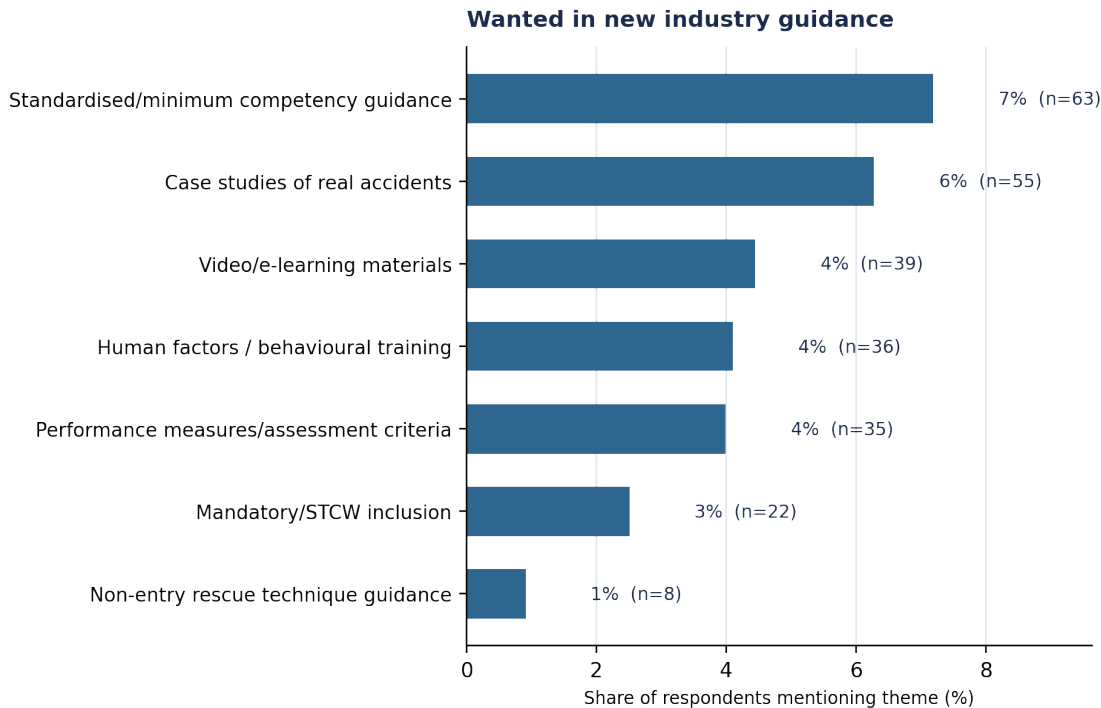
“Adding an element of surprise, such as an unscheduled drill, tests genuine readiness rather than rehearsed responses.”

— Respondent



Is there anything you would particularly like to see included in new industry guidance on enclosed-space rescue drills, exercises and trainings?

876 responses analysed



This question drew the most varied, low-consensus answers (876 responses, lower theme concentration than other questions) — itself notable, since it suggests no single fix dominates respondent thinking. The clearest clusters were calls for standardised minimum-competency benchmarks (7%), more real-accident case studies (6%), video/e-learning materials (4%) and explicit human-factors/behavioural content (4%), with a smaller but pointed group asking for practical, measurable performance criteria rather than pass/fail attendance records.

“Guidance should include more human factor lessons... and practical performance measures to assess drill effectiveness rather than mere completion.”

— General Manager, Marine & QHSE — Shorebased

“Make Enclosed entry course/awareness mandatory under the STCW with renewal every 5 years.”

— Risk Safety and Security Manager, DPA — Shorebased



Cross-Cutting Findings

1. A consistent safety chain emerges from the data

Read together, the eight questions describe one continuous chain that respondents believe must hold at every link: a ship-specific register identifies the hazard → signage and familiarisation keep it visible → a permit-to-work system, reinforced by drilling, prevents unplanned entry → continuous atmosphere testing and ventilation are the controls most often defeated by complacency → if something still goes wrong, non-entry rescue discipline is what prevents a single casualty becoming multiple fatalities. Respondents see weakening any one link — not just the drill itself — as the real risk.

2. “Instinctive rescue” is the dataset's dominant safety concern

The theme of a colleague entering without preparation to rescue a collapsed shipmate — and becoming a second casualty — appears independently across Q3 (preventing unsafe entry), Q4 (commonly overlooked risks), Q5 (what a drill should teach) and Q8 (what guidance should cover). This cross-question recurrence, rather than its frequency within any single question, is what marks it as the survey's central concern.

3. Compliance activity and effective activity are described differently

Respondents draw a sharp distinction between drills run to satisfy a schedule and drills that change behaviour. The vocabulary used for the former is procedural (“checklist”, “compliance”, “paperwork”); for the latter it is experiential (“realistic”, “hands-on”, “unannounced”, “debrief”). Several respondents explicitly warn that a well-attended drill can still fail to prepare crew if it is scripted and predictable.

4. Shore-based and sea-going respondents converge, with different emphasis

Shore-based DPAs, HSQE managers and superintendents (59 respondents) more often referenced formal systems — registers, STCW, standardised competency and measurable performance indicators. Seagoing respondents (886) more often referenced the human and situational dimension — leadership tone, complacency, and the physical experience of wearing BA under time pressure. The two groups agree on what the risks are, but shore respondents lean toward systemic fixes and seagoing respondents toward behavioural and cultural fixes — both are reflected in the recommendations below.



Recommendations for Industry Guidance and Onboard Practice

Drawn directly from respondent suggestions and the thematic patterns above:

- **Make non-entry rescue the centrepiece of drill content.** Explicitly train and test the discipline of raising the alarm, assessing atmosphere, and deploying non-entry retrieval before any rescuer enters — this was the most cross-cutting theme in the dataset.
 - **Pair the enclosed-space register with physical signage at every entry point,** refreshed at each familiarisation and safety meeting, rather than relying on the register as a standalone document.
 - **Treat the permit-to-work system as a behavioural control, not paperwork** — reinforce it through repeated, realistic drilling and visible enforcement by senior officers, since respondents rate this above written procedure alone.
 - **Target continuous atmosphere testing and ventilation specifically** in training content, since these are the most cited real-world failure points, especially in spaces crew consider “routine”.
 - **Build drills around realism, variety and an honest debrief** rather than checklist completion — introduce unannounced timing, genuine use of rescue equipment, and structured post-drill review of what worked and what failed.
 - **Develop standardised minimum competencies** for entrants, attendants and rescue-team roles, with measurable performance criteria (e.g. mobilisation time, BA readiness) that assess capability rather than mere attendance.
 - **Use real casualty case studies and human-factors content** in awareness training — respondents consistently rated this as more effective than procedural instruction alone for building genuine risk perception.
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