circumstance and luck. The same precipitating conditions can occur again – and lead to an actual loss, of unknown magnitude.

As a general rule of thumb, the ratio of near misses to accidents is about 300:1. That's a lot of near misses, and many (but certainly not all) can be used to identify opportunities for continuous improvements in an organization's safety management system by identifying the precipitating factors (including human errors) and addressing them, it is hoped, before any actual loss occurs.

For the seagoing maritime industry, the International Maritime Organization (IMO) has published the International Safety Management Code (the ISM Code), and states that a functional requirement for a Safety Management System is the presence of "procedures for reporting accidents and non-conformities." Further, the supporting IMO guidance in relation to accident investigation states a basic principle of a safety management system is the provision of means of "reporting and analyzing non-conformities, accidents, and hazardous occurrences (including near misses)."

What Constitutes a Near Miss?

A near miss can also be interpreted as a set of conditions or a sequence of events that could reasonably have, but did not, result in an accident, and since there is no loss to cue our observation, how are near misses identified? How does one observe something that *almost* happened? One approach is to develop and use operational definitions. Operational definitions provide a means to define, quantify, and identify a situation, condition, or object that is (or was) not tangible and therefore is not directly observable or measurable.

At a very high level, two operational definitions of a near miss are:

1. An event with no consequences, but that could have reasonably resulted in consequences under different conditions
2. A near miss that had some consequences that could have reasonably resulted in much more severe consequences under different conditions.

Additional examples of operational definitions of a near miss include:

1. Any event that leads to the implementing of an emergency response or procedure, and where those actions spared a loss.
2. Any event where an unexpected condition existed that led to no adverse consequence, but that might have (for example, had a person been standing where a load was dropped).
3. Any dangerous or hazardous situation or condition that was not discovered until after the danger passed.
4. Anytime an emergency action has taken place, such as summoning the fire department or an ambulance.
5. Violation of a safety rule, procedure, or policy.

A very simple and common rule is that anytime someone observes a situation or sequence of events, and considers it to be a near miss, it is an event that will undergo some level of scrutiny to verify whether a near miss has occurred or not.

Note that an operational definition of a root cause is:

1. The cause can reasonably be identified. In some cases it cannot, for example when a worker is unaccounted for and never discovered. About the only conclusion that can be drawn is that he probably went over the side. The "why" of it will likely never be identified.
2. That means to fix or correct the root cause can reasonably be identified (again, in some cases it cannot, for example a rogue wave)
3. That management has the authority to implement the recommended fix (due to costs, legal impediments, effectiveness of a proposed fix)