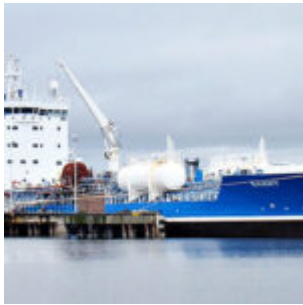


# Fatigue Was a Factor in Tanker Incident, Says TSB



Studies have shown that [fatigue is a factor in traffic accidents](#). But it can also be an factor in any incident involving the operation of machinery or vehicles, including boats.

For example, the tanker *Nanny*, which was carrying diesel fuel, made bottom contact in Chesterfield Inlet, Nunavut. No pollution or injuries were reported, but there was damage to the vessel's ballast tanks.

The Transportation Safety Board's [investigation report](#) on the incident found that fatigue was a contributing factor. Specifically, the master had ordered the helmsman to apply port rudder several times. But the helmsman turned to starboard instead. Investigators determined that the master and helmsman were fatigued at the time.

The TSB considers six risk factors when determining whether fatigue exists, using crew members' hours of work-rest, actual hours of sleep obtained and specific sleep-related personal data. The master's hours of sleep showed that, before the incident, he'd been awake for 13.5 hours. In the prior 24 hours, he had a three-hour nap and, in the 24 hours before that, he had one four-hour nap following a period of continual wakefulness of 17 hours. And the day before that, he was continuously awake for 22 hours.

The hours of rest for the helmsman indicated that, over the

seven days leading up to the occurrence, he'd worked 106 hours with only 62 scheduled hours of rest. Three days before the occurrence, he received only two rest periods of four hours each. Before the occurrence, he had worked from 6:00pm until approximately 3:00am and had expected to be called at 8:00am, but was called out for the 6:00am watch instead.

The TSB analysis found that three of six fatigue risk factors were present for the master and for the helmsman:

- Acute sleep disruptions
- Chronic sleep disruptions
- Desynchronization of the circadian rhythm.

In addition, although training about fatigue isn't required on marine vessels, the tanker did have a series of instructive safety videos on various topics including fatigue. These videos, which had been on board for about a year before the occurrence, were intended to be viewed by the crew during the regular OHS meetings.

But at the time of the incident, the crew hadn't watched the video on fatigue. And none of the bridge team members had been trained on fatigue awareness, fatigue management or alertness strategies.

In addition, the *Nanny* didn't have a separate fatigue management plan apart from the measures addressing fatigue included in the safety management system (SMS). And there were shortcomings with those measures. For example, although crew hours of rest and work were recorded, no one ashore or on the vessel was monitoring these records for compliance with the SMS and regulations. As a result, there were numerous instances where crew had worked extra hours and hadn't received the minimum prescribed hours of rest.

The investigators concluded that although the marine regulations don't require the development of comprehensive fatigue management plans, a decline in performance may occur

in those who occupy safety-sensitive positions, increasing the risk of incidents. Thus, having such plans may be considered a best practice.

The *Nanny* incident isn't an aberration, either. Of the 128 marine investigations undertaken by the TSB since 2002, fatigue was cited as a finding in 14 of them—and five of these occurrences resulted in fatalities or missing persons.

To prevent fatigue from impacting your workers' performance on the job, take appropriate steps to address this safety hazard by implementing a [fatigue risk management system](#) and using tools such as:

- A [Model Fatigue Management Policy](#)
- A [Model Notice](#) on the signs of fatigue
- [Fatigue Hazards Identification Checklist](#)
- [Fatigue Self-Reporting Form](#)
- A [worker fatigue infographic](#).