

## PLAN

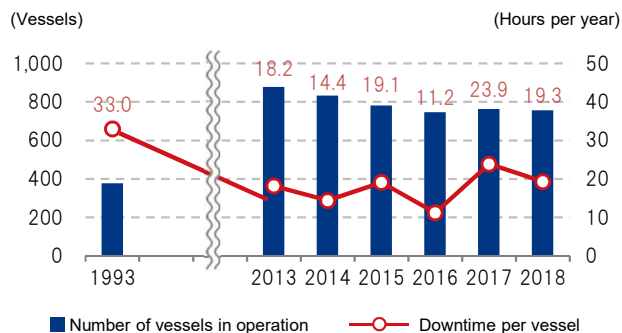
## Safety promotion system

Each year, the Safety and Environmental Management Committee, chaired by the president reviews activities for the previous year and sets targets and guidelines for the next year.

## Using downtime to measure safety

We use the time that ships are stopped due to accidents or problems as an indicator to measure the degree to which we have achieved safe ship operations. Our sea and land operations work together to bring us closer to the target of zero downtime.

## Hours of Delay per Vessel



## Emergency response network

We have created an emergency response network\*1 to prepare for maritime accidents and problems no matter where they occur in the world.

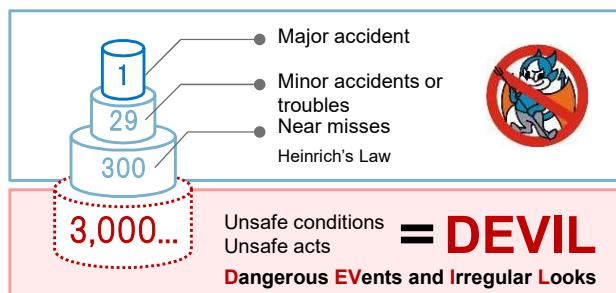
## DO

## Safety campaigns

Every year, we conduct the Remember Naka-no-Se\*2 safety campaign in the summer and the Sail on Safety\*3 campaign in the winter.

## Near Miss 3000 activities

Inspired by Heinrich's Law\*4, we conduct Near Miss 3000 activities on board our ships as a proactive program to prevent accidents before they occur. We have developed this program from a near-miss level to create what we call DEVIL Hunting activities that seek to eliminate accidents by identifying and addressing situations that are precursors to often overlooked problems. Further, we expanded the scope of the program to cover the entire NYK Group in 2006, and it also covers our partner shipowners and ship-management companies.



## Number of DEVIL Hunting Reported

Year	2015	2016	2017	2018
(Incidents)	57,483	63,698	71,160	70,009

## POWER+

NYK Shipmanagement Japan Co., Ltd., a vessel management subsidiary, is promoting a safety initiative called Power+, which is designed to improve attitudes and awareness related to safety among ship crewmen. The initiative was awarded a Seafarers Safety Initiative Grand Prize from Japan's Ministry of Land, Infrastructure, Transport and Tourism in fiscal 2015.



## NiBiKi (Computerization of Safety Management System)

Developed a system for managing daily ship operations to analyze data from numerous angles and provide visualized results. Rolled out to all ships for use in November 2019. Presently in use by 260 ships and five management companies. More ships and companies expected in the future.

## CHECK

## NAV9000



In 1998, the NYK Group introduced NAV9000, which is a rigorous, self-imposed ship safety management system, in order to fulfil our responsibilities in terms of safety and environmental protection. This system requires ships, shipowners, and ship management companies to disclose information on safe ship operations and adhere to NYK standards for both ships we own and chartered vessels.

## Breakdown of NAV9000 Audits (2015-2018)

	2015	2016	2017	2018
Ship audits	300	303	287	239
Company audits	30	32	30	26

## ACT

## Identification of causes and improvements toward achieving our objectives

We use information on accidents in order to prevent their recurrence. We notify the fleet immediately when accidents occur, and follow up through means including safety bulletins\*5 that issue instructions to prevent recurrence once we have identified the causes and formulated countermeasures. Furthermore, NAV9000 inspections require ships, ship owners, and ship management companies to make improvements so that they can continue to operate vessels safely.

## Advancements in Digitalization (Safety)

In addition to upgrades of LIVE for Shipmanager (ship engine plant monitoring app using big data), we developed a Data Quality Management System, which monitors the quality of logic and data related to trouble detection in engine operating data. Leveraging these technologies, users detect signs of engine issues automatically before trouble happens, leading to engine trouble prevention.

We are also engaged in cyber security, preparing for the coming digital operating age. One keyword of the NYK Group medium-term management plan is Digitalization. Here, we aim to improve safety levels and offer even safer navigation.

\*1 Emergency Response Network : Our emergency response network divides the world into four regions. This enables us to respond quickly and minimize damage in the event of any accident or problem anywhere on the seas.

\*2 Remember Naka-no-Se Campaign : We conduct this campaign every July, the month in which an oil spill occurred from the very large crude oil carrier Diamond Grace at Naka-no-Se in Tokyo Bay in 1997, to ensure that the lessons from the spill are not lost.

\*3 Sail on Safety Campaign : We conduct this campaign over the winter months of December and January with a primary focus on rough weather safety.

\*4 Heinrich's Law : A formula regarding work-related accidents stating that there are 29 minor accidents and 300 near misses behind every major accident.

\*5 Safety Bulletins : We publish a safety information journal to raise awareness and issue instructions to the entire fleet on piracy, terrorism, and other matters of concern in voyages as well as causes of accidents and problems and prevention measures.