

SPI	KPI	KPI Value Formula*	KPI <sub>MinReq</sub>	KPI <sub>Target</sub>	PI
SPI001: Environmental Performance	KPI028: Releases of substances	$A + B$	1	0	A: Number of releases of substances to the environment B: Number of oil spills
	KPI001: Ballast water management violations	$A$	1	0	A: Number of ballast water management violations
	KPI007: Contained spills	$A$	3	0	A: Number of contained spills of liquid
	KPI011: Environmental deficiencies	$\frac{A}{B}$	5	0	A: Number of environmental related deficiencies B: Number of recorded external inspections
	KPI005: CO2 efficiency	$\frac{A}{B} * 10^6$	84	36	A: Emitted mass of CO2 B: Transport work
	KPI021: NOx efficiency	$\frac{A}{B} * 10^3$	2.2	0.9	A: Emitted mass of NOx B: Transport work
	KPI030: SOx efficiency	$\frac{A}{B} * 10^3$	1.5	0.6	A: Emitted mass of SOx B: Transport work
SPI002: Health and Safety Performance	KPI013: Fire and Explosions	$A + B$	1	0	A: Number of fire incidents B: Number of explosion incidents
	KPI017: Lost Time Injury Frequency	$\frac{A + B + C + D}{E * 10^{-6}}$	2.5	0.5	A: Number of fatalities due to work injuries B: Number of lost workday cases C: Number of permanent total disabilities (PTD) D: Number of permanent partial disabilities E: Total exposure hours
	KPI015: Health and Safety deficiencies	$\frac{A}{B}$	5	0	A: Number of health and safety related deficiencies B: Number of recorded external inspections
	KPI018: Lost Time Sickness Frequency	$\frac{A + B}{C * 10^{-6}}$	25	0	A: Number of cases where a crew member is sick for more than 24 hours B: Number of fatalities due to sickness C: Total exposure hours
	KPI025: Passenger Injury Ratio	$\frac{A}{B * 10^{-6}}$	2	0.2	A: Number of passengers injured B: Passenger exposure hours
SPI003: HR Management Performance	KPI008: Crew disciplinary frequency	$\frac{A + B + C + D + E}{F} * 24 * 90$	0.02	0	A: Number of absconded crew B: Number of charges of criminal offences C: Number of cases where drugs or alcohol is abused D: Number of dismissals E: Number of logged warnings F: Total exposure hours
	KPI009: Crew planning	$A + B$	15	0	A: Number of seafarers not relieved on time B: Number of violation of rest hours
	KPI016: HR deficiencies	$\frac{A}{B}$	5	0	A: Number of HR related deficiencies B: Number of recorded external inspections
	KPI003: Cadets per ship	$\frac{A}{B}$	0	3	A: Number of cadets under training with the DOC holder B: Number of ships operated under the DOC holder
	KPI022: Officer retention rate	$100\% - \frac{A - (B + C)}{D} * 100\%$	70	95	A: Number of officer terminations from whatever cause B: Number of unavoidable officer terminations C: Number of beneficial officer terminations D: Number of officers employed
	KPI023: Officers experience rate	$\frac{A}{4 * B} * 100$	60 (%)	90 (%)	A: Number of officer experience points B: Number of officers onboard
	KPI031: Training days per officer	$\frac{A}{B}$	0	0.03	A: Number of officer trainee man days B: Number of officer days onboard all ships with the DOC holder
	SPI004: Navigational Safety Performance	KPI019: Navigational deficiencies	$\frac{A}{B}$	5	0
KPI020: Navigational incidents		$A + B + C$	1	0	A: Number of collisions B: Number of allisions C: Number of groundings
SPI005: Operational Performance	KPI002: Budget performance	$\frac{ A - (B - C) }{A} * 100\%$	10	2	A: Last year's running cost budget B: Last year's actual running costs and accruals C: Last year's AAE (Additional Authorized Expenses)
	KPI010: Drydocking planning performance	$\left(\frac{ B - A }{A} + \frac{ D - C }{C}\right) * 100$	10	2	A: Agreed drydocking duration B: Actual drydocking duration C: Agreed drydocking budget D: Actual drydocking costs
	KPI004: Cargo related incidents	$A$	2	0	A: Number of cargo related incidents
	KPI024: Operational deficiencies	$\frac{A}{B}$	5	0	A: Number of operational related deficiencies B: Number of recorded external inspections
	KPI032: Ship availability	$\frac{(24 * 365 - B) - A}{24 * 365 - B} * 100\%$	97	100	A: Actual unavailability B: Planned unavailability
	KPI033: Vetting deficiencies	$\frac{A}{B}$	5	0	A: Number of observations during commercial inspections B: Number of commercial inspections
SPI006: Security Performance	KPI029: Security deficiencies	$\frac{A}{B}$	5	0	A: Number of security related deficiencies B: Number of recorded external inspections

<b>SPI007: Technical Performance</b>	KPI006: Condition of class	A	1	0	A: Number of conditions of class
	KPI012: Failure of critical equipment and systems	A	1	0	A: Number of failures of critical equipment and systems
<b>SPI009: Port State Control Performance</b>	KPI027: Port state control detention	A (if B > 0)	1	0	A: Number of PSC detentions B: Number of PSC inspections
	KPI026: Port state control deficiency ratio	$\frac{A}{B}$	8	0	A: Number of PSC deficiencies B: Number of PSC inspections
	KPI014: Port state control performance	$\frac{A}{B}$	0.33	1	A: Number of PSC inspections resulting in zero deficiencies B: Number of PSC inspections

## The Rating and Aggregation formulas

<b>KPI Rating Formula</b>	$KPI_{Rating} = 100 * \frac{(KPI_{Value} - KPI_{MinReq})}{(KPI_{Target} - KPI_{MinReq})}$	The $KPI_{Rating}$ formula is valid for all $KPI_{Values}$ and will convert the $KPI_{Value}$ into a rating between 0-100.
<b>SPI</b>	$SPI = \frac{1}{n} * \sum_{i=1}^n KPI_i$	An SPI is calculated as the average of the $KPI_{Rating}$ which is incorporated in the SPI

### NOTE:

$KPI_{Target}$  is the  $KPI_{Value}$  which give  $KPI_{Rating} = 100$

$KPI_{MinReq}$  is the  $KPI_{Value}$  which give  $KPI_{Rating} = 0$

\* To see the reporting and calculation periods, please refer to the [www.shipping-kpi.org](http://www.shipping-kpi.org)

## Need more info ?

For further information about the system please refer to the web site	<a href="http://www.shipping-kpi.org">www.shipping-kpi.org</a>
In case of questions, please use the feedback form on the website or email us.	<a href="mailto:support@shipping-kpi.org">support@shipping-kpi.org</a>