<table>
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| SPI001: Environmental Performance | KPI0028: 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 | \( B \) | 3 | 0 | A: Number of contained spills of liquid |
| | KPI0011: Environmental deficiencies | \( A \) | 5 | 0 | A: Number of environmental related deficiencies  
B: Number of recorded external inspections |
| | KPI005: CO2 efficiency | \( \frac{A}{B} \times 10^8 \) | 84 | 36 | A: Emitted mass of CO2  
B: Transport work |
| | KPI0021: NOx efficiency | \( \frac{A}{B} \times 10^7 \) | 2.2 | 0.9 | A: Emitted mass of NOx  
B: Transport work |
| | KPI0030: SOx efficiency | \( \frac{A}{B} \times 10^7 \) | 1.5 | 0.6 | A: Emitted mass of SOx  
B: Transport work |
| SPI002: Health and Safety Performance | KPI0013: Fire and Explosions | \( A + B \) | 1 | 0 | A: Number of fire incidents  
B: Number of explosion incidents |
| | KPI0017: Lost Time Injury Frequency | \( \frac{A + B + C + D}{E \times 10^9} \times 10^{-6} \) | 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 |
| | KPI0015: Health and Safety deficiencies | \( \frac{A}{B} \) | 5 | 0 | A: Number of health and safety related deficiencies  
B: Number of recorded external inspections |
| | KPI0018: Lost Time Sickness Frequency | \( \frac{A + B}{C \times 10^7} \times 10^{-6} \) | 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 |
| | KPI0025: Passenger Injury Ratio | \( \frac{A}{B} \times 10^7 \) | 2 | 0.2 | A: Number of passengers injured  
B: Passenger exposure hours |
| SPI003: HR Management Performance | KPI0008: Crew disciplinary frequency | \( \frac{A + B + C + D + E}{F \times 24 \times 90} \times 24 \times 90 \) | 0.02 | 0 | A: Number of resubmissions  
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 |
| | KPI0009: Crew planning | \( A + B \) | 15 | 0 | A: Number of executive officers not relieved on time  
B: Number of violation of rest hours |
| | KPI0016: HR deficiencies | \( \frac{A}{B} \) | 5 | 0 | A: Number of HR related deficiencies  
B: Number of recorded external inspections |
| | KPI0003: 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  
C: Number of officer terminations from whatever cause  
D: Number of unavoidable officer terminations  
E: Number of beneficial officer terminations  
F: Number of officers employed |
| | KPI0022: Officer retention rate | \( 100\% - \frac{A - (B + C)}{D} \times 100\% \) | 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 |
| | KPI0023: Officers experience rate | \( \frac{A}{B + C + D} \times 100\% \) | 60\% | 90\% | A: Number of officer experience points  
B: Number of officers onboard |
| | KPI0031: 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 |
| | KPI0019: Navigational deficiencies | \( \frac{A}{B} \) | 5 | 0 | A: Number of navigational related deficiencies  
B: Number of recorded external inspections |
| | KPI0020: Navigational incidents | \( \frac{A + B + C}{F} \times 10^6 \) | 1 | 0 | A: Number of collisions  
B: Number of premises  
C: Number of groundings |
| SPI004: Navigational Safety Performance | KPI0002: Budget performance | \( \frac{A - (B + C)}{D} \times 100\% \) | 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) |
| SPI005: Operational Performance | KPI0010: Drydocking planning performance | \( \frac{(B - A)}{A} + \frac{(D - C)}{C} \times 100\% \) | 10 | 2 | A: Agreed drydocking duration  
B: Actual drydocking duration  
C: Agreed drydocking budget  
D: Actual drydocking costs  
E: Planned drydocking costs  
F: Planned drydocking duration  
G: Planned drydocking costs  
H: Planned drydocking duration  
I: Planned drydocking costs |
| | KPI0004: Cargo related incidents | \( \frac{A}{B} \) | 2 | 0 | A: Number of cargo related incidents  
B: Number of recorded external inspections |
| | KPI0024: Operational deficiencies | \( \frac{A}{B} \) | 5 | 0 | A: Number of operational related deficiencies  
B: Number of recorded external inspections |
| | KPI0022: Ship availability | \( \frac{(24 + 365 - B)}{24 + 365} \times 100\% \) | 97 | 100 | A: Actual unavailability  
B: Planned unavailability  
C: Planned availability  
D: Actual availability  
E: Planned availability  
F: Actual unavailability  
G: Planned unavailability  
H: Actual availability  
I: Planned availability |
| | KPI0032: Vetting deficiencies | \( \frac{A}{B} \) | 5 | 0 | A: Number of security related deficiencies  
B: Number of recorded external inspections |
| SPI006: Security Performance | KPI0029: Security deficiencies | \( \frac{A}{B} \) | 5 | 0 | A: Number of security related deficiencies  
B: Number of recorded external inspections |
The Rating and Aggregation formulas

KPI Rating Formula

\[
KPI_{\text{Rating}} = 100 \times \frac{(KPI_{\text{value}} - KPI_{\text{Min Req}})}{(KPI_{\text{Target}} - KPI_{\text{Min Req}})}
\]

The KPI\(_{\text{Rating}}\) formula is valid for all KPI\(_{\text{values}}\) and will convert the KPI\(_{\text{value}}\) into a rating between 0-100.

SPI

\[
SPI = \frac{1}{n} \sum_{i=1}^{n} KPI_i
\]

An SPI is calculated as the average of the KPI\(_{\text{rating}}\) which is incorporated in the SPI.

NOTE:

KPI\(_{\text{Target}}\) is the KPI\(_{\text{value}}\) which give KPI\(_{\text{rating}} = 100\)

KPI\(_{\text{Min Req}}\) is the KPI\(_{\text{value}}\) which give KPI\(_{\text{rating}} = 0\)

* To see the reporting and calculation periods, please refer to the www.shipping-kpi.org

Need more info?

For further information about the system please refer to the website

www.shipping-kpi.org

In case of questions, please use the feedback form on the website or email us.

support@shipping-kpi.org