

RuleAgent

Hvordan vi gjør maritime regler mer tilgjengelig med AI

Martin Heir
Data Scientist – DNV Maritime



Utfordringen med regelverket

Omfattende regelverk

Det finnes over **40 000 sider** med maritime DNV regler og standarder som industrien må forholde seg til.

Tidkrevende manuell søk

Industrien bruker mye tid på å finne relevante krav og tolke komplekse regel-dokumenter.

Vanskelig tilgjengelig kunnskap

Selv om kunnskapen finnes, er den ofte vanskelig å finne og tidkrevende å hente ut.



RuleAgent

raskere tilgang til regler



Direkte spørsmål til regelverk

Brukere kan stille konkrete spørsmål til regelboka og få raske, presise svar basert på DNVs regelverk.



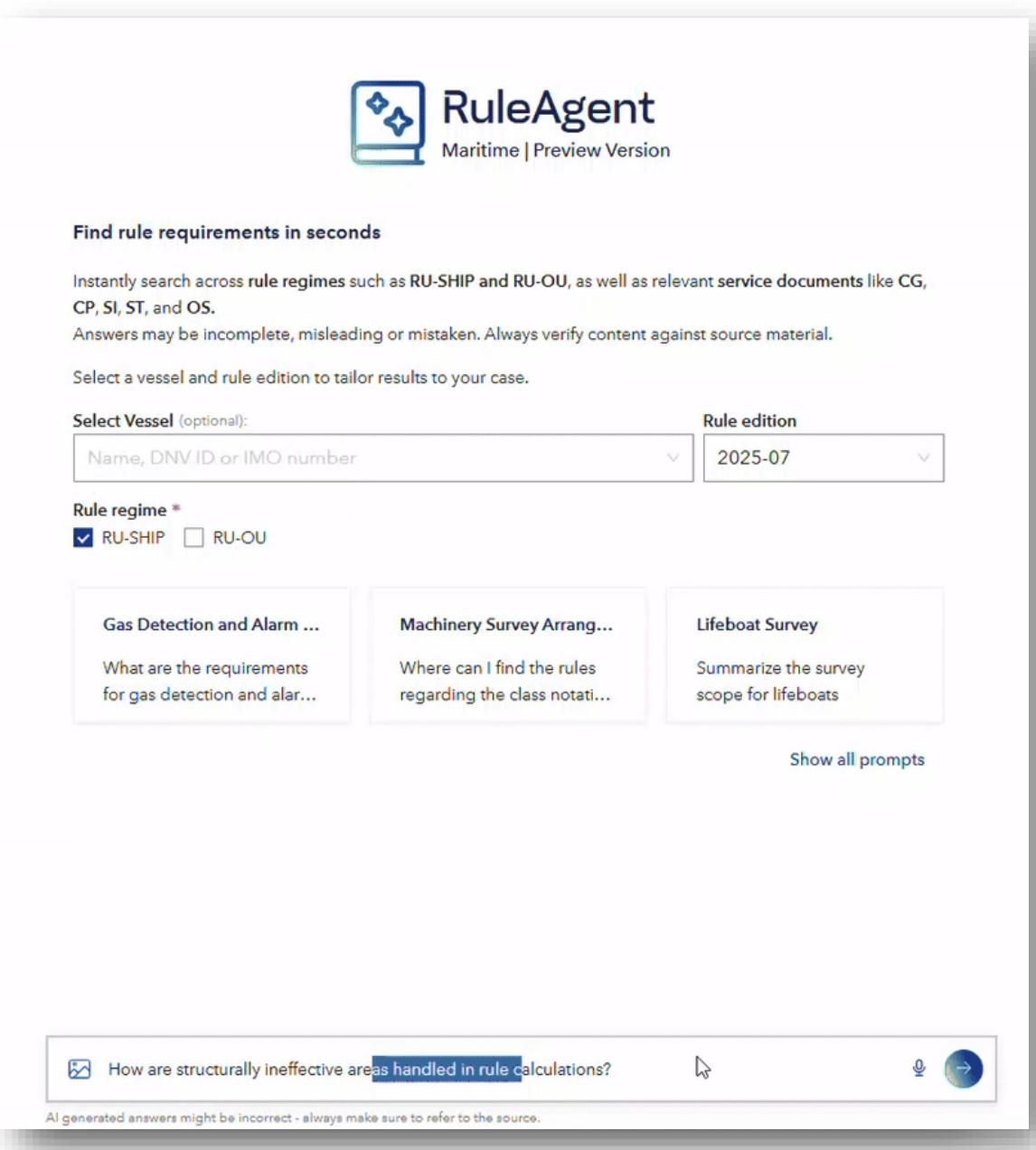
Oppsummeringer og lenker

Systemet gir oppsummeringer og direkte lenker til relevante seksjoner, noe som forenkler kunnskapsinnehenting.



Effektiv tilgang

Målet er å effektivisere prosessen, sikre relevante svar og tilgjengeliggjøre regler og kunnskap.



The screenshot shows the RuleAgent Maritime Preview Version interface. At the top right, there's a logo with four blue diamonds and the text "RuleAgent Maritime | Preview Version". Below it, a sub-header reads "Find rule requirements in seconds". A descriptive text block says: "Instantly search across rule regimes such as RU-SHIP and RU-OU, as well as relevant service documents like CG, CP, SI, ST, and OS. Answers may be incomplete, misleading or mistaken. Always verify content against source material." A callout box below this text says "Select a vessel and rule edition to tailor results to your case." There are two dropdown menus: "Select Vessel (optional)" with "Name, DNV ID or IMO number" and "Rule edition" set to "2025-07". Under "Rule regime", there are checkboxes for "RU-SHIP" (checked) and "RU-OU". Three cards are displayed below: "Gas Detection and Alarm ..." (with a sub-link "What are the requirements for gas detection and alar..."), "Machinery Survey Arrang...", and "Lifeboat Survey" (with a sub-link "Summarize the survey scope for lifeboats"). A "Show all prompts" link is located at the bottom right of these cards. At the very bottom, a search bar contains the question "How are structurally ineffective areas handled in rule calculations?" with a small AI icon next to it. To the right of the search bar are a microphone icon and a blue circular button with a white arrow.

RuleAgent

raskere tilgang til regler

Direkte spørsmål til regelverk



Brukere kan stille konkrete spørsmål til regelboka og få raske, presise svar basert på DNVs regelverk.



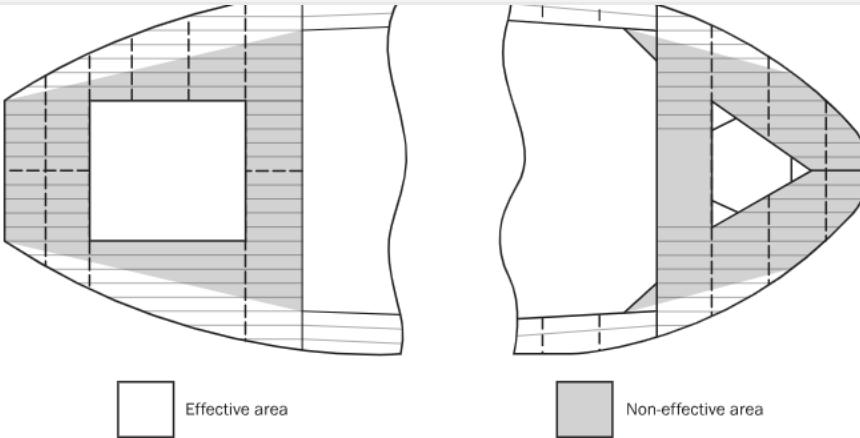
Oppsummeringer og lenker

Systemet gir oppsummeringer og direkte lenker til relevante seksjoner, noe som forenkler kunnskapsinnehenting.



Effektiv tilgang

Målet er å effektivisere prosessen, sikre relevante svar og tilgjengeliggjøre regler og kunnskap.



[2022-07 DNV-RU-SHIP Pt.3 Ch.5 Sec.1 2.10 ↗](#)

2. Effective Breadth and Section Properties

- Stiffeners and Primary Supporting Members: For cross-sectional property calculations (like section modulus and moment of inertia), "effective breadth" and similar concepts are used. Only the effective portion of the plate attached to a stiffener or girder is considered, and rules are provided for determining these values based on span, spacing, and geometry.
 - The rest of the plating, beyond the effective breadth, is considered structurally ineffective for these calculations.
 - The rules also make clear distinctions for different checks: yielding vs. buckling vs. fatigue.

[2025-07 DNV-RU-SHIP Pt.3 Ch.3 Sec.7 1.3 ↗](#)

3. Influence on Tank Coverages & Other Special Cases

Ask RuleAgent



AI generated answers might be incorrect - always make sure to refer to the source.

Tilpasser seg skipet ditt

Select Vessel (optional):

- G116064 CGAS COUGAR
- 27204 GAS CAMELOT
- G99684 GAS CATALINA
- 47361 GAS CHANGJIANG
- 27170 GAS CONCEPT
- 35768 MARAN GAS CHIOS
- 26757 MARAN GAS CORONIS
- 47246 PERTAMINA GAS CASPIA

Agenten kobler skipet til reglene

Svarer med relevante krav for akkurat det fartøyet

Valg av skip

Bruker kan søke opp sitt skip direkte i RuleAgent

3. Limitations for Liquefied Gas Carriers

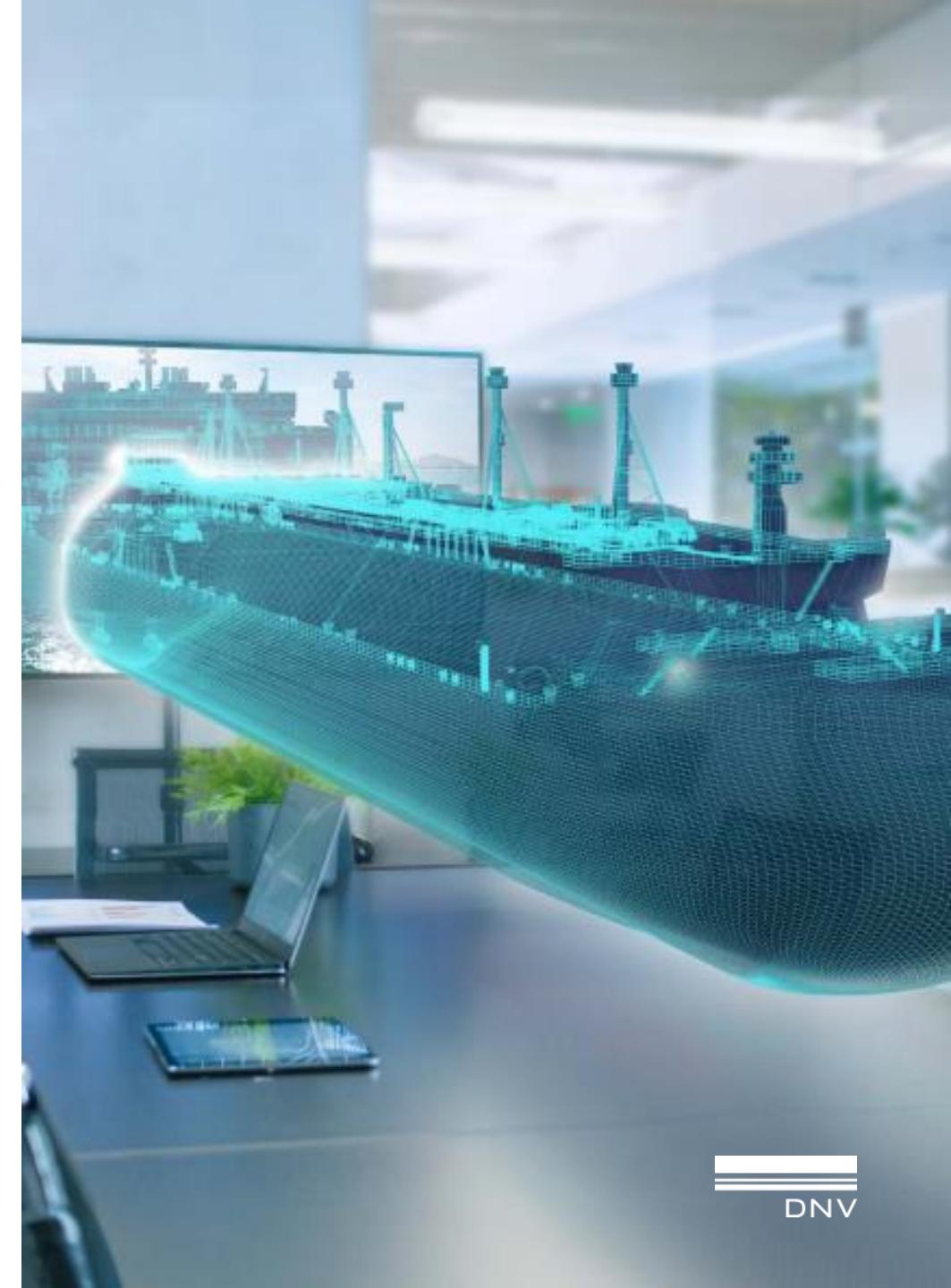
- Specific Rule for LPG Carriers: For vessels with the notation "Tanker for liquefied gas" (as for GAS CAMELOT), the rules state:

"For vessels with class notation ... as well as for liquefied gas carriers, the bottom survey in conjunction with the renewal survey shall be carried out with the vessel in dry-dock." (2025-07 DNV-RU-SHIP Pt.7 Ch.1 Sec.4 6.2.1 ^)

Vessel Application Note

For the GAS CAMELOT (age: 17.8 years, LPG carrier):

- The bottom survey afloat is NOT permitted for the renewal survey (5-year survey). This means you must dry-dock for the renewal survey, and only potentially for alternate surveys, subject to DNV approval process and vessel age limitations.
- As your vessel is over 15 years, further limitations apply: bottom survey afloat will only be permitted after special consideration, and for LNG carriers, this is generally not allowed for the renewal survey.



Slik virker RuleAgent en titt under dekk



Agentisk AI

Navigerer selv i regelverket. Velger søkeord og antall søker basert på spørsmål, valgt skip og kontekst.



Leser og følger referanser

Slår opp seksjoner og følger referanser



Spesialtilpasset RAG

Optimalisert for regelverkets struktur, språk og referanser

The screenshot shows a user interface for the RuleAgent application. At the top, there is a text input field with the placeholder "Can you tell me which standards is referred to in CP-0100?". Below this, there are four search results, each preceded by a magnifying glass icon and a "Used search_in_dnv_rules_standards" button:

- Query: standards referred to in DNV-CP-0100
- Reference: DNV-CP-0100 Sec.1 3
- Reference: DNV-CP-0100 Sec.2 3
- Reference: DNV-CP-0100 Sec.2 4.2

Below these results, a summary statement is displayed: "I have searched the DNV Rules & Standards and found that DNV-CP-0100 refers to several standards for synthetic fibre ropes for towing, mooring, and anchoring."

Key Standards Referred to in DNV-CP-0100

Main International Standards for Rope Material Quality

The quality of the fibre rope material shall be in accordance with one of the following standards (main ones listed):

Resultatene



Internt lansert i oktober

brukes allerede av mange DNV-ansatte.

Intern undersøkelse

80% av spurte tekniske eksperter sier de foretrekker å bruke RuleAgent

80% av RuleAgent svar er av høy kvalitet

Gir

Raskere regelverksarbeid

Høyere kvalitet

“Even highly experienced approval engineers cannot memorize every detail of every rule or standard. With the assistance of RuleAgent, engineers will be able to make more objective and accurate decisions.”

Sun - Principal Approval Engineer

Fremover



Utvidelse av regelverk

Flere internasjonale og nasjonale krav bygges inn, slik at flere spørsmål kan besvares i ett verktøy.



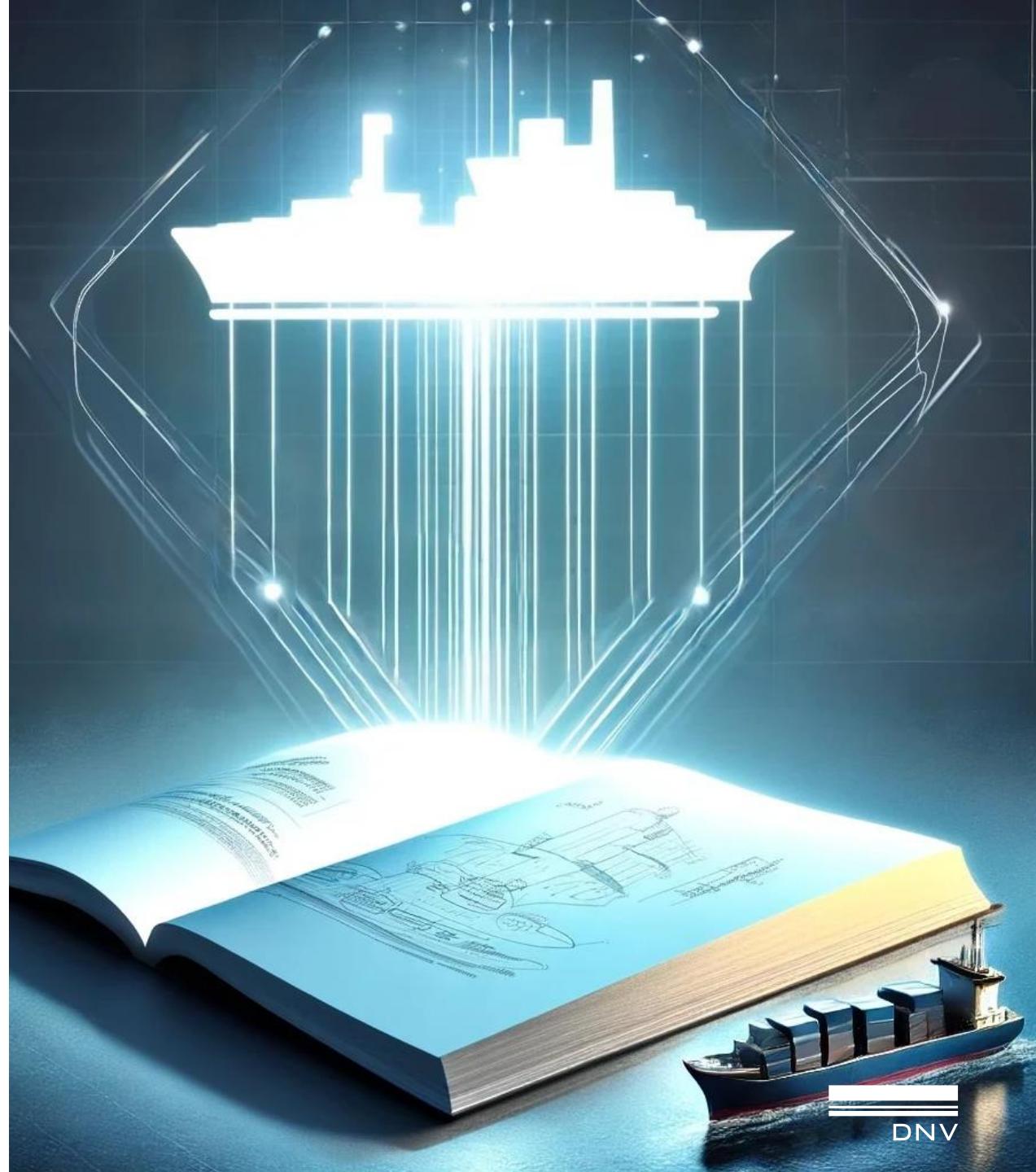
Rikere fartøysdata

Mer teknisk data, historiske funn og planlagte inspeksjoner – gir mer treffsikre svar



Mer avanserte oppgaver

Øke treffsikkerhet og løse mer sammensatte oppgaver



DNV



RuleAgent

Hvordan vi gjør maritime regler mer tilgjengelig med AI

Martin Heir
Data Scientist – DNV Maritime

WHEN TRUST MATTERS

www.dnv.com