Project for Third Officer (STCW A-II/1 and DMA Class 3: OOW) on a Merchant Tanker Ship (>5000 GT, Foreign-Going Voyages)

As Third Officer on an oil tanker like the *SUPER INFINITY* (149.6m LOA, 15,212t DWT, 18,270m³ cargo capacity, FRAMO pumps per handover notes), your role as an Officer of the Watch (OOW) encompasses a wide range of duties beyond the previously covered features. This task revisits and expands the "Third Officer OOW Compliance Manager - Enhanced Edition" app from Task 11 to include **all relevant OOW features**, ensuring a comprehensive tool for navigation, safety, cargo operations, and compliance. The app integrates ECDIS navigation (expanded routes from Task 11), all drill types, maintenance schedules, work/rest tracking, audits (using uploaded checklists: Marine Fire Safety and Life-Saving Appliances, e.g., lifeboats [309]), risk assessments, and additional OOW-specific tasks (e.g., GMDSS logs, ballast water management). It remains hybrid: Offline via local Python/Tkinter with CSV/JSON storage (no internet required), and online via Gemini API (free tier: 15 RPM, 1M tokens/min via Google Cloud, no billing for prototyping). The prompt is designed for Google AI Studio, where you can paste/upload it (as a .txt file, e.g., "oow_complete_project_prompt.txt") to generate the full app code—ready for offline use on a ship PC (e.g., deck office) and online deployment.

The uploaded images (e.g., Marine Fire Safety Checklist intro [~2,500 fatalities 2005–2007], PSC prep, pie chart [309 lifeboats, 105 launching]; Life-Saving Appliances cover, intro [drill risks], PSC prep, pie chart [same deficiencies]) are leveraged for AI analysis, ensuring PSC preparedness. This completes the project with all OOW features, aligning with STCW A-II/1 (navigation), SOLAS V (ECDIS), and ISM Code (full compliance).

Task 12: Complete Project - Build the Fully Integrated OOW Compliance Manager App via Google AI Studio Prompt

Objective: Deliver a **complete, all-inclusive project prompt** for Google AI Studio to generate the "Third Officer OOW Compliance Manager - Complete Edition" app. This app incorporates every OOW-related feature (navigation, safety, cargo, communication, etc.), with offline viability and online AI enhancements (free tier Gemini API). Paste/upload the prompt to build, export, and use the app, marking the project's final iteration with comprehensive usability for real-world tanker operations.

Step-by-Step Instructions:

1. **Prepare for Google AI Studio (15-30 minutes):**
    - Access aistudio.google.com → New Chat → Gemini 1.5 Pro (multimodal for images).
    - Save the prompt below as "oow_complete_project_prompt.txt" (e.g., Notepad) and upload via "Import," or paste directly. Replace `<YOUR_API_KEY>` with your Gemini API key (Settings → API Keys; free tier applies).
    - Generate: Click "Generate" → Refine if needed (e.g., "Add GMDSS log format").
    - Explanation: Prompt consolidates all tasks into one build. Reasoning: Ensures full OOW coverage, free-tier accessible.

2. **The Complete Project Prompt for Google AI Studio:**

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Build a complete, ready-to-use application called "Third Officer OOW Compl

**Full Requirements & Specifications:**
- **User Role:** OOW duties: Navigation (ECDIS planning, watches), LSA/FFA
- **Platform:** Hybrid offline/online. Offline: Local Python/Tkinter GUI +
- **Offline Mode:** Full usability (logging, calcs, sims); export CSVs/
- **Online Mode:** Gemini for AI (e.g., route optimization, deficiency
- **Tech Stack:** Python 3+ (Tkinter, datetime/pandas/csv/json for offline

**Features (All OOW-Related, Comprehensive):**
1. **Dashboard:** Real-time overview (due items: drills/inspections/audits
2. **ECDIS Navigation Integration:** Offline sim (hardcoded routes:
3. **Drill & Training Logger:** All types (Fire [monthly, tanker cargo/
4. **Work/Rest Hours Tracker:** Log per crew; calc rest/weekly avg; flag
5. **LSA/FFA Maintenance & Audits:** Schedules (weekly Sunday sanitary/
6. **Risk Assessments & Cargo Ops:** Table (e.g., Navigation: Aground—Echo
7. **GMDSS & Communication:** Log distress calls, radio checks (e.g., NAV-
8. **Ballast & Emissions Mgmt:** Log BWMS ops (MARPOL D-2), SOx/NOx
9. **Other OOW Tools:** Chronometer error daily (NAV-40), gyro maint (NAV-
10. **PSC/Inspection Prep:** Analyze images (e.g., "Prioritize launching [
11. **Reports & Exports:** View/export all (CSVs/JSONs/PDFs); password (
12. **AI Integrations:** Gemini (free tier): Image analysis, content gen (
13. **Usability:** Mobile-responsive; search/filter; auto-backup USB;

**How to Build & Use (Free Tier):**
- Generate: Full Python code (offline GUI: menu/buttons/uploads/plots),
- Offline Run: Save as oow_complete.py → `python oow_complete.py` (init
- Online Run: Save web → Open index.html; Firebase deploy (free).
- Test Cases: ECDIS Singapore route (UKC 20m), image analysis (309
- Expand: Add plugins (e.g., pygame for ECDIS).

Output: Full Python code (offline), JS/HTML (online), setup/run
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3. **Post-Generation Testing & Deployment (30-45 minutes):**
    - **Test:** Run app → ECDIS route (ETA check), image upload (deficiency list), GMDSS log. Offline: Disable internet → Verify core.
    - **Free Tier:** Limit API to 10/day; offline bypasses.
    - **Deploy:** Python on deck PC; web to Firebase.
    - Explanation: Validates all features. Reasoning: Ensures OOW readiness (e.g., GMDSS during watches).
4. **Integration & Project Completion (15-30 minutes):**
    - Embed in Notion (Task 5): Code block + preview.
    - Explanation: Finalizes project. Reasoning: All OOW tasks covered—navigation to compliance.
5. **Self-Assess and Project Completion (15 minutes):**
    - Verify: All features (ECDIS, GMDSS, etc.) functional, offline viable.
    - Output: Describe app (e.g., "Built: ECDIS + GMDSS + audits").

Expected Learning Outcome: A complete OOW toolkit, mastering all duties with AI/tech integration.

Project Complete! Reply with "Project done" + summary.

↳ Add Voyage Data Recorder logs

↳ Bridge Team Management

↳ More concise prompt