DP Fuel Optimization for PSV Fleets

Subtitle

How measured fuel visibility helps operators manage DP fuel burn without compromising safety, redundancy, or mission readiness.

Executive Summary

Dynamic positioning is one of the most fuel-intensive operating modes for platform supply vessels.

A PSV may appear stationary during DP, but it is actively using power to maintain position and heading against wind, current, waves, and operational demand. Fuel burn is driven by power demand, thruster activity, generator configuration, redundancy requirements, and field conditions.

That makes DP fuel optimization different from voyage optimization.

The objective is not to reduce power blindly. It is to understand whether DP fuel burn matches the operating condition.

Key Findings

- DP fuel burn is driven by station keeping, thruster demand, power management, and environmental conditions.
- Fuel-per-mile metrics do not apply during DP operations.
- Generator configuration and redundancy requirements can significantly affect fuel performance.
- PSV fleets need fuel data tied to DP activity, vessel mode, equipment use, and field conditions.
- DP optimization must protect safety, position keeping, and operational readiness.
- EFMS data helps identify efficiency opportunities without oversimplifying DP operations.

Operational Problem

PSVs often spend significant time in DP while supporting offshore assets.

During these periods, the vessel may be holding position, supporting cargo operations, waiting on crane availability, responding to weather, or maintaining readiness for client instructions.

A daily fuel total rarely explains this activity.

It may show high consumption, but not whether that consumption was driven by thruster demand, generator lineup, redundancy requirements, weather, current, cargo activity, or waiting time.

Without that context, operators can misread DP fuel burn.

They may miss efficiency opportunities or question consumption that was necessary for safe station keeping.

Why It Matters Offshore

DP operations carry a different risk profile than transit or standby.

Fuel efficiency cannot be separated from safety, redundancy, and position-keeping requirements. A PSV must maintain enough power and system availability to support the operation safely.

The goal is not to run less power at all costs.

The goal is to understand whether the power configuration fits the operating condition.

Across a PSV fleet, unnecessary high-power configuration, inefficient generator loading, or extended DP waiting time can increase fuel consumption, engine hours, maintenance exposure, and emissions.

For operators, the value is in identifying where fuel burn can improve without compromising the DP operation.

What We've Seen Offshore

DP fuel issues often appear as patterns, not single events.

A vessel may remain in a higher generator configuration after weather improves. A PSV may stay in DP while waiting on deck readiness or platform crane availability. Thruster demand may change quickly even though the vessel appears stationary.

Common PSV patterns include:

- DP fuel burn is often reviewed after the operation is complete.
- Generator lineup may remain conservative after conditions change.
- Waiting time in DP can become a major fuel driver.
- Thruster demand may not be visible in daily fuel totals.
- Weather and current can make vessel-to-vessel comparisons misleading.
- Cargo operations can extend DP time beyond the original plan.
- Shore teams may see consumption without seeing the DP condition behind it.

The issue is not that DP consumes fuel.

The issue is knowing whether the fuel burn matched the DP requirement.

FuelTrax Perspective

FuelTrax approaches DP fuel optimization as part of fuel efficiency, fleet optimization, and active operational management.

FuelTrax is an Electronic Fuel Management System designed to help operators measure, monitor, and manage fuel performance in real time. Its fuel efficiency approach emphasizes accurate data, direct fuel consumption measurement, onboard sensors, optimization tools, and continuous fleet visibility.

For PSV fleets, this matters because DP fuel performance cannot be evaluated by fuel totals alone.

Operators need to connect fuel burn to equipment use, vessel activity, operating mode, and field conditions.

This perspective is built around practical offshore requirements:

Measure Fuel Burn in Context

DP fuel consumption should be evaluated alongside vessel activity, power demand, and operating condition. A high burn rate may be expected in one DP condition and worth investigating in another.

Connect Fuel Use to Equipment Configuration

Fuel data becomes more useful when operators understand which engines and generators were running, how long they operated, and whether the configuration matched the DP requirement.

Protect Safety and Redundancy

FuelTrax does not replace DP procedures or operational judgment. The goal is not to reduce redundancy blindly. The goal is to identify avoidable fuel burn while maintaining safe operations.

Support Active Management

DP fuel optimization depends on timely visibility. If teams only review fuel burn after the job is complete, the opportunity to adjust may already be gone.

FuelTrax helps operators move beyond daily fuel totals by connecting measured fuel data to real PSV operating conditions.

Operational Takeaways

DP fuel optimization is about understanding fuel use in context.

During DP, fuel burn should be evaluated against operating conditions, power demand, and vessel activity—not distance traveled.

With better visibility into generator configuration, thruster demand, waiting time, and vessel mode, operators can identify avoidable fuel consumption while maintaining safety and redundancy.

The result is better fuel performance, improved operational awareness, and more informed fleet decisions.

Related Articles

- The Hidden Cost of Engine Hours in Offshore Operations
- Why Offshore Fuel Optimization Is Different Than Voyage-Based Shipping
- Fuel Security Offshore: Why Visibility Matters More Than Ever
- Technology Is Easy. Offshore Deployment Is Hard.
- How Offshore Operators Improve Fuel Accountability
- How EFMS Improves Operational Control

Download Whitepaper

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Contact FuelTrax

To learn how FuelTrax supports DP fuel visibility, PSV fleet optimization, fuel efficiency, and offshore operational intelligence, contact the FuelTrax team.