PREPARING FOR 2027 EPA REGULATION CHANGES:

A Fleet Planning Guide from Papé Kenworth

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EXECUTIVE SUMMARY

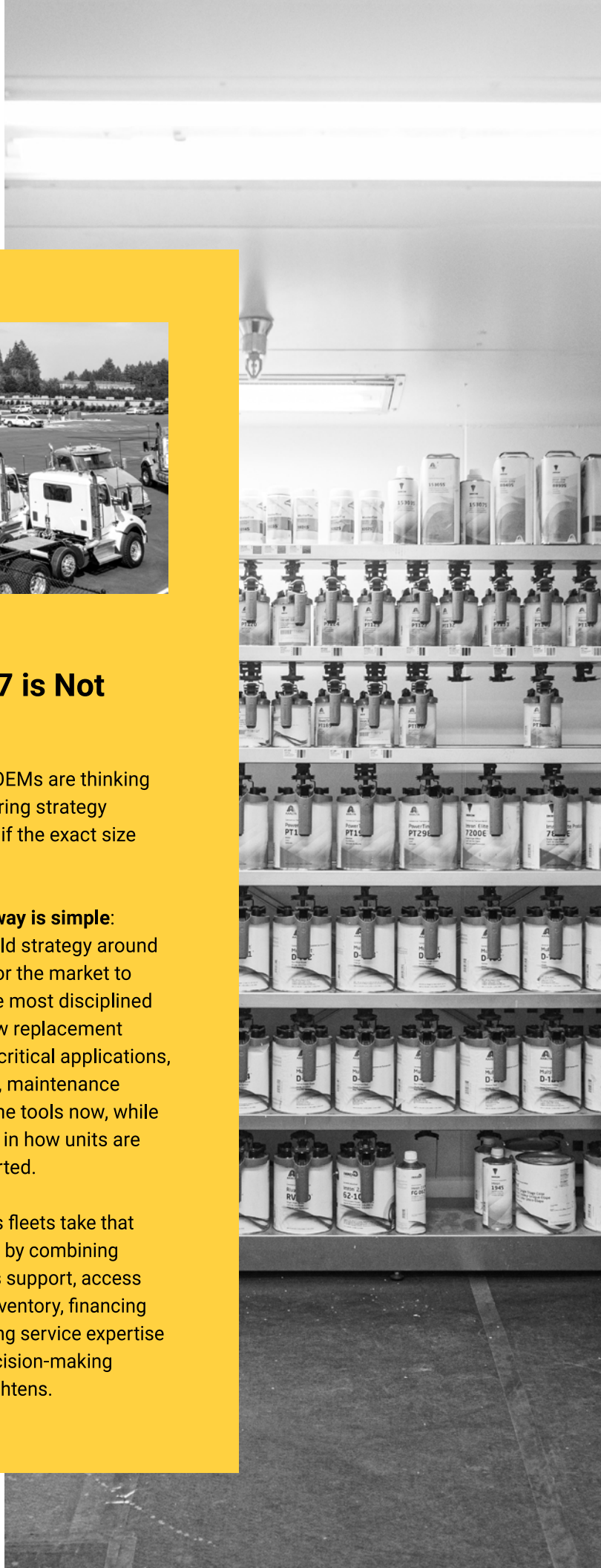
For Fleets Operating in the U.S., EPA27 is Not Just a Future Compliance Date

For fleets operating in the U.S., EPA27 is not just a future compliance date. It is a planning event that affects inventory availability, production schedules, and truck cost well before the first model year 2028 units reach full market volume. EPA's heavy-duty NOx rule, finalized in December 2022, establishes stricter emissions standards beginning in model year 2028, applies those standards across a broader range of operating conditions, and requires emissions performance over a longer portion of a truck's real-world life.[1]

That matters because emissions transitions rarely stay confined to engineering. They influence purchase price, warranty exposure, aftertreatment design, diagnostics, technician training, and the timing of fleet replacement decisions. Industry reporting continues to show that fleets, dealers, and OEMs are thinking carefully about ordering strategy ahead of 2027, even if the exact size remains uncertain.[2]

The practical takeaway is simple: fleets should not build strategy around guesswork or wait for the market to force their hand. The most disciplined approach is to review replacement schedules, mission-critical applications, financing structures, maintenance readiness, and uptime tools now, while preserving flexibility in how units are acquired and supported.

Papé Kenworth helps fleets take that disciplined approach by combining knowledgeable sales support, access to compliant truck inventory, financing guidance, and ongoing service expertise to support better decision-making before the market tightens.



INDUSTRY CONTEXT:
WHY EPA27 CHANGES MATTER NOW

It is easy to treat 2027 as a future compliance issue. In practice, the planning window is already open because truck procurement decisions happen well before vehicles enter service. OEM production scheduling, finance approvals, and vocational upfit timelines all move the real decision point earlier than the formal model-year deadline. Industry sources covering 2027 planning have emphasized that fleets cannot assume they will simply wait until 2027 and then buy exactly what they want on ideal terms.[3]

That is especially true for fleets that run demanding routes, seasonal workloads, or specialized vocational applications. In those environments, a truck purchase is not just a transaction. It is tied to uptime, operator familiarity, maintenance planning, and customer commitments.

The more specialized the truck, the less room there is for late-cycle decision-making if production slots or spec flexibility tighten.[4] Papé Kenworth's experienced teams help fleets evaluate those variables early, identify the right truck specs for each application, and develop a practical acquisition and support strategy before timelines become more compressed.

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WHAT EPA CHANGED:

Heavy-Duty NOx Standards

EPA27 heavy-duty rule is more than a simple tightening of one lab test number. The agency states that the final program sets stronger emissions standards for heavy-duty vehicles and engines starting in model year 2028, expands the operating conditions under which compliance must be demonstrated, and requires those standards to be met for a longer portion of the engine's on-road life.[5]

The rule also adds a new low-load cycle for diesel engines. That matters because low-load, low-temperature operation has long been one of the hardest environments for diesel aftertreatment systems to manage effectively. ICCT notes that the new low-load cycle is intended to better capture urban and other operating conditions where NOx aftertreatment tends to lose efficiency because exhaust temperatures are lower.[6]

Useful Life and Warranty Implications

One of the most significant business impacts of the rule is that EPA did not focus only on certification values. It also lengthened useful-life and warranty expectations so emissions systems must remain effective for more of the truck's working life. EPA's own rule summary and supporting materials show that for heavy-duty engines, useful life rises from 435,000 miles.[7] That is not a minor regulatory footnote: it has implications for component durability, warranty economics, maintenance expectations, and resale assumptions. In other words, EPA27 is about sustaining compliance much longer in real service.

That makes dealer support even more important. Papé Kenworth can help fleets prepare for these longer lifecycle expectations through expert service, maintenance support, and technician knowledge that keeps compliant equipment operating as intended over time.

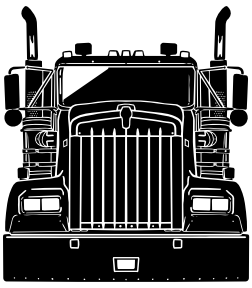
Greenhouse Gas Standards

EPA also finalized its Heavy-Duty Phase 3 greenhouse gas standards in March 2024. EPA describes those standards as technology-neutral and performance-based, applying in model year 2028 for certain heavy-duty categories and building over time. While the NOx rule is the most immediate driver of aftertreatment and service changes discussed in this paper, the broader GHG framework matters because it shapes OEM product roadmaps and how fleets think about long-term equipment strategy.[8]

WHAT EPA27 MEANS FOR TRUCK DESIGN

The engineering challenge behind EPA27 is significant because cold starts, low-load operation, and urban or stop-and-go duty cycles are exactly where NOx control becomes harder. EPA and ICCT both point to broader testing and low-load requirements as a central part of the new standard.[9] That is why the market is moving toward faster aftertreatment warm-up, more sophisticated thermal management, and tighter integration between electrical systems and emissions controls.

As truck systems become more advanced, fleets will need a dealership partner that can support both equipment selection and service readiness. Papé Kenworth helps customers navigate that complexity with knowledgeable staff, trained technicians, and support throughout the truck lifecycle.



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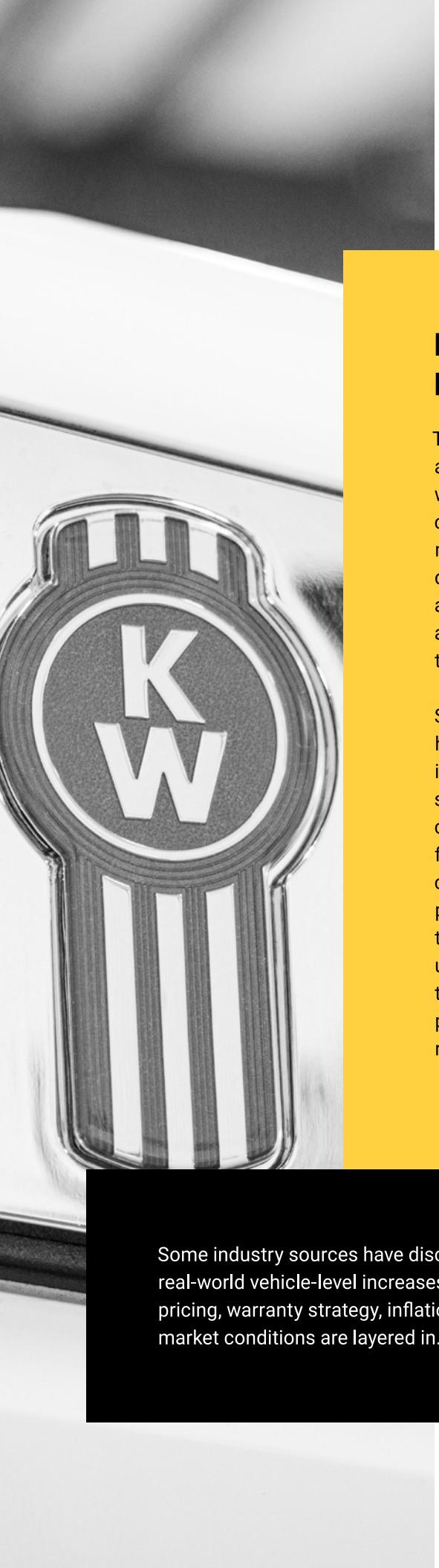

THE BUSINESS IMPACT:
COST, AVAILABILITY, AND RISK

New Truck Pricing Pressure

There is broad agreement that the rule adds cost, even if exact retail increases will vary by OEM, spec, and market conditions. EPA estimates incremental manufacturer cost for a heavy-duty diesel engine in a long-haul tractor at roughly $4,800 in 2017 dollars, or about a 4% increase in initial cost for the example vehicle.[10]

Some industry sources have discussed higher real-world vehicle-level increases once OEM pricing, warranty strategy, inflation, and broader market conditions are layered in. FleetOwner, for example, reported in 2025 that costs could rise by more than $20,000 per vehicle. That number should be treated as directional rather than universal, but it reinforces the point that fleets should model upward cost pressure rather than assume a flat replacement environment.[11]

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Downtime Matters as Much as Acquisition Price

A transition-year strategy built only around sticker price is incomplete. EPA's rule expands durability, warranty, serviceability, and diagnostic expectations because long-term in-use performance matters. That means the cost conversation should include shop readiness, diagnostic response, technician familiarity, and time-to-repair, not just the purchase order.

For many fleets, the real risk is not just paying more for a new truck. It is losing utilization because a more complex system fault takes longer to identify, communicate, schedule, and repair. That is exactly why remote diagnostics and dealer coordination are becoming more valuable as emissions systems become more integrated.

Papé Kenworth has the experience, expertise, and technology to manage your uptime needs throughout this transition and beyond. From factory-trained technicians to service capabilities that help reduce downtime, Papé Kenworth is equipped to support fleets as emissions systems become more sophisticated and service demands become more complex.

SHOULD BUYERS WAIT AND SEE?

Some fleets will understandably want to wait. Capital is expensive, policy headlines create noise, and some buyers prefer to see how first-wave 2027 equipment performs in service before making broader commitments; these are all rational instincts. But waiting also carries risk. EPA's current heavy-duty NOx rule remains on the books, OEMs continue developing compliant platforms, and trade media continue advising fleets to prepare rather than assume the transition will disappear. A strong fleet strategy doesn't mean "buy immediately, no matter the cost." It means you should plan early enough that you still have options.

That distinction matters. A prepared fleet can decide to order selected units early, stagger replacements, lean on lease structures, bridge with rental, or selectively source used equipment. An unprepared fleet is more likely to make a compressed decision with less pricing leverage and less spec flexibility.

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HOW FLEETS CAN PREPARE IN 2026

Review Replacement Cycles Now

Start with units that are already aging into higher repair exposure. EPA27 adds cost and complexity to future purchasing decisions, so trucks already approaching turnover deserve immediate review. The goal is to identify where the fleet is most exposed to a combination of maintenance risk and market timing risk.

Map Mission-Critical Applications

Not every truck in the fleet carries the same operational risk. Long-haul tractors, regional-haul units, vocational platforms, seasonal peak-capacity assets, and body-dependent specialty units should not be treated as one blended replacement pool. The more specialized the application, the more important it is to plan ahead for order timing, service strategy, and contingency coverage.

Improve Uptime Visibility

As trucks become more dependent on integrated electronic and aftertreatment systems, visibility becomes a competitive advantage. Kenworth technologies like TruckTech+ are designed to accelerate diagnostics, expedite repairs, and streamline communication[13]. That kind of capability does not remove the complexity of EPA27, but it can reduce the operational drag that complexity creates. For fleets preparing for stricter emissions performance and more system integration, faster fault visibility and better communication can materially support uptime.

Prepare Shops and Operators

The 2027 transition is also a maintenance and training event. EPA highlights broader serviceability, onboard diagnostics, and derate-related requirements as part of the final rule. That means fleets should think now about technician familiarity, driver education, DEF practices, and escalation paths for diagnostic issues.[12]

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WHY PAPÉ KENWORTH IS THE RIGHT FULL-SERVICE DEALERSHIP IN THIS TRANSITION YEAR

EPA's rule for model year 2028 heavy-duty engines and vehicles widens the operating conditions under which emissions must be controlled, lowers allowable NOx levels, and requires performance over a longer useful life and warranty period. Navigating these changes is more manageable with a partner like Papé Kenworth, whose full-service capabilities help fleets interpret requirements and plan with confidence. That support extends beyond the initial sale to include access to compliant truck inventory, knowledgeable sales guidance, expert technicians, service support, and uptime-focused technologies that help fleets stay productive.

The market response is less certain than some headlines suggest, but outside reporting consistently points to the same operational lesson: fleets should prepare early, preserve optionality, and avoid assuming they can make a last-minute decision without consequence. The best response is disciplined preparation. Review the replacement cycle. Identify mission-critical units. Evaluate service readiness. Compare acquisition pathways. Strengthen diagnostic visibility.

The objective is straightforward: protect uptime, control cost, and move into the 2027 transition with a plan built around how the fleet actually operates.

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The 2027 shift rewards planning, coordination, and lifecycle support. It is easier to navigate when truck acquisition, financing, service support, and uptime technologies are aligned rather than handled in separate silos; an approach Papé Kenworth is built to deliver.

NOTES

1. "Final Rule and Related Materials for Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards," Environmental Protection Agency, 2026, https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-standards-heavy-duty.

2. Jade Brasher, "EPA27 isn't dead yet. Will your fleet be prepared?" *FleetOwner,* 2025, https://www.fleetowner.com/emissions-efficiency/article/55315480/epa27-isnt-dead-yet-will-your-fleet-be-prepared.

3. Krystyna Shchedrina, "Pre-buy strategies are critical as EPA27 regulations and challenges approach," *TruckNews.com,* 2024, https://www.trucknews.com/sustainability/pre-buy-strategies-are-critical-as-epa27-regulations-and-challenges-approach/1003191337/.

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5. Yihao Xie, "U.S. heavy-duty vehicle NOX standards: Updates to emission limits, testing requirements, and compliance procedures," International Council On Clean Transportation, 2023, https://theicct.org/wp-content/uploads/2023/07/us-nox-standards-update-jul23.pdf.

6. Felipe Rodríguez and Francisco Posada, "Future Heavy-Duty Emission Standards: An Opportunity for International Harmonization," 2019, https://theicct.org/wp-content/uploads/2021/06/Future-_HDV_standards_opportunity_20191125.pdf.

7. "EPA's Heavy-Duty 2027 Final Rule: An Overview for NACAA MSF Committee," National Association of Clean Air Agencies, 2023, https://www.4cleanair.org/wp-content/uploads/2023-03-03_EPA_HD2027_FRM_NACAA.pdf.

8. EPA, "Final Rule."

9. EPA, "Final Rule."

10. NACAA, "EPA's Heavy-Duty 2027 Final Rule."

11. Brasher, "EPA27 Isn't Dead."

12. NACAA, "EPA's Heavy-Duty 2027 Final Rule."

13. "Kenworth TruckTech+," Kenworth, n.d., https://www.kenworth.com/innovation/connected-trucks/.

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