



Tier 4 Waiver Regulation (40 CFR 1042.145(m))

- Vessel manufacturers must send a written request for the exemption to the Designated Compliance Officer. The request must:
 - Describe efforts taken to identify available engines certified to the Tier 4 standards
 - Describe design efforts that would be needed to install a Tier 4 engine in the vessel
 - Identify the number of vessels needing exempt engines
 - Demonstrate that the vessel cannot meet essential performance specifications using available Tier 4 engines
 - State that engine and vessel manufacturers will meet all the terms and conditions that apply.



Application Process

- A. Vessel builder identifies a need to build one or more eligible vessels (see 40 CFR 1042.145(k)(2)).
- B. Vessel builder consults with engine suppliers to see what Tier 4 & Tier 3 options are available.
- C. Vessel builder submits request to EPA containing information on checklist (see next slides).
- D. EPA may ask for additional information before making a decision.
- E. If EPA approves the waiver, EPA will provide an exemption approval letter to the applicant.
- F. Vessel builder shares the EPA approval letter with the chosen supplier of the Tier 3 engine.
- G. Engine supplier ships the properly labeled and exempted engine(s) to the vessel builder.



Application Checklist

1. Identify the vessel: hull material, waterline length (ft), total propulsion power (kW) with preferred engine, maximum design speed (knots) that would be advisable based on industry norms absent EPA regulation
2. Identify the preferred Tier 3 engine: manufacturer, rated power & speed, model ID, prior EPA family if applicable
3. Identify potentially suitable Tier 4 engines that are infeasible: manufacturer, model ID, rated power & speed, and EPA engine family name (if available)



Application Checklist (cont'd.)

4. Identify vessel design parameters that would need to change to enable installation of a Tier 4 engine. Describe why making those changes would cause the vessel to not meet essential performance specifications.
5. Describe how many vessels are currently planned for which a Tier 4 engine waiver is being requested at this time.
6. State that parties will meet the terms and conditions of 1042.145(m).



Regulatory Specifications

- Eligible Propulsion Engines:
 - Specific power density above 35.0 kW/L
 - Maximum power 1000 kW
 - Per-cylinder displacement less than 7 liters
- Eligible Vessels:
 - Fiberglass or non-metal hull material
 - Waterline length (L) at or below 50 ft
 - Maximum speed (knots) at or above $3.0 \times L^{1/2}$



Other References

- Designated Compliance Officer:
 - Supervisor, Diesel Engine Compliance Branch, US EPA
 - Address: 2000 Traverwood Drive, Ann Arbor, MI 48105
 - Email: complianceinfo@epa.gov
- Published Engine Certification Data:
 - [Annual Certification Data for Vehicles, Engines, and Equipment | US EPA](https://www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engines-and-equipment#CT)
 - <https://www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engines-and-equipment#CT>