I. Introduction

In April 2019, Mayor Eric Garcetti released L.A.'s Green New Deal Sustainability pLAn, which set aggressive goals for the City's sustainable future. Mayor Eric Garcetti's Green New Deal establishes L.A.'s position as a national leader for municipal fleet procurement, thus the City of Los Angeles, Harbor Department (Harbor Department or Port) staff reviewed the Port's existing strategies to determine the current level of compliance with this goal. With minimal changes to these specifications, the Port is on track to adopt zero emission (ZE) fleet technologies as they become feasible for Port operations. Please refer to the "General Guidelines for Purchasing New Vehicles, Equipment and Vessels" as well as the accompanying decision trees, which provide general guidance for purchasing the cleanest and most efficient new vehicles.

The following are specifications for purchasing new vehicles, equipment and harbor vessels for the Port. It should be noted that the final selection in purchasing a new vehicle, equipment, or vessel should take into consideration the specific operational requirements for the Port's Divisions and regulatory requirements. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exists in the fleet in order to benefit from improved maintenance, training costs, and compatible charging infrastructure. The Port's Environmental Management Division (EMD) should be consulted for any diesel purchases or deviations from the specifications below.

II. Passenger Cars (PCs), Light-Duty Vehicles (LDV), and Medium-Duty Vehicles (MDV)

New PCs/LDVs/MDVs must be zero emission vehicles (ZEVs) if available and feasible. All new vehicles must meet the operational requirements of the Port's Divisions. If a ZEV is not available or feasible, then select a hybrid and/or CNG vehicle. For each vehicle class/type, the cleanest of hybrid or CNG must be selected based on the vehicle's Environmental Performance (highest combined Smog and Greenhouse Gas Ratings) when ZEV is not feasible. If neither hybrid nor CNG vehicles are available for a vehicle class/type, gasoline or diesel SULEVs [1] must be considered (if available) then followed by gasoline or diesel ULEVs[2], if SULEVs are not available. Select the vehicle with the highest combined Smog and Greenhouse Gas Ratings. The Smog and Greenhouse Gas Ratings for new vehicles are available at California Air Resources Board's (CARB) "Drive Clean" website at http://www.driveclean.ca.gov/. If the decision is made to purchase a diesel vehicle, notify EMD in order to process the necessary waivers to regulatory agencies.

[1] Super Ultra Low Emission Vehicles
[2] Ultra Low Emission Vehicles

III. Harbor Craft

New diesel-powered harbor vessels must be equipped with propulsion and auxiliary engines that meet the cleanest applicable marine engine emission standards in effect at the time of vessel acquisition. However, if ZE, hybrid, alternatively-fueled (e.g. CNG, LNG), or gasoline engines meeting and/or exceeding the current cleanest marine engine emission standards are available and meet the Port's operational requirements, they should be given priority consideration over diesel engines in that specific order. All new engines must meet the operational requirements of the Port and CARB's Commercial Harbor Craft Regulation requirements.

Whenever purchasing a new harbor vessel or salvaging an old vessel, please contact EMD to ensure the new vessel meets current CARB Commercial Harbor Craft Regulation requirements and to update the Port's Harbor Craft Fleet information with CARB.

IV. Off-Road Diesel Equipment and Alternatives

New off-road diesel equipment must be equipped with off-road engines that meet or exceed the cleanest applicable off-road diesel engine emission standards (e.g. Tier 4, Tier 4 Final) in effect at the time of equipment acquisition. However, if ZE, hybrid, alternatively fueled (e.g., CNG, LNG), or gasoline equipment meeting the cleanest applicable off-road diesel equipment emission standards are available and meet the Port's operational requirements, they should be given priority consideration over diesel equipment in that specific order.

Whenever purchasing or salvaging off-road equipment, please contact EMD to update the Port's Off-Road Diesel Vehicle fleet information (DOORS) as part of CARB's Off-Road Diesel Regulation.

V. Large Spark-Ignited (LSI) Off-Road Equipment and Alternatives

LSI equipment is defined as self-propelled, off-road equipment fueled by CNG, LNG, or gasoline powered engine with gross horsepower of 25 horsepower or greater, or is designed to produce 25 horsepower or greater. Examples of LSI equipment are forklifts, industrial tow tractors, single engine sweeper/scrubbers, and pieces of airport ground support equipment. LSI equipment definition does not include scissor or boom hoists. New small off-road equipment must be ZE equipment (e.g., electric forklifts) if available and meet the specific operational requirements of the Port. If no ZE equipment is available, hybrid equipment must be purchased. If no ZE or hybrid equipment is available, then the new LSI equipment must meet or exceed the cleanest applicable LSI engine emission standard. The latest LSI engine emission standard applies to all 2010 and subsequent model engines.

Whenever purchasing or salvaging any LSI or ZE equipment, please contact EMD to update the Port's LSI Off-Road Equipment fleet information as part of CARB's LSI Regulation.

VI. On-Road Heavy-Duty Vehicles

New on-road heavy-duty vehicles must be either alternative-fuel heavy-duty vehicles (e.g., hydrogen, electric, CNG, LNG, gasoline) or dual-fuel[3] heavy-duty vehicles which meet or exceed CARB low NOx on-road heavy-duty diesel engine emission standards when available. However if ZE or hybrid vehicles are available, and meet the Port's operational requirements, they should be given priority consideration over other equipment in that specific order. Additionally, if alternative-fuel or dual-fuel vehicles are not commercially available or would not meet the Port's operational requirements for the specified engine and chassis/body configurations, then the cleanest available heavy-duty gasoline or diesel vehicles must be considered. EMD must be contacted if diesel vehicle is chosen due to unavailability of ZE, hybrid, or alternatively fueled vehicle to obtain the appropriate regulatory waivers.

NOTE: For all categories above, if the equipment is determined to be prohibitive by the Port, choose the next feasible and cleanest option. EMD should be notified of any diesel purchases for regulatory requirements.

APPROVAL:

C&M Division Director
Tim Clark

Manager of Quality Assurance
Michael Dinius

Division 142, Second-Level Supervisor
David Orozco

REVISION HISTORY

REVISION #	DATE	SECTIONS AFFECTED
0	06/01/21	All

[3] Dual-fuel heavy-duty vehicle refers to a heavy-duty vehicle with a diesel engine that uses alternative fuels (e.g., LNG, LPG) in combination with diesel fuel with the alternative fuel supplying 85% of the total engine fuel requirement on a BTU basis.

REFERENCES:

Harbor Department "General Guideline for Purchasing New Vehicles (PCs, LDVVs, MDVs)" Decision Tree

Harbor Department "General Guidelines for Purchasing New Off-Road Diesel Equipment and Alternatives" Decision Tree

Harbor Department "General Guidelines for Purchasing New On-Road Heavy-Duty Vehicles" Decision Tree

Harbor Department "General Guidelines for Purchasing New Off-Road Large Spark-Ignited (LSI) Equipment and Alternatives" Decision Tree

Harbor Department "New Marine Vessel Replacement Guidelines" Decision Tree

C&M "General Guidelines for Purchasing New Vehicles, Equipment, and Vessels"

Harbor Department, Environmental Management Division, "Specifications for Purchasing New Vehicles, Equipment and Vessels for the Port of Los Angeles," 08/2019

Introduction

This guideline and the accompanying decision trees are intended to provide general guidance for purchasing the cleanest and most efficient new equipment. The final decision in purchasing any new equipment needs to take into consideration the specific operational and regulatory requirements of the City of Los Angeles, Harbor Department's divisions and whether this equipment can meet these requirements. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exists in the fleet in order to benefit from improved maintenance, training costs, and compatible charging infrastructure. However, the objective is to always purchase the cleanest vehicle feasible.

Please refer to "Specifications for Purchasing New Vehicles, Equipment and Vessels for the Port of Los Angeles" for more details on what specifications these types of equipment need to meet prior to procurement.

The Port's Environmental Management Division (EMD) must be consulted for any diesel-using equipment purchases or deviations from the specifications below.

The primary reference tool for buying new clean vehicles is the California Air Resources Board's (CARB) "Drive Clean" website at http://driveclean.ca.gov/. The site contains basic information on all new vehicle makes/models (e.g., engine displacement, number of cylinders, transmission type, and fuel technology) manufactured from 2000 to present, up to 10,000 pounds gross vehicle weight rating (GVWR). For each vehicle make/model, ratings of the Emission Certification Standard and the Environmental Performance (EP) are provided in the form of "Smog Rating" and "Greenhouse Gas Rating"[1], respectively. Each rating is from 1 to 10 with the cleanest and most efficient cars receiving the highest scores. The Smog Ratings are based on the vehicle's Non-Methane Organic Gases (NMOG) and Oxides of Nitrogen (NOx) emission levels while the Greenhouse Gas Ratings are based on a calculated CO_2-equivalent value (Carbon Dioxide). If the vehicle of interest is not found on the "Drive Clean" site (e.g., greater than 10,000 pounds GVW), another source of information for the vehicle's emission standard is CARB's On-Road New Vehicle and Engine Certification Program website at http://www.arb.ca.gov/msprog/onroad/cert/cert.php .

City of Los Angeles' New Green Deal Sustainable City pLAn (pLAn) as of 2019, has set incremental goals of expanding the City's zero emission (ZE) vehicle fleet (Table 1) with the ultimate goal of 100% of the City fleet zero emissions by 2050. As part of the City of Los

[1] The EP label is required on all new cars sold in California that are manufactured after January 1, 2009. On CARB's "Drive Clean" site, Smog Ratings are provided for every vehicle dating back to model year 2000. Beginning with model year 2009, Greenhouse Gas Ratings are provided when available from manufacturers.

Angeles, the Harbor Department must do its part in helping to achieve the pLAn's ZE goals by prioritizing the purchase of ZE vehicles and equipment.

Table 1: pLAn ZE Fleet Goals

% of ZE in City Fleet	Deadline Year
25%	2025
80%	2035
100%	2050

I. Smog & Greenhouse Gas Rating

The following tables present the definition of the Smog and Greenhouse Gas Ratings. The Smog Rating table (Table 2) provides the rating from 1 to 10, and the corresponding EPA or CARB Emission Standards and emission rates (g/mile). The Greenhouse Gas Rating table (Table 3) provides the scores from 1 to 10, along with the corresponding CO_2 equivalent emission rates (g/mile).

If the Smog Rating is not available on the "Drive Clean" website, but the CARB Vehicle Emission Standard of a vehicle is known (e.g. ZEV, SULEV, etc.), Table 2 below can be used as a quick reference to find the Smog Rating. For example, if a vehicle has an Emission Standard of Bin 3, then the corresponding Smog Rating is 5 using Table 2. If the Greenhouse Gas Rating is not available on the "Drive Clean" website, it can be obtained from the vehicle's Environmental Performance label or from the manufacturer/dealer.

NOTE: The following tables are updated periodically. Employees are responsible for finding the correct Smog and Greenhouse Ratings.

Table 2: Smog Rating

Smog Rating	Emission Standard	NMOG + NO_x (gram per mile)
10	Bin 0, Bin 1, ZEV	0
9		
8	Bin 20, SULEV20	0.02
7	Bin 30, Bin 2, SULEV30	0.03
6	Bin 50, ULEV50	0.05
5	Bin 85, Bin 70, Bin 3, ULEV70	0.07
4		
3	Bin 125, Bin 110, Bin 4, ULEV125	0.125
2		
1	Bin 160, Bin 5-8, LEV160	0.160

Definitions:
ZEV = Zero Emission Vehicle
SULEV = Super Ultra-Low Emission Vehicle
ULEV = Ultra-Low Emission Vehicle
LEV = Low Emission Vehicle
Bin 1 to 8 = US EPA Tier 2 Emission Standard Certification Bins
Bin 0, 20-160 = US EPA Tier 3 Emission Standard Certification Bins

Table 3: Greenhouse Gas Rating

Greenhouse Gas Rating	CO_2 Equivalent (grams per mile)
10	0 - 169
9	170 - 209
8	210 - 250
7	251 - 291
6	292 - 335
5	336 - 395
4	396 - 456
3	457 - 539
2	539 - 613
1	614+

II. Guidelines for Purchasing New Vehicles (Passenger Cars (PCs), Light-Duty Vehicles (LDVs), and Medium-Duty Vehicles (MDVs))

A. Available and Feasible Vehicle Class and Category

Identify the general class of vehicle of interest (PC, LDV, or MDV).

1. Access the "Drive Clean" website.
2. Click "Search Vehicles."
3. Select the technology of interest under "Vehicle Type" (e.g. Battery Electric).
4. Click "Search."

   The search results in this case show a listing of all vehicles available with that technology or fuel type from different vehicle manufacturers and in different vehicle classes.

NOTE: Make sure to click "clear" after each search, as the website will remember your past selections when you run another search.

B. Select a Zero Emission Vehicle (ZEV)

1. Access the U.S. Department of Energy "Fuel Economy" website at.
2. Under the "Find & Compare Cars" heading, click on the "Compare Side-by-Side" link.
3. Input the information of the desired ZEV found in Section II.1 from the "Drive Clean" website.
4. Compare the duty cycle and refueling cycle of the ZEV.
5. Determine if the estimated Total Range of vehicles are feasible for the expected daily mileage (duty cycle) of the purchased price.
6. Select Charging or Refueling Infrastructure
   i. Determine the type of fueling that would be required for the purchased vehicle.

      A list of charging along with the power supply needed for the vehicle can be found on the "Drive Clean" website.

   ii. Electric Charging
      a) Determine if there is enough power to supply the charger.
      b) Determine if the charger can be readily installed on Port property.

         An adapter may be required if current electric charging infrastructure cannot charge the desired vehicle.

         All new Plug-in Electric Vehicles (PEV) can be charged using a 120-volt standard connector (J1772). Fully recharging an electric vehicle from an empty battery can take up to 12 hours using a 120-volt charging plug. Fully

charging an electric battery from an empty battery can take up to 4 to 8 hours using a 240-volt charger. The 240-volt requires the purchase and installation of specialized charging equipment. A "fast charge" to 80% capacity takes at least 30 minutes using a 440-volt charging plug. A 440-volt charging plug varies by car manufacturer.

iii. Hydrogen Refueling

a) Determine if there is an appropriate location for hydrogen fueling infrastructure (mobile or stationary) at the Port

Hydrogen fueling infrastructure regardless if it is mobile or stationary must meet LAFD and City safety requirements prior to installation or placement onsite.

b) Determine if hydrogen will be stored onsite or if hydrogen will be produced onsite to refuel the vehicle/s

NOTE: If ZE technologies are not feasible, then hybrid and/or alternative fuel (CNG) vehicles may be selected, per the process outlined in Step C below.

C. Select a Hybrid and/or Alternative Fuel Vehicle

1. Access the "Drive Clean" website.
2. Click "Search Vehicles."
3. Select your desired vehicle category
4. Click "Search."

The search results show a listing of all vehicles using different technologies and fuels in that vehicle class

5. Check Smog and Greenhouse Gas Ratings

i. Identify all the comparable new hybrid and/or CNG vehicles in the search results from Step C.

ii. Find their Smog and Greenhouse Gas Ratings and add these scores together.

iii. Select the hybrid or CNG vehicle with the highest combined Smog and Greenhouse Gas Ratings.

In a case where the highest combined Smog and Greenhouse Gas Ratings are tied but individual scores are different, (e.g. Vehicle X with Smog Rating 8 and Greenhouse Gas Rating 9 vs. Vehicle Y with Smog Rating 9 and Greenhouse Gas Rating 8), preference should be given to the higher Smog Rating.

If the Smog and Greenhouse Gas Ratings of vehicles are identical, the choice should be based on the end user's preference.

Table 4 provides a list of comparable SUV hybrids, the 2021 Toyota Highlander Hybrid and Toyota RAV4 Hybrid AWD are tied with the best EP scores among

the three vehicles. It is up to the user's preference to select which of the two vehicles to purchase.

Table 4: Example Smog & Greenhouse Gas Ratings

Model Year	Vehicle Make	Vehicle Model	Smog Rating	Greenhouse Gas Rating	Total Score	Emissions Cert. Std.
2021	Ford	Explorer Hybrid	5	5	10	ULEV70
2021	Toyota	Highlander Hybrid	8	7	15	SULEV20
2021	Toyota	RAV4 Hybrid AWD	8	7	15	SULEV20

NOTE: If a cleaner vehicle type is available, but not the same manufacturer as past purchases, then the cleaner vehicle type should be selected unless there are compelling reasons why a dirtier vehicle would be selected. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exist in the fleet, in order to benefit from improved maintenance and training costs; however the objective is always to purchase the cleanest vehicle feasible. EMD should be consulted for these instances.

If hybrid or CNG vehicles meeting operational criteria are not available and feasible, gasoline vehicles may be selected, per the process outlined in Step D below.

D. Select a Gasoline Vehicle

1. Identify all the comparable new gasoline vehicles following the same instructions from Step C above for a gasoline vehicle search.
2. For these gasoline vehicles, find their Smog and Greenhouse Gas Ratings and add them together.
3. Select the vehicle with the highest combined Smog and Greenhouse Gas Ratings.
4. In a case where the highest combined Smog and Greenhouse Gas Ratings are tied but individual scores are different, (e.g. Vehicle X with Smog Rating 8 and Greenhouse Gas Rating 9 vs. Vehicle Y with Smog Rating 9 and Greenhouse Gas Rating 8), preference should be given to the higher Smog Rating.
5. If the Smog and Greenhouse Gas Ratings of vehicles are identical, the choice is based on the end user's preference.

NOTE: If the cost of the equipment is determined to be prohibitive by the Department, choose the next feasible and cleanest equipment.

E. Select a Diesel Vehicle

1. Notify EMD that you wish to select a diesel vehicle in order to request a technical infeasibility request waiver from regulatory agencies.
2. Identify all the comparable new diesel vehicles following the same instructions from Step C above for a diesel vehicle search.
3. For these diesel vehicles, find their Smog and Greenhouse Gas Ratings and add them together.
4. Select the vehicle with the highest combined Smog and Greenhouse Gas Ratings.
5. In a case where the highest combined Smog and Greenhouse Gas Ratings are tied but individual scores are different, (e.g. Vehicle X with Smog Rating 8 and Greenhouse Gas Rating 9 vs. Vehicle Y with Smog Rating 9 and Greenhouse Gas Rating 8), preference should be given to the higher Smog Rating.
6. If the Smog and Greenhouse Gas Ratings of vehicles are identical, the choice is based on the end user's preference.

NOTE: Any purchase of an on-road diesel vehicle requires the Harbor Department to obtain a waiver from air regulatory agencies prior to purchase due to their public fleet regulations.

III. General Guidelines for Purchasing Other On-Road and Off-Road Equipment

These guidelines are based on a hierarchy of available technologies in each of the three categories. The final decision in purchasing any new vehicle will also take into consideration the specific operational requirements of the end user and whether these vehicles can meet these requirements.

Alternative fuels include but are not limited to propane, CNG, and LNG. If technologies are not feasible, hybrid, gasoline, or diesel vehicles may be selected.

A. New Off-Road Diesel Equipment

- If ZE equipment is commercially available as an alternative to diesel:
  1. Determine whether ZE equipment is commercially available as an alternative to diesel.
  2. Determine if charging/refueling infrastructure is available.
  3. Select ZE equipment.
- If ZE purchase is not feasible, follow the steps below:
  7. Determine whether hybrid equipment is commercially available.
  8. Select hybrid equipment.
- If hybrid equipment is NOT available, follow the steps below:
  1. Determine whether alternate fuel equipment is commercially available.

2. Select alternative fuel equipment.

NOTE: If alternative fuel equipment is NOT commercially available, determine the cleanest available off-road diesel equipment. Cleanest off-road diesel equipment is equipped with engines that meet or exceed Tier 4 engine standard. EMD should be notified to update the Harbor Department's Off-Road Diesel fleet to CARB.

B. New On-Road Heavy Duty Vehicles (14,000 lb. or greater GVWR)

- If ZE equipment is available as an alternative to diesel:
  1. Determine whether ZE equipment is commercially available as an alternative to diesel.
  2. Determine if electric charging or refueling infrastructure can be obtained.
  3. Select ZE equipment.
- If ZE purchase is not feasible, follow the steps below:
  1. Determine whether hybrid equipment is commercially available.
  2. Select hybrid equipment.
- If hybrid equipment is NOT available, follow the steps below:
  1. Determine whether alternative fuel equipment is commercially available.
  2. Select alternative fuel equipment.
- If alternative fuel equipment is NOT available, follow the steps below:
  1. Determine whether dual-fuel equipment is commercially available. (This includes dual fuel using CNG, LNG, etc. that meets or exceeds the 2010 on-road heavy-duty diesel engine emission standards).
  2. Select dual-fuel equipment.
- If dual-fuel equipment is NOT commercially available, follow the steps below:
  1. Determine the cleanest heavy-duty gasoline or diesel vehicle. Contact EMD if gasoline or diesel heavy-duty vehicle is selected due to unavailability of equipment fueled by other fuel types.

NOTE: A waiver must be issued by air regulatory agencies prior to purchase of any on-road diesel vehicle. Contact EMD in order to file the waiver.

C. New Off-Road Large Spark-Ignited (LSI) Equipment (25 HP or over)

- If ZE equipment is available as an alternative to gasoline:
  1. Determine whether ZE equipment is commercially available as an alternative to diesel.
  2. Determine if electric charging or refueling infrastructure is available.

3. Select ZE equipment.

- If ZE equipment is NOT commercially available as an alternative to gasoline, follow the steps below:
  1. Determine whether hybrid equipment is commercially available.
  2. Select hybrid equipment.
- If hybrid equipment is NOT commercially available, follow the steps below:
  1. Determine whether alternative fuel equipment is commercially available.
  2. Select alternative fuel equipment.
- If alternative fuel equipment is NOT commercially available, follow the steps below:
  1. Determine the cleanest available gasoline equipment meeting or exceeding current LSI engine emission standards.

NOTE: EMD should be notified of any ZE or LSI purchase to update the Harbor Department's LSI fleet to CARB.

D. New Marine Vessel Replacement

- If ZE or alternative fuel equipment is available as an alternative to diesel:
  1. Determine if ZE or alternative fuel options are commercially available as an alternative to diesel-powered vessels for the desired application.
  2. Determine whether these fuel options are supported by our current infrastructure or fueling infrastructure can be installed/obtained.
  3. Determine whether these fuel options are prohibitive to the end user in performing their operational function.
  4. Select vessel with the best emission standards.
- If alternative fuel options are NOT commercially available as an alternative to diesel-powered vessels for the desired application, follow the steps below:
  1. Select vessel with the highest diesel Tier rating as required by the CARB Commercial Harbor Craft Regulation. Contact EMD for latest CARB Commercial Harbor Craft Regulation requirements.

NOTE: If the cost of the equipment is determined to be prohibitive by the Department, contact EMD in order to obtain a technical infeasibility report waiver for CARB's Commercial Harbor Craft Regulation. EMD should be notified of any harbor craft purchase to update the Port's harbor craft fleet with CARB.

APPROVAL:

Director of Port Construction and Maintenance
Tim Clark

Manager – Quality Assurance
Michael Dinius

Div. 142 Second-Level Supervisor
David Orozco

REVISION HISTORY

REVISION #	DATE	SECTIONS AFFECTED
0	06/01/2021	All

REFERENCES:

Harbor Department "General Guideline for Purchasing New Vehicles (PCs, LDVVs, MDVs)" Decision Tree

Harbor Department "General Guidelines for Purchasing New Off-Road Diesel Equipment and Alternatives" Decision Tree

Harbor Department "General Guidelines for Purchasing New On-Road Heavy-Duty Vehicles" Decision Tree

Harbor Department "General Guidelines for Purchasing New Off-Road Large Spark-Ignited (LSI) Equipment and Alternatives" Decision Tree

Harbor Department "New Marine Vessel Replacement Guidelines" Decision Tree

"Specifications for Purchasing New Vehicles, Equipment and Vessels for the Port of Los Angeles," Environmental Management Division, 08/2019

I. VEHICLE AND EQUIPMENT REPLACEMENT GUIDELINES

When considering replacement of vehicles or equipment, there are several factors that must be included in an evaluation. These factors are, but not limited to: age, mileage or hours, usage history, future usage needs, original cost, replacement cost, incurred maintenance and operational costs, and repair history. Since the use of each Harbor Department (City) owned vehicle or piece of equipment will differ within the Port of Los Angeles, applying a comprehensive policy is difficult. However, if a general standard is applied as a guide rather than as a strict rule, it could be utilized effectively to achieve a workable replacement program.

The Director of Port Construction and Maintenance is responsible for timely vehicle and equipment replacement and should be consulted when replacement lists are compiled. In addition, all new replacement requests must be submitted to the Director of Port Construction and Maintenance no later than **October 31st of each year**.

Deviations from the replacement criteria are permitted if a need is presented to show that it would be more cost effective and/or service beneficial. However, every effort must be made to ensure that the Port follows all current regulations and purchases the cleanest available equipment. Environmental Management Division (EMD) should be notified of any deviations from the replacement guidelines or purchases of diesel equipment. Replacement guidelines are divided into four categories as follows: Light Vehicles and Equipment, Heavy Vehicle and Equipment, High Usage Vehicles, and Other Equipment. Each category has its own distinct replacement criteria as follows:

II. LIGHT VEHICLES

Generally, this category includes passenger vehicles, light and medium duty pickup trucks, and trailers; each incorporating a fluid type brake system if applicable and/or falling into a GVWR class under 26,001 pounds.

A. A vehicle or piece of equipment *can* be replaced in its tenth year.

B. A vehicle or piece of equipment *must* be replaced in its fifteenth year.

C. One third of all vehicles and equipment in this class over ten years old *will* be replaced annually.

D. Where practical to balance vehicle usage, assignment of vehicles will be changed annually by reviewing the miles that have been put on each vehicle and reassigning those where there are extremes in variation.

III. HEAVY VEHICLES

Generally, this category includes heavy trucks, tractors, and construction equipment; each incorporating an air type brake system if applicable and/or falling into a GVWR class of 26,001 pounds or above.

A. A vehicle or piece of equipment *can* be replaced in its fifteenth year.

B. A vehicle or piece of equipment *must* be replaced in its twentieth year.

C. A vehicle or piece of equipment in this class that is very large such as a track loader or heavy duty gen-set *can* be replaced in its twentieth year but *must* be replaced in its twenty-fifth year.

D. An obsolete vehicle or piece of equipment should be replaced when it can no longer be economically maintained or repaired due to insufficient unavailable parts. Here, the question of obsolescence should be carefully considered. For example, if a vehicle or piece of equipment is still functioning, still repairable, and is still operationally required, even if it is obsolete, it should be retained for as long as needed.

E. Replacement should be considered when the cost of a repair of a heavy vehicle or piece of equipment equals or exceeds the Original Cost by 60% or more.

F. Replacement should be considered when a combination of age, mileage hours, usage requirements, and the depreciation factor of 10% per year of Original Cost reach such a point as to make replacement fiscally feasible. When considering heavy vehicles or pieces of equipment, especially when there are only a few examples of different types within the Division's inventory, the question of age and mileage becomes a secondary consideration in determining replacement.

IV. HIGH USAGE VEHICLES

Generally, this category includes Port Police vehicles and Port Pilot vehicles.

A. An emergency response vehicle (police patrol, SUV, K-9, etc.) *can* be replaced in its seventh year or upon reaching 100,000 miles.

B. A police motorcycle *can* be replaced in its seventh year or upon reaching 96,000 miles.

C. Port Pilot vehicle *can* be replaced in its tenth year or upon reaching 100,000 miles.

D. In all cases, a repair history of 60% of replacement cost, as in III.E above, is sufficient criteria unto itself for vehicle replacement.

V. OTHER EQUIPMENT

Generally, this category includes equipment that has not already fallen into any of the above categories.

A. Equipment with an original cost of $5,000 or less *will* be replaced at the discretion of the Director of Port Construction and Maintenance using a general average of a seven-year usage cycle or when replacement may be warranted.

B. Equipment with an original cost of $5,000 or more will be considered for replacement primarily on the basis of repair history and replacement cost, using the 60% repair/replacement guidelines as criteria.

When replacing vehicles and equipment, the accompanying Harbor Department decision trees shall be used. The flowchart guides will be used when compiling information to purchase new vehicles and equipment for the Harbor Department. These flowcharts provide a path to follow to obtain the needed vehicles and equipment and still remain complaint within required governing rules and regulations. The end user may also use the "General Guidelines for Purchasing New Vehicles, Equipment, and Vessels" and the "Specifications for Purchasing New Vehicles, Equipment and Vessels for the Port of Los Angeles,"

Staff from the Environmental Management Division (EMD) and the Construction and Maintenance (C&M) has met, discussed, and concur that the Harbor Department's vehicle procurement procedure must satisfy both operational requirements and air quality objectives. In short, purchases must comply with City and Department directives and, South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (CARB) regulations.

APPROVAL:

C&M Division Director
Tim Clark

Manager of Quality Assurance
Michael Dinius

Division 142, Second-Level Supervisor
David Orozco

REVISION HISTORY

REVISION #	DATE	SECTIONS AFFECTED
0	01/01/79	All
1	06/02/21	Section 1

REFERENCES:

Harbor Department "General Guideline for Purchasing New Vehicles (PCs, LDVVs, MDVs)" Decision Tree

Harbor Department "General Guidelines for Purchasing New Off-Road Diesel Equipment and Alternatives" Decision Tree

Harbor Department "General Guidelines for Purchasing New On-Road Heavy-Duty Vehicles" Decision Tree

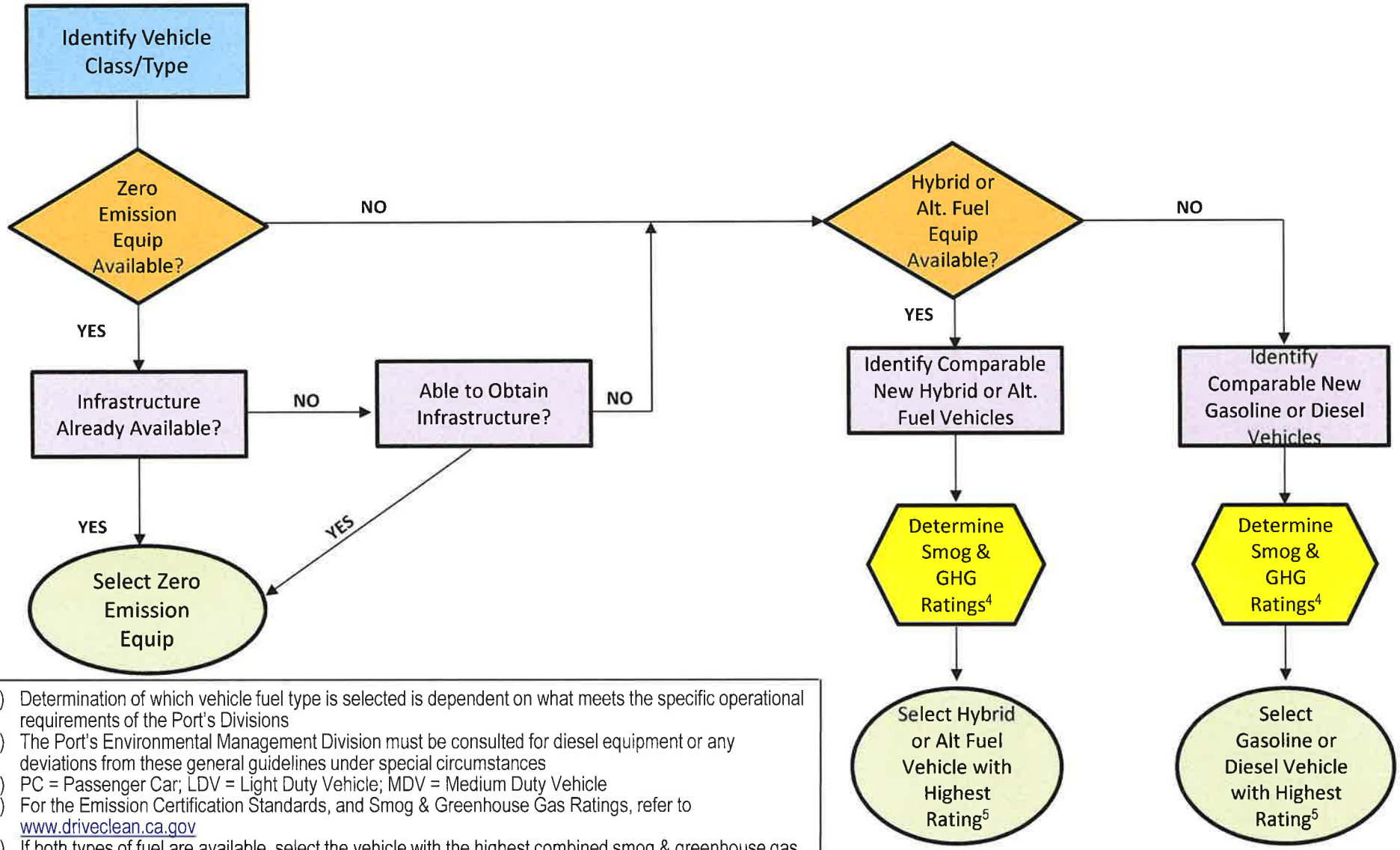
Harbor Department "General Guidelines for Purchasing New Off-Road Large Spark-Ignited (LSI) Equipment and Alternatives" Decision Tree

Harbor Department "New Marine Vessel Replacement Guidelines" Decision Tree

"General Guidelines for Purchasing New Vehicles, Equipment, and Vessels"

"Specifications for Purchasing New Vehicles, Equipment and Vessels for the Port of Los Angeles," Environmental Management Division, 08/2019

General Guideline for Purchasing New Vehicles (PCs, LDVs, MDVs) [1,2,3]

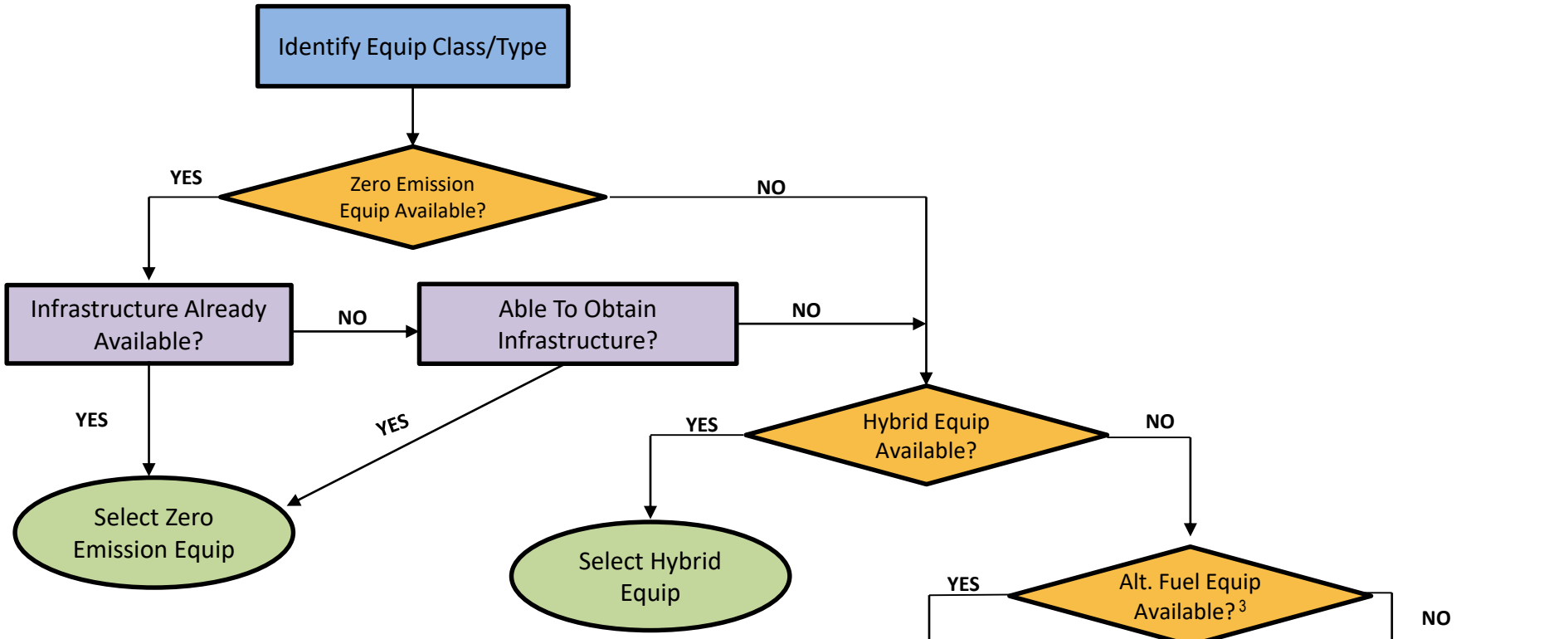


(1) Determination of which vehicle fuel type is selected is dependent on what meets the specific operational requirements of the Port's Divisions
(2) The Port's Environmental Management Division must be consulted for diesel equipment or any deviations from these general guidelines under special circumstances
(3) PC = Passenger Car; LDV = Light Duty Vehicle; MDV = Medium Duty Vehicle
(4) For the Emission Certification Standards, and Smog & Greenhouse Gas Ratings, refer to www.driveclean.ca.gov
(5) If both types of fuel are available, select the vehicle with the highest combined smog & greenhouse gas ratings with priority to gasoline first before diesel

Note: If the cost of the equipment is determined to be prohibitive by the Department, then choose the next feasible and cleanest equipment. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exists in the fleet in order to benefit from improved maintenance, training costs, & compatible charging infrastructure. Port Environmental Management should be consulted for any diesel vehicles or deviations from the specifications above.

v. 06-01-2021

General Guidelines for Purchasing New On-Road Heavy-Duty Vehicles[1,2]



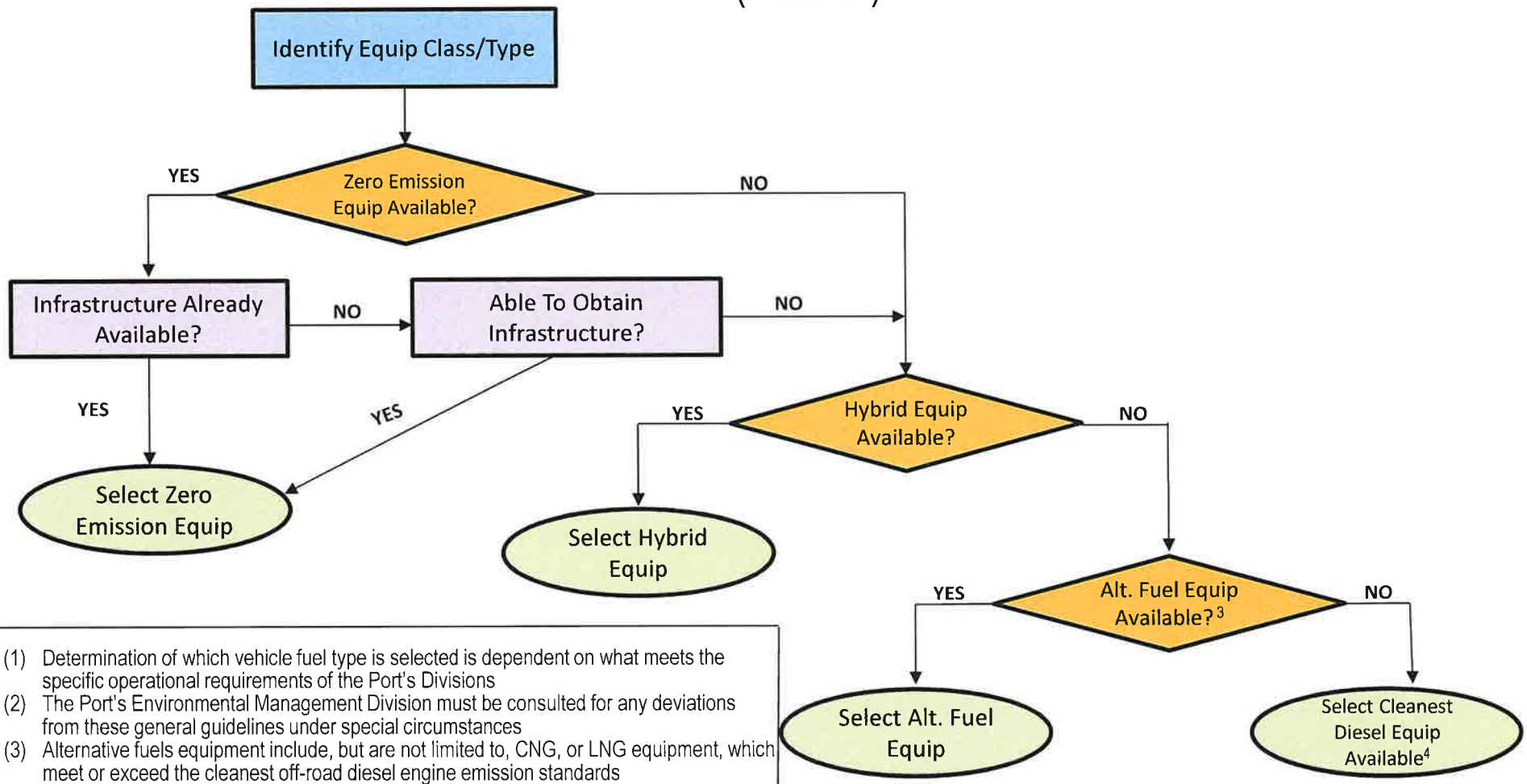
(1) Determination of which vehicle fuel type is selected is dependent on what meets the specific operational requirements of the Port's Divisions.
(2) The Port's Environmental Management Division must be consulted for any diesel purchases or deviations from these general guidelines under special circumstances
(3) Alternative fuels equipment include, but are not limited to, CNG, or LNG equipment, which meet or exceed the cleanest off-road diesel engine emission standards.
(4) Dual-Fuel vehicles must use alternative fuel to supply at least 85% of the total engine fuel requirement (e.g., HPDI trucks), and must meet or exceed the 2010 on-road heavy-duty diesel engine emission standards.

Note: If the cost of the equipment is determined to be prohibitive by the Department, then choose the next feasible and cleanest equipment. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exists in the fleet in order to benefit from improved maintenance, training costs, & compatible charging infrastructure. Port Environmental Management should be consulted for any diesel purchases or deviations from the specifications above.

v. 06-01-2021

General Guidelines for Purchasing New Off-Road Diesel Equipment and Alternatives[1,2]

(> 25 HP)

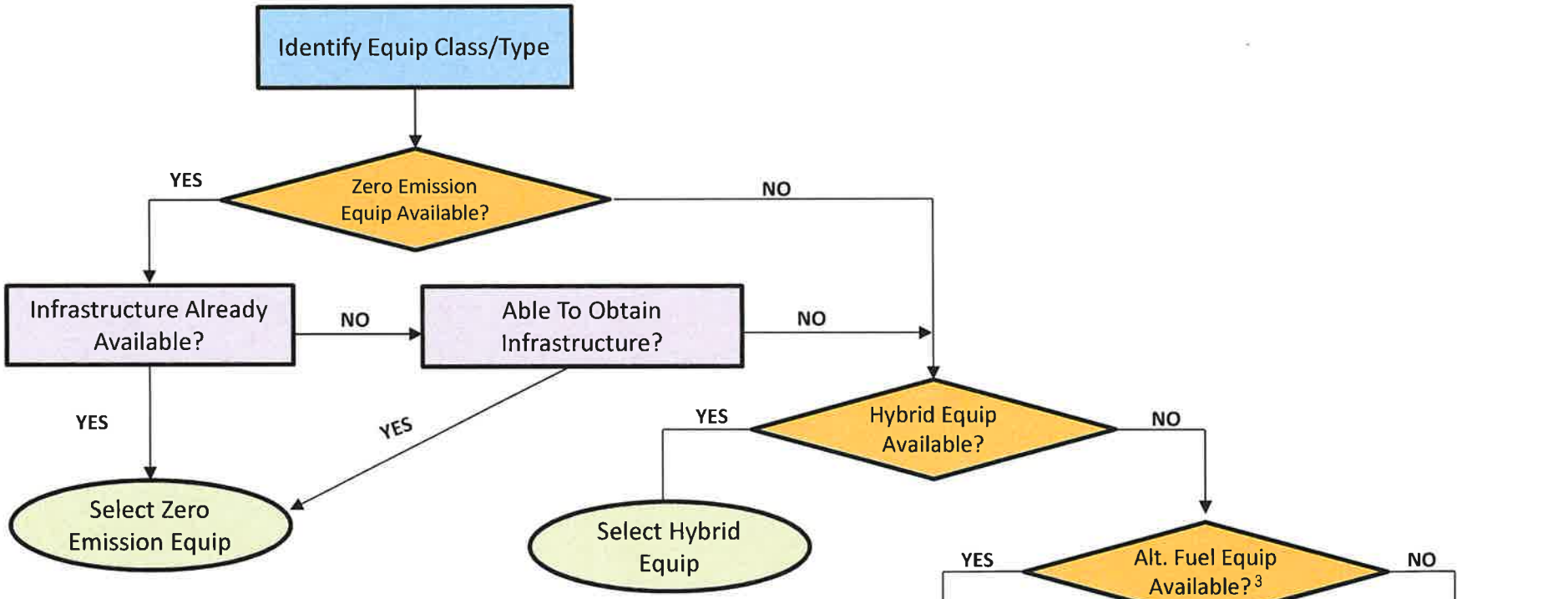


(1) Determination of which vehicle fuel type is selected is dependent on what meets the specific operational requirements of the Port's Divisions
(2) The Port's Environmental Management Division must be consulted for any deviations from these general guidelines under special circumstances
(3) Alternative fuels equipment include, but are not limited to, CNG, or LNG equipment, which meet or exceed the cleanest off-road diesel engine emission standards
(4) Cleanest off-road diesel equipment are equipped with engines that meet Tier 4 Final or better standards

Note: If the cost of the equipment is determined to be prohibitive by the Department, then choose the next feasible and cleanest equipment. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exists in the fleet in order to benefit from improved maintenance, training costs, & compatible charging infrastructure. Port Environmental Management should be consulted for any deviations from the specifications above.

v. 06-01-2021

General Guidelines for Purchasing New Off-Road Large Spark-Ignited (LSI) Equipment and Alternatives[1,2] (≥ 25 hp)

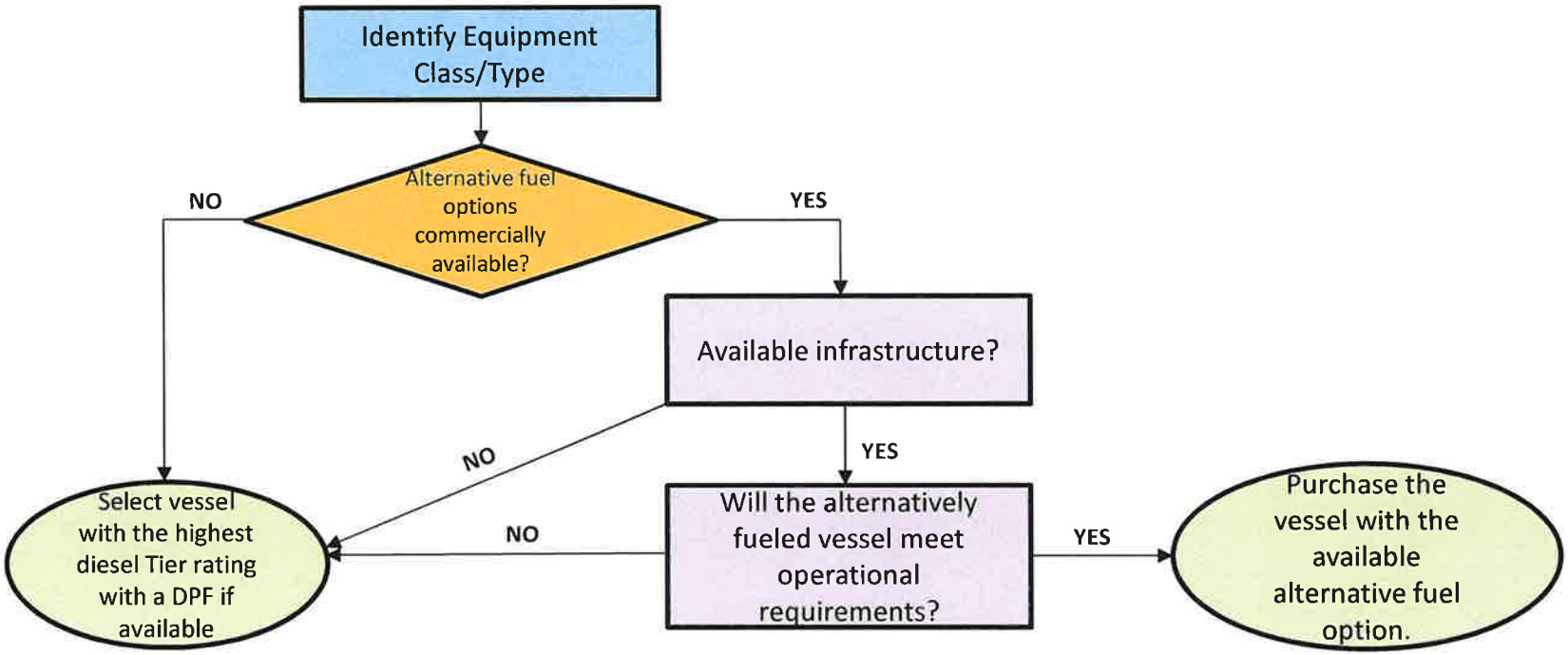


(1) Determination of which vehicle fuel type is selected is dependent on what meets the specific operational requirements of the Port's Divisions
(2) The Port's Environmental Management Division must be consulted for any deviations from these general guidelines under special circumstances
(3) Alternative fuels equipment include, but are not limited to, CNG, or LNG equipment, which meet or exceed the cleanest off-road diesel engine emission standards.
(4) Alternative fuels equipment must meet or exceed the current LSI engine emission standards.

Note: If the cost of the equipment is determined to be prohibitive by the Department, then choose the next feasible and cleanest equipment. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exists in the fleet in order to benefit from improved maintenance, training costs, & compatible charging infrastructure. Port Environmental Management should be consulted for any deviations from the specifications above.

v. 06-01-2021

Harbor Department
New Marine Vessel Replacement
v. 6-1-2021



(1) Determination of which vehicle fuel type is selected is dependent on what meets the specific operational requirements of the Port's Divisions
(2) The Port's Environmental Management Division must be consulted for diesel purchases or any deviations from these general guidelines under special circumstances
(3) Alternative fuels equipment include, but are not limited to, gasoline, CNG, or LNG equipment, which meet or exceed the cleanest off-road diesel engine emission standards.
(4) Alternative fuels equipment must meet or exceed the current marine diesel engine emission standards.

Note: If the cost of the equipment is determined to be prohibitive by the Harbor Department, then choose the next feasible and cleanest equipment. In some cases, operational necessity may require purchasing vehicles of the same make (manufacturer) that already exists in the fleet in order to benefit from improved maintenance, training costs, & compatible charging infrastructure. Port Environmental Management should be consulted for diesel purchases or any deviations from the specifications above.