

### **United States**

## **US Environmental Protection Agency**

Office of Air and Radiation, Office of Transportation and Air Quality

### Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Version Number: 1.3 Last Revision: April 2018

## **Manufacturer Data Submission Template -- INSTRUCTIONS**

### I. About

This template allows manufacturers of Marine Compression-Ignition (CI) engines to submit production line testing (PLT) data in a simple, consistent format. Based on the information entered by the submitter, the template performs the required calculation of the final test result and displays the current status of the test. This template is intended for use by manufacturers subject to Part 1042. You may choose to test your engines using the CumSum methodology in accordance with the procedures outlined in 40 CFR Part 1045 or Part 1051 (see 40 CFR 1042.301(d)(2)). This template has not been designed to accept data from the CumSum methodology; if you choose to test your engines using CumSum you must use the separate Marine CI PLT template that was created for this purpose.

It is intended that a copy of this template be created for each Category for which the reporting of PLT results are required. These data must be submitted on a quarterly basis in accordance with 40 CFR Part 1042,345(a). It is intended that one copy of a template be maintained per Category, per year, and results should be cumulative. For instance, the file submitted for the second quarter will contain all test results previously submitted for the first quarter with the results from the second quarter added on. The Summary worksheet provides a field to indicate the associated quarter.

The template is organized into several worksheets, including a "Summary" worksheet that includes both preliminary information as entered by the manufacturer and overall compliance information based on the actual PLT data entered in subsequent worksheets (i.e., Engine Family #1, Engine Family #2, etc.). There are worksheets for 30 engine families and two additional tabs ("Invalid Tests" and "Notes") that allow for the submittal of invalid test results and any other relevant notes that the manufacturer would like to submit with the test results. In all of the worksheets, values may be modified only in cells that are white - the green shaded cells contain either labels or calculated values

Before entering data in this template, international users should ensure that the settings in Excel for number handling are consistent with the template. Number handling settings that currently specify the use of a comma for the decimal separator and a period for the thousands separator must be temporarily modified to avoid errors within the automatic calculations. To modify the number handling settings when using Excel 2010, go to the file tab at the upper left of the Excel workbook and click "Options". On the resulting window click "Advanced", uncheck the "Use system separators" box and then insert a period for the decimal separator and a comma for the thousands separator. When using Excel 2007, first click the office button, then click "Excel Options". On the resulting window click "Advanced", uncheck the "Use system separators" box and then insert a period for the decimal separator and a comma for the thousands separator.

### II. Entering General Information

Before entering data for each engine family, some information on the manufacturer and the Category should be entered into the worksheet labeled "Summary." The top portion of this worksheet includes spaces to enter general information about the PLT test. These fields include

- Manufacturer contact information (manufacturer name, PLT contact, email, and phone);
   Category (select Category 1, Category 2, or Category 3);
   Model Year; and,

- · Current guarter.

There is an additional field for comments. The projected annual production for the Category, the non-exempt projected annual production, the number of tests completed, and the minimum required sample size for the Category (displayed below the Category selection) are automatically calculated based on entries in the Engine Family worksheets

Based on the current quarter selected, a set of fields will appear where **actual** quarter-by-quarter production values will be displayed as a Category total based on the sum of the production values entered for each engine family.

The required engine sample size for the Category will be 1% of the sum of all projected production associated with all **non-exempt** engine families. The calculated required sample size will include two additional tests for each failed engine test (see 40 CFR 1042.310(c)).

• Category 1 engine families certified with projected annual production less than 100 may be exempted from PLT according to 40 CFR 1042.301(a)(2). If actual production exceeds 100 units during the model year, report this to EPA promptly and consult your designated certification representative to see if testing is required. Projected production for any exempt engine family is not factored into the Category total for purposes of calculating the required sample size. For example, if a manufacturer enters data for Engine Family #1, #2, and #3 with a projected production of 60, 55, and 80, the required sample size for the Category will display as zero. If the projected production for Engine Family #3 in this scenario is increased to 200, the required sample size for the Category would be 2.

Projected annual production is entered (and the corresponding required tests are displayed) on a per engine family basis within each engine family worksheet. The value entered in Cell N12 on each engine family worksheet must match the value displayed for EV-CIS Data Element MCI-50 in the dataset for the certified family. However, the actual minimum required engine sample size for the entire Category is displayed in the Summary sheet in cell L16.

### IMPORTANT NOTES REGARDING SAMPLE SIZE CALCULATIONS:

1. For Part 1042 Category 1 and 2 engines, the minimum engine sample size for the category is displayed on the Summary sheet.

NOTE: Within each Engine Family worksheet, users may select "N" in cell N16 (in response to the question "Include Results from Engine Family # on Summary Sheet?") if the Engine Family results should not be included in the Compliance Summary results (i.e., if the results are not considered final)

- 2. If there are questions regarding how to distribute the required tests among the non-exempt Engine Families, manufacturers should obtain additional clarification from their EPA
- 3. For Category 3, the required sample size is equivalent to the projected annual production (per 1042.302). Each engine must be tested and pursuant to 1042.302(a) and any engine that has failed a test must cease operations until the cause of the failure is resolved.

Note that if there is a pre-approved reduced sample size, the minimum sample size is set equal to this value (assuming that the pre-approved size entered is less than the sample size calculated in accordance with the corresponding guidelines for Category 1 or 2). A reduced sample size may be pre-approved if the engine family has been certified with carry-over emissions data (40 CFR 1042.301(e)).

For Part 1042 Category 1 and 2 engines, the sample size status in Column R of the Summary sheet will be displayed for each Engine Family record as either "OPEN" or "PASS". If the total engine sample size is greater than or equal to the minimum required sample size, this status is displayed as "PASS" - otherwise, it is displayed as "OPEN".

### III. Entering PLT Engine Test Results

Following the "Summary" worksheet, there are multiple worksheets for "Engine Family #1" through "Engine Family #30." Using these worksheets, enter PLT data for each engine family for CO, PM, HC, and NOx (HC and NOx values are summed and displayed as a combined NOx+HC value, if this option was indicated on the individual Engine Family worksheet). Please note that for Category 3 results only need to be entered for NOx; however, for both Category 1 and Category 2 results must be entered for CO, PM, HC, and NOx. If the engine family is exempt, please select "Y" for "Exempt?" (N18). If an engine family with projected production over 100 has been approved as exempt by EPA, enter zero in cell G18.

Enter data for the test location/description, whether the engine family is a carryover, reduced sample size (if applicable), fuel type and whether the engine family is Recreational or Commercial. Note that 'HC' refers to 'THC' for diesel fuel, 'NMHC' natural gas fuel, and 'THCE' for alcohol fuel. When the fuel type is selected, a note appears reminding the user of the correct HC variant for the selected fuel. Enter the Model Year, Tier, whether NOx+HC is combined, and 40 CFR Part. Note that a selection of "Y" or "N" is required in the field indicating whether NOx+HC is combined in order to ensure that the results in the Summary worksheet are accurate and properly displayed.

The engine family name is then entered followed by the engine family's projected annual production, the start/end dates for production and the deterioration factor type, which must be specified as either additive or multiplicative and is automatically displayed in the "Det Factor Type" fields for all pollutants. The subsequent field should be set to "V" once all test data have been entered to indicate that the test data are final and can be factored into the compliance assessment within the Summary sheet. Under these fields, data for actual production by quarter can be entered. To the right of these fields, enter the FEL/standard, deterioration factor, and green engine factor (if applicable) for each pollutant.

The engine test results should be entered in the "PLT Engine Test Results" section within the Engine Family worksheet in the order in which they occur. The first fourteen fields includes information specific to the test. The initial result can be entered for each pollutant in the relevant columns. The final result and deteriorated final result are displayed if the "Calc Final Result?" field in column B is "Y." At the far right, open fields are available to enter data related to failed tests (if applicable). Failed tests will result in an upward adjustment to the required sample size (i.e., two additional tests are required for each failed test).

Note that for Category 3 engines, only NOx results need to be entered. The template has been designed so that for Category 3 engines, the engine family PLT status is determined solely on the basis of the NOx results.

The Test Engine worksheets should only include valid test results. Invalid test results should be entered in the "Invalid Tests" worksheet. Any additional notes or information relevant to the PLT information for the engine family can be included in the "Notes" worksheet.

### IV. Compliance Summary

The far right portion of the "Summary" worksheet (below the general information entered previously, as described in Section II) includes the summary compliance information for the PLT tests as entered in the Engine Family worksheets. As described below, the summary information shows a Sample Size Status, Test Status, and a Compliance Status for each engine family.

- Sample Size Status: This value will be OPEN if the number of tests performed for the engine family is less than the required amount (which includes any follow-up test added due to failure(s)). Otherwise, this value will be PASS.
- Test Status: This value will be FAIL if a failed status is indicated for any one pollutant. This value will be PASS if all pollutants for the engine family have a passing status.
- Compliance Status: If both the test status and sample size status have a value of PASS, the compliance status also has a value of PASS. If the test status has a value of FAIL, then the compliance status will have a value of FAIL regardless of the sample size status value. If the test status has a value of PASS and the sample size status has a value of OPEN, then the compliance status value will be OPEN.

In addition to the sample size status for engine families, for Part 1042 engines a sample size status is displayed for the category as well. The value of this status will be either OPEN or PASS. If the value is OPEN then a message will appear indicating how many additional tests are needed across the category.

### V. Troubleshooting

If odd or unexpected results are displayed in the "Summary" worksheet, the following items can be checked:

- Has a category been specified on the "Summary" worksheet and a projected production volume in the Engine Family worksheets?
- Is "Y" indicated for the "Include Results from Engine Family #n on Summary Sheet?\*" field for each completed Engine Family tab?
- Is the entry for "Exempt?" (N18) accurate? This should be "Y" if projected annual production is < 100, and "N" if projected annual production is > 100 or Engine Category is Category 2 or Category 3.
- Are all engine tests entered sequentially without skipping rows?
- Is "Y" indicated within the "Calc Final Result?" field for rows in which a final result is to be calculated?
- Is there any information that has been inadvertently omitted within any one of the required data fields?

### **Paperwork Reduction Act Notice**

The public reporting and recordkeeping burden for this collection of information is estimated to average 12 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

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US Environmental Protection Agency
Office of Air and Radiation, Office of Transportation and Air Quality

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									Version IVC	imber: 1.3 Last Revisi	on: April 2016									
Manufacturer and	d Engine Ca	ategory Inform	nation											Submission Date	e					
lanufacturer: LT Test Contact: :mail Address: :hone #:	ŭ i					Number of Con	ual Production Fi npleted Engine F ired Engine Sam		ory:	0		Model Year: Current Quarter: empt Production:		]						
comments:														Total Production	0					
Compliance Sum	mary																			
		СО			PM			NOx+HC			NOx			НС		1				
Engine Family	Final Result (g/kW-hr)	Standard (g/kW- hr)	Compliance Status	Final Result (g/kW-hr)	Standard/FEL (g/kW-hr)	Compliance Status	Final Result (g/kW-hr)	Standard/FEL (g/kW-hr)	Compliance Status	Final Result (g/kW-hr)	Standard/FEL (g/kW-hr)	Compliance Status	Final Result (g/kW- hr)	Standard/FEL (g/kW hr)	- Compliance Status	Sample Size Status	Test Status	Compliance Status	Number Passed: Number Failed:	0
																			Number Open:	0
																			Category Sample Size Status:	
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer: PLT fest Contact: ELT fest Contact: Plots foreign Plots foreign Test Location & Description: Carryover?: Carryover?: Carryover?: Repeate: RecreationalCommercial: Model Year: Tier: Tier: Combin Roy+IC? Combin Roy+IC?	ample Size:		Engine Family: Projected Annual P. Date of Start of Mod Date of End of Mod Deterioration Factor Include Results fror Required Tests (inc Notes:	lel Year Production el Year Production r Type: m Engine Family:	n: #1 on Summary S	Sheet?	Exempt?	
40 CFR Part:	_	1042	04.41	00.4	00.4-41	04.4-41	Total	1
	W		Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual		-
	Total Actual Production (to da	te):					0	J
Comments:								

Current CO Result		Current PM Result		Current HC Result		Current NOx Result	1
CO Standard		PM Standard or FEL		HC Standard		NOx Standard or FEL	
Units	g/kW-hr	Units	g/kW-hr	Units	g/kW-hr	Units	g/kW-hr
CO Det Factor		PM Det Factor		HC Det Factor		NOx Det Factor	
Det Factor Type		Det Factor Type		Det Factor Type		Det Factor Type	
CO Green Engine Factor		PM Green Engine Factor		HC Green Engine Factor		NOx Green Engine Factor	

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represational Cycle (E5)

  3 = 4-Mode Constant Speed Propulsion Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (D2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C2)

  O = Other

## PLT Engine Test Results: Engine Family #1

Calc Final Result? Test Number					Engine Engine		Green Engine	Green Engine Factor	C	Service   Hours Service Ad	c. CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM PM Fin	al Det. PM	Final	Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Final	Reason for Failed Test (if				
Result? Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location Procedur	Result	Initial Result	Result	Result	Result	Initial Result Result	Rest	ult HC Initial Result	t Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
1																	_													
3																														
4																														
5																														
6																					-									
8																	_													
9																														
10																														
11																	_			1										
13						_																								
14											1																			
15																														
16																	_													
18						_	_				+						_			1	-									
19																														
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22						_											_													
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41											1																			
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43						_																								
44						+														_										
46		1				1	1																							
47																														
48																														
49																														



Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description:			Engine Family: Projected Annual P Date of Start of Mod Date of End of Mod Deterioration Facto	lel Year Production el Year Production					ı	Current CO Result		[	Current PM Result		Current HC Res	sult	_
			Include Results fro		#2 on Summary S	Sheet?			1	CO Standard		F	PM Standard or FEL		HC Standard		
Carryover?:			Required Tests (inc						1	Units	g/kW-hr	ı	Jnits	g/kW-hr	Units	g/kW-l	hr
Pre-approved Reduced Requi	red Sample Size:		Notes:				Exempt?		1	CO Det Factor		F	M Det Factor		HC Det Factor		$\neg$
Fuel Type:									-	Det Factor Type			Det Factor Type		Det Factor Type		
Recreational/Commercial:										CO Green Engine Factor			M Green Engine Factor		HC Green Engine Facts	or	$\neg$
Model Year:													• • • • • • • • • • • • • • • • • • • •				_
Tier:																	
Combined NOx+HC?																	
40 CFR Part:		1042															
			O1 Actual	Q2 Actual	O3 Actual	O4 Actual	Total	7									
	Total Actual Production (t	o date):	•	,	,	,	0	1									
								_									

g/kW-hr

Current NOx Result

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Test Cycle Options

1 = 4 Mode General Cycle (E3)

2 = 5 Mode Represational Cycle (E5)

3 = 4 Mode Constant Speed Propulsion Cycle (E2)

5 = 6 Mode Vorsiant Speed Auxiliary Cycle (D2)

5 = 6 Mode Variable Speed Auxiliary Cycle (C2)

6 = 8 Mode Variable Speed Auxiliary Cycle (C1)

C = Other

### PLT Engine Test Results: Engine Family #2

									zeen Fnoine Factor		Service																		Reason for Failed Test (if applicable)				
Result? Test Number	Test Date	Test Time	Test Qtr	Engine ID	Engine Make	Engine Configuration B	uild Date	Factor Applied?	Determination Method	Service Hours (or miles) Accumulation	Location Pro	cedure R	O Initial Result	Initial Result	Result	Result	PM Initial Result	Initial Result	PM Final Result	Result	HC Initial Result	Initial Result	Result	Result	NOx Initial Result	Initial Result	Result	Result	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
1																																	
2		_			_								_																				
4		1														1								1									-
5																																	
6																																	
á a		+			_						_												_	+									
9																																	
10																																	
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35		_			_																												
37		+		-	-											_																	
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40		_																															
41		+			+																												
43		1			1								_																				
44																																	
45																																	
46		+		-	+																												
48		+			1																												
49																																	
50																																	

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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

### sic Information: Engine Family #3

Manufacturer:			Engine Family:					
PLT Test Contact:			Projected Annual Pr	roduction:			`	
Email Address:			Date of Start of Mod	lel Year Production	on:			
Phone #:			Date of End of Mode	el Year Productio	n:			
Test Location & Description:			Deterioration Factor	Type:				
•			Include Results from	m Engine Family	#3 on Summary S	heet?		
Carryover?:			Required Tests (inc					
Pre-approved Reduced Required S	ample Size:		Notes:				Exempt?	
Fuel Type: Recreational/Commercial: Model Year: Tier: Combined NOx+HC? 40 CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	
	Total Actual Production (to	date):					0	
Comments:								

Current CO Result		Current PM Result		Current HC Result	
	-		-		

CO Standard PM Standard or FEL PM Standard or FEL Units Option Units O

Current NOx Result

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Recreational Cycle (E5)

3 = 4-Mode Constant Speed Propulsion Cycle (E2)

4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

5 = 6-Mode Variable Speed Auxiliary Oycle (E2)

6 = Mode Variable Speed Auxiliary Oycle (C1)

C-Other.

### PLT Engine Test Results: Engine Family #3

Calc Final					Er	ingine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Te	est Qtr Eng	gine ID N	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
2																																		
3	-					_																												
5					_	_																												
6																																		
7									-																									
9																																		
10																																		
12						_																												
13																																		
14									1	1	1																							
16	+ +			_					_																									
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20	1								+																									
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41																																		
42	-					-																												
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

### sic Information: Engine Family #4

Manufacturer:			Engine Family:					
PLT Test Contact:			Projected Annual P	roduction:				
Email Address:			Date of Start of Mor	del Year Production	on:			
Phone #:			Date of End of Mod	el Year Productio	n:			
Test Location & Description:			Deterioration Facto	r Type:				
			Include Results fro	m Engine Family	#4 on Summary S	Sheet?		
Carryover?:	-		Required Tests (inc					
Pre-approved Reduced Require	d Sample Size:		Notes:	-			Exempt?	
Fuel Type:								
Recreational/Commercial:								
Model Year:								
Tier:								
Combined NOx+HC?								
40 CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	
	Total Actual Production (to	date):					0	
						•		ř
Comments:								

Current CO Result	Current PM Result	]	Current HC Result	Current NOx Result	

 CO Standard
 PM Standard or FEL
 MC Standard
 MC Standard
 QKW-hr
 Units
 QKW-hr
 Units
 QKW-hr
 Units
 QKW-hr
 Units
 QKW-hr
 Units
 QKW-hr
 Units
 CD Expect
 <t

NOx Standard or FEL
Units g/kW-hr
NOx Det Factor
Det Factor Type
NOx Green Engine Factor

Test Cycle Options

1 = 4 Mode General Cycle (E3)

2 = 5 Mode Represidental Cycle (E5)

3 = 4 Mode Constant Speed Propulsion Cycle (E2)

4 = 5 Mode Constant Speed Ausiliary Cycle (D2)

5 = 6 Mode Variable Speed Ausiliary Cycle (C2)

6 = 8 Mode Variable Speed Ausiliary Cycle (C1)

0 = 0 ther

### PLT Engine Test Results: Engine Family #4

Part   Part	Cale Final						Engine	Engine		Croon Engine	Green Engine Facto		Service	Candas Ass	CO Initial	Dounded CO	CO Final	Dat CO Final	DM Initial	Downdard DM	DM Finel	Dot DM Final		Doumdad HC	UC Final	Dat HC Final	NOv Initial	Doundard NOv	NOv Final	Dot NOv Fine	Descen for Failed Test (if				
	Result?	Test Number	Test Date	Test Time 1	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
	2																																		
	3																																		
	4																																		
	6										-	1																							
	7									+	-	<b>+</b>	-						<b>-</b>																
	8																																		
	9																																		
	10																																		
	11																																		
	13									_																									
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Paperwork Reduction Act Notice

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Total Actual Production (to date):

## United States US Environmental Protection Agency Office of Air and Radiation, Office of Transportation and Air Quality

Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current PM Result

Manufacturer:	Engine Family:
PLT Test Contact:	Projected Annual Production:
Email Address:	Date of Start of Model Year Production:
Phone #:	Date of End of Model Year Production:
Test Location & Description:	Deterioration Factor Type:

Q1 Actual Q2 Actual Q3 Actual Q4 Actual Total 0

CO Standard
Units grkW-hr
CO Det Factor
Det Factor Type
CO Green Engine Factor

Current HC Result

NOx Standard or FEL
Units g/kW-hr
NOx Det Factor
Det Factor Type
NOx Green Engine Factor

Current NOx Result

## LT Engine Test Results: Engine Family #5

Calc Final					Eng	gine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Tes	st Qtr Engi	ne ID Ma	ake (	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

### sic Information: Engine Family #6

PLT T. Email Phone Test L Carryc Pre-ap Fuel T Recres Model Tier:	ocation & Description: over?: proved Reduced Required S type: utional/Commercial:	Sample Size:		Engine Family: Projected Annual P Date of Start of Mod Date of End of Mod Deterioration Facto Include Results fro Required Tests (inc Notes:	lel Year Productio el Year Productio r Type: n Engine Family	n: #6 on Summary S		Exempt?	
40 CFI			1042						
				Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	]
		Total Actual Production (	to date):					0	]
Comm	ents:								

Current CO Result		Current PM Result		Current HC Result	
	-		-		

CO Standard PM Standard or FEL PM Standard or FEL Units Option Units O

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Current NOx Result

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Recreational Cycle (E5)

3 = 4-Mode Constant Speed Propulsion Cycle (E2)

4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

5 = 6-Mode Variable Speed Auxiliary Oycle (E2)

6 = Mode Variable Speed Auxiliary Oycle (C1)

C-Other.

## LT Engine Test Results: Engine Family #6

1 2 3 4 5									Procedure	Result	Initial Result	Result F	Result	Result I	Initial Result	PM Final Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Basic informatio	n: Engine Family #7												
PLT Email Phor Test Carry Prese Fuel Recr Modo	Location & Description: yover?: upproved Reduced Required S Type: eational/Commercial: el Year:	Sample Size:	1042	Engine Family: Projected Annual P Date of Start of Mo Date of End of Mod Deterioration Facto Include Results fro Required Tests (inc. Notes:	del Year Productio lel Year Productio ir Type: m Engine Family i cluding failure foll	n: #7 on Summary S low-ups) -		Exempt?		CO Sta Units CO Det Det Fac	g/kW-hr	Uni PM Det	Standa ts Det Far Factor
				Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total					
		Total Actual Production (to	date):					0	J				
Com	ments:												

Current HC Result Current NOx Result

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Recreational Cycle (E5)

3 = 4-Mode Constant Speed Propulsion Cycle (E2)

4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

5 = 6-Mode Variable Speed Auxiliary Oycle (E2)

6 = Mode Variable Speed Auxiliary Oycle (C1)

C-Other.

### PLT Engine Test Results: Engine Family #7

Calc Final					Engine	Engine		Green Engine	Green Engine Facto		Service	Sandra Acc	CO Initial	Pounded CO	CO Einel	Det CO Sinal	DM Initial	Pounded PM	DM Einel	Det DM Cinel		Pounded MC	UC Einel	Det MC Einel	NOv Initial	Pounded NOv	NOv Einel	Det NOv Eine	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Total Actual Production (to date):

## United States US Environmental Protection Agency Office of Air and Radiation, Office of Transportation and Air Quality

Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

c Information: Engine Family #8

| Q1 Actual | Q2 Actual | Q3 Actual | Q4 Actual | Total | 0

Engine Family:
Projected Annual Production:
Projected Annual Production:
Date of End of Model Year Production:
Deterioration Factor Type:
Include Results from Engine Family 80 on Summary Sheet?
Required Tests (including failure follow-ups)
Modes: Manufacturer:
PLT Test Contact:
Email Address:
Phone #:
Test Location & Description: Carryover?:
Pre-approved Reduced Required Sample Size:
Fuel Type:
Recreational(Commercial:
Model Year:
Tier:
Combined N0x+HC?
40 CFR Part: Exempt?

Current CO Result	
CO Standard	
Units	g/kW-h
CO Det Factor	
Det Factor Type	

Current PM Result	
M Standard or FEL	
Inits	g/kW-hr
M Det Factor	
et Factor Type	
M Green Engine Factor	

Current HC Result HC Standard Units HC Det Factor Det Factor Type HC Green Engine Factor g/kW-hr

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor g/kW-hr

Current NOx Result

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Represidental Cycle (E5)

3 = 4-Mode Constant Speed Propulsion Cycle (E2)

4 = 5-Mode Constant Speed Auxiliary Cycle (D2)

5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

6 = 8-Mode Variable Speed Auxiliary Cycle (C2)

0 = 0ther

### LT Engine Test Results: Engine Family #8

Cala Final					Engine Engine		Cross Engine	Green Engine Factor		Service Service Ace	CO Initial	Dounded CO	CO Final	Dat CO Final	DM Initial	Douglast DM DM Fine	l Dos DM	4 Final	Downdad HC	UC Final	Dat HC Final	NOv Initial	Doundard NOv	NOv Final	Dat NOv Final	Reason for Failed Test (if applicable)				
Result? Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make Configuratio	Build Date	Factor Applied	Method	miles) Accumulation	Location Procedure	Result	Initial Result	Result	Result	Result	Initial Result Result	Resu	ult HC Initial Result	t Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description:		Date of End of Mo Deterioration Fac	odel Year Production: del Year Production:	on Summary She	eet?		Current CO Result  CO Standard	
Carryover?: Pre-approved Reduced Required Fuel Type: Recreational/Commercial: Model Year: Tier: Combined NOx+HC? 40 CFR Part:	Sample Size:	Notes:	ecluding failure follow-	ups)		Exempt?	Units CO Det Factor Det Factor Type CO Green Engine Factor	g/kW-hr
Comments:	Total Actual Production (to date):	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total 0		

Current PM Result	Current HC Result		Current NOx Result	
PM Standard or FFI	 HC Standard		NOx Standard or FFI	

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Represidental Cycle (E5)

3 = 4-Mode Constant Speed Ausiliary Cycle (E2)

4 = 5-Mode Constant Speed Ausiliary Cycle (E2)

5 = 6-Mode Variable Speed Ausiliary Cycle (C2)

6 = 8-Mode Variable Speed Ausiliary Cycle (C1)

0 = 0ther

												Service																						
Calc Final						Engine	Engine		Green Engine	Green Engine Facto Determination	Service Hours (or	Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

asic Information: Engine Family #10														
Manufacturer: PLT Test Contact: Email Address: Phone #:			Engine Family: Projected Annual Production: Date of Start of Model Year Produc				Current CO Result		Current PM Result		Current HC Result		Current NOx Result	
Test Location & Description: Carryover?: Pre-approved Reduced Required S	ample Size:		Deterioration Factor Type: Include Results from Engine Fami Required Tests (including failure f Notes:		eet? Exempt?		CO Standard Units CO Det Factor	g/kW-hr	PM Standard or FEL Units PM Det Factor	g/kW-hr	HC Standard Units HC Det Factor	g/kW-hr	NOx Standard or FEL Units NOx Det Factor	g/kW-hr
Fuel Type: Recreational/Commercial: Model Year: Tier: Combined NOx+HC?							Det Factor Type CO Green Engine Factor		Det Factor Type PM Green Engine Factor		Det Factor Type HC Green Engine Factor		Det Factor Type NOx Green Engine Factor	
40 CFR Part:	Total Actual Production (t	1042 to date):	Q1 Actual Q2 Actual	Q3 Actual	Q4 Actual Total 0	}								

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represidental Cycle (E5)

  3 = 4-Mode Constant Speed Ausiliary Cycle (E2)

  4 = 5-Mode Constant Speed Ausiliary Cycle (E2)

  5 = 6-Mode Variable Speed Ausiliary Cycle (C2)

  6 = 8-Mode Variable Speed Ausiliary Cycle (C1)

  0 = 0ther

Comments:

												Service																						
Calc Final						Engine	Engine		Green Engine	Green Engine Facto Determination	Service Hours (or	Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Assistagion, D. C. 2408-1 Strate the Oxford number is not governeportation. 2 borst for other developments.



Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current NOx Result

NOx Standard or FEL
Units g/kW-hr
NOx Det Factor
Det Factor Type
NOx Green Engine Factor

g/kW-hr

isic illiorillation. Eligilie Faililly #1											
Manufacturer: PLT Test Contact: Email Address:			Engine Family: Projected Annual Production Date of Start of Model Year I	Production:			Current CO Result		Current PM Result		Current H
Phone #: Test Location & Description: Carryover?: Pre-approved Reduced Requires	d Sample Size:		Date of End of Model Year P Deterioration Factor Type: Include Results from Engine Required Tests (including fa Notes:	Family #11 on Summary Sheet?	exempt?		CO Standard Units CO Det Factor	g/kW-hr	PM Standard or FEL Units PM Det Factor	g/kW-hr	HC Standard Units HC Det Factor
Fuel Type: Recreational/Commercial: Model Year: Tier: Combined NOx+HC?				_			Det Factor Type CO Green Engine Factor		Det Factor Type PM Green Engine Factor		Det Factor Type HC Green Engine
40 CFR Part:	Total Actual Production	1042 (to date):	Q1 Actual Q2 A	ctual Q3 Actual Q4	Actual Total 0	}					
Comments:											

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represal Group (E5)

  3 = 4-Mode Constant Speed Auxiliary Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)

  0 = 0ther

### PLT Engine Test Results: Engine Family #11

Cale Final						Engine	Engine		Croon Engine	Green Engine Facto	w	Service	Consiss Ass	CO Initial	Bounded CO	CO Final	Dot CO Final	DM Initial	Downdad DM	DM Final	Det DM Fine		Bounded HC	UC Final	Dat MC Final	NOv Initial	Dounded NOv	NOv Final	Dat NOv Fine	ll Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current NOx Result

NOx Standard or FEL
Units g/kW-hr
NOx Det Factor
Det Factor Type
NOx Green Engine Factor

asic Information: Engine Family #12																
Manufacturer:			Engine Family:						1							
PLT Test Contact: Email Address:			Projected Annual Projec		n:					Current CO Result		Current PM Result			Current HC Result	
Phone #: Test Location & Description:			Date of End of Mode Deterioration Factor		:											
			Include Results from Required Tests (incl	n Engine Family#		Sheet?				CO Standard Units	-8000	PM Standard or FEL Units	-5000	HC Str Units	andard	-711115-
Carryover?: Pre-approved Reduced Required S	Sample Size:		Notes:	luding failure folic	w-ups)		Exempt?			CO Det Factor	g/kW-hr	PM Det Factor	g/kW-hr	HC De	et Factor	g/kW-hr
Fuel Type: Recreational/Commercial:										Det Factor Type CO Green Engine Factor		Det Factor Type PM Green Engine Factor			actor Type reen Engine Factor	
Model Year: Tier:																
Combined NOx+HC? 40 CFR Part:		1042														
	Total Actual Production (		Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	7								
	Total Actual Production (	to date):					0									

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represal Group (E5)

  3 = 4-Mode Constant Speed Auxiliary Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)

  0 = 0ther

### PLT Engine Test Results: Engine Family #12

Cale Final						Engine	Engine		Croon Engine	Green Engine Facto	w	Service	Consiss Ass	CO Initial	Bounded CO	CO Final	Dot CO Final	DM Initial	Downdad DM	DM Final	Det DM Fine		Bounded HC	UC Final	Dat MC Final	NOv Initial	Dounded NOv	NOv Final	Dat NOv Fine	ll Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current NOx Result

g/kW-hr

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Manufacturer: PLT Test Contact: Email Address: Phone #:			Engine Family: Projected Annual Date of Start of Mo Date of End of Mo	odel Year Producti del Year Production						Current CO Result		_	Current PM Result		Current HC Result	
Test Location & Description:  Carryover?: Pre-approved Reduced Require Fuel Type: Recreational/Commercial: Model Year: Tier: Combined MOX+HC? 40 CFR Part:	ed Sample Size:	1042	Deterioration Fact Include Results fr Required Tests (ir Notes:	om Engine Family		Sheet?	Exempt?			CO Standard Units CO Det Factor Det Factor Type CO Green Engine Factor	g/kW-hr	U Pi D	M Standard or FEL Inits M Det Factor ME Det Factor Type M Green Engine Factor	g/kW-hr	HC Standard Units HC Det Factor Det Factor Type HC Green Engine Factor	g/kW-hr
	Total Actual Production (		Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total 0	3								
Comments:									1							

## PLT Engine Test Results: Engine Family #13

Calc Final					Engine	Engine		Green Engine	Green Engine Factor Determination	Service Service Hours (or Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Final	Reason for Failed Test (if applicable)				
Result? Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
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Assistagion, D. C. 2408-1 Strate the Oxford number is not governeportation. 2 borst for other developments.

Test Cycle Options

1 = 4 Mode General Cycle (E3)

2 = 5 Mode Represidoral Cycle (E5)

3 = 4 Mode Constant Speed Propulsion Cycle (E2)

4 = 5 Mode Constant Speed Austilary Cycle (E2)

5 = 6 Mode Variable Speed Austilary Cycle (E2)

6 = 8 Mode Variable Speed Austilary Cycle (C1)

0 = 0 ther



Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer:			Engine Family:				1	
PLT Test Contact:			Projected Annual P	roduction:				т
Email Address:			Date of Start of Mor	del Year Production	on:			- 1
Phone #:			Date of End of Mod	el Veer Productio	n-			- 1
Test Location & Description:			Deterioration Facto					■H
rest Location & Description.								- 1
			include Results fro			Sheet?		
Carryover?:			Required Tests (inc	luding failure foll	ow-ups)			
Pre-approved Reduced Required S	Sample Size:		Notes:				Exempt?	
Fuel Type:								
Recreational/Commercial:								
Model Year:		-						
Tier:								
Combined NOx+HC?								
40 CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	П
	Total Actual Production (to	date):					0	П
								_
Comments:								_

Current CO Result	

]

# HC Standard Units g/kW-hr HC Det Factor Det Factor Type HC Green Engine Factor

Current HC Result

# NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Current NOx Result

- Test Cycle Options

  1 = 4-Mode Genreal Cycle (E3)
  2 = 5-Mode Recreational Cycle (E5)
  3 = 4-Mode Constant Speed Propulsion Cycle (E2)
  4 = 5-Mode Constant Speed Auxiliary Cycle (D2)
  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)
  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)
  C Other

### PLT Engine Test Results: Engine Family #14

1 2 3 4 5									Procedure	Result	Initial Result	Result F	Result	Result I	Initial Result	PM Final Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
2 3 4 5						matriou	mines) Accombination																			47,000,000				
4 5																														
5			_																											
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Paperwork Reduction Act Notice

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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer:	Engine Family:
PLT Test Contact:	Projected Annual Production:
Empil Address	Date of Start of Model Veer Dreductions

Total Actual Production (to date):

Phone #: Test Location & Description: Carryover?:
Pre-approved Reduced Required Sample Size:
Pre-approved Reduced Required Sample Size:
Recreational/Commercial:
Model Year:
Tier:
Combined NOx+HC?
40 CFR Part: Date of Start of Model Year Production:
Date of End of Model Year Production:
Deterioration Factor Type:
Include Results from Engine Family #15 on Summary Sheet?
Required Tests (including failure follow-ups)
Notes:

Q1 Actual Q2 Actual Q3 Actual Q4 Actual Total 0

Current PM Result PM Standard or FEL
Units g/kW-hr
PM Det Factor
Det Factor Type
PM Green Engine Factor g/kW-hr

Current HC Result HC Standard
Units g/kW-hr
HC Det Factor
Det Factor Type
HC Green Engine Factor

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor g/kW-hr

Current NOx Result

Test Cycle Options
1 = A-Mode General Cycle (E3)
2 = 5-Mode Recreational Cycle (E5)
3 = A-Mode Constant Speed Propulsion Cycle (E2)
4 = 5-Mode Constant Speed Auxiliary Cycle (D2)
5 = 6-Mode Variable Speed Auxiliary Cycle (G2)
6 = 8-Mode Variable Speed Auxiliary Cycle (G1)

### LT Engine Test Results: Engine Family #15

Calc Final					Er	ingine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Te	est Qtr Eng	gine ID N	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current NOx Result

g/kW-hr

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

ic illiorination. Engine Failing #10															
Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description: Carryover?: Pre-approved Reduced Required \$ Recreational(Commercial:			Engine Family: Projected Annual P Date of Start of Mor Date of End of Mod Deterioration Facto Include Results fro Required Tests (inc Notes:	lel Year Production el Year Production r Type: m Engine Family	#16 on Summary		Exempt?		Current CO Result  CO Standard Units CO Det Factor Det Factor Type CO Green Engine Factor	g/kW-hr		Current PM Result  PM Standard or FEL Units PM Det Factor Det Factor Type PM Green Engine Factor	g/kW-hr	Current MC Res  HC Standard Units HC Det Factor Det Factor Type HC Green Engine Factor	g/kW-hr
Model Year: Tier: Combined NOx+HC? 40 CFR Part:	Total Actual Production (to	1042 o date):	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total 0		CO Green Engine Pattor		J	rm Green Engine Paccor		No Green Engine Pacito	

- Test Cycle Options

  1 = 4 Mode General Cycle (E3)

  2 = 5 Mode Represidoral Cycle (E5)

  3 = 4 Mode Constant Speed Propulsion Cycle (E2)

  4 = 5 Mode Constant Speed Austilary Cycle (E2)

  5 = 6 Mode Variable Speed Austilary Cycle (E2)

  6 = 8 Mode Variable Speed Austilary Cycle (C1)

  0 = 0 ther

### PLT Engine Test Results: Engine Family #16

1 2 3 4 5									Procedure	Result	Initial Result	Result F	Result	Result I	Initial Result	PM Final Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
2 3 4 5						matriou	mines) Accombination																			47,000,000				
4 5																														
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Paperwork Reduction Act Notice
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

asic Information: Engine Family #17																
Manufacturer: PLT Test Contact: Email Address: Phone #:			Engine Family: Projected Annual P Date of Start of Mod Date of End of Mod	del Year Production		l			Current CO Result		Current PM Result		Current HC Result		Current NOx Result	
Test Location & Description:  Carryover?:  Pre-approved Reduced Required	0		Deterioration Facto Include Results fro Required Tests (inc	r Type: m Engine Family	#17 on Summary		Exempt?		CO Standard Units CO Det Factor	g/kW-hr	PM Standard or FEL Units PM Det Factor	g/kW-hr	HC Standard Units HC Det Factor	g/kW-hr	NOx Standard or FEL Units NOx Det Factor	g/kW-hr
Fuel Type: Recreational/Commercial: Model Year:	Sample Size:		Notes:		<u>.</u>		Exempt?		Det Factor Type CO Green Engine Factor		Det Factor Type PM Green Engine Factor		Det Factor Det Factor Type HC Green Engine Factor		Det Factor Type NOx Green Engine Factor	
Tier: Combined NOx+HC? 40 CFR Part:		1042	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	1								
	Total Actual Production (	to date):			_	,	0	1								

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represal Group (E5)

  3 = 4-Mode Constant Speed Auxiliary Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)

  0 = 0ther

### PLT Engine Test Results: Engine Family #17

Comments:

1 2 3 4 5									Procedure	Result	Initial Result	Result F	Result	Result I	Initial Result	PM Final Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
2 3 4 5						matriou	mines) Accombination																			47,000,000				
4 5																														
5			_		_																									
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Paperwork Reduction Act Notice
The public reporting and recording-ging burden for this collection of information is estimated to average 2.2 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection between the Distriction Agency (2827), 1200 Pernsylvania Ave., NW. Metalburgen, D.C. 3440. Include the Child control number in any correspondence. On not sand the completed from to this debtors.



Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer:			Engine Family:					
PLT Test Contact:			Projected Annual P	roduction:				П
Email Address:			Date of Start of Mod	iel Year Production	on:			г
Phone #:			Date of End of Mod	el Year Productio	n:			г
Test Location & Description:			Deterioration Facto	r Type:				г
			Include Results from	m Engine Family	#18 on Summary	Sheet?		
Carryover?:			Required Tests (inc					
Pre-approved Reduced Required S	Sample Size:		Notes:				Exempt?	
Fuel Type: Recreational/Commercial: Model Year: Tier: Combined NOx+HC? 40 CFR Part:		1042						_
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	
	Total Actual Production (to	date):					0	
Comments:								

Current CO Result		Current PM Result		Current HC Result	

PM Standard or FEL Units ON Standard Units ON St

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Current NOx Result

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Recreational Cycle (E5)

3 = 4-Mode Constant Speed Propulsion Cycle (E2)

4 = 5-Mode Constant Speed Auxiliary Cycle (D2)

5 = 6-Mode Variable Speed Auxiliary Oycle (C2)

6 = 8-Mode Variable Speed Auxiliary Oycle (C1)

0 = 0ther

### PLT Engine Test Results: Engine Family #18

Cale Final						Engine	Engine		Croon Engine	Green Engine Facto	w	Service	Consiss Ass	CO Initial	Bounded CO	CO Final	Dot CO Final	DM Initial	Downdad DM	DM Final	Det DM Fine		Bounded HC	UC Final	Dat MC Final	NOv Initial	Dounded NOv	NOv Final	Dat NOv Fine	ll Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice

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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer:			Engine Family:					
PLT Test Contact:			Projected Annual P	roduction:				
Email Address:			Date of Start of Mod	iel Year Production	on:			
Phone #:			Date of End of Mod	el Year Productio	n:			
Test Location & Description:			Deterioration Facto	r Type:				
			Include Results from	m Engine Family	#19 on Summary	Sheet?		
Carryover?:			Required Tests (inc	luding failure foll	ow-ups)			
Pre-approved Reduced Required S	Sample Size:		Notes:				Exempt?	
Fuel Type: Recreational/Commercial: Model Year: Tier: Combined NOx+HC? 40 CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	1
	Total Actual Production (to	date):					0	1
Comments:								

Current CO Result Current PM Result Current HC Result Current MC Result

CO Standard PM Standard or FEL QNW-1r Units QNW-1r Units

### LT Engine Test Results: Engine Family #19

1 2 3 4 5									Procedure	Result	Initial Result	Result F	Result	Result I	Initial Result	PM Final Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice

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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current NOx Result

g/kW-hr

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description:			Engine Family: Projected Annual Date of Start of Mo Date of End of Mo Deterioration Fact	del Year Production del Year Production					Current CO Result		Current PM R	esult	Cu	rrent HC Result	
Carryover?: Pre-approved Reduced Required S Fuel Type: Recreational/Commercial: Model Year:	sample Size:		Include Results for Required Tests (in Notes:	m Engine Family			Exempt?		CO Standard Units CO Det Factor Det Factor Type CO Green Engine Factor	g/kW-hr	PM Standard or FEL Units PM Det Factor Det Factor Type PM Green Engine Fa	g/kW-hr	HC Stands Units HC Det Fa Det Factor HC Green	ctor	g/kW-hr
Tier: Combined NOx+HC? 40 CFR Part:	Total Actual Production (t	1042 o date):	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total 0	7							

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represal Group (E5)

  3 = 4-Mode Constant Speed Auxiliary Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)

  0 = 0ther

### PLT Engine Test Results: Engine Family #20

Comments:

Calc Final					Er	ingine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Te	est Qtr Eng	gine ID N	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
2																																		
3	-					_																												
5					_	_																												
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current NOx Result

g/kW-hr

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

g/kW-hr

Manufacturer:			Engine Family:						1					
PLT Test Contact:			Projected Annual P	roduction:					1	Current CO Result		Current PM Resul		Current HC F
Email Address:			Date of Start of Mor		on:									
Phone #:			Date of End of Mod					-						
Test Location & Description:			Deterioration Facto					-	1					
rest Eocation a Description.			Include Results fro		#21 on Cummon	Choot?		-		CO Standard		PM Standard or FEL		HC Standard
Carryover?:		_	Required Tests (inc			, olleer:		_	1	Units	g/kW-hr	Units PEL	g/kW-hr	Units
	4.0101			iduling failure foil	ow-ups)		F		-	CO Det Factor	g/KVV-1II	PM Det Factor	greveriii	HC Det Factor
Pre-approved Reduced Require	a Sample Size:		Notes:				Exempt?		J					
Fuel Type:										Det Factor Type		Det Factor Type		Det Factor Type
Recreational/Commercial:										CO Green Engine Factor		PM Green Engine Factor		HC Green Engine Fa
Model Year:														
Tier:														
Combined NOx+HC?														
40 CFR Part:		1042						_						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	1						
	Total Actual Production (t	to date):					0	1						
Comments:									1					

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represal Group (E5)

  3 = 4-Mode Constant Speed Auxiliary Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)

  0 = 0ther

### PLT Engine Test Results: Engine Family #21

Cale Final						Engine	Engine		Croon Engine	Green Engine Facto	w	Service	Consiss Ass	CO Initial	Bounded CO	CO Final	Dot CO Final	DM Initial	Downdard DM	DM Final	Det DM Fine		Bounded HC	UC Final	Dat MC Final	NOv Initial	Dounded NOv	NOv Final	Dat NOv Fine	ll Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

manufacturer:			Engine Family:					
PLT Test Contact:			Projected Annual F	roduction:				
Email Address:			Date of Start of Mo	del Year Producti	on:			
Phone #:			Date of End of Mod	lel Year Production	in:			
Test Location & Description:			Deterioration Facto	r Type:				
			Include Results fro	m Engine Family	#22 on Summary	Sheet?		
Carryover?:			Required Tests (inc	cluding failure fol	low-ups)			
Pre-approved Reduced Required S	Sample Size:		Notes:	-			Exempt?	
Fuel Type:					•			
Recreational/Commercial:								
Model Year:								
Tier:								
Combined NOx+HC?								
40 CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	]
	Total Actual Production (to	date):					0	1
Comments:								
	1							

	_				
urrent CO Result		Current PM Result		Current HC Result	

PM Standard or FEL Units PM C Standard Units QKW-hr Units Units OF Factor PM Det Factor W HC Det Factor Type Det Factor Type Det Factor Type C M Green Engine Factor Units OF Green Engine Fac

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Current NOx Result

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Recreational Cycle (E5)

  3 = 4-Mode Constant Speed Propulsion Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

  5 = 6-Mode Variable Speed Auxiliary Oycle (E2)

  6 = Mode Variable Speed Auxiliary Oycle (C1)

  C-Other.

### PLT Engine Test Results: Engine family #22

Calc Final					Er	ingine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Te	est Qtr Eng	gine ID N	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

anufacturer:			Engine Family:					
LT Test Contact:			Projected Annual P	roduction:				
mail Address:			Date of Start of Mor	del Year Production	on:			
hone #:			Date of End of Mod	el Year Productio	in:			
est Location & Description:			Deterioration Facto	r Type:				
			Include Results fro	m Engine Family	#23 on Summary	Sheet?		
arryover?:			Required Tests (inc	luding failure foll	low-ups)			
re-approved Reduced Required S	ample Size:		Notes:				Exempt?	
iel Type:								
ecreational/Commercial:								
odel Year:								
er:								
ombined NOx+HC?								
CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	i
	Total Actual Production (to	date):					0	

Current CO Result		Current PM Result		Current HC Result		Current NOx Result	
CO Standard	offatt by	PM Standard or FEL	offAW by	HC Standard	offeld by	NOx Standard or FEL	of Why

g/kW-hr

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Represidental Cycle (E5)

3 = 4-Mode Constant Speed Ausiliary Cycle (E2)

4 = 5-Mode Constant Speed Ausiliary Cycle (E2)

5 = 6-Mode Variable Speed Ausiliary Cycle (C2)

6 = 8-Mode Variable Speed Ausiliary Cycle (C1)

0 = 0ther

### LT Engine Test Results: Engine Family #23

										Service						Rounded PM PM Final Initial Result Result														
Calc Final					Engine Engine		Green Engine	Determination	Service Hours (or	Hours Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM PM Final	Det. PM Fit	nal	Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Final	Reason for Failed Test (if				/
Result? Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make Configuration	Build Date	Factor Applied	Method	miles) Accumulation	Location Procedure	Result	Initial Result	Result	Result	Result	Initial Result Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current HC Result

Current NOx Result

Manufacturer: PLT Test Contact: Email Address: Test Location & Description: Carryover?: Pre-approved Reduced Required S RecreationalCommercial: Model Year: Tier: Combined:		1042	Engine Family: Projected Annual Pi Date of Start of Mod Date of End of Mod Deterioration Facto Include Results fror Required Tests (inc. Notes:	lel Year Productio el Year Production r Type: n Engine Family #	n: #24 on Summary	Sheet?	Exempt?		Current CO Result  CO Standard Units CO Det Sector Explored Type CO Green Engine Factor	g/kW-hr	Current PM Result  PM Standard or FEL.  Units PM Det Fector PM Det Fector Det Green Engine Factor	g/kW-hr
40 CFR Part:		1042	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	7				
	Total Actual Production (to	date):	QIACtual	Q2 Actual	Q3 ACIUAI	Q4 Actual	0	1				
Comments:												

# | HC | Standard | NOx Standard or FEL | 9/kW-hr | Units | 1/kW |

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Recreational Cycle (E5)

  3 = 4-Mode Constant Speed Propulsion Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (D2)

  5 = 6-Mode Variable Speed Auxiliary Oycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Oycle (C1)

  0 = 0ther

## PLT Engine Test Results: Engine Family #24

Calc Final					Er	ingine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Te	est Qtr Eng	gine ID N	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description: Carryover?: Pre-approved Reduced Required \$ Fuel Type: Recreationall/Commercial:	Sample Size:		Engine Family: Projected Annual P Date of Start of Moi Date of End of Mod Deterioration Facto Include Results fro Required Tests (inc Notes:	del Year Production el Year Production r Type: m Engine Family	m: #25 on Summary		Exempt?	
Model Year: Tier: Combined NOx+HC? 40 CFR Part:		1042						
	Total Actual Production (t	o date):	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total 0	

Current CO Result	Current PM Result	Current HC Result	Current NOx Result
	·		 

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

 CO Standard
 PM Standard or FEL
 HC Standard

 Units
 g/kW-hr
 Units

 OD Det Factor
 PM Det Factor
 HC Det Factor

 Det Factor Type
 Det Factor Type
 Det Factor Type

 OG Green Engine Factor
 W Green Engine Factor
 W Green Engine Factor

g/kW-hr	Test Cycle Options
	1 = 4-Mode General Cycle (E3)
	2 = 5-Mode Recreational Cycle (E5)
	3 = 4-Mode Constant Speed Propulsion Cycle (E2)
	4 = 5-Mode Constant Speed Auxiliary Cycle (D2)
	5 = 6-Mode Variable Speed Auxiliary Cycle (G2)
	6 = 8-Mode Variable Speed Ausiliary Cycle (C1)
	O = Other

### PLT Engine Test Results: Engine Family #25

Comments:

Calc Final Result? Test Number	Test Date	Test Time	Test Qtr	Engine ID	Engine Make	Engine Configuration	Build Date	Green Engine Factor Applied?	Green Engine Factor Determination Method	Service Service Hours (or Hours Location	Service Acc. Procedure	CO Initial Result	Rounded CO Initial Result	CO Final Result	Det. CO Final Result	PM Initial Result	Rounded PM Initial Result	PM Final Result	Det. PM Final Result	HC Initial Result	Rounded HC Initial Result	HC Final D	et. HC Final Result	NOx Initial Result	Rounded NOx Initial Result	NOx Final Result	Det. NOx Final Result	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
The public reporting and recordiseeping burden for this collection of information is estimated to average 12 Young per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimating respondent burden, including through the use of automated to average 12 Young per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimating respondent burden, including through the send in the solution.

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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

|--|

Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description: Carryover?: Pre-approved Reduced Required S	sample Size:		Engine Family: Projected Annual P Date of Start of Mod Date of End of Mod Deterioration Facto Include Results fro Required Tests (inc Notes:	del Year Producti el Year Productio r Type: m Engine Family	#26 on Summary		Exempt?	
Fuel Type: Recreational/Commercial:								
Model Year: Tier:								
Combined NOx+HC?								
40 CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	
	Total Actual Production (to	date):					0	
Comments:								

Current CO Result		Current PM Result	

	PM Standard or FEL	
g/kW-hr	Units	g/kW-hr
	PM Det Factor	
	Det Factor Type	
	PM Green Engine Factor	

## Current HC Result g/kW-hr

7	NOx Standard or FEL	
1	Units	g/kW-hr
1	NOx Det Factor	
	Det Factor Type	
]	NOx Green Engine Factor	

Current NOx Result

- Test Cycle Options

  1 4-Mode General Opcle (E3)

  2 5-Mode Recreational Opcle (E5)

  3 4-Mode Constant Speed Propulsion Opcle (E2)

  4 5-Mode Constant Speed Auxiliary Opcle (D2)

  5 6-Mode Variable Speed Auxiliary Opcle (C1)

  6 8-Mode Variable Speed Auxiliary Opcle (C1)

  O Other

### PLT Engine Test Results: Engine Family #26

Calc Final					Er	ingine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Te	est Qtr Eng	gine ID N	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
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Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Current NOx Result

g/kW-hr

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description: Carprover? Pre-approved Reduced Required : Fiel Type: RecreationalCommercial: Model Year: Tier: Combined NDx+MC7 40 CRP Rett.	Sample Size:	1042	Date of Star Date of End Deterioratio Include Res Required Te Notes:	nual Production: of Model Year Produc of Model Year Produc n Factor Type: ults from Engine Fami sts (including failure I	tion: ly #27 on Summary iollow-ups)		Exempt?		Current CO Result  CO Standard  Units  CO Det Factor Det Factor Type CO Green Engine Factor	g/kW-hr	U P D	Current PM Result  M Standard or FEL inits M Det Factor set Factor Type M Green Engline Factor	g/kW-hr	Current HC Result  HC Standard Units  HC Det Factor Det Factor Type HC Green Engline Factor	gkW-hr	
			Q1 Act	ial Q2 Actual	Q3 Actual	Q4 Actual	Total									
Comments:	Total Actual Production (to	o date):					0	J								

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Represidental Cycle (E5)

  3 = 4-Mode Constant Speed Ausiliary Cycle (E2)

  4 = 5-Mode Constant Speed Ausiliary Cycle (E2)

  5 = 6-Mode Variable Speed Ausiliary Cycle (C2)

  6 = 8-Mode Variable Speed Ausiliary Cycle (C1)

  0 = 0ther

											Service																						
Calc Final					Engine	Engine		Green Engine	Determination	Service Hours (or	Hours Servi	ce Acc. CO	O Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	Reason for Failed Test (if applicable)				
Result? Test Number	Test Date	Test Time	Test Qtr	Engine ID	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location Pro	edure Re	tesult	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Resul	It Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
The public reporting and recordisequing burden for this collection of information is estimated to average 12 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden including through the use of automated reduction techniques to the Direction Collection Strategies Division, U.S. Environmental Protection Agency (2022T), 1200 Permisylvaria Ave., NW.
Assistagion, D. C. 2408-1 Strate the Oxford number is not governeportation. 2 borst for other developments.



Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

PLT Test Contact:				Projected Annual P	roduction:			
Email Address:				Date of Start of Mod	lel Year Production	on:		
Phone #:				Date of End of Mod	el Year Productio	n:		
Test Location & Description:				Deterioration Facto	r Type:			
				include Results from	m Engine Family	#28 on Summary	Sheet?	
Carryover?:				Required Tests (inc	luding failure foll	ow-ups)		
Pre-approved Reduced Required S	Sample Size:			Notes:				Exempt?
Fuel Type:								
Recreational/Commercial:								
Model Year:								
Tier:								
Combined NOx+HC?								
40 CFR Part:		1042						
			ſ	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total
	Total Actual Production (to	date):						0

g/kW-hr

Current PM Result PM Standard or FEL
Units g/kW-hr
PM Det Factor
Det Factor Type
PM Green Engine Factor

HC Standard
Units g/kW-hr
HC Det Factor
Det Factor Type
HC Green Engine Factor

Current HC Result

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor g/kW-hr

Current NOx Result

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Recreational Cycle (E5)

  3 = 4-Mode Constant Speed Propulsion Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (D2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)

   Other

### LT Engine Test Results: Engine Family #28

Calc Final Result?	Test Number	Test Date	Test Time	Test Otr	Engine ID	Engine Make	Engine Configuration	Build Date	Green Engine	Green Engine Factor Determination	Service Hours (or	Service Hours Location	Service Acc.	CO Initial	Rounded CO Initial Result	CO Final Result	Det. CO Final Result	PM Initial Result	Rounded PM Initial Result	PM Final Result	Det. PM Final	HC Initial Result	Rounded HC	HC Final Result	Det. HC Final Result	NOx Initial Result	Rounded NOx Initial Result	NOx Final Result	Det. NOx Fina Result	al Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
The paids reporting and reconfiscaping burden for the collection of information is estimated to sense
suggested methods for imministrating respondent burden, voluding phrough the use of automated collection is because to the page of the public production of the public production is estimated to removate the production of the public production is estimated of the public production of the



Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

manufacturer:			Engine Family:				
PLT Test Contact:			Projected Annual P	roduction:			
Email Address:			Date of Start of Mod	del Year Production	on:		
Phone #:			Date of End of Mod	el Year Productio	in:		
Test Location & Description:			Deterioration Facto	r Tyne:			
rest Eocaton a Description.			Include Results from		#20 on Cummon	Choose?	
Carryover?:		_	Required Tests (inc			olleet:	
				luding failure foil	iow-ups)		
Pre-approved Reduced Required S	Sample Size:		Notes:				Exempt?
Fuel Type:							
Recreational/Commercial:							
Model Year:							
Tier:							
Combined NOx+HC?							
40 CFR Part:		1042					
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total
	Total Actual Production (to	date):					0
Comments:							
	I						

Current CO Result		Current PM Result	1	Current I
	-		-	

PM Standard or FEL Units PM Del Factor Units Uni

Current NOx Result NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor

Test Cycle Options

1 = 4-Mode General Cycle (E3)

2 = 5-Mode Recreational Cycle (E5)

3 = 4-Mode Constant Speed Propulsion Cycle (E2)

4 = 5-Mode Constant Speed Auxiliary Cycle (E2)

5 = 6-Mode Variable Speed Auxiliary Oycle (E2)

6 = Mode Variable Speed Auxiliary Oycle (C1)

C-Other.

### PLT Engine Test Results: Engine Family #29

Calc Final					Er	ingine	Engine		Green Engine	Green Engine Facto	Service Hours for	Service Hours	Service Acc.	CO Initial	Rounded CO	CO Final	Det. CO Final	PM Initial	Rounded PM	PM Final	Det. PM Final		Rounded HC	HC Final	Det. HC Final	NOx Initial	Rounded NOx	NOx Final	Det. NOx Fina	l Reason for Failed Test (if applicable)				
Result?	Test Number	Test Date	Test Time Te	est Qtr Eng	gine ID N	Make	Configuration	Build Date	Factor Applied?	Method	miles) Accumulation	Location	Procedure	Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	HC Initial Result	Initial Result	Result	Result	Result	Initial Result	Result	Result	applicable)	Remedy	Repairs	Test Cycle	Comments
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3	-					_																												
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Paperwork Reduction Act Notice

The public reporting and recombeguing burden for this codection of information is estimated to sering 12 Nous per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any supposed methods for reministring respondent burden, violating through the use of submanated collections. Strategies Debicion, U.S. Environmental Protection Agency (2022T), 1200 Perrospharita Arie, NW, Washington, D.C. 20480. Include the CMBI control number in any correspondence. Do not send the completed form to this address.



Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Basic Inform	iaiio	m	Eng	jine	Famil	y #3u	ı

PLT Test Contact:			Projected Annual F	roduction:				1
Email Address:			Date of Start of Mo	del Year Production	on:			r
Phone #:			Date of End of Mod	lel Year Productio	n:			r
Test Location & Description:			Deterioration Facto	r Type:				r
			Include Results fro	m Engine Family	#30 on Summary	Sheet?		t
Carryover?:			Required Tests (inc	cluding failure foll	ow-ups)			ı
Pre-approved Reduced Required S	Sample Size:		Notes:				Exempt?	Г
Fuel Type:								ī
Recreational/Commercial:								
Model Year:								
Tier:								
Combined NOx+HC?								
40 CFR Part:		1042						
			Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Total	1
	Total Actual Production (to	date):					0	1

Engine Family:
Projected Annual Production:
Projected Annual Production:
Date of End of Model Year Production:
Date of End of Model Year Production:
Deterioration Factor Type:
Include Results from Engine Family 30 on Summary Sheet?
Required Tests (including failure follow-ups)
Modes:

g/kW-hr

Current PM Result PM Standard or FEL
Units g/kW-hr
PM Det Factor
Det Factor Type
PM Green Engine Factor

HC Standard
Units g/kW-hr
HC Det Factor
Det Factor Type
HC Green Engine Factor

Current HC Result

NOx Standard or FEL Units NOx Det Factor Det Factor Type NOx Green Engine Factor g/kW-hr

Current NOx Result

- Test Cycle Options

  1 = 4-Mode General Cycle (E3)

  2 = 5-Mode Recreational Cycle (E5)

  3 = 4-Mode Constant Speed Propulsion Cycle (E2)

  4 = 5-Mode Constant Speed Auxiliary Cycle (D2)

  5 = 6-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C2)

  6 = 8-Mode Variable Speed Auxiliary Cycle (C1)

   Other

										Ornan Engine Easts	_	Service																					4	
Calc Final Result?	Test Number	Test Date	Test Time	Test Otr	Engine ID	Engine Make	Engine Configuration	Ruild Date	Green Engine Factor Applied?	Determination	Service Hours (or	Hours	Service Acc.	CO Initial Result	Rounded CO Initial Result	CO Final Result	Det. CO Final Result	PM Initial Result	Rounded PM Initial Result	PM Final Result	Det. PM Final Result	HC Initial Result	Rounded HC	HC Final Result	Det. HC Final Result	NOx Initial Result	Rounded NOx Initial Result	NOx Final Result	Det. NOx Fins	Reason for Failed Test (if applicable)	Remedy	Repairs	Test Cycle	Comments
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Paperwork Reduction Act Notice
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## United States

## US Environmental Protection Agency

Office of Air and Radiation, Office of Transportation and Air Quality

## Manufacturer Production Line Testing Report for Marine Compression-Ignition Engines

Version Number: 1.3 Last Revision: April 2018

<b>Basic Information: Invalid Test</b>	ts	
Manufacturer: PLT Test Contact: Email Address: Phone #: Test Location & Description:	Total Production:  Date of Start of Model Year Production:  Date of End of Model Year Production:	OMB No. 2060-0641 Approval Expires on 3/31/2020 EPA Form 5900-298
Comments:		
Invelid DLT Cooks Test Decile		

### Invalid PLT Engine Test Results

Engine Family	Test Number	Test Date	Test Time	Test Qtr	Engine ID	Engine Make	Engine Configuration	Build Date	Green Engine Factor Applied?	Green Engine Factor Determination Method	Service Hours (or miles) Accumulation	Service Hours Location	Service Acc. Procedure	CO Final Result (g/kW- hr)	PM Final Result (g/kW- hr)	HC+NOx Final Result (g/kW- hr)	NOx Final Result (g/kW- hr)	HC Final Result (g/kW- hr)	Reason for Invalid Test	Additional Comments
1																				
2																				
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## Manufacturer Production Line Testing Report for Marine Compression Ignition Engines

Version Number: 1.3 Last Revision: April 2018

Manufacturer Notes	
Please provide any additional notes here.	

## **Paperwork Reduction Act Notice**

The public reporting and recordkeeping burden for this collection of information is estimated to average 12 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

OMB No. 2060-0641 Approval Expires on 3/31/2020 EPA Form 5900-298