

Pursuant to the authority vested in California Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapters 1 and 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-19-095;

IT IS ORDERED AND RESOLVED: That the following equipment produced by the manufacturer is certified as described below. Production equipment shall be in all material respects the same as those for which certification is granted.

ENGINE DESCRIPTION			
MANUFACTURER	ENGINE FAMILY (E.O. NUMBER)	ENGINE SIZE (cc)	FUEL TYPE (CNG/LNG=compressed/liquefied natural gas LPG=liquefied petroleum gas)
CUMMINS POWER GENERATION	LN5XS.3042CC (U-U-008-0301)	304	Gasoline
TBC = To Be Certified			
EQUIPMENT DESCRIPTION			
MODEL YEAR	EVAPORATIVE FAMILY	FUEL TANK NOMINAL CAPACITY (liters)	EQUIPMENT APPLICATION
2020	STDCM1034P	See Attachment	Generator Set with Refueling Pump
EMISSION CONTROL SYSTEMS (ECS)		ENGINE and/or EQUIPMENT MODEL	
Canister/Metal		See Attachment	
<small>A. ECS TYPE (Venting Control Type/Tank Barrier Type): 1. Venting Control Type and Code: - Canister=C Sealed Tank=S Other=O 2. Tank Barrier Type and Code: - Metal=M Treated HDPE or PE=P Co-extruded=C Selar=L Nylon=N Acetal=A Other=O B. EVAPORATIVE FAMILY 2-Letter CODE (Venting Control Codes =C, S, O); (Tank Barrier Codes = M, P, C, L, N, A, O). Note: Always list venting control type or code first before tank barrier type or code. Do not use abbreviations for ECS types.</small>			

The following are the evaporative emission standard (Title 13, California Code of Regulations, 13 CCR Section 2754 or 2754.1, as applicable), and certification level in g organic material hydrocarbon equivalent-day⁻¹. The running loss emissions control has been demonstrated by the manufacturer.

*not applicable	DIURNAL EMISSION STANDARD (g organic material hydrocarbon equivalent-day ⁻¹)		
	EVAPORATIVE FAMILY EMISSION LIMIT DIFFERENTIAL (EFELD)	EVAPORATIVE MODEL EMISSION LIMIT (EMEL)	CERTIFICATION LEVEL
1.20 + 0.056 × Nominal Capacity (L)	*	*	2.3

BE IT FURTHER RESOLVED: That the evaporative model emission limit (EMEL), as applicable, is the diurnal emissions level declared by the manufacturer based on diurnal test results for a worst-case engine or equipment model within an evaporative family. No engine or equipment emissions within the evaporative family could be closer to its respective standard than the evaporative family emission limit differential (EFELD) calculated from the declared EMEL for the worst-case engine or equipment.

BE IT FURTHER RESOLVED: That the evaporative family emission limit differential (EFELD), as applicable, is an emission level differential between the effective standard level for a specific model representing the entire evaporative family and the EMEL declared for the specific model. It serves as the applicable evaporative emission standard for determining compliance on a corporate average basis of any equipment within this evaporative family under 13 CCR Sections 2754.1.

BE IT FURTHER RESOLVED: That for the listed equipment, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with 13 CCR Section 2759 (labeling), Section 2774 (bond requirements) and 13 CCR Sections 2760 and 2764 (emission control system warranty).

Equipment certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the evaporative family and model-year listed above. Equipment in this family that is produced for any other model-year is not covered by this Executive Order.

Executed at El Monte, California on this 20th day of December 2019.

Kim Pryor
 per Allen Lyons, Chief
 Emissions Certification and Compliance Division

Small Off-Road Evaporative Certification Database Form

MODEL SUMMARY

S1. Worst Case (Check One)	S2. Model	S3. Sales Codes (check all appropriate)		S4. Engine Class (I or II)	S5. Fuel System (FI or CARB)	S6. Fuel Tank Volume (Liters)		S7. Fuel Tank Internal Surface Area (m ²)	S8. Fuel Line Type (e.g. Single or Multi-layer)	S9. Nominal Fuel Line Length ⁽¹⁾ (mm)	S10. Fuel Line Inside Diameter (mm)	S11. Engine Family	S12. Fuel Tank Executive Order	S13. Fuel Line Executive Order	S14. Carbon Canister (or Working Capacity (g/L))/ Other Venting Control Executive Order
		CA Only	50-State			Total	Nominal								
	ST10P	X		II	CARB	38.47	34.62	0.826	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (89.3) Q-07-014 (82.2) Q-07-013A (125.17) Q-11-026 (206.5) Q-20-017
	ST11P	X		II	CARB	76.96	69.26	1.376	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (125.17) Q-11-026 (206.5) Q-20-017
	ST12P	X		II	CARB	37.85	35.95	0.7525	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (89.3) Q-07-014 (82.2) Q-07-013A (125.17) Q-11-026 (206.5) Q-20-017

	ST13P		X	II	CARB	73.48	66.13	0.871	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (125.17) Q-11-026 206.5) Q-20-017
	ST14P		X	II	CARB	52.99	50.34	0.873	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (89.3) Q-07-014 (82.2) Q-07-013A (125.17) Q-11-026 206.5) Q-20-017
	ST15P		X	II	CARB	68.13	64.72	1.449	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (125.17) Q-11-026 206.5) Q-20-017
	ST16P		X	II	CARB	113.56	107.88	1.978	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (125.17) Q-11-026 206.5) Q-20-017
	ST17P		X	II	CARB	113.56	107.88	1.978	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (125.17) Q-11-026 206.5) Q-20-017
	ST18P		X	II	CARB	152.28	137.05	2.470	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (233.8) Q-07-017 (125.17) Q-11-026 206.5) Q-20-017

	ST19P		X	II	CARB	75.70	71.92	1.477	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (125.17) Q-11-026 206.5) Q-20-017
	ST20P		X	II	CARB	98.42	93.50	1.811	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (125.17) Q-11-026 206.5) Q-20-017
	ST21P		X	II	CARB	113.56	107.88	1.978	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (125.17) Q-11-026 206.5) Q-20-017
X	ST22P		X	II	CARB	113.56	107.88	2.48	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (125.17) Q-11-026 206.5) Q-20-017
	ST24P		X	II	CARB	90.849 8	86.31	1.755	Multi-Layer	10668	6.35	LN5XS.3042CC	Exempt	G-05-018 C-U-07-019 Q-09-022 Q-09-019A C-U-06-016	(196.5) Q-07-016 (130) Q-07-015B (125.17) Q-11-026 206.5) Q-20-017

(I) The nominal fuel line lengths can be grouped into increment of ± 3 inches (76 mm)

OLDER ENGINES USED?

ALL PARTIAL NO

ATTACHMENT 4
SMALL OFF-ROAD EVAPORATIVE EQUIPMENT CERTIFICATION
(Applicable to engines/equipment > 80 cc engine displacement (2020 and later MYs))
Certification Summary Sheet

Date: 3/3/2020

- 1. Model Year: 2020
- 2a. Manufacturer: Standard Technologies
- 2b. U.S. EPA-Assigned Manufacturer Code: STD

2c) Manufacturer Contact Information Contact Name: Max Valentine Title: Engineer Company Name: Standard Technologies Address: 2641 West Hayes Ave. Fremont, OH 43420 Phone No.: 419-332-6434 Fax No.: 419-332-1199 Email: max.valentine@standardtechn.com	2d) Production Plant Location/Contact Information Contact Name: Max Valentine Title: Engineer Company Name: Standard Technologies Address: 2641 West Hayes Ave. Fremont, OH 43420 Phone No.: 419-332-6434 Fax No.: 419-332-1199 Email: max.valentine@standardtechn.com
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3. Evaporative Family Name (Use updated naming convention in Attachment 1 in CP-902 amended September 18, 2017):
STDCM1034P

4. Engine families within the evaporative family above:

LN5XS.3042CC

5. Process Code (e.g. New, Running Change): NEW

6. Executive Order (For CARB Use Only): U-U-148-0041

7. Confidential Information

a) Projected model year production volume (units) in California: ___ ___

b) Projected model year production volume (units) in U.S.: _

c) Date of expected introduction into California commerce: _____

8. Equipment Applications:

- | | | |
|---|--|---|
| <input type="checkbox"/> Backpack Blower | <input type="checkbox"/> Hedge Trimmer | <input type="checkbox"/> Riding Mower (not ZTR* or Tractor) |
| <input type="checkbox"/> Brushcutter | <input type="checkbox"/> Ice Auger | <input type="checkbox"/> Snowblower |
| <input type="checkbox"/> Chainsaw | <input type="checkbox"/> Lawn and Garden Tractor | <input type="checkbox"/> Stump Grinder |
| <input type="checkbox"/> Chipper/Shredder | <input type="checkbox"/> Leaf Blower/Vacuum | <input type="checkbox"/> Tiller |
| <input type="checkbox"/> Commercial Turf | <input type="checkbox"/> Line Trimmer | <input type="checkbox"/> Utility Cart/Vehicle |
| <input type="checkbox"/> Compressor | <input type="checkbox"/> Logsplitter | <input type="checkbox"/> Walk-Behind Mower |
| <input type="checkbox"/> Edger | <input type="checkbox"/> Non-Backpack Blower | <input type="checkbox"/> ZTR – Commercial |
| <input type="checkbox"/> Generator Set | <input type="checkbox"/> Pressure Washer | <input type="checkbox"/> ZTR – Residential |
| <input type="checkbox"/> Go-Cart | <input type="checkbox"/> Pump | <input checked="" type="checkbox"/> Other: ___ Generator Set
with Refueling Pump ___ |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Other: _____ |

*ZTR = zero-turn radius

9. Bond Requirement:

Has the manufacturer submitted bond worksheet demonstrating compliance with the bond requirements of 13 CCR Section 2774 and associated bond if applicable? Yes/No ___ Yes ___

DS 3/3/20 1

450

OLS 3/3/20

10. Certification Application:

Does the manufacturer have any evaporative emission control system EOs that have been suspended or revoked?

Yes/No No

- i) If Yes, you must certify using "a) Diurnal Emission Standards" option below. Subject to provisions of Section 2753(f), specify what is the earliest model year you can begin to certify any evaporative families to "b) Design Standards" option?

Model year: _____

- ii) If No, select your certification option below:

- a) Diurnal Emission Standards X
Fill out pages 1-2, Section A, and Questions #S1-S23

- b) Design Standards _____
Fill out pages 1-2, Section B, and Questions #S1-S23

- c) Equipment fueled by on-road vehicle/marine vessel fuel tank _____
Fill out pages 1-2, Section C, and Questions #S1-S23 (as applicable)

SECTION A
FOR SYSTEMS CERTIFIED TO DIURNAL EMISSION STANDARDS (Section 2754)
Small Off-Road Evaporative Certification Summary Sheet

1. Certification Information

- a) New Testing? (Yes/No) Yes No
- b) If carry over, which model year was the original certification diurnal emissions data submitted to CARB: _____ and evaporative family: _____
 (Note: Per CP-902 amended September 18, 2017, no carry across data allowed)
- c) Worst Case Test Engine or Equipment Model: 4.0 generator set with fuel tank, pump, carbon canister and hoses _____
- d) Test Equipment ID: 19052 _____
- e) Test Fuel (e.g., LEV III gasoline): CARB LEV III (CN-42012) _____
- f) 1. Running Loss Vented Emissions Control Method (e.g. Active, Passive, Innovative):: Active Passive Innovative _____
 2. CARB Running Loss Approval Number (if Passive or Innovative): _____
- g) Specify Fuel Tank Barrier Type (i.e., Metal, Coextruded, HDPE, etc.): Metal _____
- h) Test Procedure (e.g., TP-902 amended May 6, 2019): TP-902 _____
- i) Alternative Test Procedure Approval Number (if applicable): _____
- j) Declared Evaporative Model Emission Limit (EMEL) in grams: _____
- k) Associated Evaporative Family Emission Limit Differential (EFELD) in grams: _____
 Note: **No engine or equipment emissions within the family could be closer to its respective standard than the EFELD calculated from the declared EMEL for the worst case engine or equipment.**

2. Special Test Equipment

VEXAGroup is the certified LAB that performed the evaporative emission tests and they are equipped to do so.

3. Fuel Cap

- a) Is the cap permanently tethered? (Yes/No) Yes No
- b) Does the fuel cap make a vapor seal? (Yes/No) Yes No
 If no, innovative product Executive Order # _____
- c) Is the user provided with an audible or physical feedback of the establishment of vapor seal? (Yes/No) Yes No
 Please provide description of the fuel cap's features as part of the evaporative emission system description in item #6 including description of fuel tank tether and indication of establishment.
- d) Does the fuel cap meet the durability requirements in TP-902 amended May 6, 2019, Section 2.1(a)? (Yes/No) Yes No

4. Carbon Canister and Fuel Line Installation Requirements

- a) Does the evaporative emission control system include a carbon canister? (Yes/No) Yes No
 If yes, is the carbon canister installed per Section 2754(d)? (Yes/No) Yes No
- b) Are the fuel lines securely connected to prevent fuel leakage throughout the useful life of the evaporative emission control system and tested according to ANSI testing requirements per Section 2754(e)? (Yes/No) Yes No

5. Certification Data

a. Test Equipment ID	b. Test No.	c. Engine or Equipment Model	d. Type (Certification CTG or Confirmatory RTG)	e. Fuel Tank Nominal Capacity (L)	f. Hot Soak Test Mass (g)	Official 24-Hour Diurnal Test Results ⁽¹⁾		
						g. Test Completion Date	h. Diurnal Certification Test Result (g organic material hydrocarbon equivalent-day)	i. Diurnal Standard (g organic material hydrocarbon equivalent-day)
19052	01	Onan 4000 QG Evap	CTG	121.50	1.05	10-25-19	2.33	7.56

Note: (1) Diurnal emissions and standards must be expressed to two significant digits.
 (2) CARB may direct the manufacturer to conduct a retest if the original test results indicate marginal (within 5% of the standard) compliance

SECTION A
FOR SYSTEMS CERTIFIED TO DIURNAL EMISSION STANDARDS (Section 2754)
Small Off-Road Evaporative Certification Summary Sheet

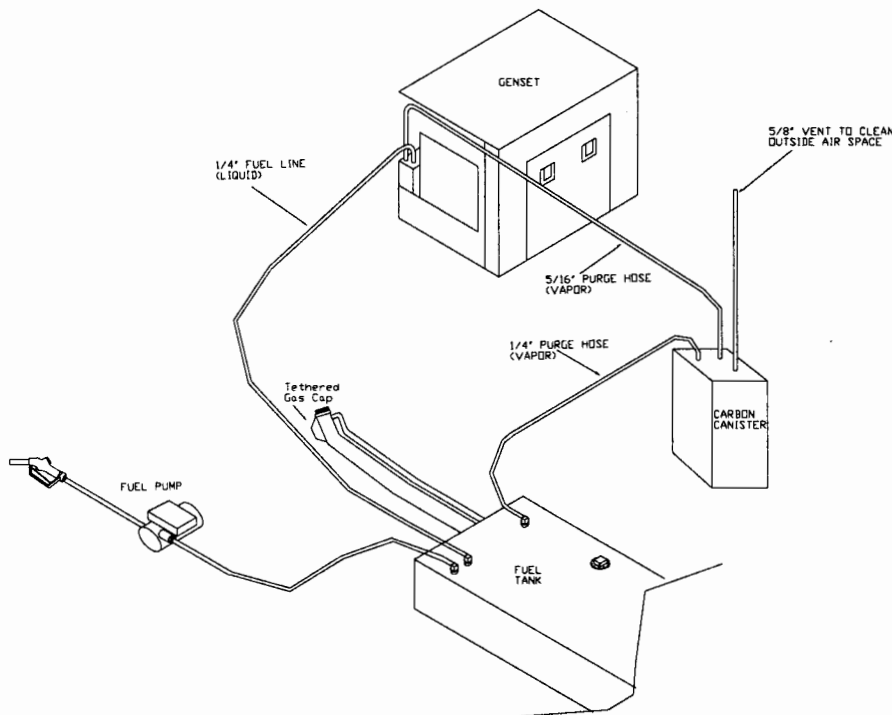
6a. Evaporative Emission System (Single Canister)

a) Provide an engineering description of the evaporative emission system including schematics. The description must also explain how vented tank emissions are controlled from being emitted into the atmosphere during engine operation. (Refer to CP-902 amended September 18, 2017, for requirements, including Section 5.8 and Section 6.)

The layout below displays all major components of the evaporative emission system for the 4.0 kW generator set, fuel tank and carbon canister. This application is for metal fuel tanks with characteristics and fittings as described below. The fuel cap is Stant's part number A0-5366/5366-02 with plastic tether molded into the cap and with an audible click to establish vapor seal. The carbon canister is Standard Technologies part number ST-98 with 206.51 grams working capacity which corresponds to maximum tank size of 38.9 gallons as defined in section 3.2(a) of TP-902.

The 4.0 kW generator sets are equipped with a 304cc engine. Fuel vapors from the carbon canister mix with the standard air-fuel-mixture from the carburetor and burn in the engine when the generator set is operating. The valve senses vacuum pressure and delays injection of carbon canister fuel vapors until vacuum pressure reaches a value that corresponds to output power of 1000 Watts. This avoids very rich air-fuel-mixture into the engine at low loads and fully loaded canister. Hoses connecting tank to canister and canister to generator set are low permeation fuel hoses.

Vacuum pressure from the intake manifold draws fuel vapors into the combustion chamber that was collected in the carbon canister. The hoses connecting tank to canister and canister to generator set are low permeation fuel hoses.



7. For CARB Use Only

Processed By: APTA Date Processed 3/5/2020 Reviewed By: Date Reviewed:

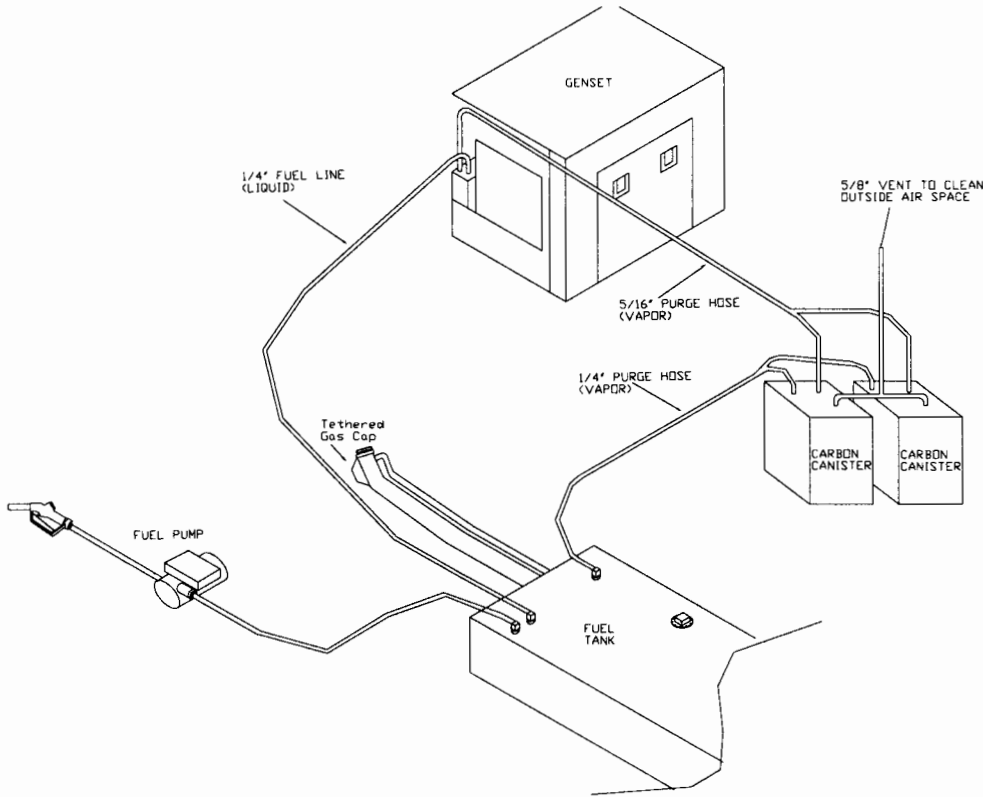
6b. Evaporative Emission System (Dual Canister)

a) Provide an engineering description of the evaporative emission system including schematics. The description must also explain how vented tank emissions are controlled from being emitted into the atmosphere during engine operation. (Refer to CP-902 amended September 18, 2017, for requirements, including Section 5.8 and Section 6.)

The layout below displays all major components of the evaporative emission system for the 4.0 kW generator set, fuel tank and two carbon canisters. This application is for metal fuel tanks with characteristics and fittings as described below. The fuel cap is Stant's part number A0-5366/5366-02 with plastic tether molded into the cap and with an audible click to establish vapor seal. The carbon canister is Flex Technologies part number 232492 with 125.17 grams working capacity which corresponds to maximum tank size of 23.62 gallons per canister as defined in section 3.2(a) of TP-902. Maximum tank size for the dual canister system is 47.24 gallons.

The 4.0 kW generator sets are equipped with a 304cc engine. Fuel vapors from the carbon canister mix with the standard air-fuel-mixture from the carburetor and burn in the engine when the generator set is operating. The valve senses vacuum pressure and delays injection of carbon canister fuel vapors until vacuum pressure reaches a value that corresponds to output power of 1000 Watts. This avoids very rich air-fuel-mixture into the engine at low loads and fully loaded canister. Hoses connecting tank to canister and canister to generator set are low permeation fuel hoses.

Vacuum pressure from the intake manifold draws fuel vapors into the combustion chamber that was collected in the carbon canister. The hoses connecting tank to canister and canister to generator set are low permeation fuel hoses.



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Processed By: PTM Date Processed 3/5/2020 Reviewed By: Date Reviewed: