## Released: February 2021

Next MECS will be fielded in 2022.

## Table 10.25 Reasons that Made Residual Fuel Oil Unswitchable, 2018;

Level: National Data; Row: NAICS Codes;

Column: Reasons that Made Quantity Unswitchable;

Unit: Thousand Barrels.

## Non Switchable Amount Attributed to:

Total   Tota	NAICS Code(a)	Subsector and Industry	Total Amount of Residual Fuel Oil Consumed as Fuel	Total Amount of Unswitchable Residual Fuel Oil Fuel Use	Equipment is Not Capable of Using Another Fuel	Adversely Affects		Environmental Restrictions(b)	Long-Term Contract in Place(c)	Unavailable Storage for Alternative Fuels(d)	Another Reason	Combinations of Cols. F, G, H, I, J, and K	•
March   Marc	Total United States												
131121   Wet Corn Milling	311	Food	*	*	*	0	*	0	0	0	0	0	0
1313   Signe Munifacturing   1	3112	Grain and Oilseed Milling	*	0	0	0	0	0	0	0	0	0	0
1.5   1.5	311221	Wet Corn Milling	0	0	0	0	0	0	0	0	0	0	0
1315   Daily Product	31131	Sugar Manufacturing	*	*	*	0	0	0	0	0	0	0	0
1311	3114	Fruit and Vegetable Preserving and Specialty Food	*	*	0	0	*	0	0	0	0	0	0
12   Beverge and Tobacco Products	3115		*	*	*	0	0	0	0	0	0	0	0
1212   Severages   1	3116	Animal Slaughtering and Processing	*	*	*	0	0	0	0	0	0	0	0
1322   Tobasce   1	312	Beverage and Tobacco Products	*	*	0	*	0	0	0	0	0	0	*
Testile Mills	3121	Beverages	*	*	0	*	0	0	0	0	0	0	*
Testile Product Mills	3122	Tobacco	*	0	0	0	0	0	0	0	0	0	0
1315   Apparel	313	Textile Mills	*	0	0	0	0	0	0	0	0	0	0
14   14   15   15   15   15   15   15	314	Textile Product Mills	0	0	0	0	0	0	0	0	0	0	0
12113	315	Apparel	0	0	0	0	0	0	0	0	0	0	0
32113   Sewmills   S		Leather and Allied Products	0	0		0	0	0	0	0	0	0	0
3212   Veneer, Plywood, and Engineered Woods   1	321	Wood Products	*	*	*	0	0	0	0	0	0	0	*
Seconstituted Wood Products   1	321113		*	*	*	0	0	0	0	0	0	0	*
23.119   Network Wood Products	3212	Veneer, Plywood, and Engineered Woods	*	*	*	0	0	0	0	0	0	0	0
322110   Paper		Reconstituted Wood Products	*	*	*	0	0	0	0	0	0	0	0
322110   Pulp Mills		Other Wood Products	*	*	0	0	0	0	0	0	0	0	*
Pubmis   P	322	Paper	1	1	1	0	*	*	0	0	*	*	*
322122   Newsprint Mills	322110	Pulp Mills	*	*	*	0	0	0	0	0	0	*	*
32130   Paperboard Mills   Pap	322121	Paper Mills, except Newsprint	1	1	*	0	0	0	0	0	*	0	*
323       Printing and Related Support       *       0       <	322122	Newsprint Mills	0	0	0	0	0	0	0	0	0	0	0
324       Petroleum and Coal Products       1       *       *       0       *       *       0 <t< td=""><td></td><td></td><td>*</td><td>*</td><td>*</td><td>0</td><td>*</td><td>*</td><td></td><td></td><td>*</td><td>0</td><td>*</td></t<>			*	*	*	0	*	*			*	0	*
324110   Petroleum Refineries   *	323	Printing and Related Support	*	0	0	0	0	0	0	0	0		0
324121   Asphalt Paving Mixture and Block   *	324	Petroleum and Coal Products	1	*	*	0	*	*	0	0	0	*	*
Second Control   Control	324110	Petroleum Refineries	*	*		0		*	0	0	0	*	0
324191         Petroleum Lubricating Oil and Grease Products         0 <t< td=""><td>324121</td><td></td><td>*</td><td>*</td><td>*</td><td>0</td><td>*</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>*</td></t<>	324121		*	*	*	0	*	0	0	0	0	0	*
324199         Other Petroleum and Coal Products         0			<del>-</del>			0	0	0		0	0		0
325         Chemicals         * <th< td=""><td></td><td></td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>			0	0	0	0	0	0	0	0	0	0	0
Second Control of the Horizon of t			0	0		0		0					0
325120         Industrial Gases         0	325	Chemicals	*	*	*	*	0	0	0	0	*	0	*
325180         Other Basic Inorganic Chemicals         0						<del>.</del> .							0
325193     Ethyl Alcohol     0<			<del>-</del>			0		0					0
325194         Cyclic Crudes, Intermediate and Gum and Wood Chemicals         0	325180	Other Basic Inorganic Chemicals	0	0		0	0	0		0	0	0	0
325199         Other Basic Organic Chemicals         *         *         0	325193		0	0	0	0	0	0	0	0	0	0	0
325211     Plastics Materials and Resins     0	325194	Cyclic Crudes, Intermediate and Gum and Wood Chemicals	0	0	0	0	0	0	0	0	0	0	0
325212     Synthetic Rubber     0 <td< td=""><td></td><td></td><td>*</td><td>*</td><td><del>-</del></td><td></td><td></td><td></td><td></td><td> <del>.</del></td><td></td><td></td><td>*</td></td<>			*	*	<del>-</del>					<del>.</del>			*
325220         Artificial and Synthetic Fibers and Filaments         0 <t< td=""><td></td><td></td><td></td><td><del>-</del>-</td><td><del>-</del></td><td></td><td></td><td></td><td></td><td> <del>.</del></td><td></td><td></td><td></td></t<>				<del>-</del> -	<del>-</del>					<del>.</del>			
325311 Nitrogenous Fertilizers 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			<del>-</del>		<del>-</del>	<u>.</u>				<del>.</del>			
				<del>-</del>	<del>-</del>								
325312 Phosphatic Fertilizers * * 0 * 0 0 0 0 0 0 0 0 0 0		Nitrogenous Fertilizers	0	0	0	0		0			0		0
	325312	Phosphatic Fertilizers	*	*	0	*	0	0	0	0	0	0	0

			<del>.</del>	0	0		0	· · · · · · · · · · · · · · · · · · ·	0	·	<u> </u>	U
325412 P	Pharmaceutical Preparation	0	0	0	0	0	0	0	0	0	0	0
325992 P	Photographic Film, Paper, Plate, and Chemicals	*	0	0	0	0	0	0	0	0	0	0
326 Pla	astics and Rubber Products	*	0	0	0	0	0	0	0	0	0	0
327 No	onmetallic Mineral Products	*	*	*	0	0	0	0	0	0	0	0
327120 C	Clay Building Material and Refractories	0	0	0	0	0	0	0	0	0	0	0
327211 FI	Flat Glass	0	0	0	0	0	0	0	0	0	0	0
327212 O	Other Pressed and Blown Glass and Glassware	0	0	0	0	0	0	0	0	0	0	0
327213 G	Glass Containers	0	0	0	0	0	0	0	0	0	0	0
327215 G	Glass Products from Purchased Glass	0	0	0	0	0	0	0	0	0	0	0
327310 C	Cements	0	0	0	0	0	0	0	0	0	0	0
327410 Li	ime	0	0	0	0	0	0	0	0	0	0	0
327420 G	Gypsum	0	0	0	0	0	0	0	0	0	0	0
327993 N	Mineral Wool	0	0	0	0	0	0	0	0	0	0	0
331 Prin	imary Metals	*	*	*	0	0	0	0	0	0	0	*
331110 Ir	ron and Steel Mills and Ferroalloys	*	*	*	0	0	0	0	0	0	0	0
3312 Ste	eel Products from Purchased Steel	0	0	0	0	0	0	0	0	0	0	0
3313 Alu	lumina and Aluminum	0	0	0	0	0	0	0	0	0	0	0
331314 Se	Secondary Smelting and Alloying of Aluminum	0	0	0	0	0	0	0	0	0	0	0
331315 A	Aluminum Sheet, Plate and Foils	0	0	0	0	0	0	0	0	0	0	0
331318 O	Other Aluminum Rolling, Drawing and Extruding	0	0	0	0	0	0	0	0	0	0	0
3314 No	onferrous Metals, except Aluminum	0	0	0	0	0	0	0	0	0	0	0
331410 N	Nonferrous Metal (except Aluminum) Smelting and Refining	0	0	0	0	0	0	0	0	0	0	0
3315 Fo	oundries	*	*	0	0	0	0	0	0	0	0	*
331511 Ir	ron Foundries	0	0	0	0	0	0	0	0	0	0	0
331523 N	Nonferrous Metal Die-Casting Foundries	*	*	0	0	0	0	0	0	0	0	*
331524 A	Aluminum Foundries, except Die-Casting	0	0	0	0	0	0	0	0	0	0	0
332 Fab	bricated Metal Products	0	0	0	0	0	0	0	0	0	0	0
	achinery	*	*	0	0	0	0	0	0	0	0	*
334 Cor	mputer and Electronic Products	*	*	*	0	0	0	0	0	*	0	0
334413 Se	Semiconductors and Related Devices	*	*	0	0	0	0	0	0	*	0	0
335 Ele	ectrical Equip., Appliances, and Components	*	*	0	0	0	0	0	0	0	0	*
336 Tra	ansportation Equipment	*	*	0	*	0	*	0	0	0	0	*
336111 A	Automobiles	0	0	0	0	0	0	0	0	0	0	0
336112 Li	ight Trucks and Utility Vehicles	0	0	0	0	0	0	0	0	0	0	0
3364 Ae	erospace Product and Parts	*	*	0	0	0	*	0	0	0	0	0
336411 A	Aircraft	0	0	0	0	0	0	0	0	0	0	0
337 Fur	rniture and Related Products	0	0	0	0	0	0	0	0	0	0	0
339 Mis	iscellaneous	0	0	0	0	0	0	0	0	0	0	0
Tot	tal	3	3	1	*	*	*	0	0	*	*	1

<sup>(</sup>a) The Bureau of the Census classifies establishments using the 2017 North American Industry Classification System (NAICS).

The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied (Approval ID: CBDRB-FY20-260).

<sup>(</sup>b) The environmental restrictions related to air quality that limit the amount of the usable alternative fuel that could be used instead.

<sup>(</sup>c) Long-term contracts are typically with a utility or third-party supplier such as an energy broker and requires the purchase of a fuel for an extended amount of time.

<sup>(</sup>d) The storage of usable alternative fuels is not available due to the potential environmental impact of storage tanks.

<sup>\*</sup> Estimate less than 0.5.

 $<sup>\</sup>hbox{D=Withheld to avoid disclosing data for individual establishments}.$ 

Q=Withheld because Relative Standard Error (RSE) is greater than 50 percent.

NA=Not available.

 $<sup>\</sup>label{thm:components} \textbf{Notes: Totals may not equal sum of components because of independent rounding.}$ 

Source: U.S. Energy Information Administration, Office of Energy Demand and Integrated Statistics, Form EIA-846, 2018 Manufacturing Energy Consumption Survey.

Released: February 2021 Next MECS will be fielded in 2022.

## RSE Table 10.25 Relative Standard Errors for Table 10.25; Unit: Percents.

Non Switchable Amount Attributed to:

NAICS Code(a)	Subsector and Industry	Total Amount of Residual Fuel Oil Consumed as Fuel	Total Amount of Unswitchable Residual Fuel Oil Fuel Use	Equipment is Not Capable of Using Another Fuel	Switching Adversely Affects the Products	Unavailable Alternative Fuel Supply	Environmental Restrictions(b)	Long-Term Contract in Place(c)	Unavailable Storage for Alternative Fuels(d)	Another Reason	Combinations of Cols. F, G, H, I, J, and K	Don't Know/ Didn't Answer
Total United States												
311	Food	2.2	2.3	3.1	Х	0.0	Х	X	Х	Х	Х	Х
3112	Grain and Oilseed Milling	15.8	X	X	X	X	X	X	X	X	X	X
311221	Wet Corn Milling	X	X	X	X	X	X	X	X	X	X	X
31131	Sugar Manufacturing	0.0	0.0	0.0	X	x	X	X	X	X	X	x
3114	Fruit and Vegetable Preserving and Specialty Food	0.0	0.0	X	X	0.0	X	X	X	X	X	X
3115	Dairy Product	28.5	67.2	67.2	X	X	X	X	X	X	X	X
3116	Animal Slaughtering and Processing	0.0	0.0	0.0	X	X	X	X	X	X	X	X
312	Beverage and Tobacco Products	0.0	0.0	X	0.0	X	X	X	X	X	X	0.0
3121	Beverages	0.0	0.0	X	0.0	X	X	X	X	X	X	0.0
3122	Tobacco	0.0	X	X	X	X	X	X	X	X	X	Х
313	Textile Mills	78.4	X	X	X	X	X	X	X	X	X	X
314	Textile Product Mills	X	X	X	X	X	X	X	X	X	X	X
315	Apparel	X	X	X	X	X	X	X	X	X	X	X
316	Leather and Allied Products	X	X	X	X	X	X	X	X	X	X	X
321	Wood Products	3.5	3.5	0.0	X	X	X		X	X	X	68.5
321113	Sawmills	3.6	3.6	0.0	X	X	X	X	X	X	X	86.3
321113	Veneer, Plywood, and Engineered Woods	0.0	0.0	0.0	X	X	X	X	X	X	X	X
321219	Reconstituted Wood Products	0.0	0.0	0.0	X	x	X	X	X	X	X	X
321219	Other Wood Products	85.9	85.9	X	^	x	X	X	X	^		85.9
3219	Paper	0.0	0.0	0.0	X	0.0	0.0	X	X	0.0	0.0	0.0
322110	Pulp Mills	0.0	0.0	0.0	X	X	X	X	X	V.0	0.0	0.0
322110	Paper Mills, except Newsprint	0.0	0.0	0.0	^	x	^	X	X	0.0	X	0.0
322121	Newsprint Mills	X	X	X	^	X		X	^X	V.U		X
322122	Paperboard Mills	0.0	0.0	0.0	X	0.0	0.0	X	X	0.0	X	0.0
322130	Printing and Related Support	50.9	X	X	^	X	X	X	X	V.0		X
324	Petroleum and Coal Products	9.1	10.6	4.5	X		0.0	X	X	^	0.0	64.0
324110	Petroleum Refineries	0.0	0.0	0.0	^	83.0 X	0.0	X	X	^	0.0	X
324110	Asphalt Paving Mixture and Block	30.1	44.2	9.2	^	89.6	X	X	X	^	X	64.0
324121	Asphalt Shingle and Coating Materials	30.1 X	44.2 X	9.2 X		89.6 X	X	x	X	^ X	X	X
324122		X	X	X	X	X	x	X	^X	^	X	X
324191	Petroleum Lubricating Oil and Grease Products  Other Petroleum and Coal Products	X	X	X	X	x	X	X	X	^	X	X
324199	Chemicals	8.3	8.4	0.0	0.0	X		X	X	76.1	X	0.0
325110	Petrochemicals	0.5 X	X	X	X	X	x	X		76.1 X	X	X
325110	Industrial Gases		^_X	x	^	x	^	X	X	^		<del>X</del>
325120	Other Basic Inorganic Chemicals	X	X	x	X	X		X	X	^	X	X
325180	Ethyl Alcohol	X	X	X	X	X		X	^X	^	X	X
325193	Cyclic Crudes, Intermediate and Gum and Wood Chemicals		^_X	x	^	x	X	X	X	^		<del>X</del>
325194	Other Basic Organic Chemicals	0.0	0.0	x	X	X	X	X		^	X	0.0
325211	Plastics Materials and Resins	X	X	X	X	X	X	X		^	X	
		X					X			X	X	X X
325212	Synthetic Rubber		X	X	X	X		X	X			
325220	Artificial and Synthetic Fibers and Filaments	X	X	X	X	X	X		X	X	X	X
325311	Nitrogenous Fertilizers	X 0.0	0.0	X	X	X	X	X	X	X	X	X
325312	Phosphatic Fertilizers				0.0	X					X	X
3254	Pharmaceuticals and Medicines	X	X	X	X	X	X	X	X	X	X	X
325412	Pharmaceutical Preparation	X	X	X	X	X	X	X	X	X	X	X
325992	Photographic Film, Paper, Plate, and Chemicals	0.0	X	X	X	X	X	X	X	X	X	X
326	Plastics and Rubber Products	72.4	X	X	X	X	X	X	X	X	X	X

327	Nonmetallic Mineral Products	97.3	97.3	97.3	X	X	X	X	Х	Χ	X	X
327120	Clay Building Material and Refractories	X	X	X	Х	X	Х	Х	Х	Χ	X	Х
327211	Flat Glass	X	X	Х	Х	X	X	Х	Х	Χ	Х	X
327212	Other Pressed and Blown Glass and Glassware	X	X	Х	Х	X	X	Х	Х	Χ	Х	X
327213	Glass Containers	X	X	Х	Х	Х	X	Х	Х	Χ	Х	X
327215	Glass Products from Purchased Glass	X	X	X	Х	X	X	Х	Х	Χ	Х	X
327310	Cements	X	X	X	Х	X	X	Х	Х	Χ	Х	X
327410	Lime	X	X	X	Х	X	X	Х	Х	Χ	Х	X
327420	Gypsum	X	X	X	Х	X	X	Х	Х	Χ	Х	X
327993	Mineral Wool	X	X	X	Х	X	X	Х	Х	Χ	Х	X
331	Primary Metals	0.3	0.3	0.0	Х	Х	X	Х	Х	Χ	Х	89.7
331110	Iron and Steel Mills and Ferroalloys	0.0	0.0	0.0	X	X	X	Х	X	Χ	Х	X
3312	Steel Products from Purchased Steel	X	Х	Х	Х	Х	Х	Х	Х	Χ	Х	Х
3313	Alumina and Aluminum	X	Х	Х	X	X	X	Х	X	Х	X	Х
331314	Secondary Smelting and Alloying of Aluminum	X	X	X	Х	Х	X	Х	Х	Χ	Х	X
331315	Aluminum Sheet, Plate and Foils	X	X	X	Х	Х	X	Х	Х	Χ	Х	X
331318	Other Aluminum Rolling, Drawing and Extruding	X	X	X	Х	Х	X	Х	Х	Χ	Х	X
3314	Nonferrous Metals, except Aluminum	X	X	X	Х	Х	X	Х	Х	Χ	Х	X
331410	Nonferrous Metal (except Aluminum) Smelting and Refining	X	X	X	Х	Х	X	Х	Х	Χ	Х	X
3315	Foundries	89.7	89.7	X	X	Х	X	Х	Х	Χ	Х	89.7
331511	Iron Foundries	X	X	X	X	X	Х	Х	Х	Χ	X	Х
331523	Nonferrous Metal Die-Casting Foundries	89.7	89.7	X	X	X	Х	Х	Х	Χ	X	89.7
331524	Aluminum Foundries, except Die-Casting	X	X	X	X	X	Х	Х	Х	Χ	X	Х
332	Fabricated Metal Products	X	X	X	X	X	Х	Х	Х	Χ	X	Х
333	Machinery	99.0	99.0	X	Х	X	Х	Х	Х	Χ	Х	99.0
334	Computer and Electronic Products	0.0	0.0	0.0	Х	Х	Х	Х	Х	0.0	Х	Х
334413	Semiconductors and Related Devices	0.0	0.0	X	X	Х	X	Х	Х	0.0	Х	X
335	Electrical Equip., Appliances, and Components	47.2	47.2	Х	X	Х	X	Х	Х	Χ	Х	47.2
336	Transportation Equipment	10.2	10.2	Х	61.5	Х	0.0	Х	Х	Χ	Х	3.5
336111	Automobiles	X	X	Х	X	Х	X	Х	Х	Χ	Х	X
336112	Light Trucks and Utility Vehicles	X	X	Х	X	Х	X	Х	Х	Χ	Х	X
3364	Aerospace Product and Parts	0.0	0.0	Х	X	Х	0.0	Х	Х	Χ	Х	X
336411	Aircraft	X	X	Х	X	Х	X	Х	Х	Χ	Х	X
337	Furniture and Related Products	X	X	Х	X	X	Х	Χ	Х	Χ	X	X
339	Miscellaneous	X	Х	Х	X	Х	X	X	X	Χ	X	Х
	Total	2.5	2.6	0.6	38.2	16.2	0.0	X	X	31.5	0.0	3.3

<sup>(</sup>a) The Bureau of the Census classifies establishments using the 2017 North American Industry Classification System (NAICS).

The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied (Approval ID: CBDRB-FY20-260).

<sup>(</sup>b) The environmental restrictions related to air quality that limit the amount of the usable alternative fuel that could be used instead.

<sup>(</sup>c) Long-term contracts are typically with a utility or third-party supplier such as an energy broker and requires the purchase of a fuel for an extended amount of time.

<sup>(</sup>d) The storage of usable alternative fuels is not available due to the potential environmental impact of storage tanks.

<sup>\*</sup> Estimate less than 0.5.

D=Withheld to avoid disclosing data for individual establishments.

Q=Withheld because Relative Standard Error (RSE) is greater than 50 percent.

X=Not defined because RSE corresponds to a data table value of zero.

NA=Not available.

Notes: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Demand and Integrated Statistics, Form EIA-846, 2018 Manufacturing Energy Consumption Survey.